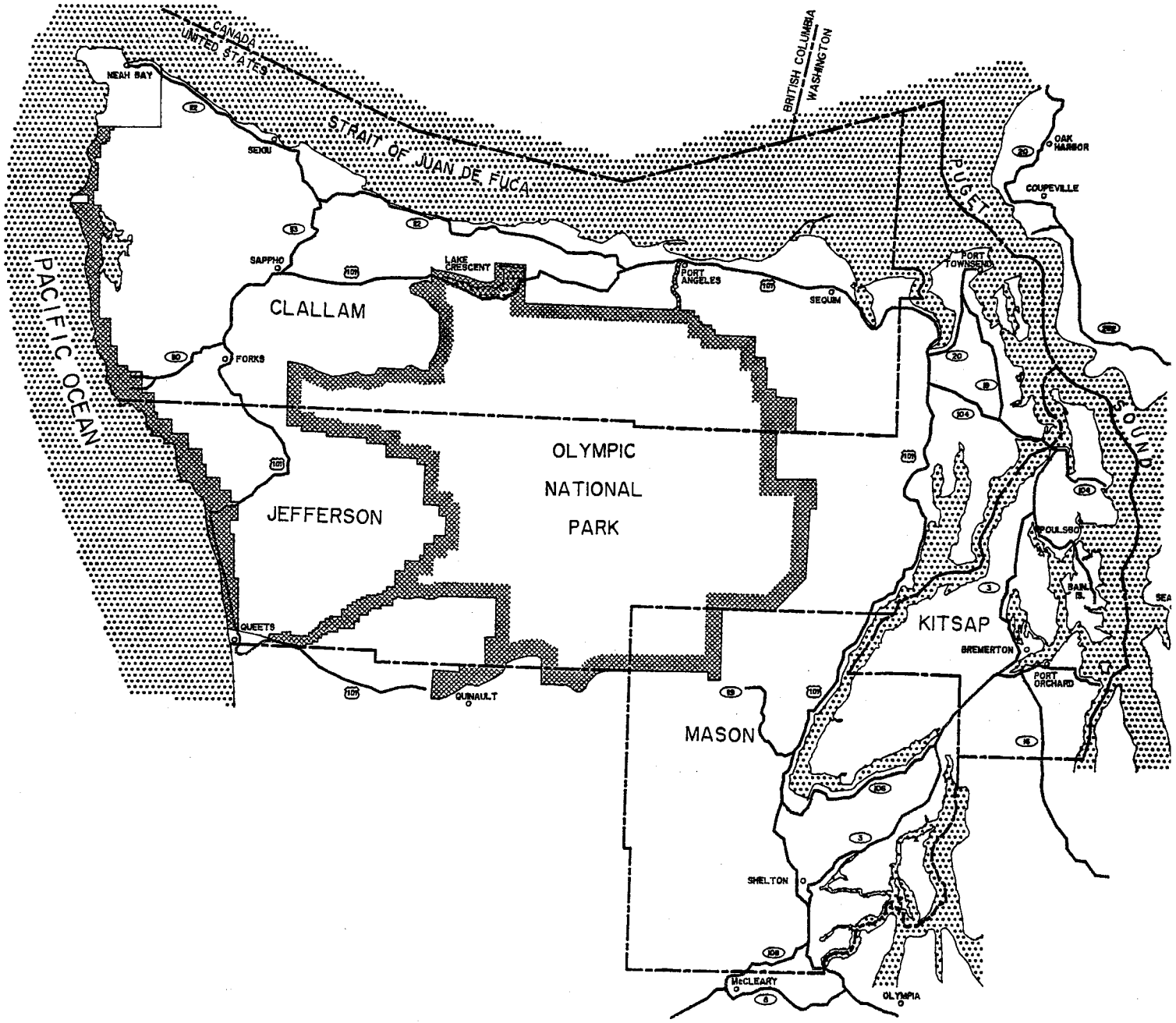
REGIONAL TRANSPORTATION PLAN



PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION

June 16, 1995

REGIONAL TRANSPORTATION PLAN

PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION

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Executive Summary

EXECUTIVE SUMMARY

BACKGROUND

The Peninsula Regional Transportation Planning Organization (PRTPO) was formed in December 1990 for the purpose of coordinating the transportation planning activities of the Olympic and Kitsap Peninsulas. The primary purpose of the PRTPO is to provide for cooperative decisionmaking by the agencies within the region in order to bring about a continuous and comprehensive transportation planning process.

All levels of government are represented within the PRTPO: tribal, city, county, and state. The private sector was also a participant. These groups participated in the technical analysis and policy approvals for the Regional Transportation Plan (RTP). The PRTPO also approved and implemented a regionwide public involvement program which worked to assure that the RTP is responsive to the needs of local communities, builds a public understanding and consensus, and provides decisionmakers with a better understanding of the range of public concerns about transportation issues.

The PRTPO developed a multi-year work plan to accomplish its goal of preparing the RTP in accordance with Growth Management Act (GMA) legislation. The work of the PRTPO has achieved this goals and several others goals, ranging from establishing a comprehensive public involvement program, to forecasting future traffic volumes, and to identifying necessary future transportation projects and programs. Additional goals the RTP has met include:

- Identification of regional transportation goals;
- Establishing a regional concept for land use and transportation linkages;
- Develop a multi-modal transportation plan that addresses the regional road system and tourism, freight, non-motorized, transit, and ferry travel;
- Carrying out a funding analysis to determine the feasibility and priority of project recommendations.

REGIONAL GOALS

The regional Goals and Policies are made up of six categories. The first is Overall Goals and Policies. The remaining five categories range from Level of Service to Airports. Multimodal

concerns are incorporated throughout all levels of the Goals and Policies. Each category of goals has several policies describing and defining implementation guidelines.

The regional goals and policies provide a vision and a framework for the Regional Transportation Plan. The Overall Goals provide the broadest vision for the region and reflect the multimodal nature of this regional transportation plan. The Overall Goals are presented below. Their supporting policies can be found in Chapter 2, Regional Goals and Policies.

A. Develop multimodal transportation service connections and transfers at transfer sites such as ferry terminals, airport facilities, and bus depots. Develop a multimodal transportation system that provides safe, economical, and convenient options for all modes.

B. Encourage adoption of land-use development regulations that implement transit-oriented development within Urban Growth areas.

C. Encourage reducing reliance on the single occupant vehicle by reducing the need for vehicle trips and by providing and coordinating other modes of transportation. Also support increasing the cost and time savings of alternative modes so they are effective competitors to the single occupant vehicle.

D. All transportation modes and facilities should be accessible to all persons.

E. The geographic region of the PRTPO is uniquely situated to use marine transportation corridors. These marine corridors will be consistently and regularly considered in all transportation issues.

REGIONAL LAND USE CONCEPT AND TRANSPORTATION LINKAGES

The PRTPO has developed an interim regional land use concept that serves as the basis for the RTP. This land use concept is a picture of the regional land development pattern that precedes many of the local land use decision that will be made in the city, county, and tribe comprehensive plans. It is intended to reflect a general pattern of preliminary land use classifications and to create a regional context for land use decisions in the Kitsap and Olympic Peninsulas.

This regional land use concept meets the requirements of the Growth Management Act that calls for linking transportation and land use planning. The concept also allows for regional coordination of local transportation plans so that regional facilities are treated consistently across jurisdictional lines.

MULTIMODAL PLAN

The PRTPO has developed a multi-modal transportation plan that addresses the regional road system, tourism, freight, non-motorized, transit, and ferry travel. Each of these modes has been addressed in individual chapters, though the inter-relationship of the modes is recognized.

One of the primary elements of the analysis of the regional transportation system is the study of the Regional Road System. This system consists of State Routes, county roads and city streets which have been determined to have "regional significance" by the PRTPO member agencies. Throughout the analysis, the regional road system is described in terms of functional classification, vehicle capacity, traffic volumes, and level of service.

The main role of the RTP was defined as identifying mobility and capacity improvements and the analysis successfully achieves that goal. However, because of the rural and suburban nature of the PRTPO area, the focus of many jurisdictions in the PRTPO is on safety and maintenance issues, a fact kept in mind throughout the development of the RTP.

The RTP also recognizes the importance of other forms of travel in the region. The Olympic and Kitsap Peninsulas are popular tourist destinations. As a result, a significant portion of the traffic is recreational. People travel to the area to tour by auto or RV, or to park their vehicle in order to hike or bicycle. Some cyclists also make the entire trip by bike and do not bring a vehicle to the area at all.

In addition, access to many parts of the PRTPO region is by ferry. The Washington State Ferry system provides service to five locations within the PRTPO, including four in Kitsap County and one in Port Townsend. Additional ferry service exists between Port Angeles in Clallam County to Victoria, British Columbia in Canada. Effective links between the ferry systems and transit service is one of the issues addressed in this RTP.

The PRTPO area also has a notable amount of freight activity. This activity, while sometimes conflicting with the recreational travel, is an important component of the regional economy. Both freight trucking and shipping activity link the natural resources of the area with national and international markets.

The inter-relationships of all of the modes results in a complex and dynamic transportation system. Some modal aspects, such as freight and tourist travel, need further study before specific project recommendations can be made. For other aspects, such as non-motorized, the foundation is laid in this plan so that the next steps, such as identifying projects, can be taken. And for some modes, particularly roadways, sufficient data and background research already existed to recommend projects.

Nearly all roadways on the regional system are currently operating at or above the designated level of service standard threshold. However, travel forecasts to the year 2010 revealed a number of roadways which would experience capacity deficiencies.

Several different types of capacity improvements were identified: signalization and channelization; reconstruction, paving, and shoulder improvements, transit, bicycle and pedestrian facilities; access management; passing lanes or climbing lanes; widening or adding lanes; intersection improvements; and changing the roadway designation or LOS. These capacity improvements are discussed and presented in Chapter 5, Regional Road System.

The suggested roadway improvements are concentrated in the eastern and northern portions of the PRTPO. This can be attributed to the fact that this is where the majority of the growth and development has and is occurring. There are several areas where traffic congestion has developed due to the rapid growth and development. For example, the areas around Port Angeles and Sequim have several projects identified, such as reconstruction and shoulders along US 101 as well as adding passing lanes. Improvements are recommended in most of the urban areas, which are predominately on the eastern side of the PRTPO area, but recommendations are also made for the Forks urban area, the westernmost city.

The various recommendations made for the PRTPO area have been coordinated with the funding analysis and prioritization process. This coordination, in conjunction with the interim Regional Land Use Concept and the multi-modal aspects of the plan have resulted in resulted in a plan that works to meet requirements of GMA and the needs of a diverse community.

FUNDING ANALYSIS

To determine the feasibility and priority of project recommendations a funding analysis was conducted. The discrepancies between the timing of revenue sources and project needs, and the projected shortfall in revenue sources compared to project needs, show the necessity of prioritizing projects needs, identifying new revenue sources and/or revising level of service standards.

The process of achieving a balance between road costs and revenue sources was recommended. The process has the following policy guidelines.

A. The goal of the PRTPO Plan is to balance revenues and expenditures for the first five years of the planning process and over the 15 year planning period rather than on a year by year basis.

B. The need to meet concurrency requirements at the local level will be addressed at the local level rather than through the regional planning process.

C. The PRTPO will prioritize projects on the regional system for regional planning purposes. The PRTPO will not prioritize use of local funds. This allows local jurisdictions to address other road needs not addressed in the regional plan.

D. Mobility related needs should be monitored in the future to assist local jurisdictions as well as the state in setting priorities for projects and identifying concurrency requirements.

The various recommendations made for the PRTPO area have been coordinated with the funding analysis and prioritization process. This coordination, in conjunction with the interim Regional Land Use Concept and the multimodal aspects of the plan have resulted in a plan that works to meet requirements of GMA and the needs of a diverse community.

Chapter 1
Introduction

CHAPTER 1

INTRODUCTION

BACKGROUND

The Peninsula Regional Transportation Planning Organization (PRTPO) was formed in December 1990 for the purpose of coordinating the transportation planning activities of the Olympic and Kitsap Peninsulas. The plan meets all of the requirements of the Growth Management Act (GMA) by describing the existing transportation system, establishing level of service standards, developing traffic forecasts, and identifying transportation needs and funding options. The PRTPO consists of Clallam, Jefferson, Kitsap, and Mason Counties and all jurisdictions within those counties. Kitsap County is unique, though, because it is also a member of the Puget Sound Regional Council (PSRC).

The primary purpose of the PRTPO is to provide for cooperative decisionmaking by the agencies within the region in order to bring about a continuous and comprehensive transportation planning process. One aspect of this purpose is to ensure that all local plans are coordinated with and consistent with the regional plan. This is accomplished through the participation of all jurisdictions and members of the private sector in the technical analysis and policy approvals for the plan. To achieve the goal of cooperative decisionmaking, all levels of government are represented within the PRTPO.

Since its creation, the PRTPO developed a multi-year work plan to accomplish its goal of preparing a Regional Transportation Plan in accordance with GMA legislation. The work of the PRTPO has achieved several goals, ranging from establishing a comprehensive public involvement program, to forecasting future traffic volumes, and to identifying necessary future transportation projects and programs.

The main role of the RTP was defined as identifying mobility and capacity improvements and the analysis successfully achieves that goal. However, because of the rural and suburban nature of the PRTPO area, the levels of service (LOS) for many of the roadways is satisfactory (that is, LOS C or better). The focus of many jurisdictions in the PRTPO is on safety and maintenance issues. These safety and maintenance needs require the majority of the transportation funds.

ORGANIZATION OF THE PRTPO

Structure

The PRTPO consists of representation from four counties, nine cities, four transit agencies, 18 port districts, ten Indian nations, the Washington State Department of Transportation, and the private sector. Within the PRTPO are three main bodies: the Executive Council, the Policy Board, and the Technical Advisory Committee.

The Executive Council is the governing body of the PRTPO. Responsible for the management of the organization, the Executive Council is made up of thirteen elected officials representing the four counties and nine cities. The primary function of the Executive Council is to establish the vision and goals for the PRTPO, approve policies devised from within the PRTPO, and provide the forum for coordination and cooperation of the participating agencies at the highest level of authority.

The Policy Board is a 25 member board established in the organization's bylaws to provide policy advice to the members of the Executive Council. Its membership consists of representatives from major employers, the four transit agencies, Washington State Department of Transportation (WSDOT) Olympic Region (formerly District 3, Washington State Department of Transportation, Marine Division (commonly called the Washington State Ferries or WSF) cities, tribes, ports, counties, and private ferry systems.

The Technical Advisory Committee (TAC) provides technical advice to the members of the Policy Board and the Executive Council on all matters which may come before either of these two bodies. The TAC membership consists of technical staff from the various organizations within the PRTPO. The TAC has established subcommittees to deal with specific issues: management, highways/LOS/tourism, multimodal, airports, freight, land use, public involvement, and funding, finance & prioritization.

While some of the subcommittees focus on specific work tasks, the TAC Management Subcommittee serves a more broad purpose. Composed of the TAC Chairperson and the Chair/Co-Chairs of the other subcommittees, this body provides the forum for the development of concepts, planning, agendas, and policy recommendations prior to presentation to the TAC, Policy Board, and/or Executive Council.

In addition to the three main bodies of the PRTPO, the PRTPO has a lead planning agency. The lead agency performs duties assigned to it by the Executive Council (provided that adequate funding is available) including, but not limited to, providing staff support and coordination for the Executive Council and Policy Board; serving as the recipient and managing available funding; hiring, supervising and managing personnel, consultants and contractors; and, providing information necessary to carry out the objectives of the PRTPO. The Washington State

Department of Transportation (WSDOT), District 3 Office serves as the lead planning agency for the PRTPO.

Membership

Because the PRTPO covers a large geographical area and has such a varied constituency, membership is large. In total, rostered membership in the PRTPO includes over 200 elected and technical city, county, State, tribal and private industry representatives, as well as private citizens. The organizational chart (Figure 1.1) depicts the membership of the Peninsula Regional Transportation Planning Organization. In most cases each of the Executive Council and Policy Board members have a designated alternate.

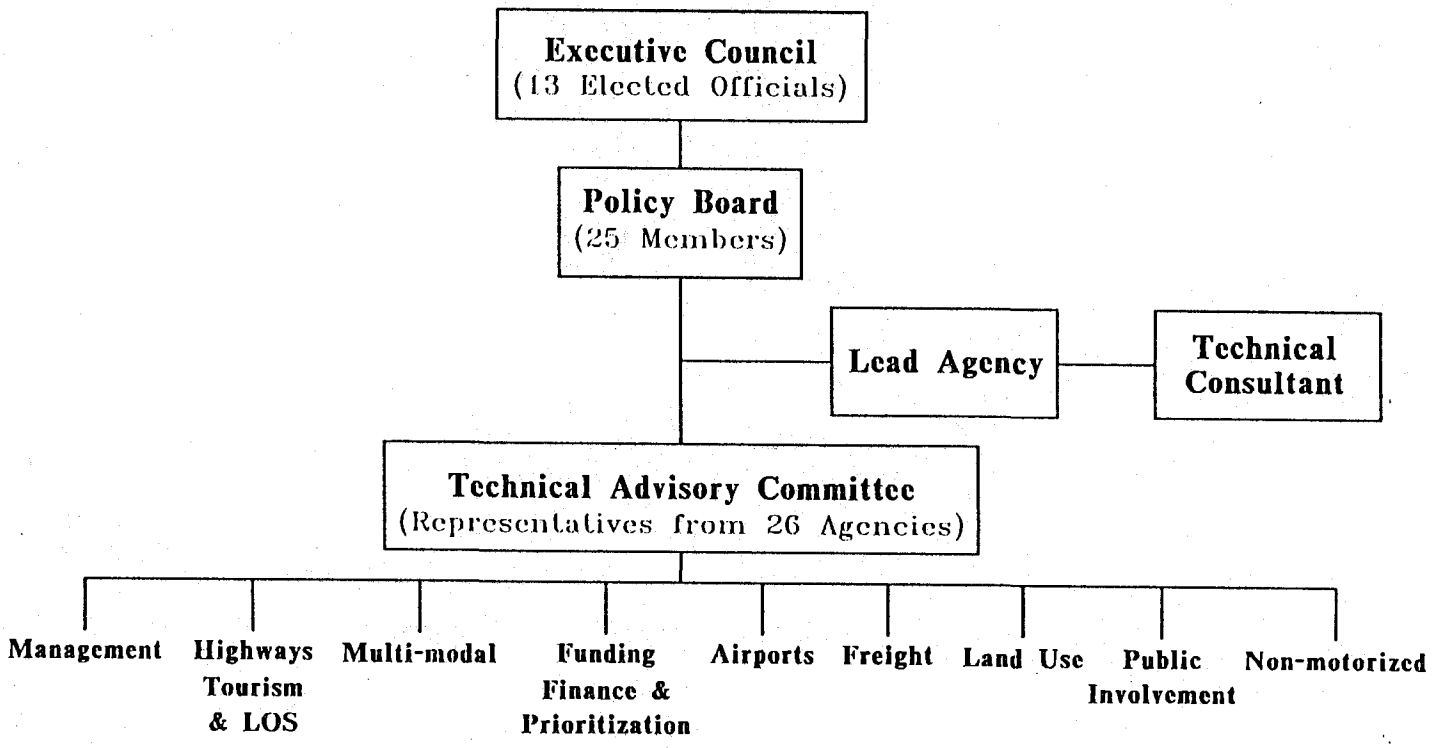
City, Tribal and port membership, as shown, is representative of a much larger body of city, tribal and port agencies. Four cities represent the interests of all nine cities, and four tribal representatives express the ideas and concerns for ten tribal nations. Lastly, two ports represent the interests of 18 Peninsula area port authorities. As can be seen from the chart, major employers (private sector), transit agencies, WSDOT Olympic Region Office, Washington State Ferries, and private ferry operators are also members.

COORDINATION WITH LAND USE

One of the major tenets of the Growth Management Act (GMA) is that transportation and land use are fundamentally linked together and cannot be separately planned. In addition, transportation plans must be coordinated at a regional level, so that regional facilities are treated consistently across jurisdictional lines. Because of this commitment to consistency and to land use and transportation linkages, the PRTPO has developed an interim regional land use concept which services as the basis for the regional transportation plan.

This land use concept plan is a picture of the regional land development pattern and precedes many of the local land use decisions which will be made in the city, county and tribal comprehensive plans. The regional land use concept is intended to reflect a general pattern of preliminary land use classifications and to create a regional context for land use decisions in the Kitsap and Olympic Peninsulas. The concept identifies the major traffic generators in the region, such as tourists destinations, industrial centers, retail centers, military bases, and ferry terminals. It also identifies resource lands that will remain relatively undeveloped through the planning period.

PENINSULA RTPO
ORGANIZATIONAL CHART



PRTPO Membership:

Executive Council
Clallam County
Jefferson County
Kitsap County
Mason County
City of Bainbridge Island
City of Bremerton
City of Forks
City of Port Angeles
City of Port Townsend
City of Port Orchard
City of Poulsbo
City of Sequim
City of Shelton

Lead Agency
WSDOT - Olympic Region

Technical Consultant
Berryman & Henigar

Policy Board
Clallam County
Jefferson County
Kitsap County
Mason County
Bainbridge Island
Shelton
Sequim
Port Townsend
Port of Mason/Kitsap Counties
Port of Clallam/Jefferson Counties
Clallam Transit
Jefferson Transit
Kitsap Transit
Mason Transit
WSDOT - District 3
WSDOT - Marine Division
Skokomish Tribe
Suquamish Tribe
Jamestown S'Klallam
Port Townsend Paper Company
Simpson Timber
Engineering Field Activities NW
Puget Sound Transfer & Storage
Clipper Navigation, Inc.
* Vacant - Tribal Representative from Jefferson County

Technical Advisory Committee
Clallam County
Jefferson County
Kitsap County
Mason County
Bainbridge Island
Bremerton
Forks
Port Angeles
Port Townsend
Port Orchard
Poulsbo
Sequim
Shelton
Clallam Transit
Jefferson Transit
Kitsap Transit
Mason Transit
Suquamish Tribe
Kitsap Regional Planning Council
WSDOT - Marine Division
Puget Sound Regional Council
Engineering Field Activities NW
Economic Development Company
Pope Resources
WA Trucking Association
Skokomish, Suquamish & Jamestown S'Klallam Tribes

The GMA states that regional transportation plans should be based on existing county and city comprehensive plans whenever possible. The PRTPO Regional Transportation Plan (RTP) was based on all available local comprehensive plans and zoning maps for communities within the region. Where comprehensive plans were not available, the concept reflects a community's existing land use. As county and city comprehensive plans are completed, the regional land use concept and transportation plan should accordingly be reviewed and revised to reflect major changes.

THE TRANSPORTATION PLAN

The PRTPO has prepared the first regional transportation plan for the Olympic and Kitsap Peninsulas. This regional transportation plan has been developed in two parts. Funding was not available to study all aspects of transportation on the two Peninsulas. The transportation plan presented here represents the following key elements of the transportation system: roadways, multimodal (transit and ferries) freight, tourism, Transportation Demand Management (TDM), non-motorized, and airports. Additional future elements will be included when funds become available for their study. These future elements include scenic highways.

This plan is a regional transportation system improvement and strategy plan that defines specific improvements related to the road system, transit and ferry coordination and service, non-motorized, tourism and freight needs. Road system improvements range from major (continuous) widenings and new corridors to spot/intersection widenings, channelization, signalization, and shoulder improvements. This list describes the range and variation of improvement projects; other physical improvements may also be included. Transit and ferry improvements may include system coordination, service needs, possible new routes and park and ride lots, or schedule coordination to facilitate inter-modal connections, such as between transit and ferries or transit and bicycles.

The recommended improvements are describe at a level of detail appropriate for a long range plan and not at the preliminary design level of detail. For example, the need for a corridor will be identified, but not the specific alignment, which would require further design analysis.

Tourism and freight are important components of the regional transportation plan. This plan includes descriptions of the types of tourism and freight issues which are pertinent to the PRTPO, as well as the analyses undertaken using the available data. Recommendations primarily consist of identifying additional data collection and studies. Specific physical improvements are not identified because of the lack of necessary data and the nature of the existing data. However, the existing data does provide informative descriptions of both current tourist activity and truck travel patterns in relation to average daily traffic.

An important element of this regional transportation plan is the establishment of level of service (LOS) standards. LOS is a measure of congestion, identified in categories A through F, where A represents low volume, free flow conditions and F represents gridlock and roads overcapacity.

Not only are LOS standards required by the GMA, but they function as traffic threshold levels: when a roadway LOS has surpassed the standard, that roadway requires transportation mitigation to bring the LOS back to or below the threshold level. LOS standards are discussed in greater detail in Chapter 5. The PRTPO has developed LOS standards for urban and rural roads defined as Tourist Corridors and rural roads defined as tourist access routes. The PRTPO has defined Tourist Corridors as roadways which serve as primary tourist conduits providing regional access to and from major tourist areas. Additionally, tourist access routes are defined as roadways providing direct access to specific tourist attractions and local tourist/recreational areas. The PRTPO recognized the impacts of seasonal traffic variations due to tourist related travel.

This transportation plan also includes a funding analysis of the feasibility of the projects. The Growth Management Act requires cost estimate and funding analyses of the recommended improvements or strategies. Cost estimates for identified improvements were developed with assistance from the Technical Advisory Committee and are based on planning level, order of magnitude costs. Historical revenue sources and funding levels are included as base information for estimating potential revenues for financing improvements. Options for satisfying the potential funding shortfall are also identified in the RTP.

SUMMARY

This regional transportation plan, the first for the Kitsap and Olympic Peninsulas, examines four key elements of the areas transportation system: roadways, transit and ferries, freight, and tourism. In addition to meeting all of the requirements of the Growth Management Act, this regional transportation plan represents cooperative decisionmaking for agencies within the region to develop a continuous and comprehensive transportation planning process. The public, the private sector, and all levels of government in the region worked together to create a coordinated and effective regional transportation plan.

Road system improvements range from major (continuous) widenings and new corridors to spot/intersection widenings, channelization, signalization, and shoulder improvements. This list describes the range and variation of improvement projects; other physical improvements may also be included. Transit and ferry coordination and service needs may include new routes, new park and ride lots, or schedule coordination to facilitate inter-modal connections, such as between transit and ferries or transit and bicycles.

The recommended improvements are describe at a level of detail appropriate for a long range plan and not at the preliminary design level of detail. For example, the need for a corridor will be identified, but not the specific alignment, which would require further design analysis. The

PRTPO transportation plan does not directly analyze particular intersections located in the study area. Instead the plan analyzes roadway segments and attempts to determine if the segment has a current capacity deficiency or, due to growth, will be over capacity in the projected future. If a segment is considered deficient or in a high traffic volume area then all intersections located within the segment's length should be evaluated at the local level to determine if a problem exists.

The feasibility of the recommendations has been scrutinized; both the cost and the potential funding options for the projects and programs have been analyzed. This feasibility analysis, while meeting the requirements of GMA, also provides the region with a list of achievable recommendations. This makes the regional transportation plan more realistic and more easily implemented. In the end, the wide representation, the effective structure, and the cooperative nature of the PRTPO has resulted in a powerful planning tool for the region.

Chapter 2

Regional Goals and Policies

CHAPTER 2

REGIONAL GOALS AND POLICIES

INTRODUCTION

Goals and policies form the vision and the guidelines for transportation planning and development. The goals provide the vision of the transportation system, and the policies provide the guiding framework for implementing the vision. Goals and policies are often developed at all levels of government -- state, regional, county, and city. This chapter presents the regional goals and policies developed by the PRTPO and discusses how those regional goals and policies relate to local goals and policies.

Regional goals and policies should coordinate with local goals and policies. The goals and policies should be complementary, so they work to together and not against each other. While the regional goals and policies are intended to guide transportation planning, they are also meant to allow room for local variation. Local transportation planning is both complex and unique -- each community has its own unique vision and planning process. These goals and policies are meant to support those individual needs while providing a regional framework, regional guidance, and regional support.

Broad representation within the PRTPO provides the opportunity for discussing mutual issues and coordinating jurisdictions. Because counties, cities, tribes, and others are represented within the PRTPO, regional goals and policies received widespread review. Furthermore, the makeup of the PRTPO helps achieve coordination among jurisdictions. The PRTPO has put together the following goals and policies in sequential, not priority -- order. Priorities have not been placed on any of the goals and policies.

These goals and policies were reviewed at all levels of the PRTPO -- from the Technical Advisory Committee (TAC) to the Executive Board. In addition to providing a forum for critique and coordination, this review allowed a wide range of transportation professionals -- from those who involved with the implementation and daily operations to those involved in governing and policy development-- to contribute and critique the goals and policies.

This chapter is divided into two main sections. The first section discusses the regional goals and policies and then follows with a comparison of the regional and the local goals and policies. In the first section the discussion focuses on the categories of regional goals and policies and then presents them in full. The second section is an analysis of the consistency between the regional goals and policies and the county goals and policies. This comparison examines the local goals and policies for consistency with the PRTPO goals and policies. City goals and policies are assumed to be coordinated with county goals and policies.

REGIONAL GOALS AND POLICES

The goals and policies for this regional transportation plan were developed in conjunction with the PRTPO's Technical Advisory Committee (TAC) and with the Subcommittees of the TAC. Draft goals and policies were given to the TAC for review and comment. The revised goals and policies were then sent to the various subcommittees, who further refined the goals and policies.

After development by the TAC and its subcommittees, the Regional Goals and Policies were forwarded to the Policy Board for review and discussion. The Policy Board approved and adopted the submitted Goals and Policies and passed them onto the Executive Board, which also approved and adopted the Goals and Policies.

The regional Goals and Policies is made up of six categories. The first is Overall Goals and Policies. The remaining five categories range from Level of Service to Airports. Multimodal concerns are incorporated throughout all levels of the Goals and Policies. Each category of goals has several policies describing and defining implementation guidelines. A full listing of the categories is presented below.

- Overall
- Level of Service
- Airports
- Freight
- Highways
- Bikes, Paths, and Trails

Because they provide a vision and a framework, and not step by step directions, the regional goals and policies are necessarily brief. More extensive and more detailed goals and policies are appropriately developed at the county and city level. They are intended to guide local jurisdictions, and that guidance should leave room for each jurisdiction's unique character, community, and vision. The Regional Goals and Policies are presented in sequential -- not priority -- order.

Overall Goals

1. Coordinate travel between different modes.

2. Support reducing the reliance on the single occupant vehicle and increasing use of alternative modes in urban growth areas and in regional commuter traffic.

Goal A) Develop multimodal transportation service connections and transfers at transfer sites such as ferry terminals, airport facilities, and bus depots. Develop a

multimodal transportation system that provides safe, economical, and convenient options for all modes.

Policy 1 Minimize the walking distance between different modes at transfer points and, when feasible, provide the passengers with shelters, paths, and other facilities for comfortable and convenient transfer conditions.

Policy 2 Support implementing schedule coordination among modes.

Policy 3 Consider and, when possible, implement the following when developing transit transfer centers.

a) Locate transit transfer centers in activity centers

b) Provide safe access for pedestrians and bicyclists

c) Provide storage facilities for bicycles where feasible and appropriate.

d) Give high occupancy vehicles priority in traffic and ferry operations.

e) Concur with local land-use plans.

f) Include multimodal access, including a pedestrian network, to the transfer center. This access shall be promoted through development standards for adjacent projects.

Policy 4 Develop a regional park-and-ride lot system that implements the following characteristics:

a) Provides convenient/safe access to transit.

b) Minimizes adverse impact to adjacent land-uses.

c) Evaluates the feasibility of incorporating retail services into park and ride lots. This includes consideration of the impacts on adjacent or nearby business.

d) Provides access for pedestrians and bicyclists and related facilities, such as bike racks.

e) Coordinates with other parking lot owners, such as churches or movie theaters, to provide joint use park-and-ride lots.

Policy 5 Provide cost-effective and time efficient alternatives to the single occupant vehicle to maintain personal mobility while reducing vehicle trips.

Policy 6 Support shared use of the roads or corridor by different travel modes.

Policy 7 Support and develop convenient transfers between modes.

Goal B) Encourage adoption of land-use development regulations that implement transit-oriented development within Urban Growth areas.

Policy 1 Support site designs that encourage high occupancy vehicle/vessel travel and discourage single occupancy travel.

Policy 2 Encourage land use development at ferry terminals which supports transit use.

Goal C) Encourage reducing reliance on the single occupant vehicle by reducing the need for vehicle trips and by providing and coordinating other modes of transportation. Also support increasing the cost and time savings of alternative modes so they are effective competitors to the single occupant vehicle.

Policy 1 Promote the use of the Peninsula marine resources as mass transit.

Policy 2 Improve passenger-only ferry service.

Policy 3 Consider providing incentives to transit, such as offering free transit passes in lieu of private vehicle mileage reimbursement.

Policy 4 Promote disincentive strategies to the single occupant vehicle such as parking fees.

Policy 5 Use fare differential to influence peak/off peak travel and parking.

Policy 6 Encourage reducing single occupant vehicle trips by supporting the major employment and commercial centers enacting ride sharing, transit, staggered work hours or other transportation demand management strategies.

Policy 7 Support capital improvement projects that facilitate and contribute to the success of transportation demand management measures.

Policy 8 Support changes in federal law to allow greater subsidies for high occupancy vehicle/vessel efforts.

Policy 9 Assess the impact of increased vehicle and passenger capacity ferries on public transportation policies.

Policy 10 Identify regional corridors for development of high frequency public and private ferry/transit multimodal transportation systems.

Goal D) All transportation modes and facilities should be accessible to all persons.

Policy 1 Encourage the participation of volunteer organizations in transportation planning.

Policy 2 Define and inventory the special needs transportation population.

Policy 3 Determine and provide desirable levels of accessibility as required by the American with Disabilities Act (ADA)

Policy 4 Support transit, alternative, and multimodal travel with land use polices for low-income housing, affordable housing, higher density housing, and major employment centers.

Goal E) The geographic region of the PRTPO is uniquely situated to use marine transportation corridors. These marine corridors will be consistently and regularly considered in all transportation issues.

Policy 1 Consider ferry routes and vessels as a form of mass transit

Policy 2 Promote the use of the Peninsula marine resources as a form of mass transit and, where appropriate, improve passenger-only ferry service.

Policy 3 Coordinate ferry schedules with transit schedules.

Policy 4 Promote high occupancy vehicle priorities on ferry vessels.

Policy 5 Support capital investments which give high occupancy vehicles priority on ferry vessels.

Policy 6 Support changes in federal law to allow greater subsidies for high occupancy vehicle/vessel efforts.

Level of Service

Service objectives should vary in urban, and rural areas to reflect the primary roles and objectives of the transportation system within each of these areas.

Higher volumes of traffic are expected in urban areas because of the concentration of economic activities. These high congestion levels are considered acceptable and a normal part of doing business in a city. Acceptance of relatively high congestion levels in urban areas during peak hours also encourages people to find transportation alternatives, like carpooling or walking. These alternatives are less expensive than constructing new roads.

On the other hand, highly congested conditions on rural roads would not be acceptable to the region's residents. Such highly congested conditions may lead to more accidents and significantly longer travel times. Also, low density development reduces the viability of transit. Consequently, higher service standards make more sense in rural areas than in urban areas.

In rural areas, capacity may also not be the most significant service consideration. In these areas, capacity may only become an issue on a seasonal basis (such as during peak tourist and agricultural seasons or during seasonal festivals.) Service objectives may more appropriately focus on safety, reliability, and scenic qualities, rather than roadway capacity. Roadway capacity levels of service may focus more on tourist peaks rather than commuter peaks.

Goal 1 Emphasize the safe and efficient movement of people and goods.

Goal 2 Establish regionally coordinated service objectives for arterial and transit facilities within the region to encourage the efficient use of the existing regional transportation system.

Policy 1 Regionally coordinated service objectives should distinguish among the different needs of transportation systems in urban and rural areas.

Policy 2 The State Department of Transportation should set transportation funding priorities in coordination with established regional service objectives.

Policy 3 Transit level of service should address the following service objectives:

a) Degree of route coverage by type of service, i.e. routes, ridesharing & paratransit, in residential and employment activity centers

b) Frequency of service during peak and off-peak hours

c) Travel speed relative to single-occupant vehicles.

d) Availability of Transportation Systems Management (TSM) measures, such as signal control, that provide transit and rideshare vehicles an advantage in either travel time or access.

Policy 4 Develop coordinated level of service standards through the following:

a) Coordinate regional level of service standards with counties and cities.

b) Assist in coordinating level of service standards between different transportation modes in the region.

Airports

Goal 1 Recognize the region's air transportation needs by including in the regional transportation plan a system of airports located to conveniently serve the area's population.

Policy 1 Adopt the list of airports identified in the Washington State Airport System Plan as serving the Kitsap/Olympic Peninsula Region. These airports are listed below.

Airport Name	Service Level/Design Type
Bremerton National	General Aviation Transport
Forks	General Aviation Basic Utility
Jefferson County International	General Aviation Basic Utility
Port Orchard	Private Ownership Public Use
Quillayute State Airport	
Sanderson Field (Shelton)	General Aviation General Utility
Sekiu	Municipally Owned Airport
Sequim Valley	Private Ownership Public Use
Wm R. Fairchild International Airport	Primary Service Transport

Policy 2 Recognize that two additional privately owned/public use airports in the region not on the State Airport System Plan also provide a valuable service to the region's communities. These additional airports are listed below.

Airport Name	Service Level/Design Type
Apex Airpark (Silverdale)	Private Ownership/Public Use
Diamond Point (Clallam County)	Private Ownership/Public Use

Policy 3 Future airport related development will be concentrated at the region's existing airports which are identified in policies 1 and 2, or at other airports when they identified as essential public facilities in local comprehensive plans.

Goal 2 Prevent land use conflicts around the region's airports.

Policy 1 Keep housing, schools, and other noise sensitive land uses away from airports to avoid gradually bring more people within range of the noise created from aircraft operations, and thus generating complaints and opposition to the airports.

Policy 2 Prevent construction in airport vicinities of high buildings and other structures which obstruct normal aircraft flight and represent a safety hazard.

Goal 3 Use appropriate tools and techniques developed to identify potential land use conflicts in the vicinity of airports and to prevent land use conflicts.

Policy 1 Airports that have developed noise exposure maps under Federal Aviation Regulation Part 150 (which provides guidance for noise control and land use compatibility planning) will provide the maps and reports to local governments to assist in developing appropriate land use plans and zoning for the airport vicinity.

Policy 2 Airports with master plans that include a necessary airspace plan will provide those master plans to local governments. Local governments may use the plans to adopt height restrictive ordinances for the airport vicinity.

Policy 3 Any industrial uses in the airport vicinity will be regulated to prevent impacting airborne aircraft because of height of structures, smoke, glare, lights which shine upwards, and radio interferences from transmissions.

Policy 4 All reasonable efforts will be made to minimize hazards from wildlife.

Policy 5 Ensure that developments in the airport approach area (safety zone) will not be visually distracting, create electrical interference nor cause other safety problems for aircraft.

Goal 4 Provide adequate roadway and transit connections to airports from existing major arterials streets, roads and highways.

Goal 5 To recognize Seattle-Tacoma International Airport (SeaTac) as the major air carrier hub airport serving the State of Washington. Because of the need to preserve a long term convenient air link with the Seattle/Tacoma hub and the communities of the state, the PRTPO encourages airspace and ground facility improvements at SeaTac that will increase capacity, help prevent land use conflicts, minimize arrival and departure delays, and maintain connections with the Olympic and Kitsap Peninsula regional airport system.

Freight

The region's economic health relies heavily on the ability of the transportation system to move freight and goods efficiently in and around urbanized metropolitan areas. However, rapid increases in business activity, population and traffic have accelerated roadway congestion. The loss of truck-rail intermodal ramps in rural locations has resulted in freight being trucked to centralized intermodal facilities commonly located in urban areas, also contributing to increases in urban congestion. This increase in heavy containers being hauled on roads accelerates roadway deterioration, thereby reducing capacity and increasing infrastructure needs. Lastly, the surface transportation system's ability to efficiently move freight should keep pace with the international trade growth and related cargo shipping.

Goal 1 Provide a transportation system that supports the economic vitality of the Kitsap/Olympic Peninsula region, and prepares for long-term freight mobility needs.

Policy 1 Work towards a procedure and funding mechanism for identifying and assessing resources needed to establish and maintain a core system of all-weather roads for freight travel

Policy 2 Identify options to mitigate both the impacts of urban congestion on roadway freight movement and the impacts of roadway freight movement on urban congestion.

Policy 3 Recognize and enhance the intermodal freight connections, such as, ports and rail-barge facilities, which are critically important to freight transportation on the Peninsula.

Policy 4 Support the development and enforcement of regulations governing the weighing and transporting of containerized cargo, to lengthen the useful life of roadways.

Goal 2 Provide for a safe and efficient transportation system for freight.

Policy 1 Promote plans, procedures and systems intended to provide safe freight movement and routing and to reduce accidents, vehicle breakdowns, spilled loads, or other events which reduces roadway capacity.

Policy 2 Place greater emphasis on both transportation demand management strategies and freight management strategies that enhance efficient goods movement.

Policy 3 Support transportation system capital improvement projects that facilitate and contribute to the success of transportation demand management measures.

Highways

Goal 1 Increase the efficiency of the regional highway system by maximizing use of existing facilities.

Policy 1 Encourage land use and access control to preserve the integrity of bypass routes.

Policy 2 Optimize traffic signals synchronization to minimize travel delays.

Policy 3 Examine and implement ways to reduce congestion on the regional highway system.

a) Use intermittent passing lanes throughout the Regional Transportation System.

Policy 4 Encourage Transportation Demand Management techniques throughout the region.

Policy 5 Support the development and implementation of a regional access management system for the regional highway system to reduce interference from the local roadway network. (Consolidate access points through shared access, frontage roads, etc.)

Policy 6 Implement Transportation System Management techniques throughout the regional system and monitor rates of high occupancy vehicle (HOV) usage.

Policy 7 Provide cost effective and/or time saving travel alternatives to single occupant vehicles (SOVs).

Goal 2 Support improving the quality of travel on the regional system.

Policy 1 Identify and protect outstanding scenic vistas visible from the regional transportation system, and enhance those vistas where appropriate and feasible.

Policy 2 Provide adequate facilities (including parking and traveler information) at appropriate locations such as vista points.

Policy 3 Encourage annual litter cleanup on the regional system.

Policy 4 Control roadside signs along the regional system.

Policy 5 Support developing a coastal highway system.

Policy 6 Provide bicycle-friendly facilities on bicycle routes designated on the Regional Transportation System.

Goal 3 Improve travel safety on the regional system.

Policy 1 Whenever possible, designate alternate bicycle routes off the regional system.

Policy 2 Provide enhanced roadway/informational/directional signing along the Regional Transportation System when appropriate and feasible.

Policy 3 Provide bicycle-friendly facilities on bicycle routes designated on the Regional Transportation System.

Policy 4 Encourage placement and operation of safety rest stops along the regional system about every 75 miles.

Goal 4 Capacity improvements to the Regional Transportation System shall be consistent with the regional goals and policies.

Policy 1 Develop a priority process for improvements on the Regional Transportation System.

Goal 5 Support developing right of way options for future transportation use.

Policy 1 Inventory existing public agency held right of way along the Regional Transportation System, whenever possible and feasible.

Policy 2 Identify existing and potential funding sources for right of way preservation, whenever possible and feasible.

Bikes, Paths and Trails

Goal 1 Provide a range of non-motorized opportunities within the Regional Transportation System.

Policy 1 Encourage access to all modes of transportation.

Policy 2 Coordinate facility planning throughout the Regional Transportation System area.

Policy 3 Provide bus bike racks and bike lockers at transit and ferry facilities and other appropriate destinations within the Regional Transportation System.

Policy 4 Promote non-motorized transportation facilities to enhance tourism on a regional basis.

Goal 2 Plan and construct separate off-highway bicycle trail facilities, when economically feasible, along the regional transportation system in the Kitsap/Olympic Peninsula region. Off-highway trail facilities refers to facilities not immediately adjacent to highways. These facilities may be either within or outside of existing local or state right-of-way.

Goal 3 Produce a Regional Bike, Path, and Trail Map.

Policy 1 Pursue funding for trail development each year.

Policy 2 Provide for bicycle safety educational materials as part of the regional bike, path, and trail map.

SUMMARY

The regional goals and policies indicate that the PRTPO supports a multimodal transportation system. This support is clearly expressed in the Overall Goals. The fundamental elements of the Overall Goals support coordination between different travel modes and for reducing reliance on the single occupant vehicle. Level of Service is related to urban and rural development patterns. Airports recognize the type of use of each airport and the need for supporting land use policies. Freight mobility is recognized as important to the region's economy. Highway system efficiency, safety, and quality of travel are emphasized. Bicycle and other non-motorized opportunities are recognized as part of the Regional Transportation System.

Chapter 3

Public Involvement Process

CHAPTER 3

PUBLIC INVOLVEMENT PROCESS

INTRODUCTION

The public involvement process for the PRTPO relied on the active involvement of representatives from the participating jurisdictions. The public involvement process had three objectives:

1. Assure that the Peninsula Regional Transportation Plan is responsive to the needs of local communities;

2. Build public understanding and consensus for a commitment to future transportation investments in the Peninsula area;

3. Provide decision makers with a better understanding of the range of public concerns about transportation problems and solutions.

EXECUTIVE COUNCIL/POLICY BOARD

The Executive Council/Policy Board consists of representatives from local governments, port districts, transit agencies, Tribal Nations, major employers throughout the Peninsula, Washington State Ferries and Washington State Department of Transportation, Olympic Region.

Monthly meetings to discuss the organizational structure of the PRTPO began in January 1991. Beginning in January 1992, the Executive Council/Policy Board began meeting every other month. All meetings were open to the public and allowed time for public comment. On several occasions, community members made statements regarding transportation issues. This information was incorporated into the meeting record for the project teams use when developing the plan.

TECHNICAL ADVISORY COMMITTEE

The Technical Advisory Committee, or TAC, was formed to guide the technical aspects of the plan. The TAC, which met in the opposite month as the Executive Council/Policy Board, consists of technical staff from the various jurisdictions in partnership with the PRTPO and representatives of various community groups.

The TAC meetings also were open to the public, and on several occasions, community members spoke to issues of concern to them.

MEDIA OUTREACH

Media outreach has been an important element of the public involvement process. Press releases have been sent to all Peninsula media before Executive Council meetings, Technical Advisory Committee meetings and other important milestones in the project.

QUESTIONNAIRE

Another element of the public involvement process has been a questionnaire to elicit community feedback on regional transportation priorities. The questionnaire was designed to be completed by individuals who attended meetings at which the Regional Transportation Plan was discussed, such as civic organizations and local land use meetings planned in the various jurisdictions. Members of the TAC and the Executive Council/Policy Board were asked to be actively involved in collecting responses to the questionnaire.

Between September 1992 and June 1993, PRTPO questionnaires were distributed though public meetings, displays in public lobbies and, in Mason County, through the City of Shelton's monthly utility bill. A total of 438 responses were received.

A report summarizing the responses was distributed in June of 1993. Because the sample size from three of the four counties was too small to be representative of the population, results should be viewed as informational only. More than 50 percent of the respondents found pedestrian and bicycle safety and congestion at ferry terminals a problem of major concern. The condition or repair of the roads also was considered a major problem. The majority of respondents felt traffic congestion had gotten worse. When asked about priority of transportation improvements, transit improvements, sidewalks and bicycle paths and maintaining rural character of roads were given high priority.

INFORMATIONAL BROCHURES

Another element of the public involvement process has been two brochures distributed throughout the planning area. The initial brochure was developed in the fall of 1992 at the onset of the planning process. This brochure introduced the PRTPO to the public and described the jurisdictions involved, the areas the plan was expected to include, and the need for public input into the process. The primary method of distributing the fist brochure was through the use of the discussion kits.

The second brochure was developed in May 1994 and served to update the public on the progress of the planning process. This brochure was distributed to all individuals currently on the project mailing list and during community meetings where a speaker had been asked to discuss the PRTPO.

DISCUSSION KIT

A discussion kit has been another element of the public involvement process. Duplicate kits were used to introduce the PRTPO to communities in the four participating counties. The kits were developed and distributed in the fall of 1992 to Clallam County Long Range Planning Office, Jefferson County Public Works, Mason County Public Works, Kitsap County Public Works and the Cities of Bremerton and Bainbridge. The kits included display boards introducing the PRTPO to the public and indicating how they can be involved in the process, project brochures (first brochure) and project questionnaires.

The discussion kits were used at city council and planning commission meetings, planning forums, Growth Management community meetings and public hearings. They were also displayed in courthouse lobbies and city halls around the Peninsula.

SPEAKERS KIT

A speakers kit has been an additional means of informing the public regarding the Regional Transportation Plan being developed by the PRTPO. The speakers kits were used at meetings of local civic organizations.

Duplicate kits were developed and distributed in the fall of 1994 to Clallam County Long Range Planning Office, Jefferson County Public Works, Mason County Public Works and Kitsap County Public Works. The kits included a detailed discussion guide focusing on the regional road system, display maps of the projected regional road deficiencies for the county and project brochures (second brochure).

OPEN HOUSES

Open houses have been used at strategic junctures in the planning process. The first open house was held in September, 1992 in Silverdale. This open house provided an opportunity for the public and communities of interest to be introduced to the PRTPO and to comment on its direction.

The second series of open houses are being held in the spring of 1995 to present the final draft plan to the public and ask for comment. One open house will be held in each county. The public involvement process for the PRTPO has been a continuous and concurrent process throughout the development and writing of the Regional Transportation Plan.

Chapter 4

Regional Land Use Concept and Transportation Linkages

CHAPTER 4

REGIONAL LAND USE CONCEPT AND TRANSPORTATION LINKAGES

INTRODUCTION

This chapter discusses three main topics: the Regional Land Use Concept, the Assessment of Development Practices, and Access Management. The Regional Land Use Concept is a picture of the regional land development patterns in the area. This Concept is a response to the requirements of the Growth Management Act. This Concept precedes many of the local land use decisions that will be made in the city, county and tribal comprehensive plans. As those comprehensive plans are completed, they will be incorporated into the Regional Land Use Concept. This Concept is intended to reflect a general pattern of preliminary land use classifications and to create a regional land use context for transportation decisions in the PRTPO area.

The second section of this chapter is the Assessment of Development Practices. This section meets the state requirements outlined the RTPO Planning Standards and Guidelines, (RCW 47.80.020) and its supporting administrative codes. This legislation calls for a "general retrospective discussion of current land uses and transportation patterns and their relationship to the regional vision..."[1] and a review of current and projected development patterns.

The third and final section of this chapter focuses on Access Management. Washington State has established access management requirements for interstates, highways, principal and minor arterials. These requirements and the applicable routes are described. The description provides an overview for the PRTPO to plan for appropriate transportation improvements along the various routes in the region.

REGIONAL LAND USE CONCEPT

Background

The PRTPO regional land use concept is a first step in coordinating the regional transportation system with local comprehensive land use plans consistent with GMA. To this end, the thirteen GMA planning goals are restated as an integral part of the regional land use concept.

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[1] Chapter 468-86-WAC, RTPO Planning and Standards, Draft, page 8.

1. **Urban growth:** Encourage development in urban areas where adequate public facilities and services exist or can be provided in an efficient manner.

2. **Reduce sprawl:** Reduce the inappropriate conversion of undeveloped land into sprawling, low-density development.

3. **Transportation:** Encourage efficient multimodal transportation systems that are based on regional priorities and coordinated with county and city comprehensive plans.

4. **Housing:** Encourage the availability of affordable housing to all economic segments of the population of this state, promote a variety of housing densities and housing types, and encourage preservation of existing housing stock.

5. **Economic development:** Encourage economic development throughout the state that is consistent with adopted comprehensive plans, promote economic opportunity for all citizens of this state, especially for unemployed and for disadvantaged persons, and encourage growth in areas experiencing insufficient economic growth, all within the capacities of the state's natural resources, public services, and public facilities.

6. **Property rights:** Private property rights shall not be taken for public use without just compensation having been made. The property rights of landowners shall be protected from arbitrary and discriminatory actions.

7. **Permits:** Applications for both state and local government permits should be processed in a timely and fair manner to ensure predictability.

8. **Natural resource industries:** Maintain and enhance natural resource-based industries, including productive timber, agricultural, and fisheries industries. Encourage the conservation of productive forest lands and productive agricultural lands, and discourage incompatible uses.

9. **Open space and recreation:** Encourage the retention of open space and development of recreational opportunities, conserve fish and wildlife habitat, increase access to natural resource lands and water, and develop parks.

10. **Environment:** Protect the environment and enhance the state's high quality of life, including air and water quality, and the availability of water.

11. **Citizen participation and coordination:** Encourage the involvement of citizens in the planning process and ensure coordination between communities and jurisdictions to reconcile conflicts.

12. **Public facilities and services:** Ensure that those public facilities and services necessary to support development shall be adequate to serve the development at the time the development is available for occupancy and use without decreasing current service levels below locally established minimum standards.

13. **Historic preservation:** Identify and encourage the preservation of lands, sites, and structures, that have historical or archaeological significance.

It is intended that the regional land use concept will strive to implement these thirteen planning goals.

Regional Land Use

One of the major tenets of the Growth Management Act (GMA) is that transportation and land use are fundamentally linked together and cannot be separately planned. In addition, transportation plans must be coordinated at a regional level, so that regional facilities are treated consistently across jurisdictional lines. Because of this commitment to consistency and to land use and transportation linkages, the Peninsula Regional Transportation Planning Organization (PRTPO) has developed an interim regional land use concept that serves as the basis for the regional transportation plan.

This land use concept plan is a picture of the regional land development pattern that precedes many of the local land use decisions that will be made in the city, county and tribal comprehensive plans. It is intended to reflect a general pattern of preliminary land use classifications and to create a regional context for land use decisions in the Kitsap and Olympic Peninsulas. It identifies the major traffic generators in the region, such as tourist destinations, industrial centers, retail centers, and military bases. It also identifies resource lands that will remain relatively undeveloped throughout the planning period. Local land use classifications remain to be decided. The maps should not be interpreted as final actions on land use at this time.

The GMA states that regional transportation plans should be based on existing county and city comprehensive plans whenever possible. The PRTPO map folio was based on all available local comprehensive plans and zoning maps for communities within the region. Where comprehensive plans were not available, the map folio reflects a community's existing land use. The City of Port Townsend is an urban growth area per the Growth Management Act. Designations beyond this have not yet been decided in Jefferson County, and no designations are shown on the

Regional Land Use Concept because of a pending case before the Growth Management Hearings Board.

The counties have been working to achieve cohesive growth scenarios within their own boundaries. The counties agree that they must have locally acceptable land use concepts before they can realistically develop a regional concept. **As county and city comprehensive plans are completed, the regional land use concept and transportation plan should accordingly be reviewed and revised to reflect major changes.**

The regional transportation system should be based on the development concept plan as expressed in the map folio. However, there are a number of land use issues outlined below which the local jurisdictions need to consider and address in their comprehensive plans. Once addressed at the local level, these land use decisions can be incorporated into the regional land use concept and, if appropriate, used to revise the regional transportation plan.

Will the traditional central business districts (CBDs) of Bainbridge Island, Bremerton, Port Orchard, Port Townsend, Port Angeles, Poulsbo, Shelton, Sequim, and Forks remain as the primary centers within the region?

The regional land use concept defines primary centers as commercial development that can be characterized as the central business district and/or a significant commercial center of an established city or unincorporated UGA. Mixed use or higher density residential developments are also encouraged in these areas. Using this definition, the following are identified as primary centers:

Bainbridge Island (Winslow),
Bremerton (downtown),
Port Orchard (downtown),
Port Townsend (downtown),
Port Angeles (downtown),
Poulsbo (downtown),
Shelton (downtown),
Sequim (downtown),
Forks (downtown),
Silverdale,
Kingston.

The following centers are significant commercial development that may qualify as primary centers depending on local plans. The local plans would identify whether mixed use or higher density residential developments are to be encouraged in these areas.

Viking Avenue (vicinity of Poulsbo),
Wheaton Way (vicinity of Bremerton),

Milehill (vicinity of Port Orchard),
Belfair (Mason County)
Gorst (Kitsap County)
Bethel Avenue (vicinity of Port Orchard)

Transportation investments should support the development of these centers through: (1) provision of access to the center; (2) maintenance of mobility through the center; (3) design standards that support the local vision for the center; and, (4) recognition of multimodal, pedestrian, non-motorized, and freight access needs as well as the movement of automobiles.

What additional centers are envisioned outside the primary centers?

The regional land use concept recognizes four secondary centers inside urban growth areas. These secondary centers include the entrance to Port Angeles, the Gateway District in Port Townsend, Kitsap Way in Bremerton, and SR 305 in Poulsbo. As review of this Regional Land Use Concept proceeds, the designations of secondary centers may be refined based on local land use actions. Potential additions include Chimacum/Port Hadlock, Port Ludlow, and Port Gamble.

The regional land use concept recognizes that there will be urban commercial development outside of the primary centers, but places priority on transportation investments which serve primary centers.

What role will other rural centers that provide smaller-scale retail, and service activity to the surrounding community (such as Clallam Bay, Beaver, Quilcene, Brinnon, Sekiu, LaPush Neah Bay, Allyn, Hoodsport, Union, and the tribal lands) have on transportation system development?

Rural centers are recognized as important crossroads in the rural areas. Their location historically was based on good transportation access. The regional transportation plan will recognize the need to provide access to rural centers while maintaining rural character and rural design.

What are the long-term plans for the military installations and airports within the region and what transportation infrastructure needs to be provided?

At this time no changes are anticipated for the military installations in the regions, but several of the airports are considering expansions or other changes. The PRTPO has 11 airports in the four county area. Fairchild International Airport in Port Angeles is the largest airport in the region, followed by Bremerton National Airport in Kitsap County, and Sanderson Field in Mason County. The remaining airports are smaller and more

locally oriented. Three of the remaining airports are privately owned (Apex Airport, Port Orchard Airport and Diamond Point).

Of the 11 airports, three are planning improvements which may impact the regional road system. Bremerton National Airport Master Plan Update considers three alternatives and recommends extending one runway 1,200 feet to the south. This recommendation is the second alternative considered. The first alternative was the "Do Nothing Alternative" and the third alternative included extending the same runway as Alternative 2, but extending the runway north instead of south. Extending the runway to the north would entail a realignment of SR 3. Partially because of the increased costs associate with realigning Alternative 3 the more feasible Alternative 2 was recommended.

The Fairchild International Airport is also considering improvements that may impact the regional road system. Fairchild is planning to improve access to the airport by realigning Lauridsen Road. Jefferson County International Airport's Updated Master Plan (adopted August 1994) contemplates commercial and industrial development, as well as development of landside general aviation facilites which would have impacts on SR 19 and SR 20. Lastly, the Forks Airport is also considering improving access, thus eliminating uncontrolled access along US 101.

In addition to airport improvements, the Bremerton National Airport also some current land use conflicts. These include the following: Bremerton Trap and Skeet, the Aero Mobile Court, and the Rodeo Drive-In Theater. Each of these are approximately one-half mile from the airport runway. However, these land uses are mentioned for information purposes only. The airport has avigation easements prohibiting property development which may be incompatible with aviation activity. Thus, aircraft are able to safely fly over many of these properties.

What major tourist destinations are envisioned within the area?

The Olympic and Kitsap Peninsulas contain a wide variety of tourist attractions, ranging from national parks and state recreation areas to river access, fishing areas, resorts and historic sites. The entire region is a tourist attraction due to the distinctive features of the region's open spaces, alpine lands, harbors, winding rural roads, timber resource lands, fishing villages, shorelines, and mountain peaks. These features play an important role in the region's emerging tourist economy.

In addition, tribal economic developments, such as casinos and other future large scale activities, should be considered because they may have transportation impacts. As more firm data is collected about such activities, they will be incorporated.

Transportation is important in the continued development of the tourism industry. Mobility must be provided at the same time as scenic, recreational, and historic resources are maintained.

What are the features of the rural and resource lands within the region and how do they relate to the transportation system? What types and levels of traffic are expected to be generated in the rural area?

Parts of the PRTPO area are primarily rural, with significant timber resource lands. Kitsap County is transitioning to suburban with significant wooded lands. Resource lands require consideration of truck traffic. The type and density of development proposed and forecast to occur in the rural lands varies. Access management along the regional highway and road system can preserve mobility in rural areas and protect rural character.

Map Folio

The land use map folio includes eight regional maps of the PRTPO area. The following classifications describe the land use designations on the regional maps.

Urban: Areas designated as urban growth areas and that are served by water, sewer, transportation and other urban facilities and services. These areas are characterized by a mix of commercial and residential development.

Rural: Areas characterized by low-density, low-intensity land uses such as agriculture, agriculture-related support services, and scattered residential development.

Rural Center: Historic rural settlements or crossroads communities that consist of a church, cemetery, old schoolhouse, neighborhood stores, and other rural community commercial uses.

Resource: Land that is primarily useful for timber, mineral, or food production and that has long-term significance for the production of these commodities commercially.

Industrial: Areas devoted to manufacturing, processing or storage of products.

Military: Designation for Military Bases

Tourist Destination: Natural, historical, or privately developed area that serves as a destination for tourists and recreational users.

Airport: A designated airport.

National Park: Federal preserve.

Tribal Lands - Sovereign Indian land, subject to tribal land use planning and tribal land use regulations. Tribal lands may include zoning or other regulations for residential, economic development, industrial, resource or other uses.

Within urban areas there are a variety of industrial, commercial, and residential land use classifications. Two designations are noted in this regional land use concept. Urban areas that are not considered primary or secondary centers are designated urban.

Primary Center - Commercial development that can be characterized as the central business district and/or a regional commercial center of an established city or unincorporated UGA. Mixed use or higher density residential development is also encouraged in these areas.

Secondary Center - Commercial development that can be characterized as a highway or neighborhood commercial districts inside a UGA. Mixed use or higher density residential development can be allowed in these areas. Not as intense as primary commercial.

ASSESSMENT OF DEVELOPMENT PRACTICES

The second section of this chapter is the Assessment of Development Practices. This section meets the state requirements outlined the RTPO Planning Standards and Guidelines, (RCW 47.80.020) and its supporting administrative codes. This legislation calls for a "general retrospective discussion of current land uses and transportation patterns and their relationship to the regional vision..."[2] and a review of current and projected development patterns.

This section uses local comprehensive plans as sources for documenting the changing land use pattern for each county. Most of the text in this section is taken from these local plans but has been shortened and presented as overviews in the subsections below.

Clallam County[3]

The economy of Clallam County is dominated by its natural resource industries and the drawing power of its environmental amenities. The counties vast and highly productive timber resource base had made the timber industry a traditional economic mainstay. Other resource based industries of importance to Clallam County include agriculture, commercial fishing, shellfish harvesting, and mining. A growing tourism industry services the many visitors drawn to the county by Olympic National Park, ferry access to Victoria, British Columbia, world class salmon fishing and the opportunity to enjoy the varied scenic and recreational opportunities

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2 Chapter 468-86-WAC, RTPO Planning and Standards, Draft, page 8.

3 The text in this section is taken directly from the Clallam County Comprehensive Plan, County Planing Commission Public Hearing Draft, July 20, 1994. Section 31.02.600, Economic Development.

found in this area. These same environmental amenities combined with the mild maritime climate and low rainfall on the county's east side have resulted in substantial population growth over the past 20 years. The county's growing retirement community has created employment gains in the service sectors of the economy. Environmental research centers have been drawn to Clallam County due to the opportunities to conduct research in the large areas of relatively undeveloped and remarkably clean environment found within the county.

Employment figures for Clallam County have shown steady gains in number of county residents employed with a steady decline in unemployment. Recent upturns in unemployment are attributed to overall contraction in the forest products industry along with seasonal unemployment trends within forestry and tourism-related industries. The decade from 1980 to 1990 saw wholesale and retail sectors of the economy grow by 31 percent, services by 29 percent and government by 26 percent. Employment in health services; finance, insurance, real estate; and construction also experienced significant positive gains. Much of the increase in governmental employment can be attributed to hiring for the Clallam Bay Corrections Center, but local government and education related employment have also increased. The 1980s also saw a 16 percent drop in manufacturing jobs mainly in the forest products industry.

Approximately 60 percent of the county is managed for the commercial harvest of timber. But tourism, sports fishing, and a fishery and aquaculture industry are also important components to the County. As documented in Chapter 7, Tourism, in 1990 over a million people visited just the Lake Crescent area of the Olympic National Park in Clallam County, and the county has many other attractions. Sports fisherman provide major support to other business establishments such as hotels/motels, campgrounds, R-V parks, and restaurants throughout the county. And the commercial harvest supports an active seafood processing a wholesale industry. All of these industries contribute to the Clallam County economy.

Jefferson County[4]

Jefferson County has been shaped by a complex variety of physical and geographical forces creating both a diverse environment and settlement patterns. In many ways it is typical of many of the rural counties of western Washington that developed on a timber-based economy. Yet the County has also been shaped by its unique history, giving it a flavor distinctly different from its neighbors. While Port Townsend was the center of attention in the 19th Century, other areas of the County were also growing. The vast timber resources of the Olympic Peninsula attracted loggers who settled around the County and built logging mills where water facilitated the movement of logs from forest to mill. The growth of Port Townsend tended to dominate the settlement pattern until the 1950's.

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[4] This section is taken directly from the *Jefferson County Comprehensive Plan Existing Conditions Report, Staff Draft*, Executive Summary, February 14, 1995.

After 1960, the population in outlying areas of the County grew faster than Port Townsend. Today, approximately 80 percent of the people moving to Jefferson County from other areas of the State move to locations outside of Port Townsend. The majority were issued outside of Port Townsend in the Northeast County area. Perhaps the most significant influence on the development trends and patterns in the county today is the access afforded to the County by the Hood Canal Bridge. Not only does the bridge provide access to the from the East Puget Sound Region, but it also enable residents to access commercial services outside of the County, most notably the Silverdale area.

The County has served to attract many retirees looking for attractive rural environments and the County's beautiful shorelines. More recently, younger, working-age people have moved to the County, apparently bringing their jobs with them either by computer or long-distance commuting. Professionals serving statewide markets are now finding that they can locate in attractive rural areas and still remain competitive through computer technology and tele-commuting. This appeal is apparently providing a new economic base to the area, sustaining a high level of growth in spite of declining traditional economic bases such as the timber industry.

This growth has stimulated a rapidly developing settlement pattern along the shoreline, particularly view lots. In conjunction with new growth in these areas, new businesses have also been established, creating new commercial areas and activity, especially in unincorporated areas. Total taxable sales in unincorporated areas outgrew Port Townsend from 1988-1992. This indicates a shift in growth and commercial activity from Port Townsend to outlying areas of the County. At present, these influences have been strongest along the northeastern shore of the Quimper Peninsula, extending from Shine to Irondale. The predominant example of this new growth is the recent development of the Port Ludlow community, but the growth is also occurring to a lesser extent the shorelines of Discovery Bay and Marrowstone Island.

Kitsap County[5]

Currently, Kitsap County's economic well-being relies heavily on five military installations and facilities. They include the Puget Sound Naval Shipyard (PSNS), The Naval Submarine Base at Bangor, the Naval Undersea Warfare Center at Keyport, the Naval Hospital at Bremerton, and the Puget Sound Naval Supply Center. Non-military employment is led by retail trade, manufacturing of durable goods and public administration.

Natural resources have historically been a significant source of economic stability in Kitsap County. Agricultural and forestry uses, and shellfish harvesting have been an integral part of Kitsap's landscape and economic soundness. Although the forestry and agricultural employment has decreased in the past decade, there are still viable employment opportunities found in Kitsap rural lands.

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[5] This section is taken directly from the Kitsap County Transportation Plan, Chapter 3, Economic Development.

Federal military spending is the principal economic driver in Kitsap County. However, policy at the federal level signals major changes are coming. The trend appears to be an overall decline in the size and spending power of the Navy. How this affects Kitsap in the long term is yet to be determined, but it has spurred concern and a call for reducing Kitsap's dependence on the Navy through diversification. This concern is reflected in the Kitsap County-wide Planning Policies which state "The county and Cities recognized that the economy in Kitsap County is overly dependent on the U.S. Navy and diversification is necessary." A single base closure or significant downsizing would have major negative impact on Kitsap's economy.

Government employment has decreased as a percentage of total employment, from about 62 percent in 1970 to 40 percent in 1990, retail and service sectors grew rapidly during the eighties and are expected to be the fastest growing in the next twenty years. The drop in the county's total government employment does not indicate a widely diversifying economy, but rather indicates the growing service and retail industry in Kitsap County which has followed population growth and existing pent-up demand.

Mason County[6]

Forestry is the dominant land use in Mason County. Private forestry activities constitute 54 percent of the land use in the county. The second largest land use in the county is Open Space and Federal Lands, which makes up 28 percent of the land use in Mason County, but roughly 27 of that Federal land is also used for forestry activities. Therefore, when both public and private lands used for forestry are computed together, approximately 74 percent of the land in the County is used for the production of timber.

Other land use activities in Mason County consist of activities such as Agriculture/Aquaculture (1.2 percent), Commercial/Institution (1.9 percent), or residential (3.9 percent). A significant portion (11.4 percent) of the land in Mason County is rural vacant or otherwise undefined. Because such a significant portion is rural vacant or similarly unused, the proportion of people living within the city limits of Shelton is relatively high compared to the density of those living outside of Shelton in unincorporated Mason County. Roughly 17 percent of the County's population resides within the city limits, but Shelton only makes up about 0.5 percent of the total land area in the county. This concentration of population within the city results in a density of 0.2 acres per person in contrast to those living in unincorporated Mason County, where the densities are 0.62 acres per person, or 1.61 people to every acre of land.

Agriculture and aquaculture, while making up only 1.2 percent of the total land in the county, make significant contributions to the economy. Mason County is known for its production of Christmas trees and the agriculture activities in the county focus on Christmas tree production,

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[6] Based on the Staff Draft of the *Mason County Comprehensive Plan*, February 1995.

though greenery for boughs and swags are also produced. The aquaculture activity is the smaller portion of this sector, but plays a significant role in the economy.

The majority of the commercial and institutional land in Mason County is within the City of Shelton or other areas of concentration, such as Allyn, Union, Hoodsport, and Lake Cushman. This category is comprised of all governmental buildings, infrastructure, services and retail and wholesale establishments. Industrial activity, which makes up 0.08 per cent of the total land use predominately occurs within the Port of Shelton, though some industrial activity also occurs at Sanderson Field, Oakland Bay, and Johns Prairie.

Mason County does have an active mining sector, though the total land us is only 660 acres or 0.1 percent of the total acreage in the county. Mason County has 21 operating surface mines, but pending permit approval, there will be an additional 415 acres devoted to mineral extraction.

Impacts on Travel Patterns

Generally speaking, for the PRTPO area land use and development patterns are in transition, changing from the traditional resource based economy to the newly established and still growing tourism and retirement based economy. But the change varies from county to county. One county, for example, may be developing into more of a retirement community, another into more of a retail center. The PRTPO expects these changes to continue and for the economies of the four counties to become more diverse. Tourism is expected to take a stronger role as the timber industry declines, though freight activity in general is expected to remain an important component of the vehicle mix. Consequently, a better understanding of tourist and recreational travel would benefit the PRTPO, particularly in regards as to developing tourist travel so that it does not conflict with freight travel.

As can be seen from the county summaries above, Clallam County has a strong history of timber but is now expanding this base by building up tourism and recreation, particularly recreational fishing. Jefferson County also has a history of timber, but it's economy is changing more towards long distance commuting and tele-commuting. Jefferson County is also developing a strong retirement community. Parts of Clallam County, particularly the Sequim area, are also known for their growing retirement communities. In Kitsap County, the various naval bases have played a large role in the local economy, but as military spending reductions take place, Kitsap County expects to diversify their economy by building up other areas of economic activity, such as retail and industry.

The land uses and travel patterns of the four counties are inter-related. For example, tourism affects each of the counties but the impact is different. Both Kitsap and Jefferson County have tourist destinations, but each also has state routes that serve as through travel routes for those traveling to the tourist and recreational activities in Clallam County. Kitsap County has a regional shopping mall which attracts shoppers from surrounding counties. All traffic not

traveling up US 101, SR 3, or SR 16 must travel by ferry to the PRTPO area. Four of the five state ferry routes to the PRTPO area are to Kitsap County, so most of the traffic not traveling on these three routes (US 101, SR 3, SR 16) must go to or through Kitsap County. The remainder of the ferry traffic to the PRTPO area goes to Port Townsend in Jefferson County or to Port Angeles via the Blackball ferry from Victoria, B.C. (see Chapter 7, Tourism, Table 7.5 for ferry ridership counts).

Mason County, which sits at the base of the Olympic and Kitsap Peninsulas, provides access to the state capital in Olympia and the southern portion of Interstate 5. Tourist travel coming from the south and going north to the Olympic Peninsula would travel north on US 101 (and thus through both Mason and Jefferson County or on SR 3 through both Mason and Kitsap County. In addition, these same routes (US 101 and SR 3) also provide freight access to southern destinations.

Relation to the Regional Vision

Each of the counties in the PRTPO have articulated a unique vision for their future. However, take together, the counties' visions for the future weaves a region-wide vision for the entire Kitsap and Olympic Peninsulas. As part of this vision, the counties and local jurisdictions are attempting to retain elements of their old economy, such as the timber and fishing industries, and mix them with newer aspects, such as regional shopping centers, tourism and emerging retirement communities.

Travel patterns on the peninsulas can be expected to change along with the anticipated changes in land use and economy anticipated in the region. Overall, the number of single occupant vehicles, tourist, transit, non-motorized vehicles, and freight trips is expected to increase in the PRTPO region. Consequently, the challenge facing the PRTPO is how, given the expected change and growth on the peninsulas, can the PRTPO address and manage this change in travel patterns and volume so that the region's quality of life is maintained? To meet this goal, the PRTPO's regional transportation plan explores new options for travel and reflects these issues, concerns and potential solutions in the plan.

ACCESS MANAGEMENT FOR ARTERIALS

Washington State has established legislation governing the location and spacing of access onto state routes, referred to as access management. Access management can be addressed at several levels: from the state perspective of legal authority to the local perspective of developer negotiations. But the fundamental basis of access management is that it links transportation planning with land use planning.

Access management addresses the need to provide individuals access to their property while reducing the impacts on the main route. Besides providing a right-of-way, access management

preserves traffic flow, vehicle and pedestrian safety, and roadway capacity. Consequently, an effective access management system is an important element to developing a safe and efficient transportation system.

The Link to Land Use

At the regional level, access management can be a critical part of the state regional transportation plan requirement to assess "regional development patterns and investments to ensure preservation and efficient operation of the regional transportation system"[7]. The regional organization provides both the regional perspective necessary to preserve the capacity of the regional transportation system and the local perspective of development contributing to the local tax base.

Access Management Legislation

In Washington State access management has two main components: roadway and driveway access management. These components are addressed in either separate legislation or in separate administrative codes. The following summary provides an overview of this legislation and codes.

Roadway Classifications

Roadway classifications for access management are based on how the road functions and adjacent land uses. Examining how the road functions means looking at the kind of travel it carries. Does the road provide for quick and efficient regional travel between counties or does it serve local travel between neighborhoods? The impacts of adjacent land uses are equally important in examining the roadway. An interregional route should have few direct access points to adjacent land uses -- too many access points and the turning conflicts will slow traffic movement so much that the road can longer effectively serve interregional travel. A local roadway should do just the reverse -- adjacent land uses should be well served with many access points from the transportation system. This does not necessarily mean a hodgepodge of driveways and intersections, but quick and efficient access is given priority on local streets over quick and efficient travel.

Because of these relationships between roadway function and land use, access management roadway classifications are divided into two subelements: Limited Access Highways and other access highways.

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7 "Access Management - Key to Mobility", Herbert S. Levinson and Frank J. Koepke, *Conference Proceedings*, Transportation Research Board Access Management Conference, 1993.

Limited Access Highways[8]

There are three kinds of Limited Access Highways: Full Control, Partial Control, and Modified Control. Highways which have full access control permit connections only through interchanges. All other crossings and private connections made at grade are prohibited. Interstate highways require full access control. Principal and Minor arterials vary in regards to full access control. Principal arterials with four or more through traffic lanes, existing or planned, require fully controlled access. However, at times principal arterials may be approved for partial or modified control.

Minor arterials "will not normally be considered for development to full access control standards" (page 1420-1) but are required to have partial or modified control. Partial control protects the roadway from traffic interference and from future strip development. However, partial control does allow for some crossings and some private driveway connections at grade.

Modified access control is applied where "some degree of control is desired" (1420-4), but because of existing and potential commercial development, full or partial control is inappropriate.

In the PRTPO area, few roads are designated as fully controlled access, though three exceptions standout. They are SR 3 in Kitsap County between SR 304 and SR 305; US 101 in Mason County from SR 3 to Shelton's northern City Limits; and SR 16 in Kitsap County from the Pierce County Line to SR 166/Bay Street.

Examples of partially controlled access highways include SR 305 on Bainbridge Island; SR 3 from Belfair to Gorst; and SR 16 from SR 160/Sedgwick to Port Orchard. In addition SR 104 from the Hood Canal Bridge to US 101 is a partially controlled limited access highway, as is SR 308, and US 101 from the Thurston County Line to SR 3.

The only modified access highway in the PRTPO area is SR 303 in Bremerton. All other highways in the area fall into one of the five remaining categories, as discussed below.

Other Access Highways

In 1991, Washington State Department of Transportation (WSDOT) was directed by the State Legislature to develop an access management program (RCW 47.50). WSDOT developed the programs which have been adopted as the Highway Access Management -- Access Control Classification System and Process (WAC 468-51) and Standards (WAC 468-52). WAC 468-51 focuses primarily on different types of driveway and WAC 468-52 discusses managing access

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[8] Based on the WSDOT Design Manual, Section 1420, Access Control Design Policy.

Driveway Access Types

WAC 468-51 focuses on the administrative process for access management. This WAC defines when connection permits are required to the state route system and describes the permit process used to obtain permits when necessary. Permits are necessary when limited access rights have not been acquired but the owner of the property has a right to reasonable access. Reasonable access can be provided by another public road -- the owner of the property does not have a right to a particular means of access. The legislation clearly states, *"All new connections including alterations and improvements to existing connections to state highways shall require a connection permit".*

This legislation defines six different types of connections. The type of connection differs from the type of road, which is discussed in the following section (468-51-040). The connection type is a description of the scale and geometric of an intersection or driveway. The type of roadway facility more relates to functional classification. The six connection categories are listed below.

Category I -- Minimum Connection
Category II -- Minor Connection
Category III -- Major Connection
Category IV -- Temporary Connection
Nonconforming Connection
Median Opening

Category I -- Minimum Connection is defined as providing connection to a state highway for up to 10 single family residences, where Average Weekday Vehicle Traffic (AWDVT) is 100 or less. Connections to agriculture and forest lands, including field entrances are included under Category I.

Category II -- Minor Connection provides connection to traffic generators of 1,500 AWDVT or less, but are not included in Category I.

Category III -- Major Connection provides connection for high traffic generators with AWDVT over 1,500.

Category IV -- Temporary Connection is a specialized permit providing access for specified uses, which may include logging, temporary construction, and temporary emergency access. Other uses can be included as described within the permit. The state "reserves the right to remove any temporary connection at its sole discretion". Figure 1 graphically depicts the differences between Class III and Class IV.

Nonconforming Connection is applied to Categories I through IV after the state has determined that "a conforming connection cannot be made and denial of the connection would leave the property without reasonable means of access".

Median Opening refers to physically changing a roadway median to allow access to and from the state route. Median opening requests are individually reviewed. The property owner requesting the median opening must file a new construction permit application. The legislation also clearly indicates that the state reserves the right to close median access "where operational and safety reasons require".

The Access Management Administrative Process Legislation also describes corner clearance requirements and the application process and requirements. The application process and requirements section lays out the steps which must be taken to request a connection, as well as recommended or encouraged additional steps. As a minimum the connection request must include the following information, which is fully detailed in the legislation: Road Information; Property Information; Connection Location Information; Connection Design Information; Joint Driveway Use.

Relation to the Regional Vision

Access management is an important tool for achieving local land use plans and the regional land use concept. In general, limiting access to a regional highway or road will support maintaining adjacent land uses as rural. For this reason, the PRTPO recommends that regionally significant highways and roads in rural areas be designated by WSDOT as either Limited Access Highways or as class 1, 2, or 3 highways. The PRTPO also recommends that regional highways and roads in urban areas be designated by WSDOT as Limited Access Highways or class 4 or 5. The designation of urban and rural areas will need to be finalized by the four counties before any review/revision of the access classification begins. The following highways may need to be reviewed.

- US 101 within the area of the Quilcene Community
- US 101 within the area of the Lilliwaup Community
- US 101 within the area of the Hoodsport Community
- SR 104 within the area of the Port Gamble Community
- SR 300 from Belfair State Park to Junction with SR 3
- SR 19 in Jefferson County
- SR 20 in Jefferson County

SUMMARY

This chapter discusses three main topics: the Regional Land Use Concept, Assessment of Development Practices, and Access Management.

This chapter discusses three main topics: the Regional Land Use Concept, Assessment of Development Practices, and Access Management. The Regional Land Use Concept is a picture of the regional land development patterns in the area. This Concept is a response to the requirements of the Growth Management Act. This Concept precedes many of the local land use decisions that will be made in the city, county and tribal comprehensive plans. It is intended to reflect a general pattern of preliminary land use classifications and to create a regional land use context for transportation decisions in the Kitsap and Olympic Peninsulas.

The second section of this chapter provides an assessment of development trends in the PRTPO area; thereby, meeting the state Regional Transportation Planning Organization requirements (RCW 47.80.020). For the PRTPO area, land use and development patterns are in transition, changing from the traditional resource based economy to the newly established and still growing tourism and retirement based economy. These changes in the social and economic conditions impacts the transportation system. Tourist travel tends to be oriented more towards the pleasure of the trip, and consequently can be more circular and not destination oriented. Retirement travel is, of course, lacking home-to-work element, and consequently is more oriented towards shopping, health, or pleasure. The PRTPO is developing a regional vision which incorporates the diverse interests of the area.

The third and final section of this chapter focuses on Access Management. Washington State has established access management requirements for interstates, highways, principal and minor arterials. These requirements and the applicable routes are described. The description provides an overview for the PRTPO to plan for appropriate transportation improvements along the various routes in the region.

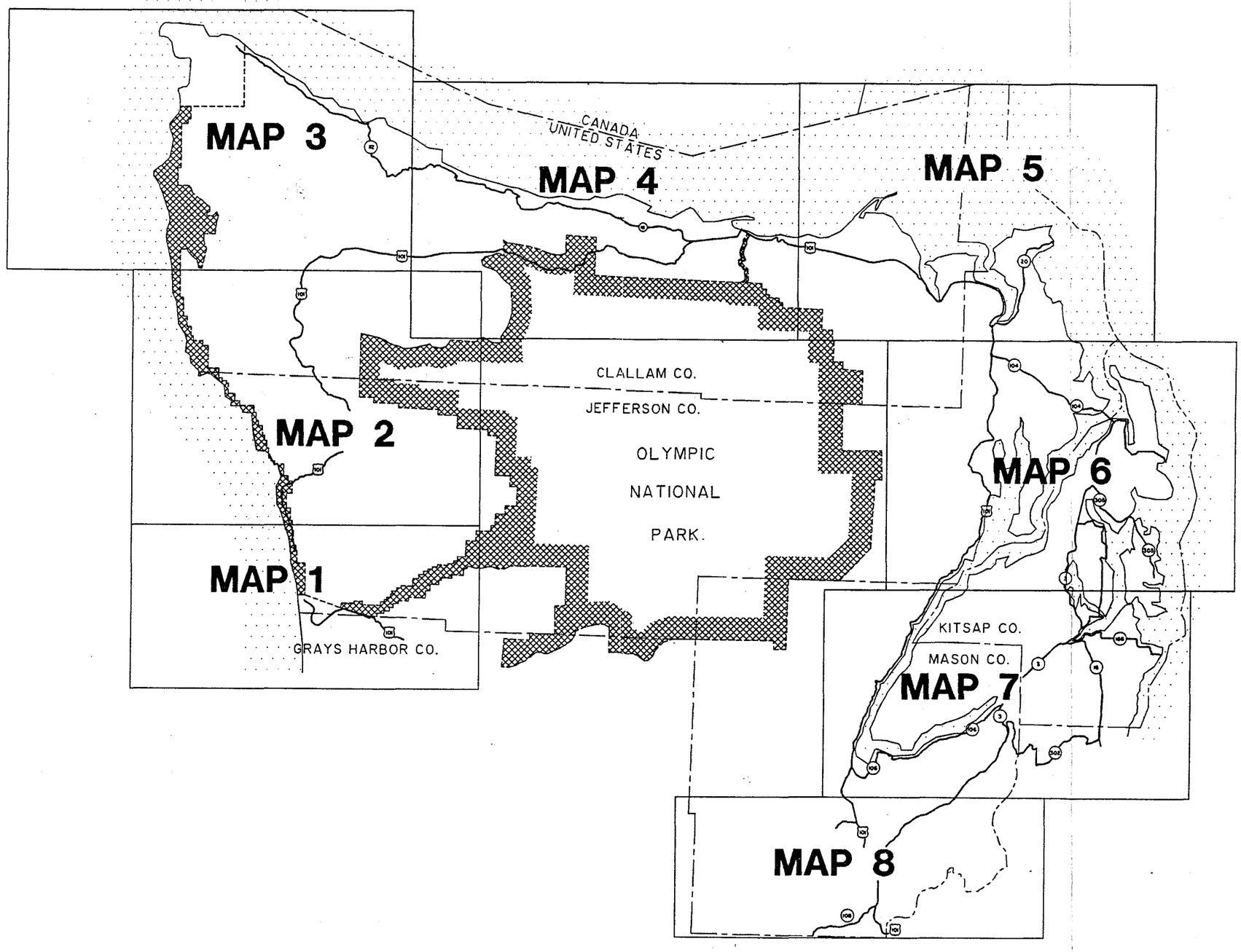
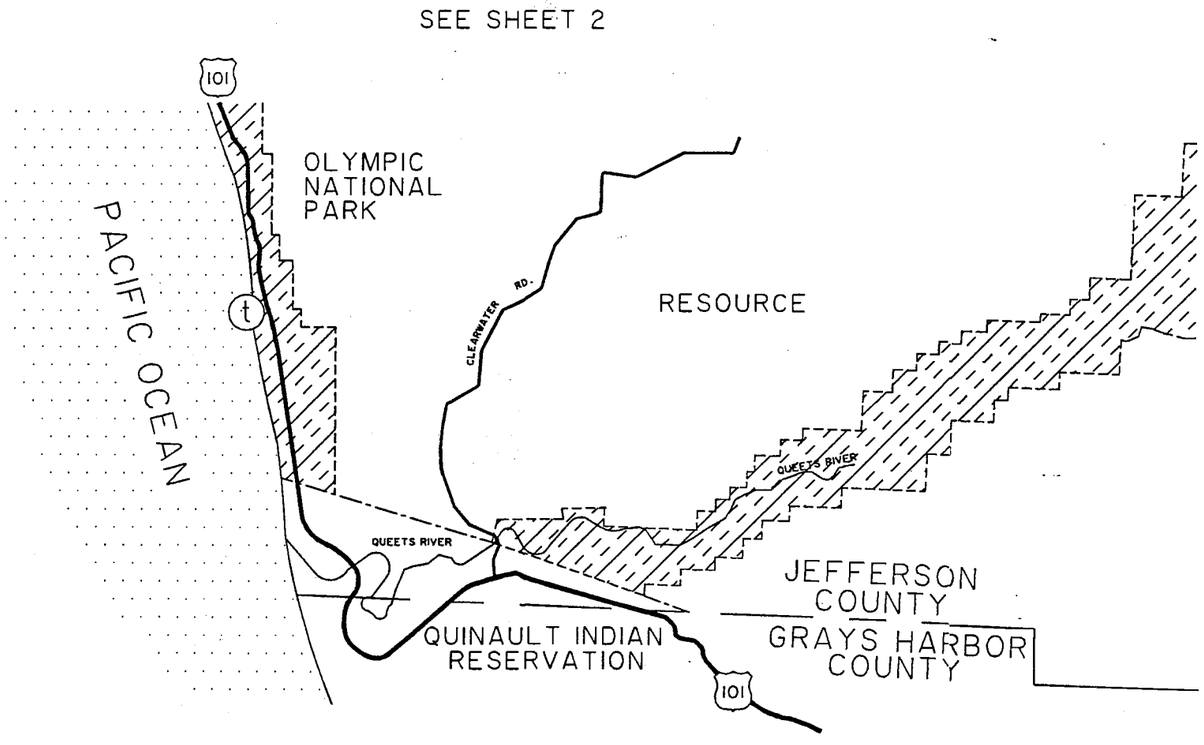
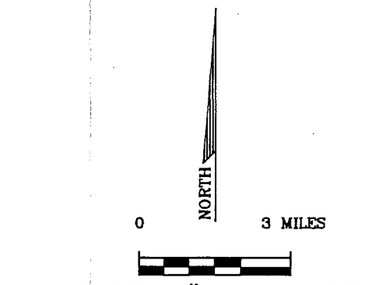


FIGURE 4.1

SCALE N.T.S.				JOB NO. 935-3689
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CHECKED M.A.P.				FILE NO.
DATE 3/6/95				SEC. TWP. RGE.
	NO.	DATE	REVISION	APP'D. BY

PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION
LAND USE CLASSIFICATIONS





SCALE: 1" = 3 MILES

LEGEND

- INDUSTRIAL
- MILITARY
- RESOURCE
- RURAL
- RURAL CENTER
- URBAN
- OLYMPIC NATIONAL PARK
- (T) - MAJOR TOURIST DESTINATION
- (t) - ADDITIONAL TOURIST DESTINATION (NOT ALL INCLUSIVE)
- (A) - AIRPORT
- (C) - COLLEGE
- (E) - EMPLOYMENT CENTER/CORRECTIONAL FACILITY
- TRIBAL LANDS

FIGURE 4.1

SCALE AS NOTED
DRAWN A.S.
CHECKED S.M.
DATE 3/6/95

NO.	DATE	REVISION	APP'D. BY

PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION
LAND USE CLASSIFICATIONS - SHEET 1

JOB NO. 30005.00
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FILE NO.
SEC. TWP. RGE.

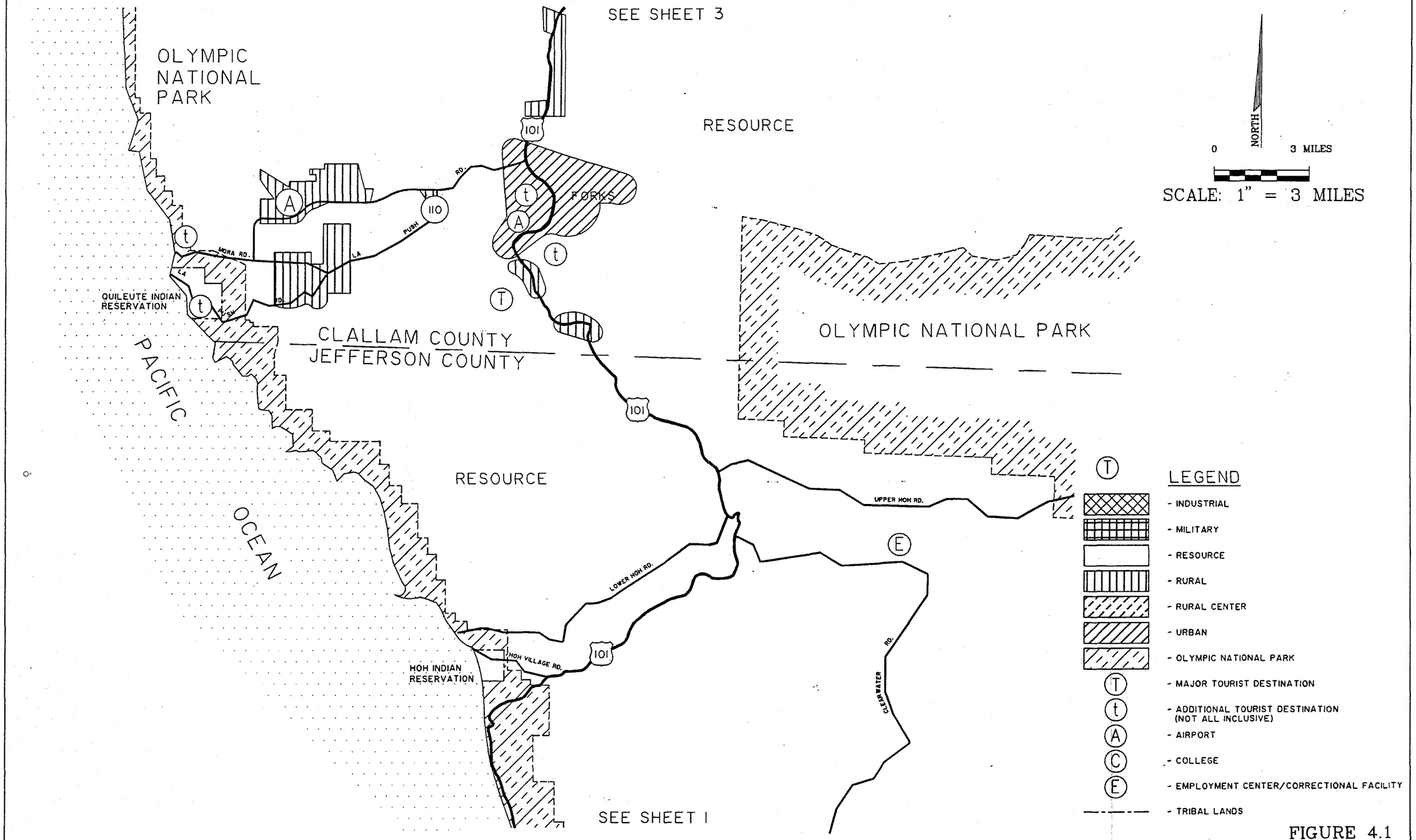


FIGURE 4.1

SCALE AS NOTED DRAWN A.S. CHECKED S.M. DATE 3/6/95	NO.	DATE / REVISION / APP'D. BY	PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION LAND USE CLASSIFICATIONS - SHEET 2	JOB NO. 30005.00 F.B. NO. FILE NO. SEC. TWP. RGE.

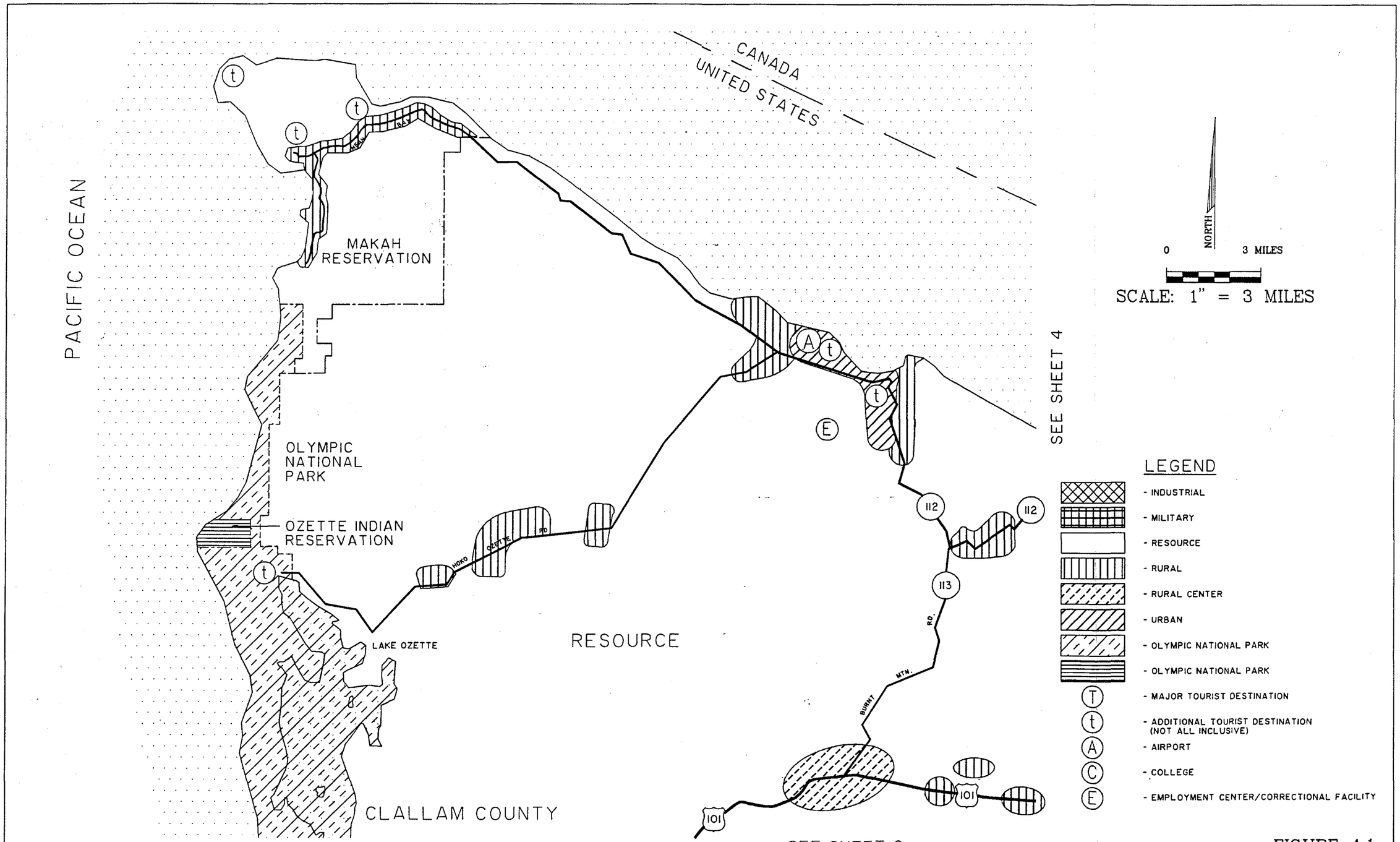


FIGURE 4.1

SCALE AS NOTED DRAWN A.S. CHECKED S.M. DATE 3/6/95	NO.	DATE	REVISION / APP'D. BY
PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION LAND USE CLASSIFICATIONS - SHEET 3			JOB NO. 30005.00 F.B. NO. FILE NO. SEC. TWP. RGE.

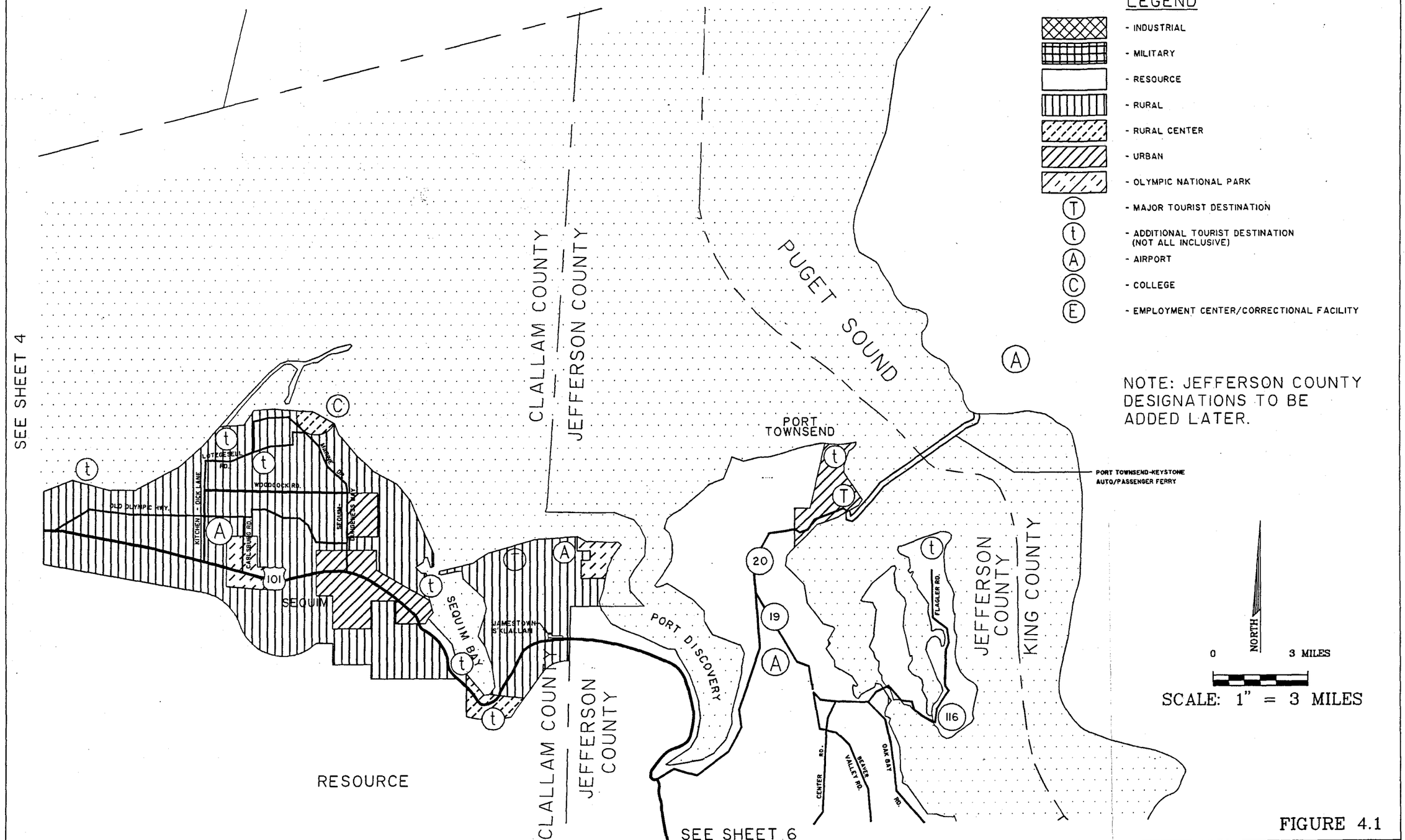
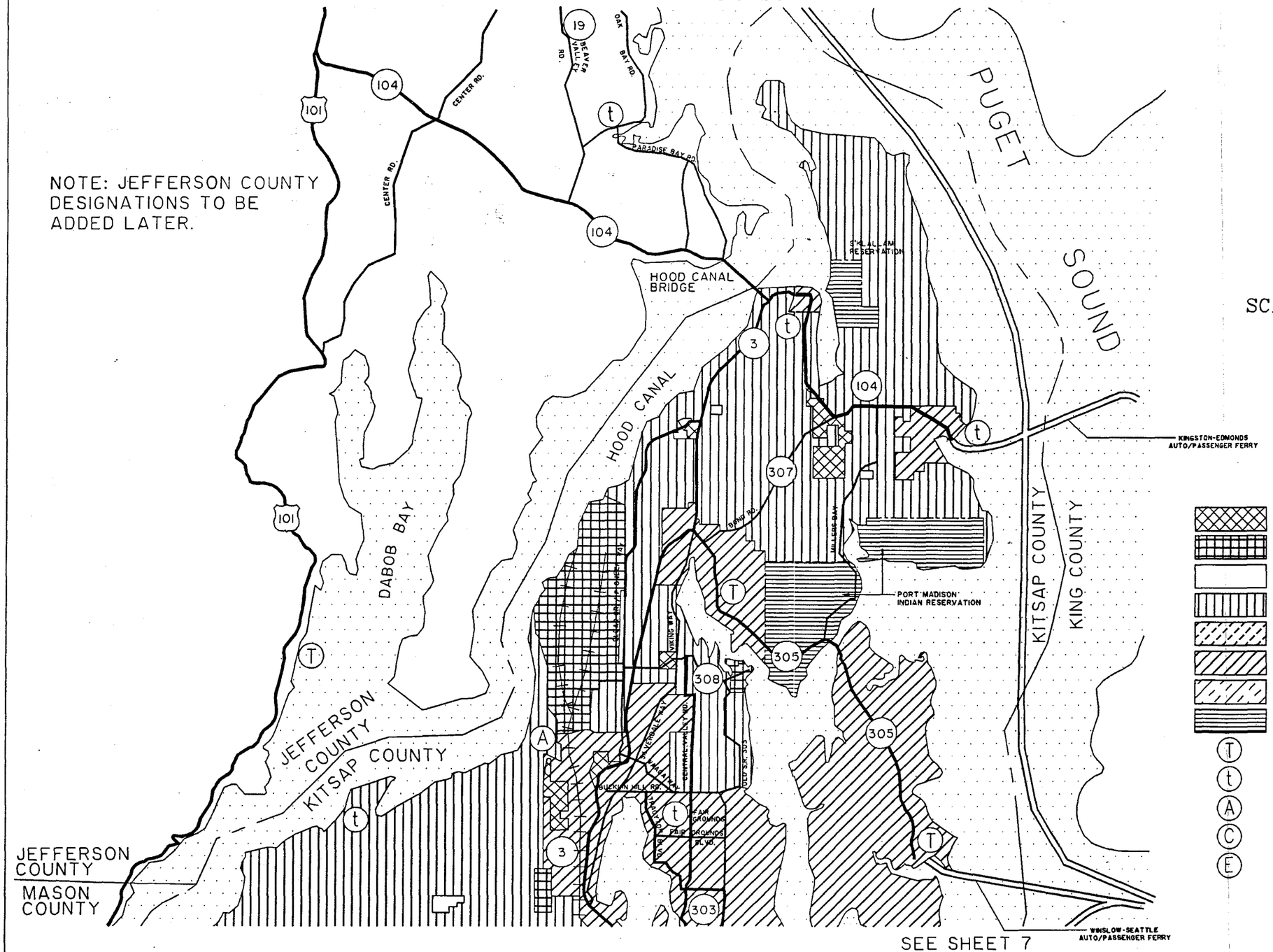


FIGURE 4.1

SCALE AS NOTED			JOB NO. 30005.00
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SEE SHEET 5

NOTE: JEFFERSON COUNTY DESIGNATIONS TO BE ADDED LATER.



NORTH

0 3 MILES

SCALE: 1" = 3 MILES

LEGEND

- INDUSTRIAL
- MILITARY
- RESOURCE
- RURAL
- RURAL CENTER
- URBAN
- OLYMPIC NATIONAL PARK
- OLYMPIC NATIONAL PARK
- (T) MAJOR TOURIST DESTINATION
- (t) ADDITIONAL TOURIST DESTINATION (NOT ALL INCLUSIVE)
- (A) AIRPORT
- (C) COLLEGE
- (E) EMPLOYMENT CENTER/CORRECTIONAL FACILITY

SEE SHEET 7

FIGURE 4.1

SCALE AS NOTED			
DRAWN A.S.			
CHECKED S.M.			
DATE 3/6/95			
	1	2/28/95	Revised land uses to reflect comprehensive plan
	NO.	DATE	REVISION
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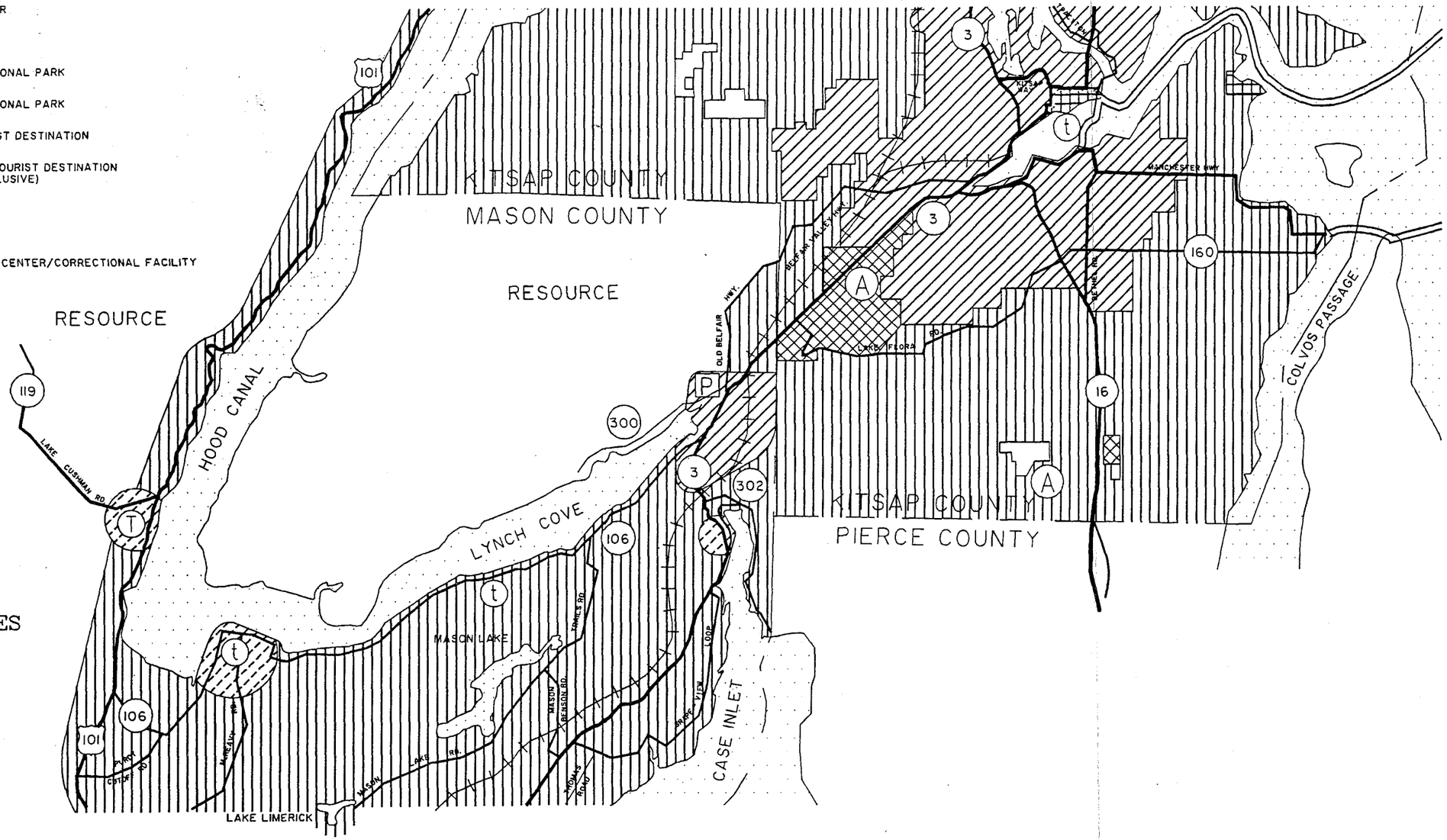
PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION
LAND USE CLASSIFICATIONS - SHEET 6

JOB NO. 30005.00
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FILE NO.
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LEGEND

- INDUSTRIAL
- MILITARY
- RESOURCE
- RURAL
- RURAL CENTER
- URBAN
- OLYMPIC NATIONAL PARK
- OLYMPIC NATIONAL PARK
- (T) - MAJOR TOURIST DESTINATION
- (t) - ADDITIONAL TOURIST DESTINATION (NOT ALL INCLUSIVE)
- (A) - AIRPORT
- (C) - COLLEGE
- (E) - EMPLOYMENT CENTER/CORRECTIONAL FACILITY

SEE SHEET 6



SEE SHEET 8

FIGURE 4.1

SCALE AS NOTED			JOB NO. 30005.00
DRAWN A.S.			F.B. NO.
CHECKED S.M.			FILE NO.
DATE 3/6/95			SEC. TWP. RGE.
	1	2/28/95 Revised Kitsap land uses to reflect comp plan	M.A.P
	NO.	DATE REVISION	APP'D. BY

PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION
LAND USE CLASSIFICATIONS - SHEET 7

LEGEND

- INDUSTRIAL
- MILITARY
- RESOURCE
- RURAL
- RURAL CENTER
- URBAN
- OLYMPIC NATIONAL PARK
- OLYMPIC NATIONAL PARK
- (T) MAJOR TOURIST DESTINATION
- (t) ADDITIONAL TOURIST DESTINATION (NOT ALL INCLUSIVE)
- (A) AIRPORT
- (C) COLLEGE
- (E) EMPLOYMENT CENTER/CORRECTIONAL FACILITY

NORTH

0 3 MILES

SCALE: 1" = 3 MILES

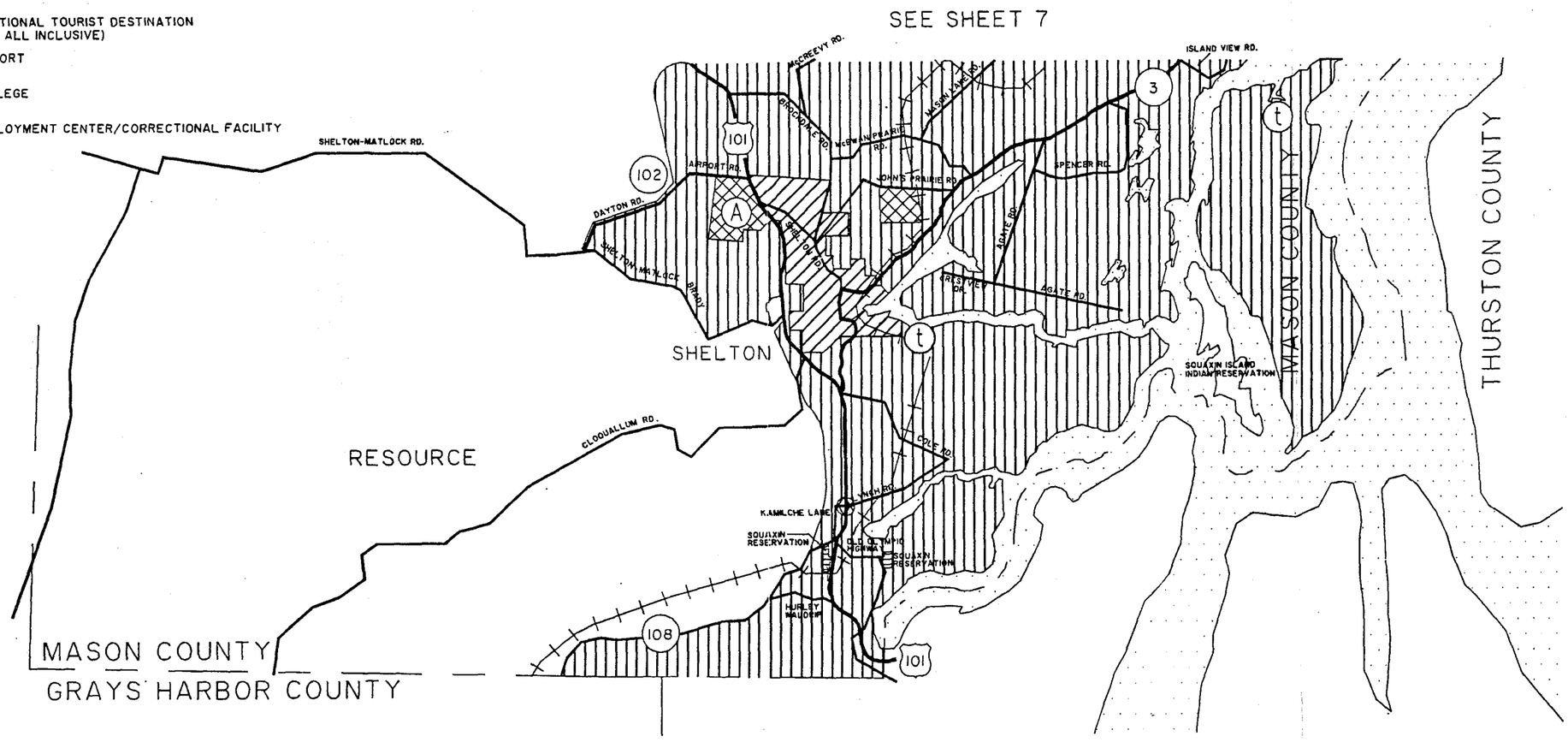
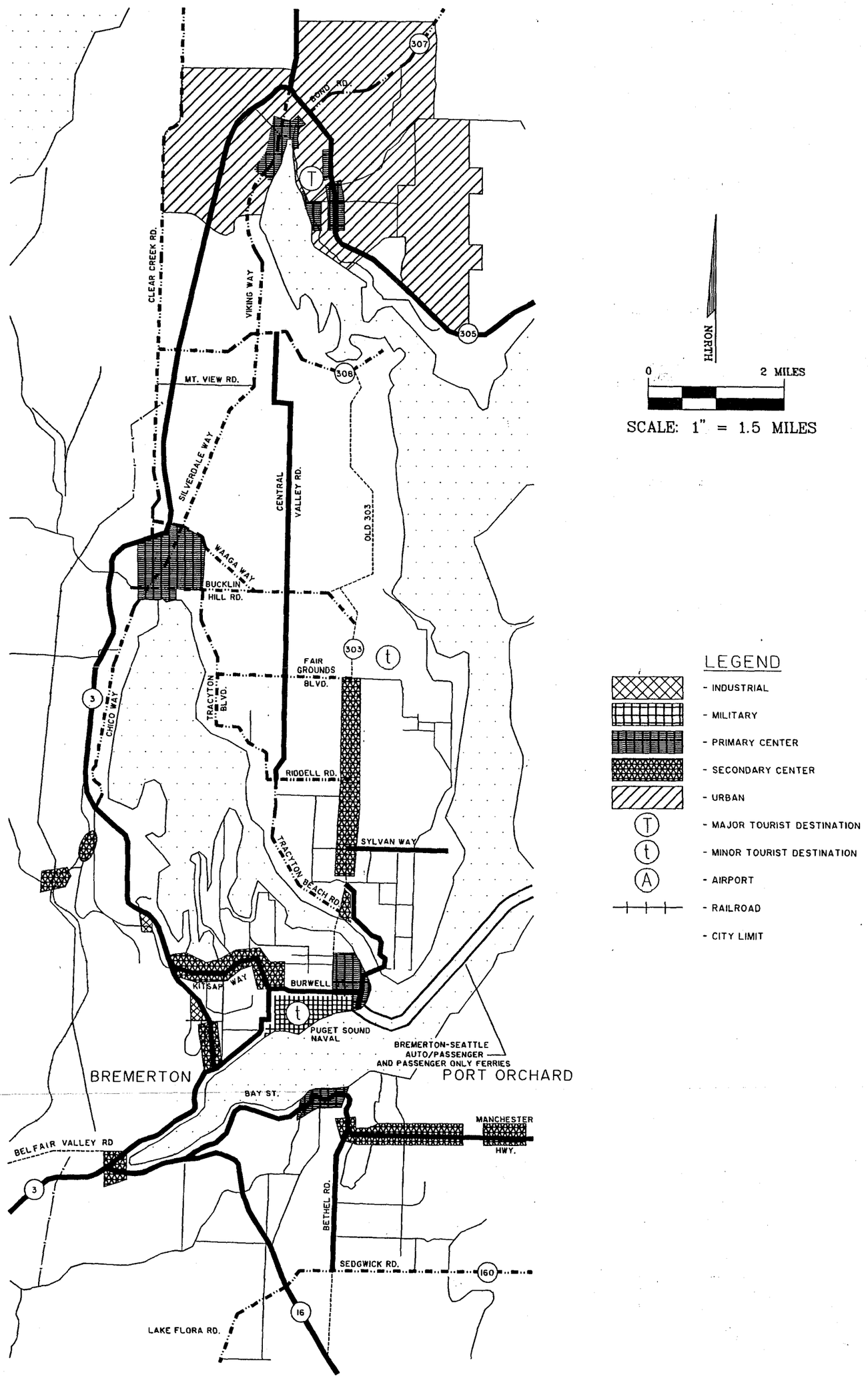


FIGURE 4.1

SCALE AS NOTED DRAWN A.S. CHECKED S.M. DATE 3/6/95	NO. DATE REVISION APP'D. BY	PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION LAND USE CLASSIFICATIONS - SHEET 8	JOB NO. 30005.00 F.B. NO. FILE NO. SEC. TWP. RGE.



PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION

LAND USE CLASSIFICATIONS - BREMERTON

FIGURE 4.1

SCALE AS NOTED
DRAWN A.S.
CHECKED S.M.
DATE 3/6/95

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JOB NO. 30003.00
P.B. NO.
F.L.E. NO.
SEC. TWP. RGE.

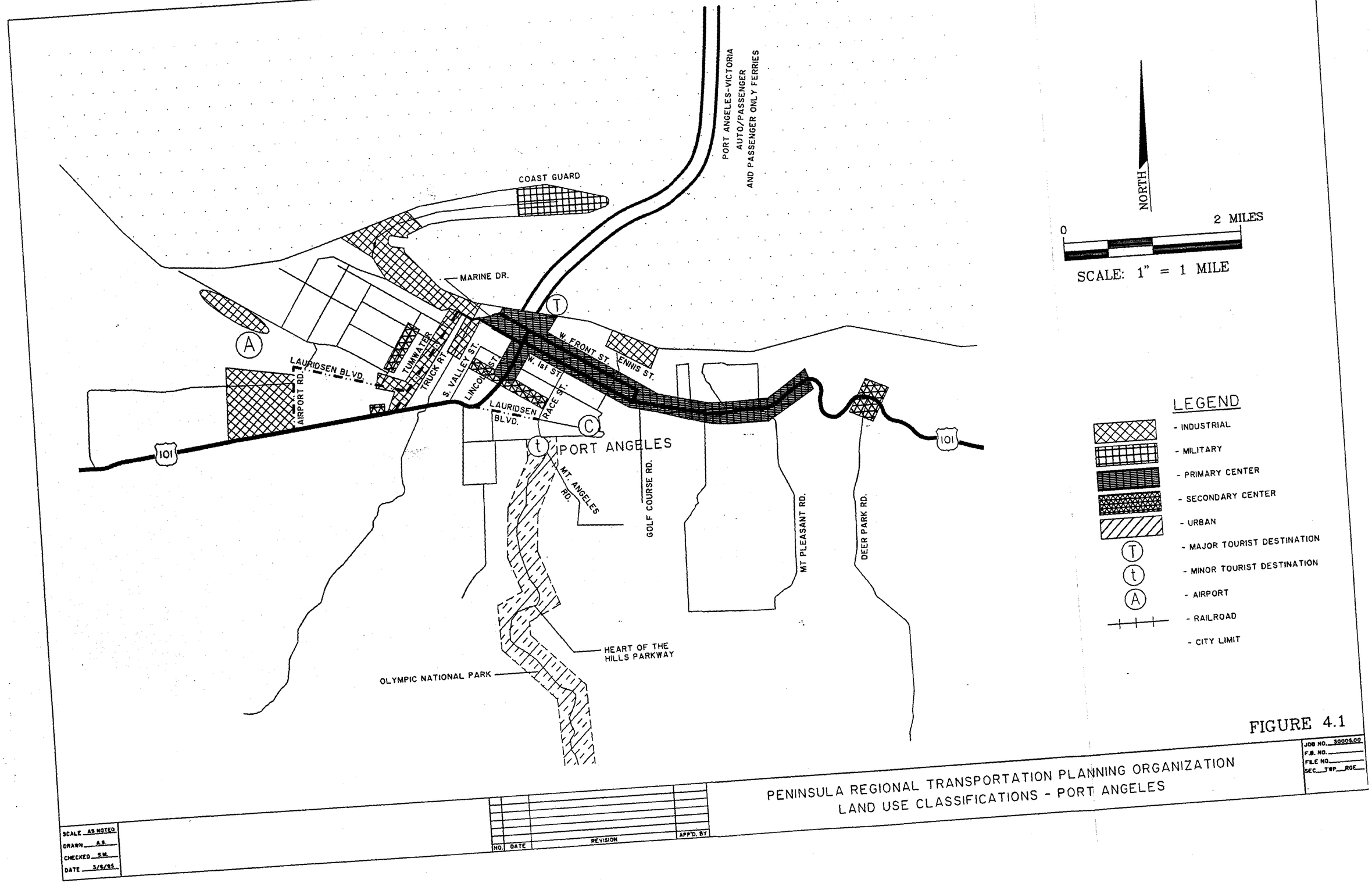


FIGURE 4.1

PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION
LAND USE CLASSIFICATIONS - PORT ANGELES

SCALE AS NOTED
DRAWN A.S.
CHECKED S.M.
DATE 3/6/96

NO.	DATE	REVISION	APP'D. BY

JOB NO. 33003.00
F.B. NO.
FILE NO.
SEC. TWP. RGE.

Chapter 5
Regional Road System

CHAPTER 5

REGIONAL ROAD SYSTEM

INTRODUCTION

One of the primary elements of the analysis of the regional transportation system is the study of the Regional Road System. This system consists of State Routes, county roads and city streets which have been determined to have "regional significance" by the PRTPO member agencies. Throughout the analysis, the regional road system is described in terms of functional classification, vehicle capacity, traffic volumes, and level of service.

As was stated earlier, the PRTPO area consists of four counties, three of which are on the Olympic Peninsula (Clallam, Jefferson and Mason) and Kitsap County, which is on its own smaller peninsula. The two peninsulas are separated by the Hood Canal. The Hood Canal Bridge in northern Kitsap County is the only bridge (roadway) connecting the Kitsap and Olympic Peninsulas. Other roadway access to the peninsulas must come from the southern end or via ferries.

Bridges are important links in the PRTPO road system, as is demonstrated by the Hood Canal Bridge. Consequently, bridge safety, including structural and design needs such as strength or sight distance, and bridge capacity needs, including issues such as HOV lanes and passing lanes, are important issues to the PRTPO.

This chapter will analyze the regional road system on the two peninsulas, including the Hood Canal Bridge. The analysis in this chapter focuses on capacity needs. However, many areas of the PRTPO are rural and are not faced with capacity issues but with safety and maintenance issues. While the level of service analysis applied in this chapter identifies capacity needs, this is not meant to undermine the importance of safety and maintenance issues. Capacity, safety, and maintenance issues are interconnected. This can easily be seen where a safety improvement, such as increasing sight distance leads not only to increased safety but to higher speeds, thus greater vehicle throughput and increased roadway capacity. Safety and maintenance improvements are important aspects of an effective regional transportation system.

While focusing on capacity needs, this PRTPO transportation plan does not directly analyze particular intersections located in the study area. Instead the plan analyzes roadway segments and attempts to determine if the segment has a current capacity deficiency or, due to growth, will be over capacity in the projected future. If a segment is considered to be at or near capacity, then all intersections located within the segment's length should be evaluated at the local level to determine if a problem exists.

The analysis of regional roadways connecting to ferry terminals is also included, although the evaluation of the ferry system link will be addressed in Chapter 6, Regional Multimodal System. This chapter is organized into the following sections.

- Analysis Procedure
- Existing Conditions
- Forecasts
- Deficiencies
- Alternative Solutions

Studies which are underway, such as the SR 305 corridor study, will be addressed by the PRTPO when complete. Potential capacity improvement recommendations of these studies, such as overpasses or grade separators will be considered for inclusion in the Regional Transportation Plan when the studies are complete.

ANALYSIS PROCEDURE

GMA provides for the coordinated planning of regional transportation facilities and services. As described in GMA, a regional transportation plan should ensure consistent inter-jurisdictional planning, and consequently avoid adverse impacts that would arise from uncoordinated local jurisdictional planning. At the same time, the GMA is clear that the regional plan should be based on existing county and city comprehensive plans if they exist. This requirement facilitates a locally based regional plan -- one arising from the grassroots level and not from the top down.

The analysis of the regional road system is one element of the overall plan. Other elements include freight and tourist usage, non-motorized traffic, the multimodal system (transit and ferries), Transportation Demand Management (TDM), and airports. The regional road system analysis considers a number of factors, definitions and designations: the functional classification designations of the roadways; the definition of levels of service thresholds and standards; and, the descriptions of roadway physical characteristics, existing traffic volumes, and estimated traffic growth rates.

Approach and Process

Developing the regional roads element of the regional transportation plan required identifying and describing the existing regional transportation system. This process included several steps. First, the PRTPO identified which road segments were regionally significant and should be included in the plan.

Second, the PRTPO decided to use regional levels of service as a measure of capacity deficiency. This was a pivotal choice because it influences the type of data collected, the focus of the analysis, and the types of deficiencies found. A levels of service analysis determines roadway capacity deficiencies. However, the focus on levels of service and capacity does not mean that the safety and maintenance issues were determined to be less significant. The PRTPO wants to emphasize the importance of safety and maintenance to an effective transportation system.

As a regional plan, the PRTPO transportation plan does not directly analyze particular intersections located in the study area. Intersection analysis is appropriate at the local level. Instead the plan analyzes roadway segments and attempts to determine if the segment has a current capacity deficiency or, due to growth, will be over capacity in the projected future. If a segment is considered to be at or near capacity, then all intersections located within the segment's length should be evaluated at the local level to analyze the problem and determine potential solutions.

This analysis provides traffic trends and information for the local transportation planners and officials to use in the planning and evaluating of their own localized traffic planning analyses. The plan provides existing and future problem areas with general solutions from WSDOT, local jurisdictions, public involvement, and planning analysis. With this information the local traffic officials can proceed with a greater in-depth study of the problem area. By providing general solutions local traffic officials can also determine if coordination is required with other agencies and jurisdictions.

Third, the PRTPO identified the amount and type of data was needed and how this data should be organized. This led to the formation of a database. Several different types of data were gathered (see below), including functional classification and roadway level of service.

The primary data format is tabular, which is supplemented with mapping. Because the regional road system is extensive, both the table and the maps describing the system are several pages long. The tables and their associated maps are presented in full at the end of this chapter.

Identification of the Regional Road System

High volume roadways did not automatically determine regional significance. The PRTPO member agencies considered several issues to determine the roadway's regional significance. the issues considered were

- volume of inter-county and intra-regional traffic;
- system use by regional tourist traffic;

- system use by commercial and freight traffic; and,
- impact on the economic stability of PRTPO area.

Database

The database for the plan consists of information furnished by the member agencies and WSDOT. The database contains characteristic data for each roadway link, including the name of the responsible jurisdiction, link description, milepost location of traffic counts, functional classification, existing traffic volumes and existing level of service. Figure 5.1 shows the number of links analyzed by County and indicates the relative share.

The traffic volumes furnished and used in the analysis were Annual Average Daily Traffic (AADT). The most recent counts available for a given roadway link were used in the analysis unless they were found to be inconsistent with other counts within the same area. If more than one count was available for a given link, the average of the counts for the link were used. If one or more counts appeared to be inconsistent with other counts in that same link or with counts in adjacent links, the suspect figures were not used. The AADT counts include all traffic on a roadway--commuter trips, errands, truck activity and recreational trips.

Functional Classification

The regionally significant highways and roadways, as identified by the PRTPO, have been identified according to functional classification. The functional classification system is based on a road's ability to provide either mobility or access to land.

Arterials provide the most mobility in the functional classification system used for the PRTPO. Arterials connect major destinations points such as cities and communities. Sometimes distinctions are made between principal arterials and minor arterials, distinguished by the importance of the destination and the priority given to mobility. Collectors serve as the link between arterials and local streets. They gather (or collect) traffic from the smallest streets (local access) and direct the traffic onto the arterial system. Local streets are those which provide direct access to private property (and limited mobility). For local streets, mobility is not considered as important as access to land uses.

Distinctions are often made between rural roadway systems and urban roadway systems. Table 5.1, Roadway Functional Classification Descriptions, describes roadway functional classifications. This table summarizes the information provided in pages 6 through 13 of the WSDOT publication *Guidelines for Amending Urban Boundaries, Functional Classifications, and Federal Aid Systems*.

TABLE 5.1

ROADWAY FUNCTIONAL CLASSIFICATION DESCRIPTIONS

Functional Class	Urban 5,000 population or more	Rural
Principal Arterial	Serves regional major activity areas. Carries all inter-urban and significant intra-urban auto and transit trips. Carries the highest traffic and longest trips. Offers most mobility, least land access. Fully or partially controlled access.	Carries statewide or interstate travel. Serves most urban areas with populations of at least 25,000 Provides an integrated network.
Minor Arterial	Interconnect and augments principal arterials. Distributes travel to areas smaller than those associated with major arterials. Places more emphasis on land access than principal arterials.	Links cities, larger towns and major activity areas (e.g., resorts) Forms integrated network of providing interregional and intercounty service. Spaced so that all developed areas are w/in reasonable distance of arterial highway. Provide for high travel speed with minimum interference to through movement.
Major Collector	Provides both land access and traffic circulation w/in residential area. Provides intra-community continuity but doesn't penetrate identifiable neighborhoods. Carries local bus routes	Provides service to county seats and major towns. Link county seats and major towns with nearby cities and arterials. Serves the more important intra-county travel.
Minor Collector	Collects traffic from local system and channels it to arterials. Provides both land access and traffic circulation w/in residential neighborhoods, commercial areas, and industrial areas.	Collects traffic from local roads. Provides for all developed areas to be near collector road. Provides service to smaller communities. Link locally important traffic generators with their rural hinterland.
Local	Provide direct access to abutting land and access to higher classified cities. Offers least mobility. Usually contains no bus routes Through traffic deliberately discouraged.	Serve primarily to provide access to adjacent land. Provide service to travel over relatively short distances.

Roadway spacing and design standards are directly related to the functional classification. Right-of-way, lane widths, design speed, as well as other characteristics, are all related to a roadway's functional classification. Both the *Local Agency Guidelines* and the *Design Manual* provided by the Washington State Department of Transportation (WSDOT) provide specific information on design details. As stated in the *Design Manual*, the *Guidelines* are to be used when work is occurring within a local jurisdiction. Otherwise the *Design Manual* is to be referenced.

The *Guidelines* specify that rural major and minor collectors must have at least 24 feet designated for lanes and eight feet of shoulder on each side of the road, commonly referred to as the 40-foot road standard, (Source: WSDOT, *Guidelines,* Appendix IV-1B-4). Detailed descriptions of the functional classification system can be found in Working Paper Number 1, *Roadway Level of Service Analysis, Functional Classification, and Deficiencies Analysis*. Figure 5.1, Functional Classifications, depicts the functional classifications of the roadways identified on the Regional Road System.

Level of Service

The Florida Department of Transportation (FDOT) version of the Highway Capacity Manual (HCM) software was used to determine the level of service (LOS) for urban and rural roadways. The FDOT methodology allows for better analysis of rural areas and areas transitioning from rural to semi-urban or urban development levels than does the HCM method. Because the FDOT version better reflects the rural roadway characteristics of the Olympic and Kitsap Peninsulas, that version was used for the level of service analysis.

The Florida HCM computer software also includes "look-up tables" that enable the user to determine levels of service for a variety of roadway types (i.e., urban, rural, or multilane) and for a variety of roadway characteristics (i.e., percent exclusive passing lanes, percent of no passing zones, and speed limit) for planning purposes. These variables include the percentage of traffic split in each direction at the peak hour (the directional "D" factor), the percentage of the peak hour traffic to the AADT (the "K" factor), the peak hour factor (the four highest 15 minute increments of the peak demand time), and the saturation flow rate (the maximum hourly capacity of each lane under peak demand conditions.

These modifications were initially developed for Florida's growth management planning requirements, but the software enables the user to adjust the tables for local variables in traffic condition. Consequently, the Florida version can be modified for roadway conditions in the PRTPO area.

Table 5.2, Level of Service Categories, provides generalized definitions of level of service categories according to the *Highway Capacity Manual.*

TABLE 5.2

ROADWAY LEVEL OF SERVICE DEFINITIONS

Level of Service Category	Definition
Level of Service A	Describes a condition of free flow with low volumes and high speeds. Freedom to select desired speeds and to maneuver within the traffic stream is extremely high. Stopped delay at intersections is minimal.
Level of Service B	Represents reasonably unimpeded traffic flow operations at average travel speeds. The ability to maneuver within the traffic stream is only slightly restricted and stopped delays are not bothersome. Drivers are not generally subjected to appreciable tensions.
Level of Service C	In the range of stable flow, but speeds and maneuverability are more closely controlled by the higher volumes. The selection of speed is now significantly affected by interactions with others in the traffic stream, and maneuvering within the traffic stream requires substantial vigilance on the part of the user. The general level of comfort and convenience declines noticeably at this level.
Level of Service D	Represents high-density, but stable flow. Speed and freedom to maneuver are severely restricted, and the driver or pedestrian experiences a generally poor level of comfort and convenience. Small increases in traffic flow will generally cause operational problems at this level.
Level of Service E	Represents operating conditions at or near the maximum capacity level. Freedom to maneuver within the traffic stream is extremely difficult, and it is generally accomplished by forcing a vehicle or pedestrian to "give way" to accommodate such maneuvers. Comfort and convenience levels are extremely poor, and driver or pedestrian frustration is generally high. Operations at this level are usually unstable, because small increases in flow or minor disturbances within the traffic stream will cause breakdowns.
Level of Service F	Describes forced or breakdown flow, where volumes are above theoretical capacity. This condition exists wherever the amount of traffic approaching a point exceeds the amount which can traverse the point. Queues form behind such locations, and operations within the queue are characterized by stop-and-go waves which are extremely unstable. Vehicles may progress at reasonable speeds for several hundred feet or more, then be required to stop in a cyclic fashion.

Source: Transportation Research Board, *Highway Capacity Manual Special Report 209, Washington, D.C., 1985*

Regional LOS and Local Planning

This regional analysis provides a picture of roadway levels of service in the PRTPO area, but this analysis is not a substitute for local level analysis and planning. Rather the regional analysis

is a supplement -- a guide to help WSDOT and local jurisdictions identify areas of potential concern.

It is important to note that a regional analysis provides a kind of average for segments of roadways and at the local level there may be some variation in the level of service. For example, at the regional level a roadway segment may be analyzed as LOS D. At the local level, that roadway segment may in fact consists of two parts -- one part is LOS E, the other LOS C. When analyzed as a whole, these two parts average to LOS D and meet the regional standard.

When the regional standard is exceeded, it is a message to WSDOT or the local jurisdictions that they have a service level issue. The regional analysis provides the guidelines -- parameters -- for declining levels of service, but the mitigation occurs at the local level through local analysis and planning. The local level is where the fundamental planning decisions will be made, for example, whether a retail mall should be constructed or if a signal or additional travel lane is needed. The regional analysis is broad brush and can only provide guidance, not specific project recommendations.

Regional Transportation Plan Level of Analysis

The PRTPO transportation plan does not directly analyze particular intersections located in the study area. Instead the plan analyzes roadway segments and attempts to determine if the segment has a current capacity deficiency or, due to growth, will be over capacity in the projected future. If a segment is considered deficient or in a high traffic volume area then all intersections located within the segment's length should be evaluated at the local level to determine if a problem exists.

The analysis method for the PRTPO uses average levels of service to determine adequacy of facilities within travel corridors. This method also contains a simplifying assumption for deriving the table values of the LOS determination -- *left turning movements are provided left turn bays of adequate length to prevent backup of through lanes. It also assumes that there is ample protected green time to allow the left turning vehicles time to turn.* This simplification removes the signalized intersection and analyzes the roadway segment as a rural two-lane highway instead of an arterial. There can be intersections that do not meet the standard along roadway segments that do meet the standard because this simplifying assumption is not correct for the specific intersection.

This analysis provides traffic trends and information for the local transportation planners and officials to use in the planning and evaluating of their own localized traffic planning analyses. The plan provides existing and future problem areas with general solutions from WSDOT, local jurisdictions, public involvement, and planning analysis. With this information the local traffic officials can proceed with a greater in-depth study of the problem area. By providing general

solutions local traffic officials can also determine if coordination is required with other agencies and jurisdictions.

Intersection Analysis

Signalized and unsignalized intersection analysis for capacity and level of service is typically based upon the average stopped delay per vehicle for various movements within the intersection and is not strictly based on traffic volume. However, there is a planning analysis method for intersections that requires information concerning intersection geometrics and turning movements. It does not assess delay or determine level of service. The method provides broad results that allow a projection of whether an intersection is likely to be under, near or over capacity. At the local level this analysis method can be very useful in testing general design alternatives for new intersections and redesigns.

The majority of intersections located in the Regional Transportation System are unsignalized. Movements at unsignalized intersections are dependent upon the utilization of available gaps in the traffic flow. A greater volume of traffic utilizing a segment of roadway will decrease the available critical gap size required by a vehicle to make a maneuver. The traffic volumes of both the major and minor streets must be examined in order to draw any conclusions about the operation and capacity of the intersection. Because of the interaction of traffic volumes and critical gap size at unsignalized intersections a correlation can be made between the level of service of the roadway segments and the level of service of the intersection. This level of analysis can give local transportation planners and officials a quick evaluation of the intersection to determine if further analysis should be required. However, several other factors are involved in an intersection analysis and should be evaluated before determining if there is a level of service problem. An indication of a level of service problem does not automatically require the installation of traffic signals, rather, it indicates that a detailed analysis should be conducted utilizing different scenarios to improve the intersection. After comparing the different scenarios and their results a design can be developed that will improve the flow of traffic and safety of the intersection.

Signalized intersections have a much higher degree of complexity involving the level of service determination. Traffic signals allocate time among the conflicting traffic movements to improve the operation and capacity of the intersection. The capacity of an intersection is directly affected by other factors involved in the analysis such as signal progression, cycle length, and green times. The overall level of service of the intersection is based upon the stop delay and capacity of each approach and not the capacity of the roadway segments. The complex analysis required does not allow for a simple evaluation of a signalized intersection.

Intersection analysis is not included in a regional transportation plan because of the number of intersections involved and the level of effort necessary to collect data and analyze all intersections. Intersection analysis is conducted as part of the traffic impact analysis for major

development projects, as part of the overall traffic operations responsibilities of cities, and as part of the engineering for roadway segment improvements.

Improvements scheduled for any roadway segment must include review of all intersections occurring within the length of the project. Early in the design stage the roadway should be investigated to determine how the intersections will be handled in the new design. The improvements occurring at an intersection can be as minor as matching the grades of roads or could involve total redesign with the addition of turning lanes and signalization. The data in the PRTPO analysis can provide local transportation planners, engineers and officials with the basic information needed to determine if a detailed analysis or study is required to produce a design for the intersection.

Regional Plan Recommendations Regarding Intersections

Any intersections appearing as improvements in the solutions table are mentioned if it appears as though improvements to the intersection will improve the overall traffic flow of the segment being analyzed. The determination as to whether intersection improvements may be needed were generated from site reconnaissance and not from an intersection analysis. Geometric improvements to intersections in Port Angeles are suggestions in lieu of construction of the bypass. Other intersections are included in the tables after discussion with local agencies and jurisdictions and have not been reviewed using intersection analysis.

Additional recommendations for intersection improvements on the regional roadway system are added to the regional plan under the following criteria.

(1) For road segments identified as deficient using the segment level of analysis, intersections will be identified as a possible solution if local planners/engineers believe that an improvement to the intersection will improve the overall traffic flow of the segment being analyzed and there are no contradictory traffic studies.

(2) For road segments *not* identified as deficient using the segment level of analysis, intersections will be identified as deficient and requiring a possible solution after a study using Highway Capacity Manual methods has been conducted that shows that the intersection is deficient according to the regional Level of Service standards set for that regional roadway.

In conclusion, the results of this regional analysis will differ from a street or an intersection level of analysis, which is more detailed and more precise. When a regional deficiency is identified, a more detailed analysis will be carried out by the jurisdiction responsible for the roadway which will provide more information on the type and the design of the improvement necessary to mitigate the traffic impacts. Any intersections appearing as improvements in the

solutions table are included because the solutions appear to improve the overall traffic flow of the deficient segment.

Level of Service Thresholds

During the 1991-1992 PRTPO work program, a Level of Service Standard and methodology was developed for roadway, transit, and ferry operations. A guidebook was prepared to assist the local communities in understanding the concept of level of service. The guidebook, entitled *A Peninsula Regional Community Guide to Transportation Level of Service Standards*, was then circulated to the local agencies for use during their public involvement process. Then the Peninsula RTPO adopted preliminary LOS standards for urban, rural, and tourist corridor roadway segments. Three adopted LOS standards for roadways are listed below.

Rural	LOS C	Includes areas outside city limits and urban growth areas boundaries.
Urban	LOS D	Includes areas within city limits and urban growth area boundaries.
Tourist Corridor	LOS D	Rural roadways which serve as primary tourist conduits providing access to and from major tourist routes.
Tourist Access Roads	LOS C	Roadways providing direct access to specific tourist attractions and local tourist/ recreational areas.

As mentioned earlier, the AADT counts used in this regional LOS analysis include all traffic on a roadway -- commuter trips, errands, trucking activity, and recreational trips. Consequently, distinguishing between differing trip types is not possible with this data, and additional studies would be needed to determine tourist trips. For this reason the Highway/LOS/Tourism Subcommittee developed a set of criteria to identify Tourist Corridors and Tourist Access Roads The Highway/LOS/Tourism Subcommittee set the following criteria for Regional Tourist Corridors.

1. The responsible jurisdiction must determine the roadway to be a primary tourist conduit providing access to and from tourist attractions or areas. The other members of the Peninsula RTPO Technical Advisory Committee must concur with the determination.

2. The roadway typical section must conform to WSDOT design standards for principal arterials, minor arterials and major collectors; and have minimum 8-foot width shoulders. (Note: Those segments of designated Tourist Corridors that do not currently meet these geometric requirements will be listed as segments containing deficiencies on the project needs inventory.)

An important component of the Tourist Corridor definition is the minimum 8-foot shoulder width. This criteria was required in order to provide some safety features to the Tourist Corridor. With an 8-foot minimum shoulder, the Tourist Corridor provides enough width to accommodate vehicles which must pull over while also providing enough width for the large recreational vehicles which are likely to use a Tourist Corridor. In some areas topographical constraints may prohibit widenings.

In addition, a roadway with a wider shoulder more safely accommodates vehicle mixes, such as Recreational Vehicles mixed with trucks and automobiles. Lastly, should bicyclists or pedestrians be using the Tourist Corridor, they will be more safely protected from the roadway travel with a wider shoulder. However, these wider shoulders are not designated bicycle or pedestrian facilities and are not intended to be a substitute for those facilities.

Tourist Access roads provide direct access to specific tourist attractions and local tourist/ recreational areas but do not have associated specific design standards.

EXISTING TRAFFIC VOLUMES

Annual Average Daily Traffic Counts

The Annual Average Daily Traffic (AADT) counts for State Routes in the PRTPO area were obtained from WSDOT's *Annual Traffic Report.* Traffic counts for county roads were provided by the member counties. Working Paper No. 1, *Roadway Level of Service Analysis, Functional Classification, and Deficiencies Analysis*, provides a detailed accounting of the AADT's used in the analysis.

As might be expected, the highest overall volumes were recorded on State Routes, as indicated in Table 5.3, State Routes with High Existing AADT. The analysis of county and local roadways revealed that the volumes were significantly lower than on the most heavily travelled State Routes. The local roads with the highest volumes occurred in the Port Angeles (Clallam County), and Shelton (Mason County) urban areas. While it is thought that high traffic volumes occur on local roads in the Bremerton area, local routes in Kitsap County were not included in the regional network. Kitsap County was developing a transportation travel demand forecasting model as the PRTPO RTP was being developed. Because travel demand forecasting differs significantly from the PRTPO level of service analysis, Kitsap County and the PRTPO decided the level of service designation for local roads should come from the local county analysis.

Consequently, the PRTPO has refrained from incorporating Kitsap County local roads as part of the regional level of service analysis. Table 5.4, County Roads with Highest Existing AADT, lists the six highest AADT count locations on county and local roads.

Nearly all roadways on the regional system are currently operating at or above the designated level of standard threshold. Table 5.5, Roadways Currently Operating Below LOS Standard, lists those roadways which are currently operating below the PRTPO designated LOS.

TABLE 5.3

STATE ROUTES WITH HIGH EXISTING AADT

Roadway	Existing AADT
* Highway 101 through the Port Angeles area	34,526
* Highway 101 from SR 3 to SR 108 in Mason County	17,100
* SR 3 through Shelton	17,100
* SR 3 through the Bremerton/Silverdale area	52,700
* SR 16 from the Pierce/Kitsap County Line to SR 3	38,500
* SR 303 through Bremerton	46,400
* SR 304 through Bremerton	26,500
* SR 310 from SR 3 to SR 304 in Bremerton	36,000

Source: Working Paper No. 1, *Roadway Level of Service Analysis, Functional Classification, and Deficiencies Analysis*

TABLE 5.4

COUNTY ROADS WITH HIGHEST EXISTING AADT

	County/City	Roadway Link	From	To	Existing AADT
1.	Clallam/P.A.	Marine Drive	Truck Route	Valley	18,803
2.	Mason/Shelton	Olympia Hwy.	Highway 101	7th Street	14,223
3.	Mason/Shelton	Alder Street	7th Street	1st Street	11,180
4.	Mason/Shelton	North 131	Shelton - Springs Rd.	Olympic Hwy N.	8,024
5.	Mason/Shelton	North Cliff	Alder Street	North 131	8,024
6.	Mason/Shelton	Shelton/Matlock Rd.	Shelton City Limits	1st Street	7,746

Source: Working Paper No. 1, *Roadway Level of Service Analysis, Functional Classification, and Deficiencies Analysis*

TABLE 5.5

ROADWAYS CURRENTLY OPERATING BELOW REGIONAL LOS STANDARD*

County/City	Roadway	From	To	LOS STD	Current LOS
Jefferson	SR 19/Rhody Drive	SR 116/Ness' Corner Rd.	Center Rd.	C	D
Kitsap	SR 307/Bond Rd.	SR 305	SR 104	C	D

* Note Regional LOS calculations may vary from local or intersection LOS calculations. The PRTPO transportation plan does not directly analyze particular intersections. Instead the Plan analyzes roadway segments and attempts to determine if the segment has, or is forecast to have, a capacity deficiency. If a segment is considered to be deficient than intersections within the segment should be analyzed at the local level.

FORECASTS

Transportation forecasts can be developed in several ways, from sophisticated travel forecasts to simple trend forecasting based on historic traffic growth. The appropriate forecast method depends upon the existing data base of the area or jurisdiction, funding constraints, and the needs of the community. A middle route was chosen for the PRTPO. The PRTPO reviewed population growth rates for the four member counties. The PRTPO considered the population growth rates for each county (which at the time were calculated by the individual counties to range from 1.07 to 3.13 percent). After discussion and preliminary analysis, a trend forecasting procedure was selected. A range of traffic growth scenarios were developed. The traffic scenarios considered the population growth rates.

Population growth rates and traffic growth rates are related but not directly correlated. Traffic growth rates, as a measure of trips per person, can increase as much as two times as fast as the population. The traffic growth rate is dependent upon many socio-economic factors, ranging from income levels (auto ownership increases with income) to land density (vehicle trips per households declines as density increases). In the PRTPO area, traffic growth rates are also influenced by the increase in tourism and the changes in over the road freight travel. The traffic growth rates chosen for the PRTPO forecasting represent a range of potential traffic increases which bracket the lowest and highest population growth rates. This approach encompasses a variety of possibilities.

The PRTPO decided on four traffic growth scenarios. The four scenarios represent possible future options and are presented to provide flexibility in planning. The scenarios are described below.

Low Growth Scenario: Assumes average annual traffic growth rate of 1.5 percent for 20 years (1990 to 2010). This estimated traffic growth rate is slightly higher than the lowest county growth rate. It is highly unlikely that population and traffic growth rates would be equal; traffic is likely to grow more quickly than population even under a low growth scenario.

Medium Growth Scenario: Assumes average annual traffic growth rate of 3.0 percent per year from 1990 to 2010. This traffic growth scenario is roughly equivalent with the highest annual population growth rate. Because of the population and traffic growth equivalency, this is considered to be a medium traffic growth scenario.

High Growth Scenario: Assumes annual average traffic growth rate of 4.5 percent from 1990 to 2010. In this scenario, the traffic growth rate exceeds the highest county population growth rate to incorporate the potential that traffic growth will significantly exceed population growth.

Constrained Growth Scenario: This scenario assumes that traffic growth rate will be 4.5 percent from 1990 to the year 2000 and 3.0 percent from 2001 to 2010. This scenario stems from the possibility that the high growth rate would not be sustained for twenty years but only for a portion of the forecast period.

The growth rates for each of these four scenarios were applied to the existing baseline traffic counts and presented to the PRTPO for review. After consideration of all the scenarios, the PRTPO chose the constrained growth scenario for use in the LOS threshold capacity analysis. Those roadways which were determined to be overcapacity based on this scenario were formed the basis for the capacity recommendations and the feasibility analysis.

DEFICIENCIES

The travel forecasts accomplished in the analysis allows the region's agencies to assess the capacity of the existing system and its capability to accommodate the demands which may be placed on it in the future. This analysis and review revealed a number of roadways which would experience capacity deficiencies at the horizon year of 2010. Figure 5.2, Capacity Deficiencies, graphically depicts those roadways that experience capacity deficiencies due to the estimated growth.

Clearly, as growth increases, more improvements or mitigation measures will be needed. It is important to realize the 3.0 and 4.5 percent annual growth rates are relatively high assumptions. They have been used to bracket potential outcomes and to indicate the impacts of higher growth rates. The actual growth rates in different areas may vary; the study rates provide only an approximation of potential traffic needs. Over time as the plan is implemented, the actual traffic growth rate should be calculated.

Table 5.6, Capacity Deficiencies by Growth Rate, lists the roadways which exceed acceptable levels of service under the three growth rate scenarios. Note that some links have more than one deficiency, thus requiring more than one solution alternative. For example, Road X may be functioning over capacity as well as have poor pavement structure, Therefore, Road X would require both widening and pavement reconstruction.

ALTERNATIVE SOLUTIONS

The traffic forecasts and capacity deficiencies formed the basis for identifying possible solutions to capacity issues. In general, possible solutions to the system capacity needs include such things as shoulder widening, addition of travel lanes, additional transit service, passing and pull-out lanes, left- and right-turn pockets and channelization, re-designation of routes, and construction of new routes. The determination of solutions was accomplished through a series

of meetings with each of the jurisdictional agencies and WSDOT. The solutions for deficiencies on State Routes were coordinated with WSDOT's State System Plan.

After review of Table 5.6, Capacity Deficiencies by Growth Rate, the TAC decided to develop a hybrid scenario of the medium and high growth scenarios. This fourth scenario is referred to as the constrained growth scenario. The specific road link capacity improvements and their locations for the constrained growth scenario are listed in Table 5.7, Regional Road System Improvements. Figure 5.3, Alternative Capacity Improvements, depicts the location and type of these improvements.

CONCLUSION

This chapter describes the regional road system as identified by the PRTPO. The regional road system was developed through consideration of such issues as inter-county and intra-regional travel, tourist, commercial, and freight traffic, and impact on the economic stability of the PRTPO area.

In addition, this chapter provides descriptions of the regional system in terms of daily travel, functional classification, and level of service. However, the crux of the chapter is the identification of capacity deficiencies and their potential solutions. As discussed in the preceding section, Figure 5.3 graphically depicts the various capacity improvements and Table 5.7 lists the potential improvements.

TABLE 5.6
PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION
CAPACITY DEFICIENCIES BY GROWTH RATE

11/1/94

					2010 ESTIMATED FUTURE VOLUME AND LEVEL OF SERVICE		
					1.50% Annual Rate	3.00% Annual Rate	4.50% Annual Rate
County/City	Roadway	From	To	LOS STD	LOS	LOS	LOS
A	B	C	D	E	F	G	H
Clallam/Forks	Highway 101 (Tourist Corr.)	Forks City Limit	Johnson St	D	D	E	E
Clallam	Highway 101 (Tourist Corr.)	Johnson St	La Push Road	D	C	C	D
Clallam/P.A.	Highway 101 (Tourist Corr.)	SR 112	Pine St	D	D	E	E
Clallam/P.A.	SR 101/Lauridsen Blvd(T.C.)	Pine St	Lincoln St	D	D	E	E
Clallam/P.A.	SR 101/Lincoln St(Tourist Cor.)	Lauridsen Blvd.	Front St.	D	F	F	F
Clallam/P.A.	SR 101/Couplet/1st. St (T.C.)	Lincoln St	Race St	D	D	D	F
Clallam/P.A.	SR 101/End Cplt/1st St (T.C.)	Race St	Golf Course Rd	D	E	F	F
Clallam/P.A.	SR 101/BegCplt/Front St (T.C)	Valley St	Lincoln St	D	C	D	E
Clallam/P.A.	SR 101/Couplet/Front St (T.C.)	Lincoln St	Race St	D	D	E	F
Clallam/P.A.	SR 101/End Cplt/Front St (T.C.)	Race St	Golf Course Rd	D	E	F	F
Clallam/P.A.	Highway 101 (Tourist Corr.)	Golf Course Rd	Myrtle St	D	D	E	F
Clallam	Highway 101 (Tourist Corr.)	Deer Park Rd	Sequim City Limit	D	D	E	F
Clal./Sequim	Highway 101 (Tourist Corr.)	Sequim City Limit	Sequim City Limit	D	D	E	E
Clallam	Highway 101 (Tourist Corr.)	Sequim City Limit	Jefferson/Clallam C.L.	D	D	E	E
Jefferson	Highway 101 (Tourist Corr.)	Jefferson/Clallam CL	Old Gardiner Rd	D	D	E	E
Jefferson	Highway 101 (Tourist Corr.)	Old Gardiner Rd	Store Rd	D	D	D	E
Jefferson	Highway 101 (Tourist Corr.)	Lords Lake Loop Rd	Quilcene City Limit	D	B	C	D
Jeff/Quil.	Highway 101 (Tourist Corr.)	Quilcene City Limit	Center Rd	D	C	C	D
Jeff/Quil.	Highway 101 (Tourist Corr.)	Center Rd	Washington St	D	C	C	D
Mason	Highway 101 (Tourist Corr.)	Old Mill Hill Rd	SR 106	D	C	C	D
Mason	Highway 101 (Tourist Corr.)	SR 106	Purdy Cutoff Rd	D	C	C	D
Mason	Highway 101 (Tourist Corr.)	Purdy Cutoff Rd	SR 102/Dayton Airport Rd	D	D	D	E
Mason/Shelt.	SR 3 (Tourist Corr.)	Highway 101	Shelton City Limits	D	C	D	E
Mason/Shelt.	SR 3 (Tourist Corr.)	Shelton City Limits	Delaware St	D	D	E	F
Mason/Shelt.	SR 3 (Tourist Corr.)	Delaware St	Railroad Ave	D	E	E	F

TABLE 5.6
PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION
CAPACITY DEFICIENCIES BY GROWTH RATE

11/1/94

County/City	Roadway	From	To	LOS STD	2010 ESTIMATED FUTURE VOLUME AND LEVEL OF SERVICE 1.50% Annual Rate LOS	3.00% Annual Rate LOS	4.50% Annual Rate LOS
A	B	C	D	E	F	G	H
Mason	SR 3 (Tourist Corr.)	Shelton City Limits	Agate Rd	D	D	D	E
Mason	SR 3 (Tourist Corr.)	Agate Rd	Grapeview Loop Rd	D	B	C	D
Mason	SR 3 (Tourist Corr.)	Grapeview Loop Rd	North Bay Rd	D	D	D	E
Mason	SR 3 (Tourist Corr.)	North Bay Rd	SR 106	D	D	E	E
Mason	SR 3 (Tourist Corr.)	SR 106	Cokelet Lane	D	E	E	F
Mason	SR 3 (Tourist Corr.)	Cokelet Lane	Mason/Kitsap C.L.	D	D	E	E
Kitsap	SR 3 (Tourist Corr.)	Mason/Kitsap C.L.	Riverside St	D	D	D	F
Kitsap	SR 3 (Tourist Corr.)	Riverside St	Gorst	D	D	E	F
Kitsap	SR 3 (Tourist Corr.)	Gorst	Bremerton City Limit	D	E	F	F
Kitsap/Brem.	SR 3 (Tourist Corr.)	Bremerton City Limit	Kitsap Way	D	C	D	F
Kitsap	SR 3 (Tourist Corr.)	SR 308	Sherman Hill Rd	D	F	F	F
Kitsap	SR 3 (Tourist Corr.)	Sherman Hill Rd	CR 305	D	E	F	F
Kitsap	SR 3 (Tourist Corr.)	CR 305	Babcock St	D	E	E	F
Kitsap	SR 3 (Tourist Corr.)	Babcock St	SR 104	D	D	E	E
Kitsap	SR 16 (Tourist Corr.)	SR 302 spur	Sedgewick Rd	D	D	E	F
Kitsap	SR 16 (Tourist Corr.)	Sedgewick Rd	SR 160	D	D	E	F
Kitsap	SR 16 (Tourist Corr.)	SR 160	SR 3	D	E	F	F
Jefferson	SR 19/Airport Cut-off	SR 20	Four Corners	D	C	D	E
Jefferson	SR 19/Rhody Dr	Four Corners	SR116/Ness' Corner Rd.	D	D	E	E
Jefferson	SR 19/Rhody Dr	SR 116/Ness' Corner Rd.	Center Rd	C	D	E	E
Jefferson	SR 19/Beaver Valley Rd	Center Rd	Swansonville Rd	C	C	D	D
Jefferson	SR 19/Beaver Valley Rd	Swansonville Rd	Larson Lake Rd	C	C	C	D
Jefferson	SR 19/Beaver Valley Rd	Larson Lake Rd	Oak Bay Rd	C	C	C	D
Jefferson	SR 19/Beaver Valley Rd	Oak Bay Rd	SR 104	C	C	C	D
Jefferson	SR 20 (Tourist Corridor)	Four Corners Rd	Old Fort Townsend Rd	D	C	D	E

TABLE 5.6
PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION
CAPACITY DEFICIENCIES BY GROWTH RATE

11/1/94

					2010 ESTIMATED FUTURE VOLUME AND LEVEL OF SERVICE		
					1.50% Annual Rate	3.00% Annual Rate	4.50% Annual Rate
County/City	Roadway	From	To	LOS STD	LOS	LOS	LOS
A	B	C	D	E	F	G	H
Jeff/P.Town	SR 20 (Tourist Corridor)	Old Fort Townsend Rd	Mill/Discovery Rd	D	C	D	E
Jeff/P.Town	SR 20 (Tourist Corridor)	Mill/Discovery Rd	Sherman St	D	D	E	E
Jeff/P.Town.	SR 20 (Tourist Corridor)	Sherman St	Benedict St	D	D	E	E
Jeff/P.Town.	SR 20 (Tourist Corridor)	Benedict St	Water St	D	D	D	E
Jeff/P.Town.	SR 20 (Tourist Corridor)	Water St	Pt Townsend Ferry	D	C	D	E
Jefferson	SR 104 (Tourist Corr.)	Center Rd	Beaver Valley Rd	D	D	E	E
Jefferson	SR 104 (Tourist Corr.)	Beaver Valley Rd	Teal Lake Rd	D	D	E	E
Jefferson	SR 104 (Tourist Corr.)	Teal Lake Rd	Paradise Bay Rd	D	D	E	E
Jefferson	SR 104 (Tourist Corr.)	Paradise Bay Rd	Kitsap/Jefferson C.L.	D	E	E	F
Kitsap	SR 104 (Tourist Corr.)	Kitsap/Jefferson C.L.	SR 3	D	D	E	F
Kitsap/P.Gam.	SR 104 (Tourist Corr.)	Gamble Way	Port Gamble City Limit	D	C	C	D
Kitsap	SR 104 (Tourist Corr.)	Port Gamble City Limit	Bond Rd	D	C	C	D
Kitsap	SR 104 (Tourist Corr.)	Bond Rd	Highland Rd	D	D	E	E
Kitsap/King.	SR 104 (Tourist Corr.)	Highland Rd	West 1st St	D	D	E	E
Kitsap/King.	SR 104 (Tourist Corr.)	West 1st St	Kingston Ferry	D	C	C	D
Mason	SR 106	E. Twanoh Tides Dr	SR 3	C	C	C	D
Clallam	SR 112	Bear Creek West Twin Rd	Crescent Beach Rd	C	C	C	D
Clallam	SR 112	Crescent Beach Rd	Eden Valley Rd	C	C	C	D
Clallam	SR 112	Eden Valley Rd	Highway 101	C	C	C	D
Kitsap	SR 160/Sedgewick Rd.	SR 16	Bethel Rd	D	E	F	F
Kitsap	SR 160/Sedgwick Rd	Bethel Rd	Long Lake Rd.	D	E	E	F
Kitsap	SR 303	SR 304	17th St	D	F	F	F
Kitsap	SR 303	17th St	Sheridan Road	D	F	F	F
Kitsap	SR 303	Sheridan Road	Riddel Rd	D	F	F	F
Kitsap	SR-303/Waaga Way	Central Valley Rd.	Old SR 303	D	C	D	E

TABLE 5.6
PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION
CAPACITY DEFICIENCIES BY GROWTH RATE

11/1/94

					2010 ESTIMATED FUTURE VOLUME AND LEVEL OF SERVICE		
					1.50% Annual Rate	3.00% Annual Rate	4.50% Annual Rate
County/City	Roadway	From	To	LOS STD	LOS	LOS	LOS
A	B	C	D	E	F	G	H
Kitsap	SR 304	SR 3	Charleston Beach Rd	D	C	D	E
Kitsap/B.Isl.	SR 305 (Tourist Corr.)	Winslow Ferry Terminal	Winslow Way	D	E	E	E
Kitsap/B.Isl.	SR 305 (Tourist Corr.)	Winslow Way	Sportsman Club Rd	D	E	F	F
Kitsap/B.Isl.	SR 305 (Tourist Corr.)	Sportsman Club Rd	Suquamish Rd	D	E	F	F
Kitsap/Pouls.	SR 305 (Tourist Corr.)	Suquamish Rd	Poulsbo City Limit	D	E	F	F
Kitsap	SR-307/ Bond Rd.	SR 305	SR 104	C	D	E	E
Kitsap/Brem.	SR-310/Kitsap Way	SR 3	SR 304	D	D	E	F
Mason	Brockdale Rd	McEwan Prairie Rd	Shelton Springs Rd.	C	C	D	D
Jefferson	Chimacum Rd	Beaver Valley Rd/SR 19	Oak Bay Rd	C	C	D	D
Clallam	Sequim-Dungeness Way	Hwy 101	Woodcock Rd	C	C	C	D
Clallam/ P.A	Marine Dr	Truck Route	Valley	D	E	F	F
Mason/Shelt	Railroad/Shelton-Matlock Rd	City Limits	1st	C	D	E	F
Mason/Shelt	Northcliff	Alder St	North 13th	C	D	E	F
Mason/Shelt	Shelton Springs Rd.	City Limits	North 13th	C	C	D	E
Mason/Shelt	Olympic Hwy North	SR 101	7th St	D	F	F	F
Mason/Shelt	Alder St	7th St	1st	D	E	F	F
Mason/Shelt	Brockdale Rd	City Limits	Shelton Springs Rd.	C	D	D	F
Mason/Shelt	North 13th	Shelton Springs Rd.	Olympic Hwy North	C	D	E	F
Kitsap/Poul	SR 305 (Tourist Corr.)	Poulsbo City Limit	SR 3	D	E	F	F

TABLE 5.7

PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION

REGIONAL ROAD SYSTEM CAPACITY IMPROVEMENTS - CONSTRAINED GROWTH SCENARIO

03/07/95

	County	Link	Roadway	From	To	Improvements
	A	B	C	D	E	G
1	Clallam/Forks	192.07	Highway 101 (Tourist Corr.)	Forks City Limit	Johnson St	Signalize/Channelization; Shoulders & sidewalk
2	Clallam	193.12	Highway 101 (Tourist Corr.)	Johnson St	La Push Rd	Construct 8' shoulder to allow Tourist Designation
3	Clallam/P.A.	246.73	Highway 101 (Tourist Corr.)	SR 112	Pine St	Discuss: PA alternate route or access management
4	Clallam/P.A.	0.00	SR-101/Lauridsen Blvd(T.C.)	Pine St	Lincoln St	Possible full interchange at Pine; Channelization under new bridge
5	Clallam/P.A.	0.00	SR-101/Lincoln St(Tourist Cor.)	Lauridsen Blvd.	Front St.	Possible Lincoln/Peabody couplet; Alternate Arterial is Lauridsen
5						to Golf Course
6	Clallam/P.A.	248.75	SR 101/Couplet/1st. St (T.C.)	Lincoln St	Race St	Also possibly use Scrivner or Lauridsen as alternate east-west route
7	Clallam/P.A.	249.12	SR101/End Cplt/1st St (T.C.)	Race St	Golf Course Rd	Need signal at Hwy 101/Laurel (New Albertsons going in)
9	Clallam/P.A.	248.75	SR101/Couplet/Front St (T.C.)	Lincoln St	Race St	
10	Clallam/P.A.	249.12	SR101/End Cplt/Front St (T.C.)	Race St	Golf Course Rd	Improve Golf Course/Hwy 101 intersection
11	Clallam/P.A.	251.32	Highway 101 (Tourist Corr.)	Golf Course Rd	Myrtle St	Longterm = Parkway east of Morse Creek passing near/thru Olympic
11						National Park and back into Hwy 101. Short term = Access Management
11						Address acceleration/merge use of TWLTL
12	Clallam	263.45	Highway 101 (Tourist Corr.)	Deer Park Rd	Sequim City Limit	Promote Sequim bypass; Improve geometrics (curb radii) at Hwy 101
13	Clal/Sequim	265.51	Highway 101 (Tourist Corr.)	Sequim City Limit	Sequim City Limit	& Sequim Ave, Third Ave & Fifth Ave intersections; Possible new county
13						roads and bridge (near Happy Valley Rd) would relieve local traffic
13						and allow it to cross Dungeness River w/o going to Hwy 101
13						(Interim Sequim Bypass)
14	Clallam	274.64	Highway 101 (Tourist Corr.)	Sequim City Limit	Jefferson/Clallam C.L.	Truck climbing/Passing lanes; Cross section/Geometric improvements
15	Jefferson	274.66	Highway 101 (Tourist Corr.)	Jefferson/Clallam CL	Old Gardiner Rd	Truck climbing/Passing lanes; Cross section/Geometric improvements
16	Jefferson	282.25	Highway 101 (Tourist Corr.)	Old Gardiner Rd	Store Rd	Truck climbing/Passing lanes; Channelization
	Jefferson	294.21	Highway 101 (Tourist Corr.)	Lords Lake Loop Road	Quilcene	Construct 8' shoulder to allow Tourist Corridor designation
18	Jeff/Quil.	294.62	Highway 101 (Tourist Corr.)	Quilcene	Center Rd	Construct 8' shoulder to allow Tourist Corridor designation
19	Jeff/Quil.	294.90	Highway 101 (Tourist Corr.)	Center Rd	Washington St	
20	Mason	337.00	Highway 101 (Tourist Corr.)	Old Mill Hill Rd	SR 106	Construct 8' shoulder to allow Tourist Corridor designation
21	Mason	339.48	Highway 101 (Tourist Corr.)	SR 106	Purdy Cutoff Rd	Construct 8' shoulder to allow Tourist Corridor designation
22	Mason	343.44	Highway 101 (Tourist Corr.)	Purdy Cutoff Rd	SR 102/Dayton Airport Rd	Construct 8' shoulder to allow Tourist Corridor designation
23	Mason	1.19	SR 3 (Tourist Corridor)	Highway 101	Shelton City Limits	Possible channelization; Further study; Climbing lanes
24	Mason/Shelt.	2.18	SR 3 (Tourist Corridor)	Shelton City Limits	Delaware St	Create couplet in Shelton CBD
25	Mason/Shelt.	2.77	SR 3 (Tourist Corridor)	Delaware St	Railroad Ave	Create couplet in Shelton CBD
28	Mason	21.28	SR 3 (Tourist Corridor)	Grapeview Loop Rd	North Bay Rd	Truck climbing/Passing lanes
29	Mason	24.95	SR 3 (Tourist Corridor)	North Bay Rd	SR 106	Truck climbing/Passing lanes
30	Mason	26.78	SR 3 (Tourist Corridor)	SR 106	Cokelet Lane	Widen to 5 lanes; Belfair Bypass; Access management
31	Mason	28.23	SR 3 (Tourist Corridor)	Cokelet Lane	Mason/Kitsap C.L.	Signalization/Channelization; Widen to 4 lanes
32	Kitsap	34.14	SR 3 (Tourist Corridor)	Mason/Kitsap C.L.	Riverside St	Short term = Channelization & climbing lanes; Long term = Widen
33	Kitsap	34.98	SR 3 (Tourist Corridor)	Riverside St	Gorst	shoulder to 8' for bicycle touring
34	Kitsap	37.47	SR 3 (Tourist Corridor)	Gorst	Bremerton City Limit	Widen to 6 lanes creating HOV lanes; I.V.H.S.
35	Kitsap/Brem.	38.73	SR 3 (Tourist Corridor)	Bremerton City Limit	Kitsap Way	Widen to 6 lanes; HOV lanes; Interchange improvements
36	Kitsap	50.34	SR 3 (Tourist Corridor)	SR 308	Sherman Hill Rd	
37	Kitsap	52.91	SR 3 (Tourist Corridor)	Sherman Hill Rd	SR 305	Widen to 4 lanes; Access management

TABLE 5.7
PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION
REGIONAL ROAD SYSTEM CAPACITY IMPROVEMENTS - CONSTRAINED GROWTH SCENARIO

03/07/95

	County	Link	Roadway	From	To	Improvements
	A	B	C	D	E	G
38	Kitsap	59.73	SR 3 (Tourist Corridor)	SR 305	Babcock St	
39	Kitsap	60.02	SR 3 (Tourist Corridor)	Babcock St	SR 104	
40	Kitsap	24.85	SR 16 (Tourist Corr.)	SR 302 Spur	Sedgewick Rd	Intersection safety at Anderson Hill Road
41	Kitsap	28.16	SR 16 (Tourist Corr.)	Sedgewick Rd	SR 160	Widen to 6 lanes creating HOV lanes; Enhanced transit
42	Kitsap	29.19	SR 16 (Tourist Corr.)	SR 160	SR 3	
44	Jefferson	95200	SR 19/Rhody Dr	Four Corners	SR116/Ness' Corner Rd.	4-lane with left turn pockets; Redesignate as urban/transitioning, if UGA defined.
45	Jefferson	95200	SR 19/Rhody Dr	SR 116/Ness' Corner Rd.	Center Rd	Improve shoulders for consistency with sections to the south
						Access management
46	Jefferson		SR 19/Beaver Valley Rd	Center Rd	Swansonville Rd	Improve shoulders for bicycles/RV's & redesignate as Tourist Corridor
47	Jefferson		SR 19/Beaver Valley Rd	Swansonville Rd	Larson Lake Rd	
48	Jefferson		SR 19/Beaver Valley Rd	Larson Lake Rd	Oak Bay Rd	Redesignate as tourist corridor
49	Jefferson		SR 19/Beaver Valley Rd	Oak Bay Rd	SR 104	
50	Jefferson	8.26	SR 20 (Tourist Corridor)	Four Corners Rd	Old Fort Townsend Rd	4-lane with left turn pockets; Access management
51	Jeff/P.Town	9.81	SR 20 (Tourist Corridor)	Old Fort Townsend Rd	Mill/Discovery Rd	
52	Jeff/P.Town	10.78	SR 20 (Tourist Corridor)	Mill/Discovery Rd	Sherman St	Widen to 4 lanes (maintain TWLTL); Signals
53	Jeff/P.Town.	11.79	SR 20 (Tourist Corridor)	Sherman St	Benedict St	Widen to 3 lanes creating climbing & ferry holding lane; Signals;
54	Jeff/P.Town.	12.19	SR 20 (Tourist Corridor)	Benedict St	Water St	Access management; Widen shoulder to 8' for bicycle touring route
						Enhanced transit
56	Jefferson	8.87	SR 104 (Tourist Corr.)	Center Rd	Beaver Valley Rd	Interchange at SR 19; 4-lane with left turn pockets; Access
57	Jefferson	11.46	SR 104 (Tourist Corr.)	Beaver Valley Rd	Teal Lake Rd	management; Look at Paradise Bay area traffic growth & limit
58	Jefferson	13.88	SR 104 (Tourist Corr.)	Teal Lake Rd	Paradise Bay Rd	access if appropriate; Improve intersection at Teal Lake Road
59	Jefferson	13.93	SR 104 (Tourist Corr.)	Paradise Bay Rd	Kitsap/Jefferson C.L.	Widen bridge & raise speed limit accordingly; Provide bicycle/pedestrian
59						facilities
60	Kitsap	15.50	SR 104 (Tourist Corr.)	Kitsap/Jefferson C.L.	SR 3	Widen bridge; Provide bicycle/pedestrian facilities
63	Kitsap	21.50	SR 104 (Tourist Corr.)	Bond Rd	Highland Rd	HOV Lane
64	Kitsap/King.	24.10	SR 104 (Tourist Corr.)	Highland Rd	West 1st St	
70	Kitsap		SR 160/Sedgewick Rd.	SR 16	Bethel Rd	Channelization; Enhance transit; Improve pavement conditions
71	Kitsap		SR 160/Sedgwick Rd	Bethel Rd	Long Lake Rd.	
72	Kitsap	0.62	SR 303	SR 304	17th St	ACP overlay; Urban access control; Local arterial
73	Kitsap	1.46	SR 303	17th St	Sheridan Road	
74	Kitsap	2.75	SR 303	Sheridan Road	Riddel Rd	
76	Kitsap	0.40	SR 304	SR 3	Charleston Beach Rd	Widening project programmed with relignment & capacity;
76						Need for SR 3/SR 304 flyover (south to east); Urban access control
77	Kitsap/B.Isl.	0.35	SR 305 (Tourist Corr.)	Winslow Ferry Terminal	Winslow Way	Implement regional multi-modal system (transit/pass. ferry only)
78	Kitsap/B.Isl.	2.31	SR 305 (Tourist Corr.)	Winslow Way	Sportsman Club Rd	Poulsbo bypass; Intersection improvemement;
79	Kitsap/B.Isl.	10.69	SR 305 (Tourist Corr.)	Sportsman Club Rd	Suquamish Rd	Need regional/local discussions
80	Kitsap/Poula.	13.31	SR 305 (Tourist Corr.)	Suquamish Rd	Poulsbo City Limit	
81	Kitsap/Poul		SR 305 (Tourist Corr.)	Poulsbo City Limit	SR 3	Widen to 4 lanes; Poulsbo by-pass
82	Kitsap		SR-307/ Bond Rd.	SR 305	SR 104	4-Lane; Intersection/interchange improvements
83	Kitsap/Brem.		SR-310/Kitsap Way	SR 3	SR 304	Intersection improvements; Alternative parallel routes

TABLE 5.7

PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION

REGIONAL ROAD SYSTEM CAPACITY IMPROVEMENTS - CONSTRAINED GROWTH SCENARIO

03/07/95

	County	Link	Roadway	From	To	Improvements
	A	B	C	D	E	G
84	Mason	90090	Brockdale Rd	McEwan Prairie Rd	Shelton Springs Rd.	Inside UGA let go to LOS D
86	Clallam/ P.A	47530	Marine Dr	Truck Route	Valley	High existing volumes; Probably need to do additional counts to
86						identify type of usage and patterns; Long term = New N-S
86						truck route on west end of town & southern E-W by-pass
87	Mason/Shelt		Railroad/Shelton-Matlock Rd	City Limits	1st	Make couplet with Franklin St
88	Mason/Shelt		Northcliff	Alder St	North 13th	Widen; Access management;Turn lanes & TWLTL
89	Mason/Shelt		Shelton Springs Rd.	City Limits	North 13th	Widen; Access management;Turn lanes & TWLTL
90	Mason/Shelt		Olympic Hwy North	SR 101	7th St	Access management; Make couplet with Jefferson inside city
91	Mason/Shelt		Alder St	7th St	1st	Make couplet with Pine St
92	Mason/Shelt		Brockdale Rd	City Limits	Shelton Springs Rd.	Widen; Turn lanes & TWLTL
93	Mason/Shelt		North 13th	Shelton Springs Rd.	Olympic Hwy North	Access management; Widen

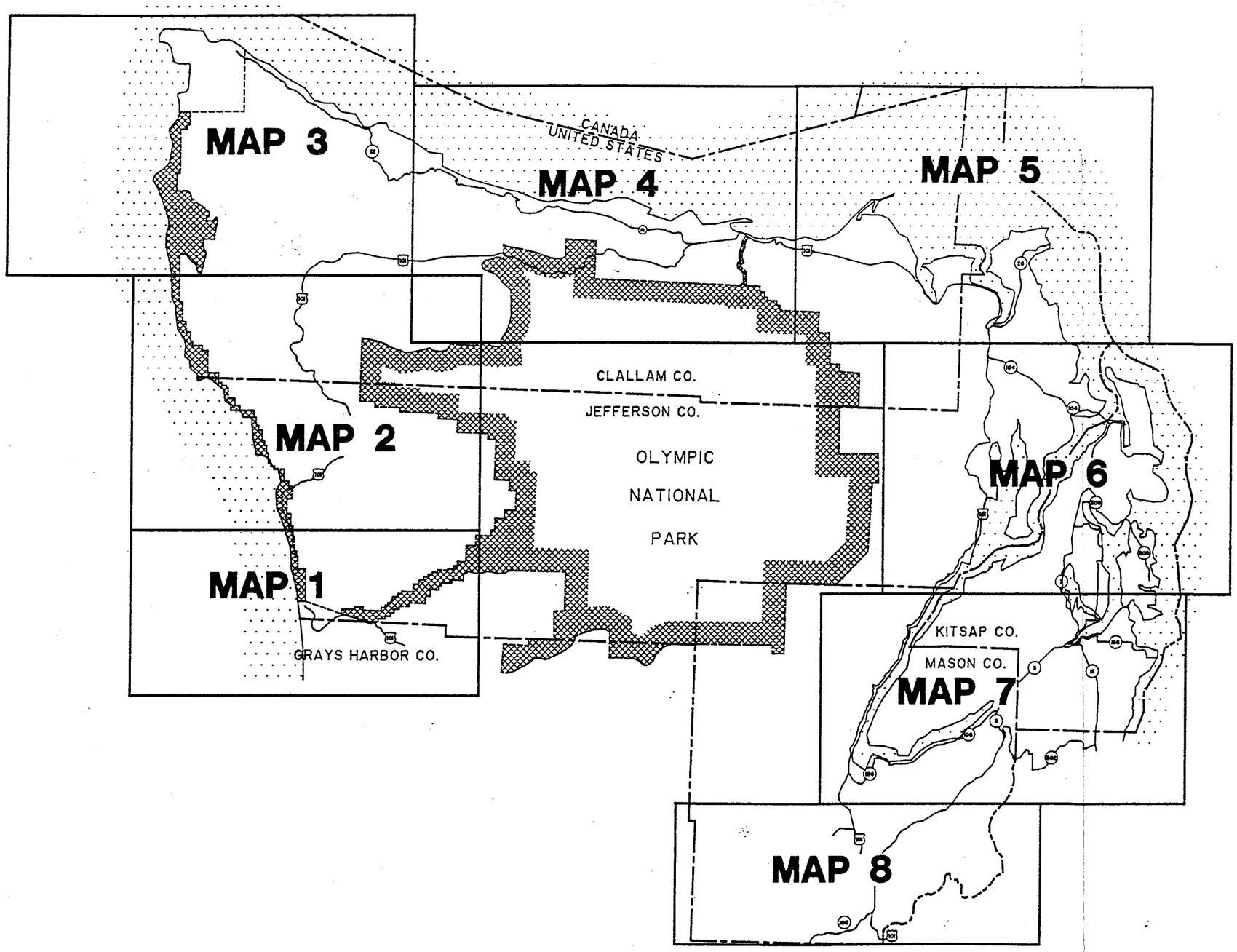
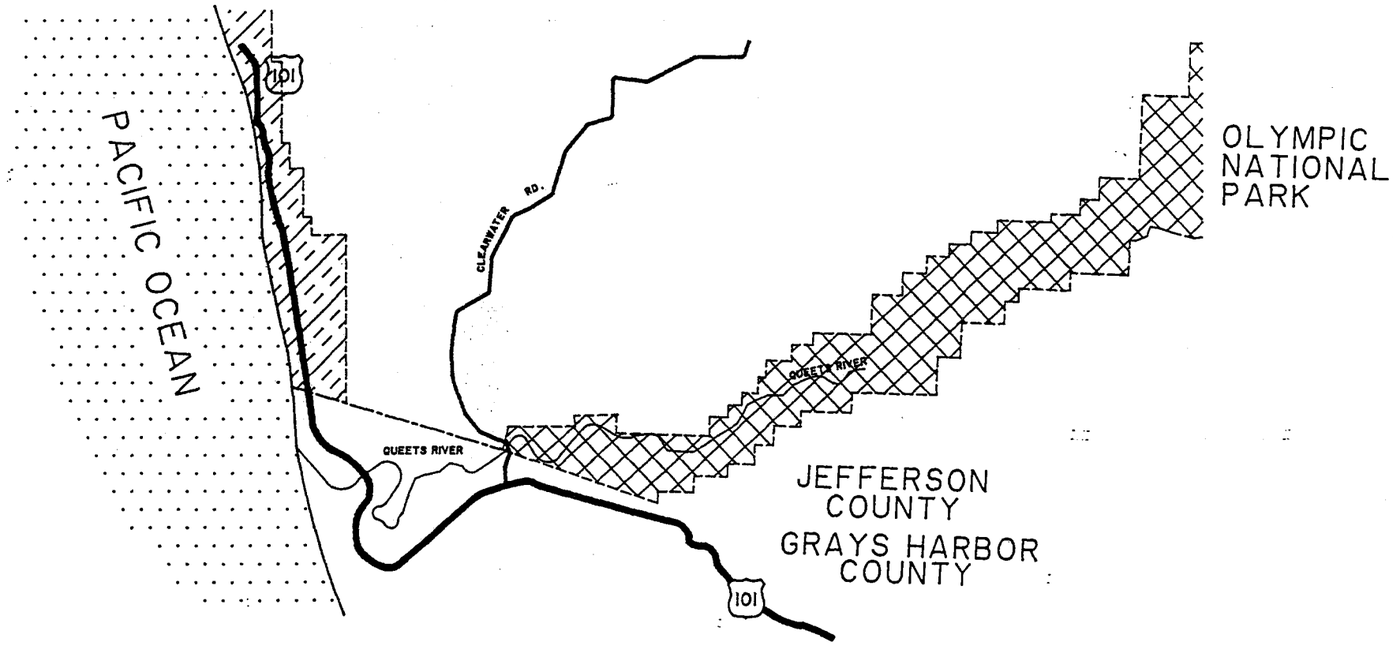
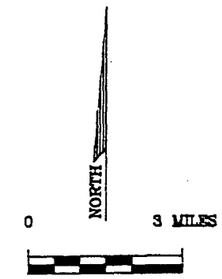


FIGURE 5.1

SCALE N.T.S. DRAWN A.S. CHECKED M.A.P. DATE 3/6/95	NO. DATE REVISION APP'D. BY	PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION FUNCTIONAL CLASSIFICATIONS INDEX MAP	JOB NO. 933-3669 F.A. NO. FILE NO. SEC. TWP. RGE. SHT 1 OF 11





SCALE: 1" = 3 MILES

LEGEND

- PRINCIPAL ARTERIAL (RURAL/URBAN)
- MINOR ARTERIAL (RURAL/URBAN)
- MAJOR COLLECTOR (RURAL)
- MINOR COLLECTOR (RURAL)
- COLLECTOR (URBAN)
- FERRY ROUTES
- RAILROAD
- (T) - MAJOR TRANSIT TRANSFER LOCATIONS
- (A) - AIRPORTS
- [P] - PARK & RIDES
- ▲ - PORTS

NOTE: Functional classifications based on federal designations.

FIGURE 5.1

SCALE AS NOTED DRAWN A.S. CHECKED M.A.P. DATE 3/6/99		NO. DATE REVISION APP'D. BY	PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION FUNCTIONAL CLASSIFICATIONS - MAP I	JOB NO. 835-3689 F.S. NO. FILE NO. SEC. TWP. RGE. SHT 2 OF 11

SEE MAP 3

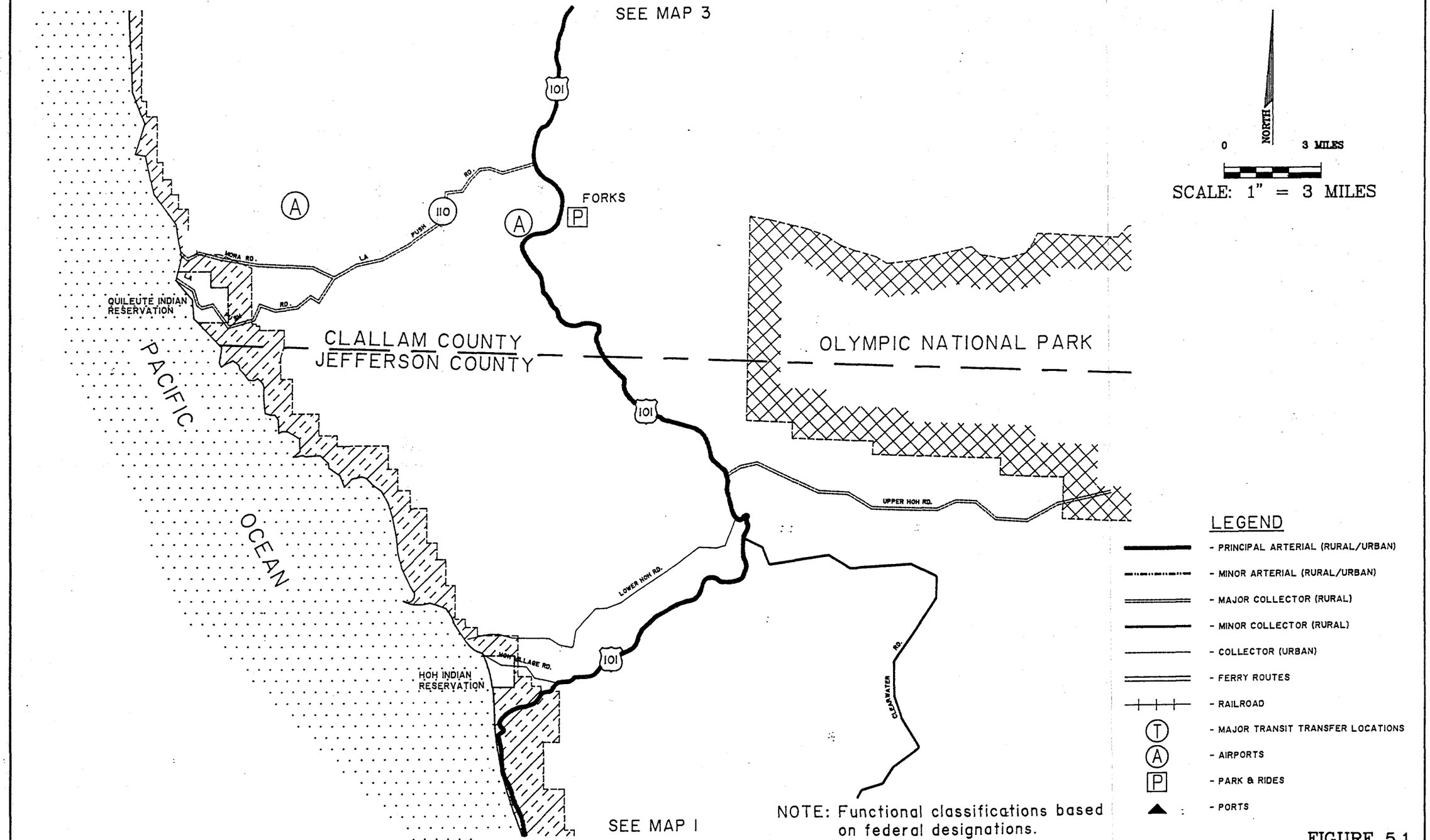


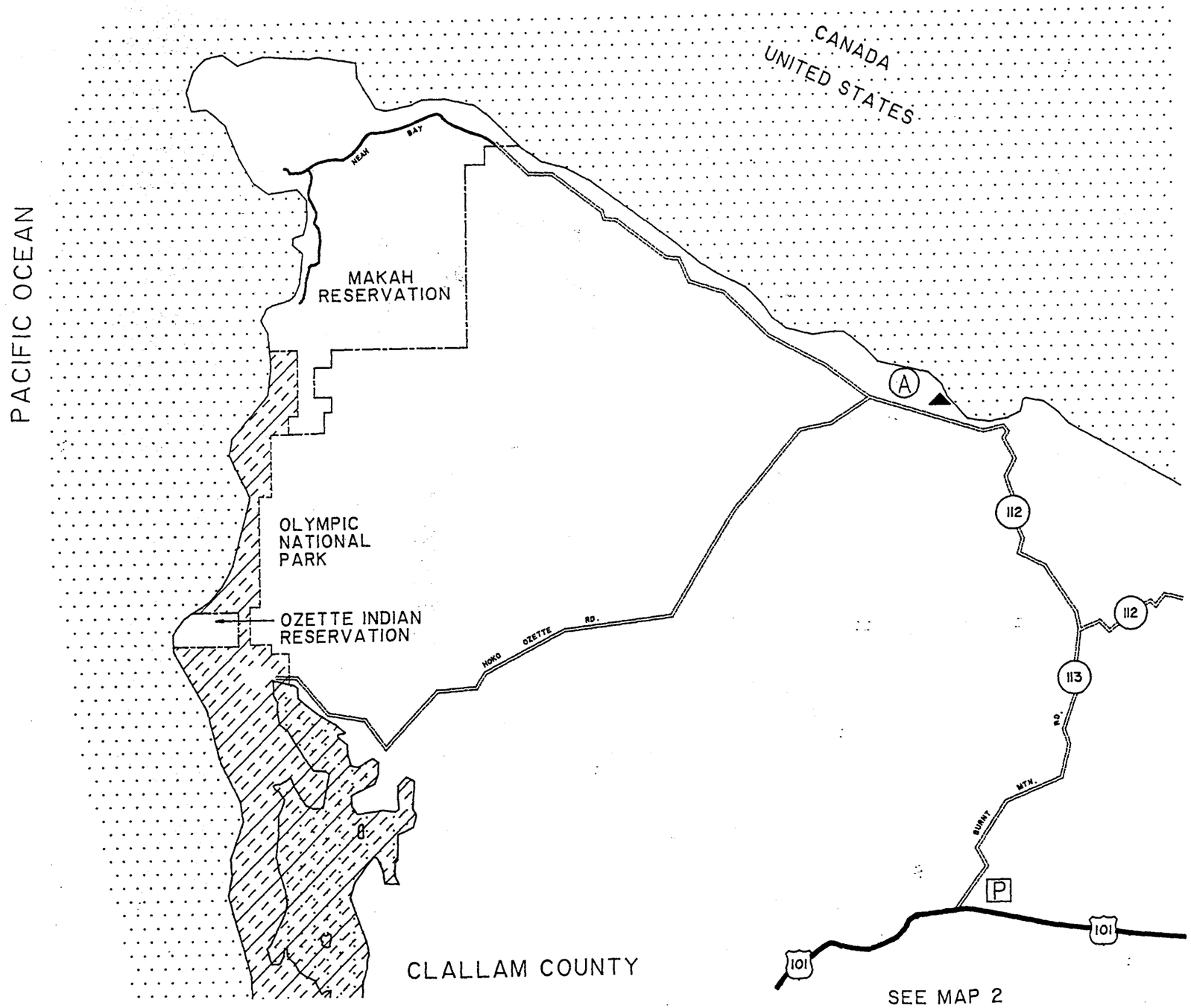
FIGURE 5.1

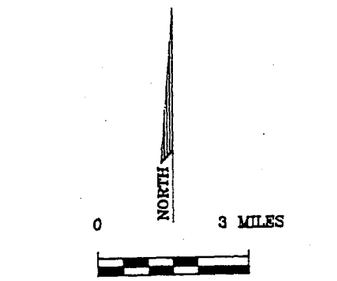
SCALE AS NOTED
DRAWN A.S.
CHECKED M.A.P.
DATE 3/8/96

NO.	DATE	REVISION	APP'D. BY

PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION
FUNCTIONAL CLASSIFICATIONS - MAP 2

JOB NO. 933-3469
F.A. NO.
FILE NO.
SEC. TWP. RGE.
SHT. 3 OF 11





SCALE: 1" = 3 MILES

LEGEND

- PRINCIPAL ARTERIAL (RURAL/URBAN)
- MINOR ARTERIAL (RURAL/URBAN)
- MAJOR COLLECTOR (RURAL)
- MINOR COLLECTOR (RURAL)
- COLLECTOR (URBAN)
- FERRY ROUTES
- RAILROAD
- (T) - MAJOR TRANSIT TRANSFER LOCATIONS
- (A) - AIRPORTS
- [P] - PARK & RIDES
- ▲ - PORTS

NOTE: Functional classifications based on federal designations.

FIGURE 5.1

SCALE AS NOTED
DRAWN A.S.
CHECKED M.A.P.
DATE 3/6/96

NO.	DATE	REVISION	APP'D. BY

PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION
FUNCTIONAL CLASSIFICATIONS - MAP 3

JOB NO. 938-3689
F.B. NO.
FILE NO.
SEC. TWP. RGE.
SHT. 4 OF 11

SEE MAP 3

SEE MAP 5

STRAIT OF JUAN DE FUCA

CANADA
UNITED STATES

PORT ANGELES-VICTORIA
AUTO/PASSENGER
AND PASSENGER ONLY FERRIES

NORTH

0 3 MILES

SCALE: 1" = 3 MILES

112

101

LAKE CRESCENT

SOLEDUCK RD.

OLYMPIC
NATIONAL PARK

OLYMPIC HOT SPRINGS RD.

HURRICANE RIDGE RD.

AIRPORT RD.

TUMWATER TRUCK RT.

MARINE DR.

FRONT ST.

LAURIDSEN BLVD.

HILLS PARKWAY

HEART OF THE

PORT ANGELES

ENLARGEMENT I

LEGEND

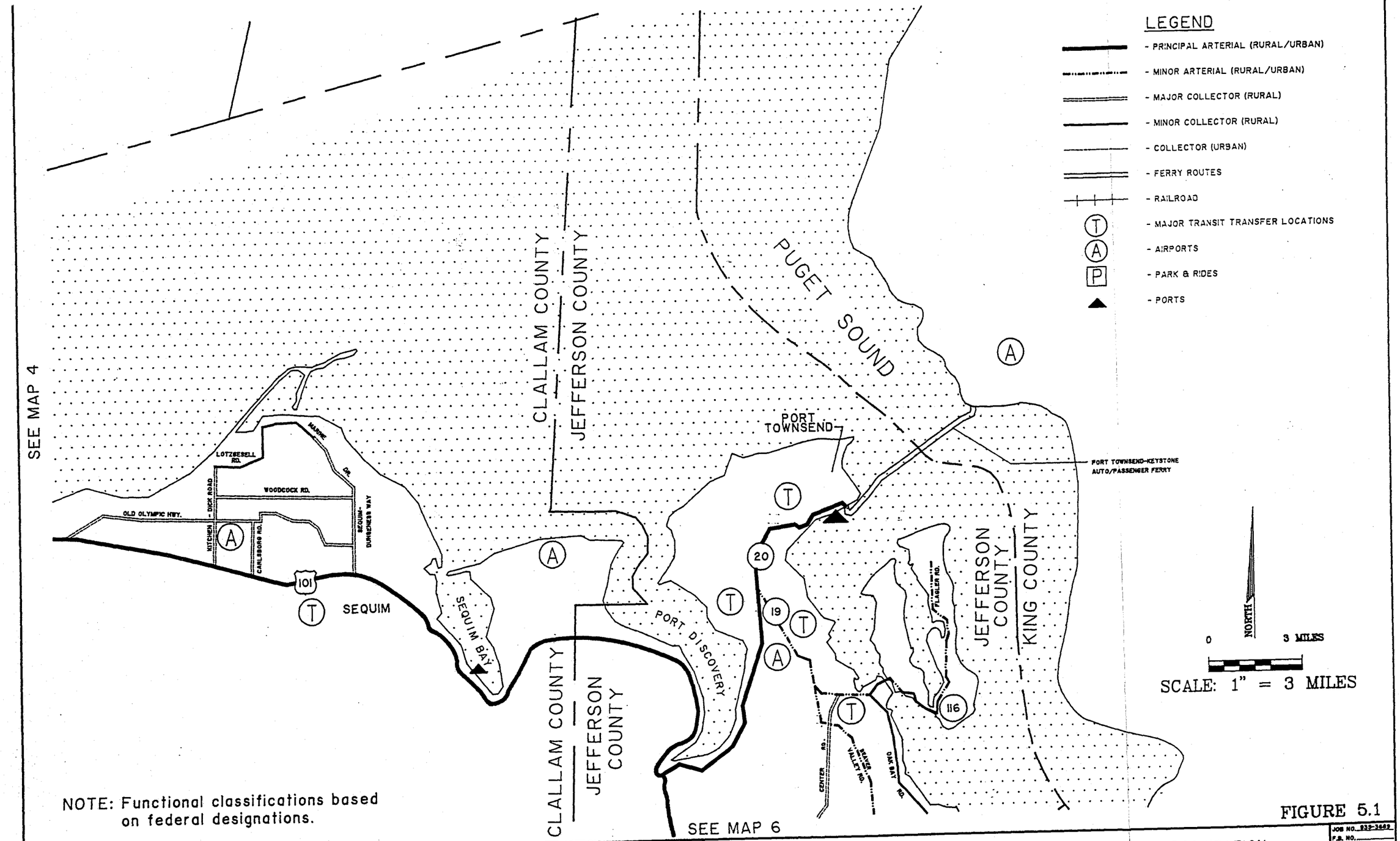
- PRINCIPAL ARTERIAL (RURAL/URBAN)
- MINOR ARTERIAL (RURAL/URBAN)
- MAJOR COLLECTOR (RURAL)
- MINOR COLLECTOR (RURAL)
- COLLECTOR (URBAN)
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- (T) - MAJOR TRANSIT TRANSFER LOCATIONS
- (A) - AIRPORTS
- [P] - PARK & RIDES
- ▲ - PORTS

NOTE: Functional classifications based on federal designations.

CLALLAM COUNTY

FIGURE 5.1

SCALE AS NOTED DRAWN A.B. CHECKED M.A.P. DATE 3/6/96		NO. DATE REVISION APP'D. BY	PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION FUNCTIONAL CLASSIFICATIONS - MAP 4	JOB NO. 933-3669 F.S. NO. FILE NO. SEC TWP RGE SHT 5 OF 11



NOTE: Functional classifications based on federal designations.

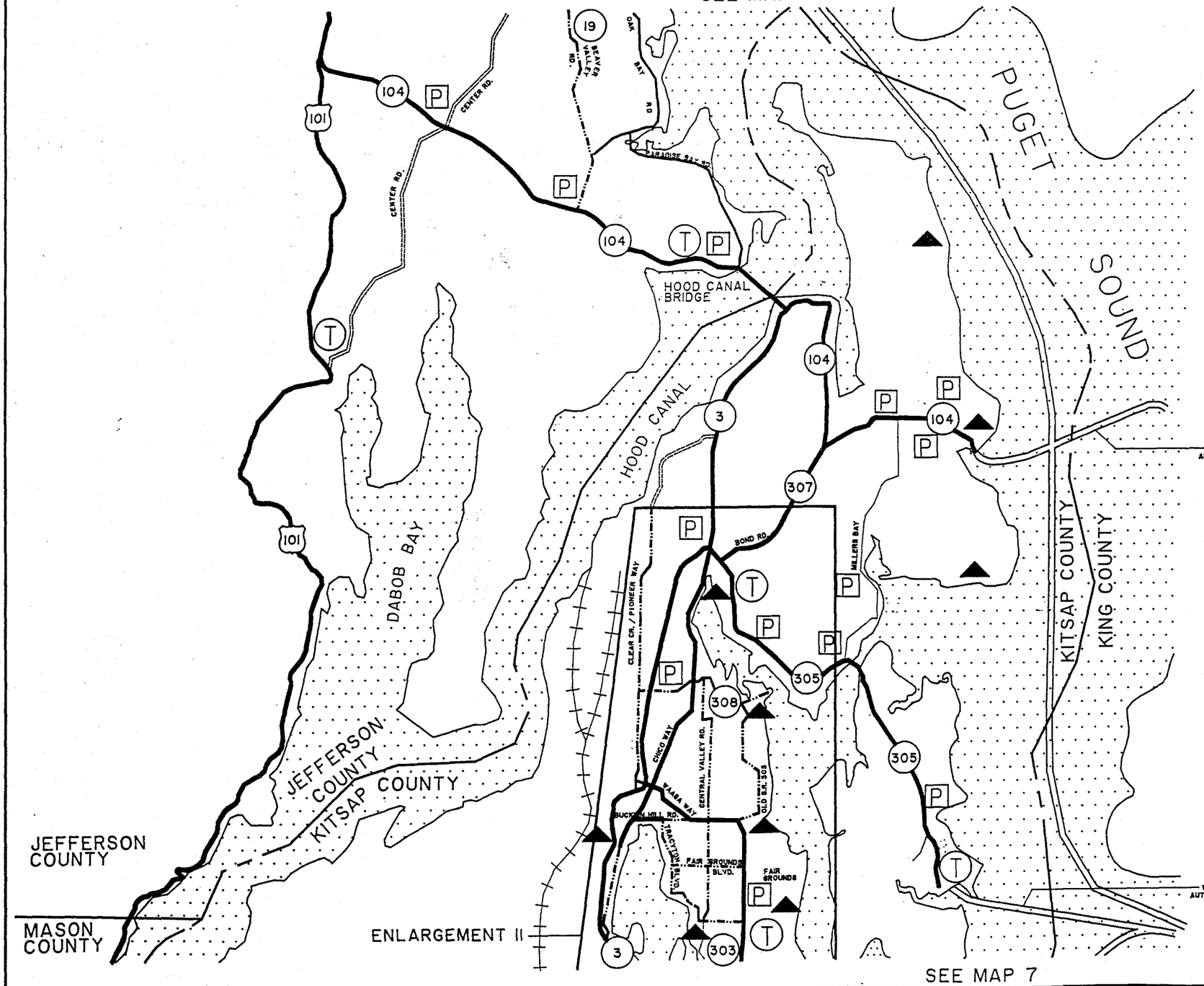
FIGURE 5.1

SCALE AS NOTED DRAWN A.R. CHECKED M.A.P. DATE 3/6/86	NO.	DATE	REVISION	APP'D. BY

PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION
FUNCTIONAL CLASSIFICATIONS - MAP 5

JOB NO. 939-3662
F.B. NO.
FILE NO.
SEC. TWP. RGE.
SHT. 6 OF 11

SEE MAP 5



0 NORTH 3 MILES

SCALE: 1" = 3 MILES

NOTE: Functional classifications based on federal designations.

LEGEND

- PRINCIPAL ARTERIAL (RURAL/URBAN)
- MINOR ARTERIAL (RURAL/URBAN)
- MAJOR COLLECTOR (RURAL)
- MINOR COLLECTOR (RURAL)
- COLLECTOR (URBAN)
- FERRY ROUTES
- RAILROAD
- (T) MAJOR TRANSIT TRANSFER LOCATIONS
- (A) AIRPORTS
- [P] PARK & RIDES
- PORTS

FIGURE 5.1

SCALE AS NOTED
DRAWN A.S.
CHECKED M.A.F.
DATE 3/8/96

NO.	DATE	REVISION	APP'D. BY

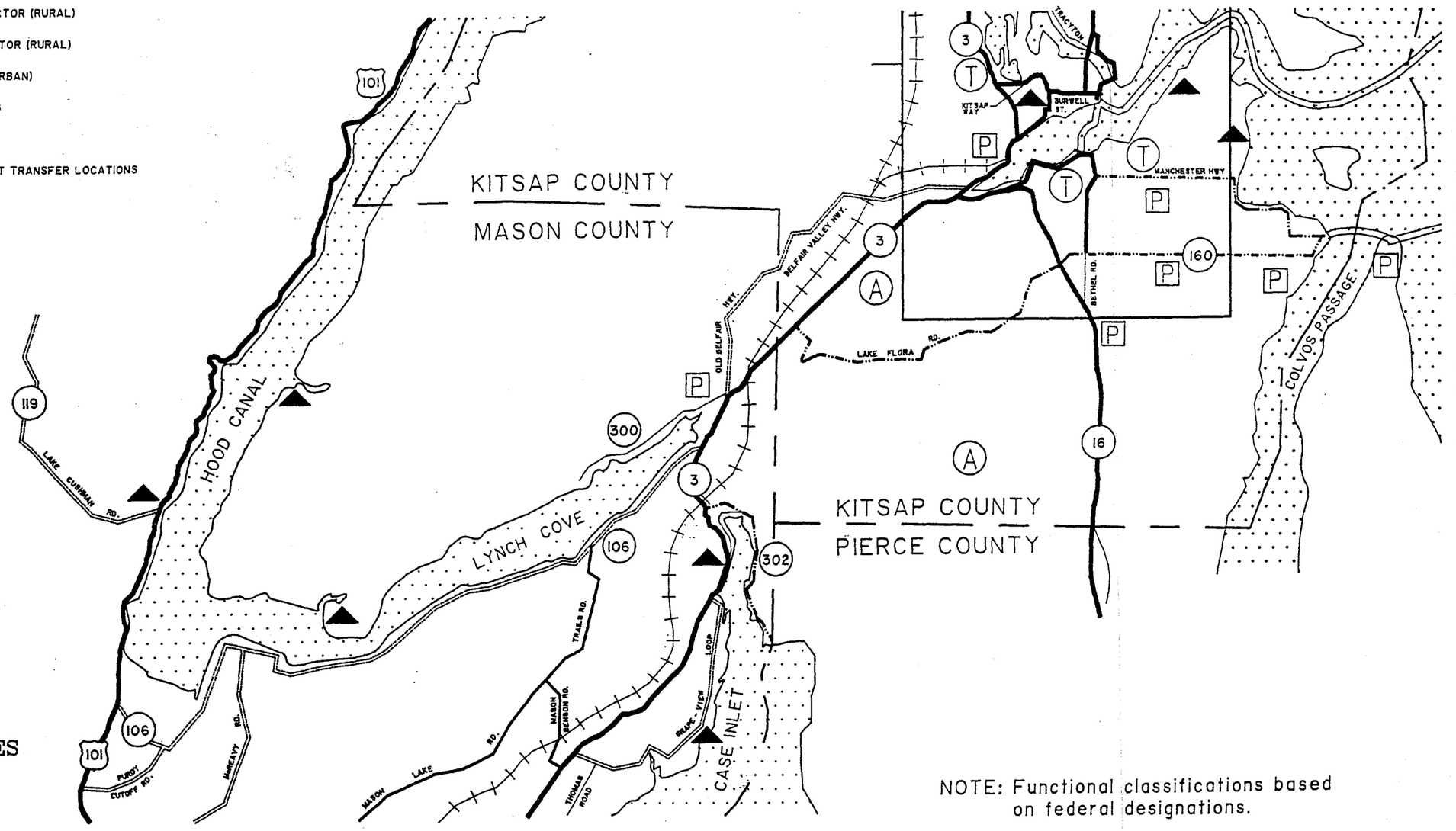
PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION
FUNCTIONAL CLASSIFICATIONS - MAP 6

JOB NO. 938-3668
F.B. NO.
FILE NO.
SEC. TWP. RGE.
SHT. 7 OF 11

LEGEND

- PRINCIPAL ARTERIAL (RURAL/URBAN)
- MINOR ARTERIAL (RURAL/URBAN)
- MAJOR COLLECTOR (RURAL)
- MINOR COLLECTOR (RURAL)
- COLLECTOR (URBAN)
- FERRY ROUTES
- RAILROAD
- (T) MAJOR TRANSIT TRANSFER LOCATIONS
- (A) AIRPORTS
- [P] PARK & RIDES
- ▲ PORTS

SEE MAP 6



NORTH

0 3 MILES

SCALE: 1" = 3 MILES

NOTE: Functional classifications based on federal designations.

SEE MAP 8

FIGURE 5.1

SCALE AS NOTED DRAWN A.S. CHECKED M.A.P. DATE 3/6/96	NO. DATE REVISION APP'D. BY	PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION FUNCTIONAL CLASSIFICATIONS - MAP 7	JOB NO. 939-3669 F.B. NO. FILE NO. SEC. TWP. RGE. SHT. 8 OF 11

LEGEND

- PRINCIPAL ARTERIAL (RURAL/URBAN)
- MINOR ARTERIAL (RURAL/URBAN)
- MAJOR COLLECTOR (RURAL)
- MINOR COLLECTOR (RURAL)
- COLLECTOR (URBAN)
- FERRY ROUTES
- RAILROAD
- (T) - MAJOR TRANSIT TRANSFER LOCATIONS
- (A) - AIRPORTS
- [P] - PARK & RIDES
- ▲ - PORTS

NORTH

0 3 MILES

SCALE: 1" = 3 MILES

NOTE: Functional classifications based on federal designations.

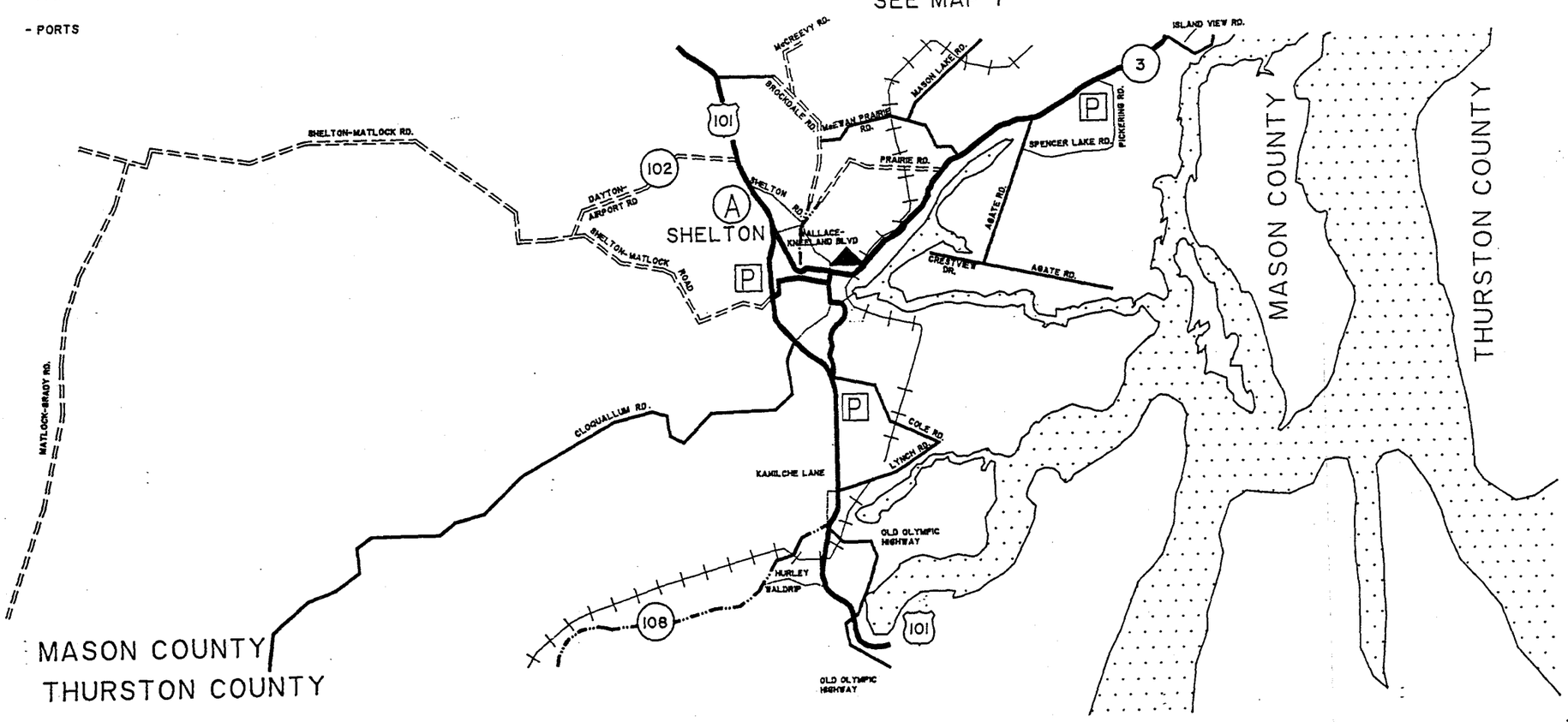
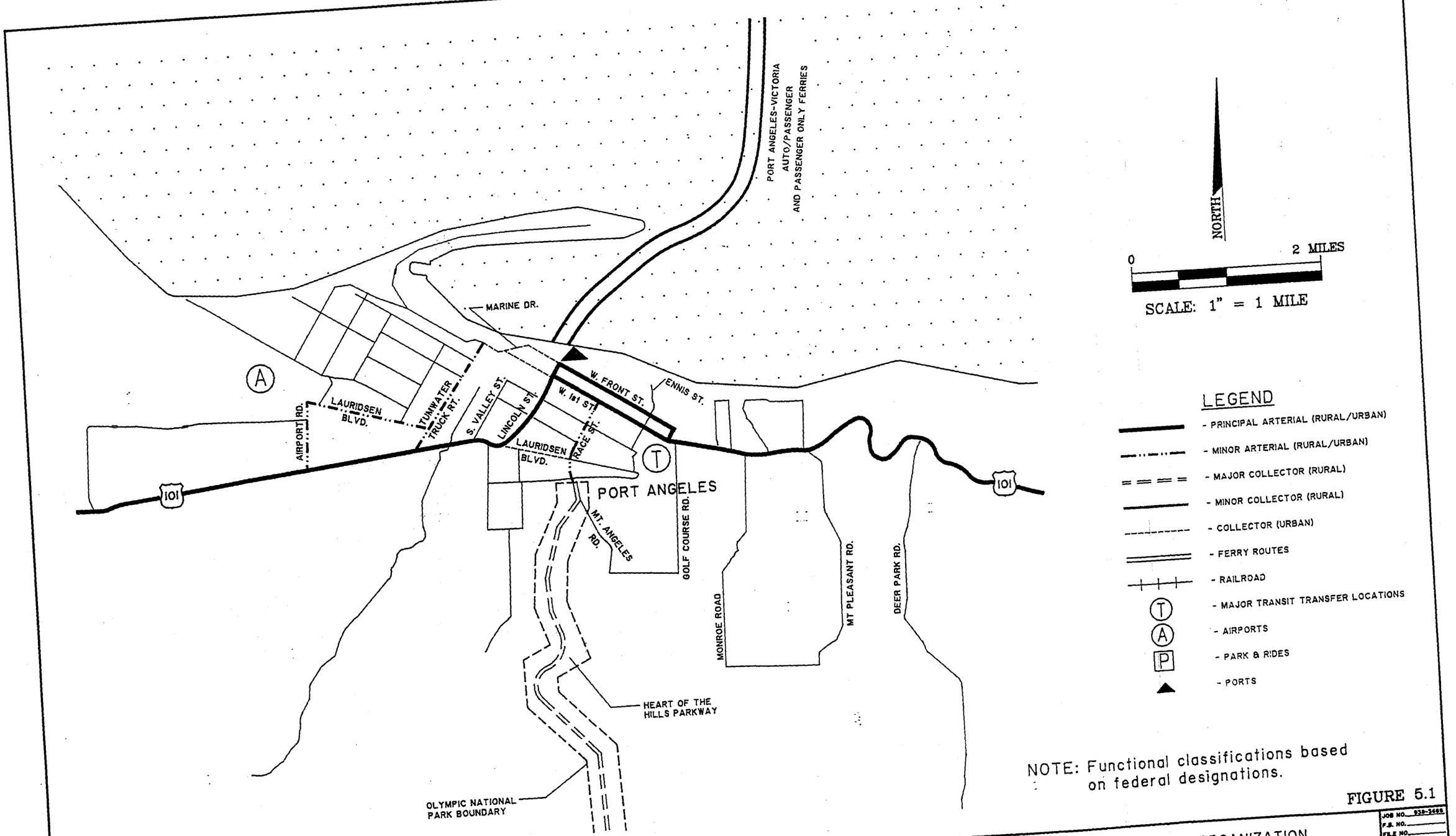


FIGURE 5.1

SCALE AS NOTED DRAWN A.B. CHECKED M.A.P. DATE 3/6/96	NO. DATE REVISION APP'D. BY	PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION FUNCTIONAL CLASSIFICATIONS - MAP 8	JOB NO. 933-1449 F.A. NO. FILE NO. SEC. TWP. RGE. SHT. 9 OF 11



NOTE: Functional classifications based on federal designations.

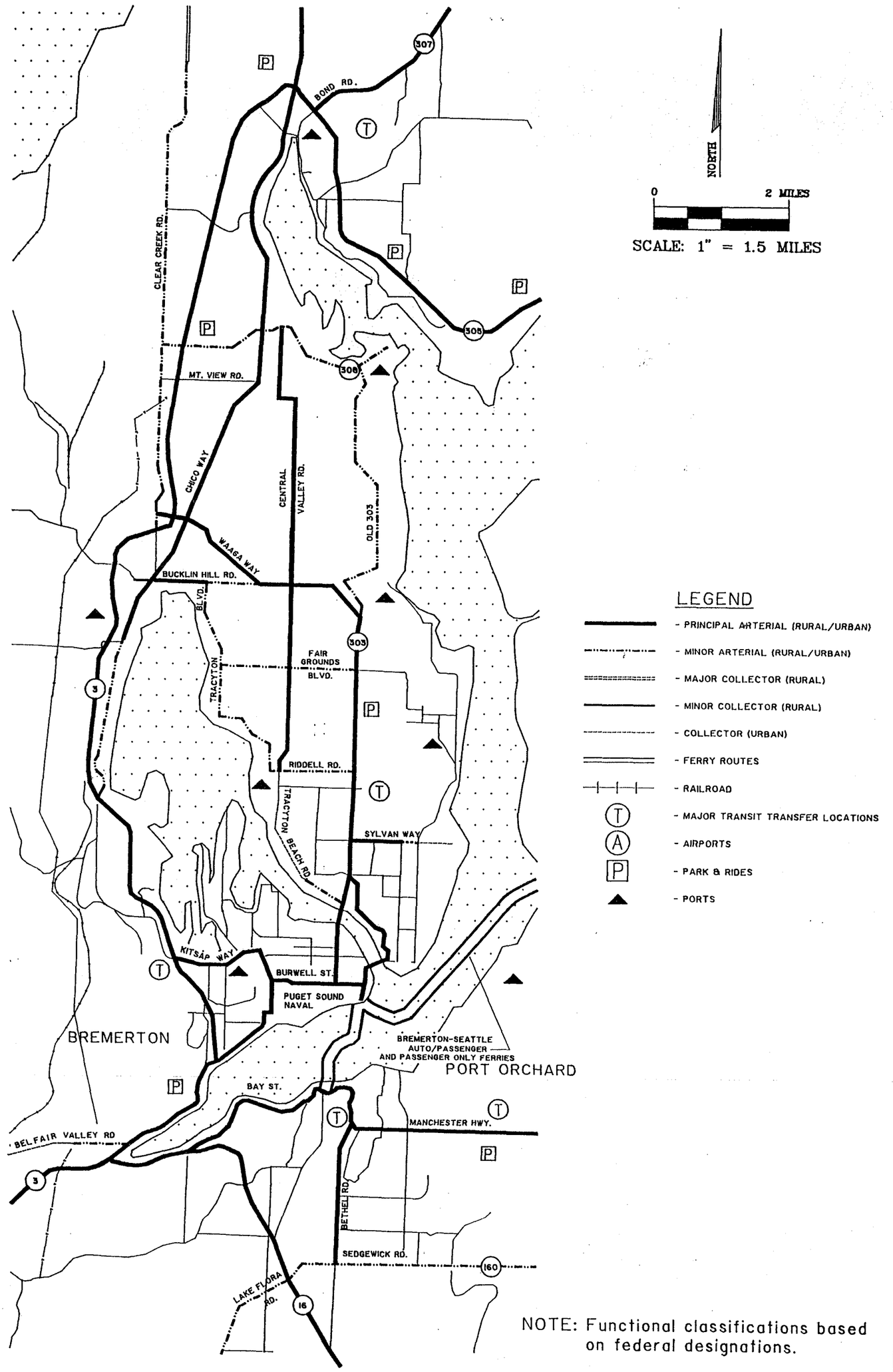
FIGURE 5.1

PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION
FUNCTIONAL CLASSIFICATION - ENLARGEMENT I

SCALE AS NOTED
DRAWN A.S.
CHECKED M.A.P.
DATE 3/6/96

NO. DATE REVISION APP'D. BY

JOB NO. 939-3468
F.S. NO.
FILE NO.
SEC. TWP. RGE.
SHT. 10 OF 11



NOTE: Functional classifications based on federal designations.

PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION

FUNCTIONAL CLASSIFICATION - ENLARGEMENT II

FIGURE 5.1

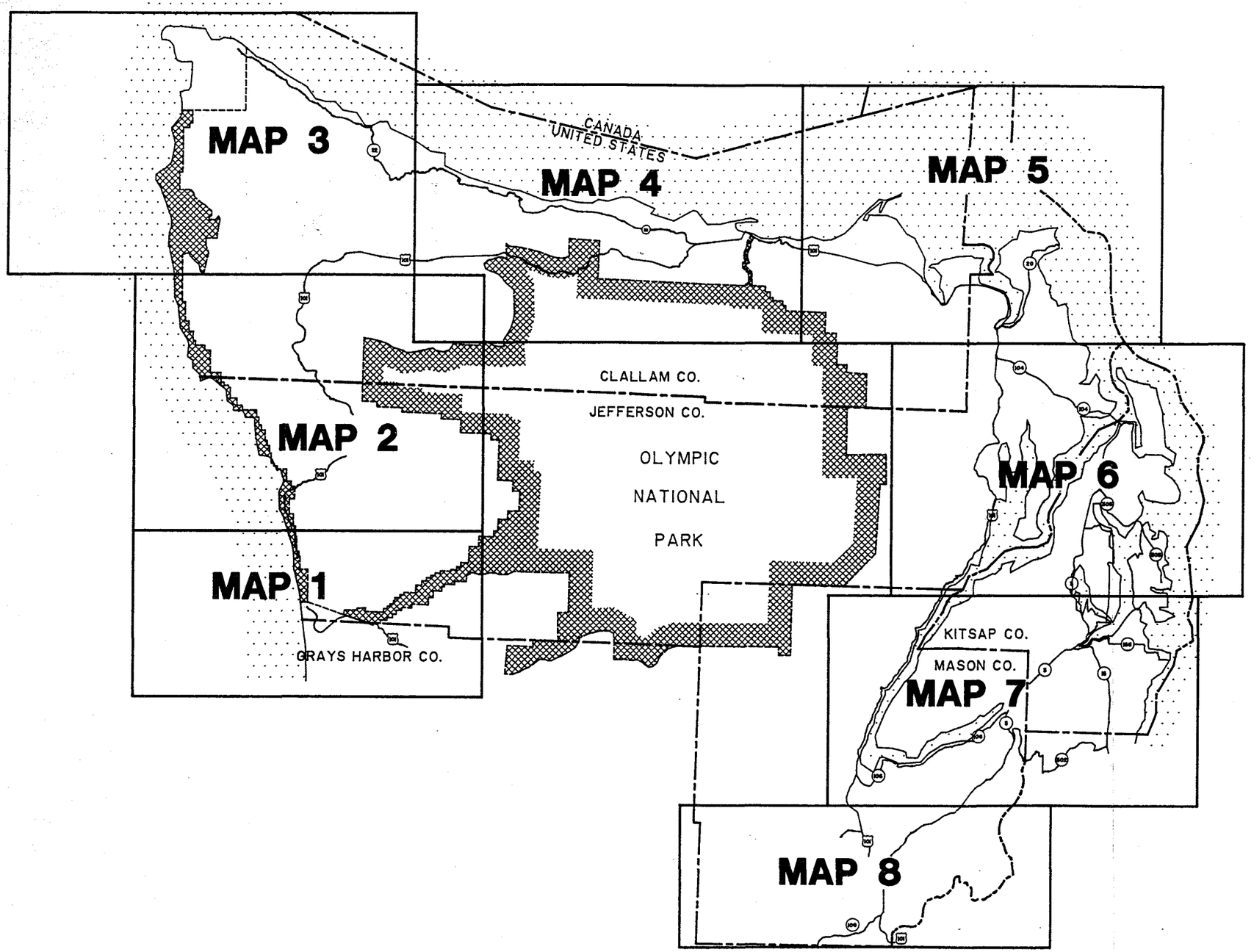
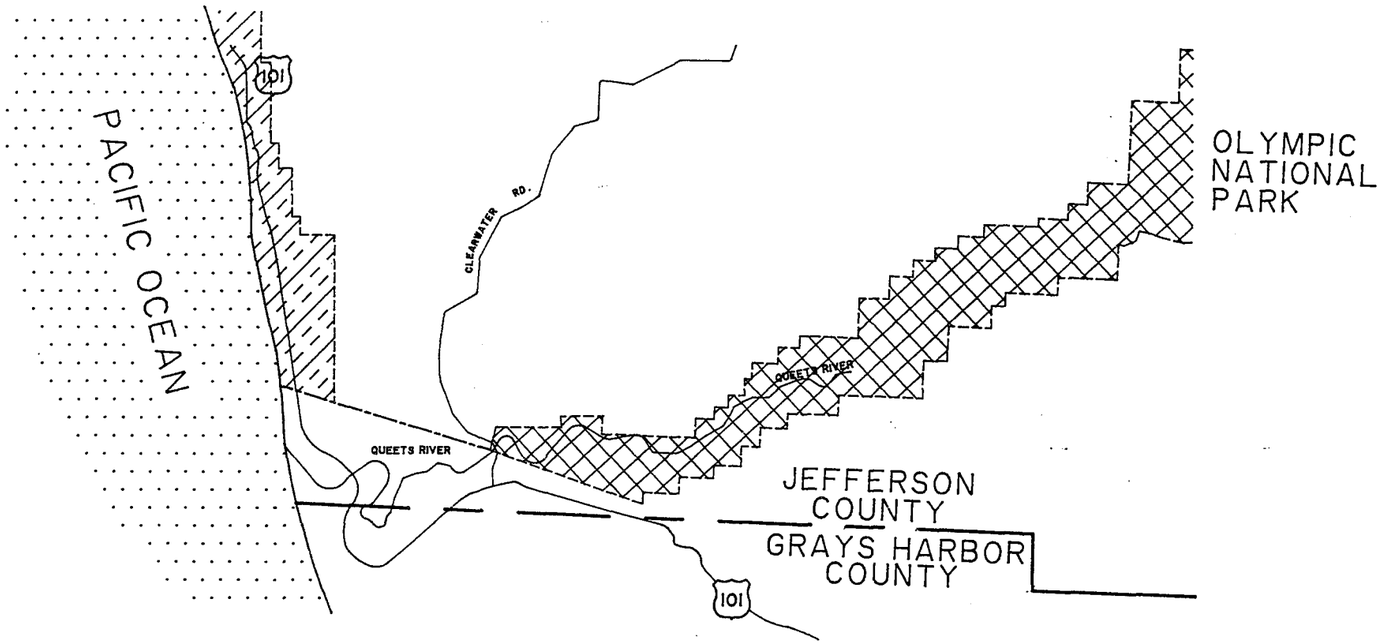


FIGURE 5.2

SCALE N.T.S. DRAWN A.S. CHECKED M.A.P. DATE 3/8/95	NO. DATE REVISION APP'D. BY	PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION CAPACITY DEFICIENCIES	JOB NO. 933-3489 F.B. NO. FILE NO. SEC. TWP. RGE. SHT. 1 OF 11

SEE MAP 2



NORTH

0 3 MILES

SCALE: 1" = 3 MILES

LEGEND

- EXPERIENCES CAPACITY RELATED DEFICIENCIES AT 1.5% AND GREATER ANNUAL GROWTH RATES
- EXPERIENCES CAPACITY RELATED DEFICIENCIES AT 3.0% AND GREATER ANNUAL GROWTH RATES
- EXPERIENCES CAPACITY RELATED DEFICIENCIES AT 4.5% AND GREATER ANNUAL GROWTH RATES
- FERRY ROUTES
- RAILROAD
- (T) MAJOR TRANSIT TRANSFER LOCATIONS
- (A) AIRPORTS
- [P] PARK & RIDE
- PORTS

FIGURE 5.2

SCALE AS NOTED
DRAWN A.S.
CHECKED M.A.P.
DATE 3/6/98

NO.	DATE	REVISION	APP'D. BY

PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION
CAPACITY DEFICIENCIES - MAP I

JOB NO. 938-3689
F.B. NO.
FILE NO.
SEC. TWP. RGE.
SHT. 2 OF 11

SEE MAP 3

101

FORKS

A

P

110

PUSH RD.

MORA RD.

LA PUSH RD.

QUILEUTE INDIAN RESERVATION

CLALLAM COUNTY
JEFFERSON COUNTY

OLYMPIC NATIONAL PARK

PACIFIC OCEAN

UPPER HOH RD.

LOWER HOH RD.

HOH VILLAGE RD.

HOH INDIAN RESERVATION

CLEARWATER RD.

SEE MAP 1

NORTH

0 3 MILES

SCALE: 1" = 3 MILES

LEGEND

- EXPERIENCES CAPACITY RELATED DEFICIENCIES AT 1.5% AND GREATER ANNUAL GROWTH RATES
- EXPERIENCES CAPACITY RELATED DEFICIENCIES AT 3.0% AND GREATER ANNUAL GROWTH RATES
- EXPERIENCES CAPACITY RELATED DEFICIENCIES AT 4.5% AND GREATER ANNUAL GROWTH RATES
- FERRY ROUTES
- RAILROAD
- (T) MAJOR TRANSIT TRANSFER LOCATIONS
- (A) AIRPORTS
- [P] PARK & RIDE
- PORTS

FIGURE 5.2

SCALE AS NOTED
DRAWN A.S.
CHECKED M.A.P.
DATE 3/6/95

NO.	DATE	REVISION	APP'D. BY

PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION
CAPACITY DEFICIENCIES - MAP 2

JOB NO. 938-3669
F.B. NO.
FILE NO.
SEC. TWP. RGE.
SHT 3 OF 11

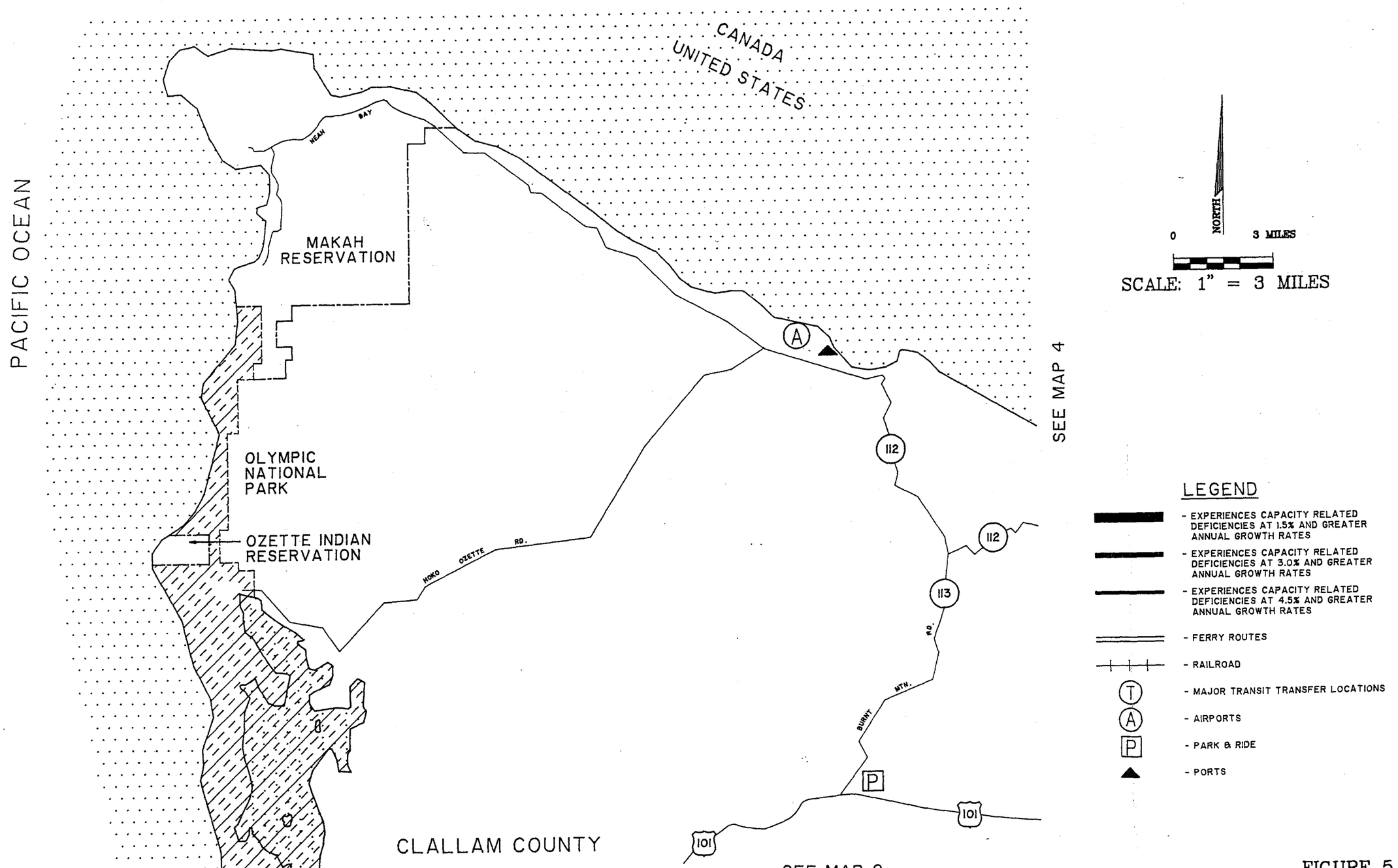


FIGURE 5.2

SCALE AS NOTED	NO.	DATE	REVISION
DRAWN A.S.			
CHECKED M.A.P.			
DATE 3/6/95			

PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION
CAPACITY DEFICIENCIES - MAP 3

JOB NO. 938-3689
F.S. NO.
FILE NO.
SEC. TWP. RGE.
SHT 4 OF 11

SEE MAP 3

SEE MAP 5

STRAIT OF JUAN DE FUCA

CANADA

UNITED STATES

PORT ANGELES-VICTORIA AUTO/PASSENGER AND PASSENGER ONLY FERRIES

NORTH

0 3 MILES

SCALE: 1" = 3 MILES

112

101

SOLEDUCK RD.

OLYMPIC NATIONAL PARK

OLYMPIC HOT SPRINGS RD.

HURRICANE RIDGE RD.

AIRPORT RD.

TUMWATER TRUCK RT.

MARINE DR.

W. 1st ST.

W. FRONT ST.

LAURIDSEN BLVD.

HILL'S PARK WAY

HEART O' THE HILLS

PORT ANGELES

ENLARGEMENT I

LEGEND

- EXPERIENCES CAPACITY RELATED DEFICIENCIES AT 1.5% AND GREATER ANNUAL GROWTH RATES
- EXPERIENCES CAPACITY RELATED DEFICIENCIES AT 3.0% AND GREATER ANNUAL GROWTH RATES
- EXPERIENCES CAPACITY RELATED DEFICIENCIES AT 4.5% AND GREATER ANNUAL GROWTH RATES
- FERRY ROUTES
- RAILROAD
- MAJOR TRANSIT TRANSFER LOCATIONS
- AIRPORTS
- PARK & RIDE
- PORTS

CLALLAM COUNTY

FIGURE 5.2

SCALE AS NOTED
DRAWN A.S.
CHECKED M.A.P.
DATE 3/6/95

NO.	DATE	REVISION	APP'D. BY

PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION
CAPACITY DEFICIENCIES - MAP 4

JOB NO. 935-3489
F.B. NO.
FILE NO.
SEC. TWP. RGE
SHT. 5 OF 11

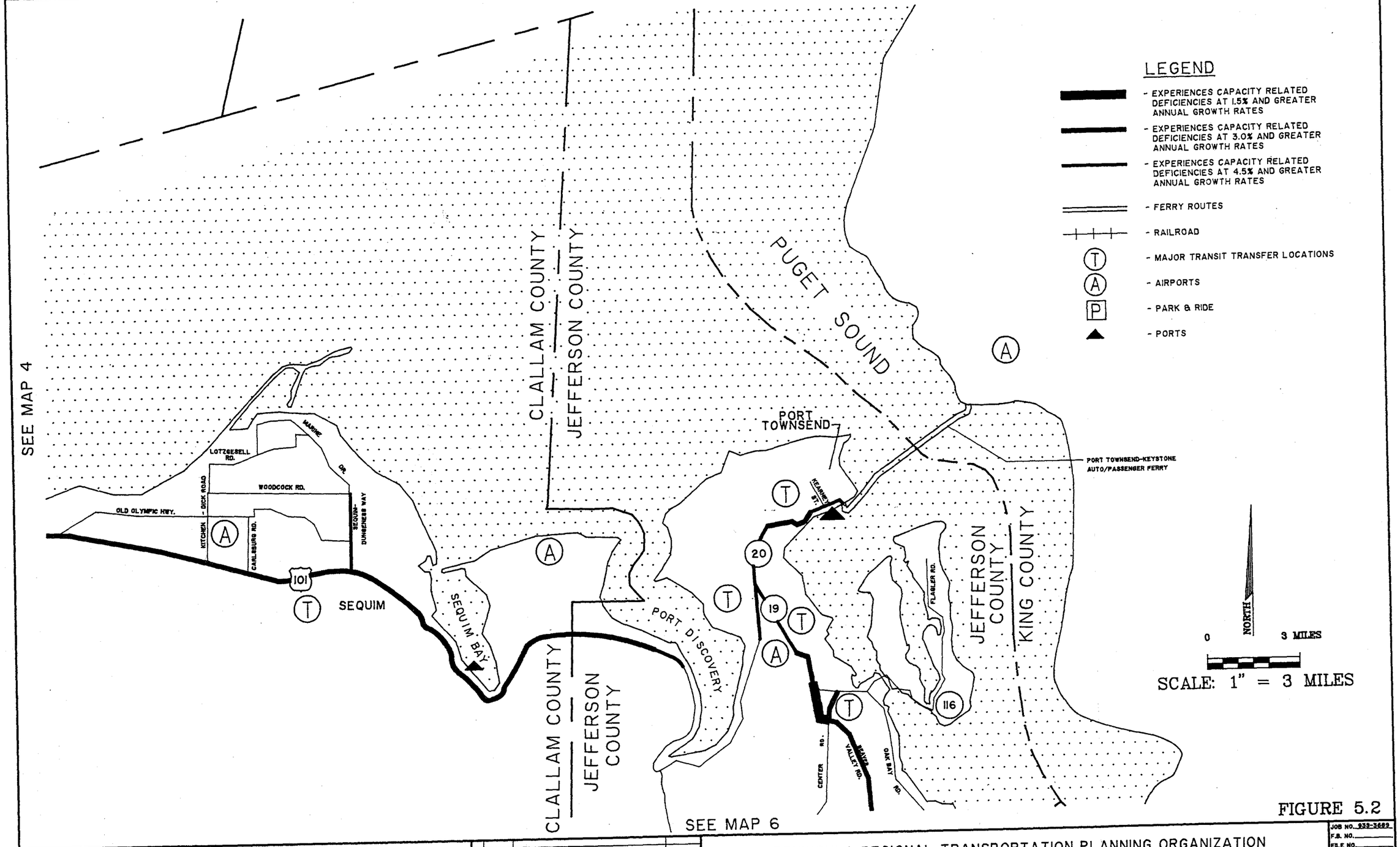


FIGURE 5.2

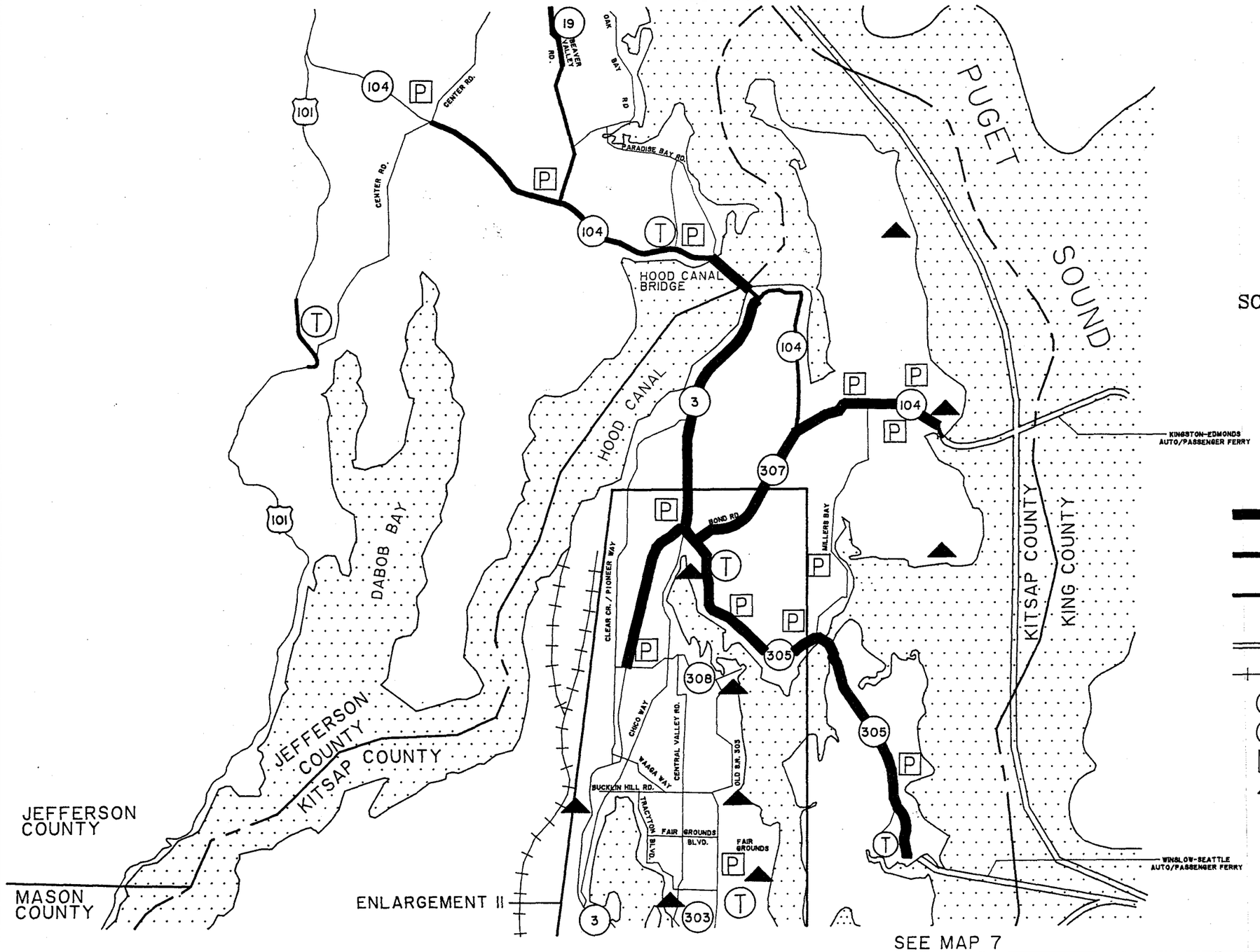
PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION
CAPACITY DEFICIENCIES - MAP 5

SCALE AS NOTED
DRAWN A.S.
CHECKED M.A.P.
DATE 3/6/95

NO.	DATE	REVISION	APP'D. BY

JOB NO. 933-3669
F.B. NO.
FILE NO.
SEC. TWP. RGE.
SHT. 6 OF 11

SEE MAP 5



SEE MAP 7

0 3 MILES

NORTH

SCALE: 1" = 3 MILES

LEGEND

- EXPERIENCES CAPACITY RELATED DEFICIENCIES AT 1.5% AND GREATER ANNUAL GROWTH RATES
- EXPERIENCES CAPACITY RELATED DEFICIENCIES AT 3.0% AND GREATER ANNUAL GROWTH RATES
- EXPERIENCES CAPACITY RELATED DEFICIENCIES AT 4.5% AND GREATER ANNUAL GROWTH RATES
- FERRY ROUTES
- RAILROAD
- (T) MAJOR TRANSIT TRANSFER LOCATIONS
- (A) AIRPORTS
- [P] PARK & RIDE
- PORTS

FIGURE 5.2

SCALE AS NOTED	NO.	DATE	REVISION
DRAWN A.S.			
CHECKED M.A.P.			
DATE 3/6/95			

PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION
CAPACITY DEFICIENCIES - MAP 6

JOB NO. 939-3665
F.B. NO.
FILE NO.
SEC. TWP. RGE.
SHT 7 OF 11

LEGEND

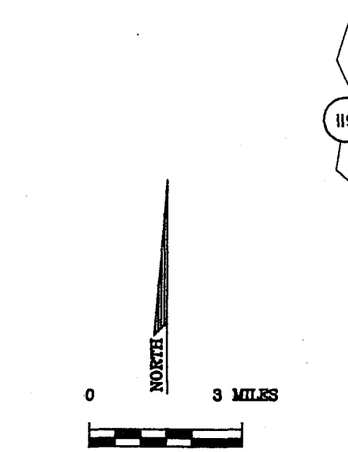
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- EXPERIENCES CAPACITY RELATED DEFICIENCIES AT 3.0% AND GREATER ANNUAL GROWTH RATES
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- FERRY ROUTES
- RAILROAD
- (T) MAJOR TRANSIT TRANSFER LOCATIONS
- (A) AIRPORTS
- [P] PARK & RIDE
- PORTS

SEE MAP 6

ENLARGEMENT II

KITSAP COUNTY
MASON COUNTY

KITSAP COUNTY
PIERCE COUNTY



SCALE: 1" = 3 MILES

SEE MAP 8

FIGURE 5.2

SCALE AS NOTED DRAWN A.S. CHECKED M.A.P. DATE 3/8/96	NO. DATE REVISION APP'D. BY	PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION CAPACITY DEFICIENCIES - MAP 7	JOB NO. 938-3689 F.B. NO. FILE NO. SEC TWP RGE SHT 8 OF 11

LEGEND

- EXPERIENCES CAPACITY RELATED DEFICIENCIES AT 1.5% AND GREATER ANNUAL GROWTH RATES
- EXPERIENCES CAPACITY RELATED DEFICIENCIES AT 3.0% AND GREATER ANNUAL GROWTH RATES
- EXPERIENCES CAPACITY RELATED DEFICIENCIES AT 4.5% AND GREATER ANNUAL GROWTH RATES
- FERRY ROUTES
- RAILROAD
- (T) MAJOR TRANSIT TRANSFER LOCATIONS
- (A) AIRPORTS
- [P] PARK & RIDE
- PORTS

NORTH

0 3 MILES

SCALE: 1" = 3 MILES

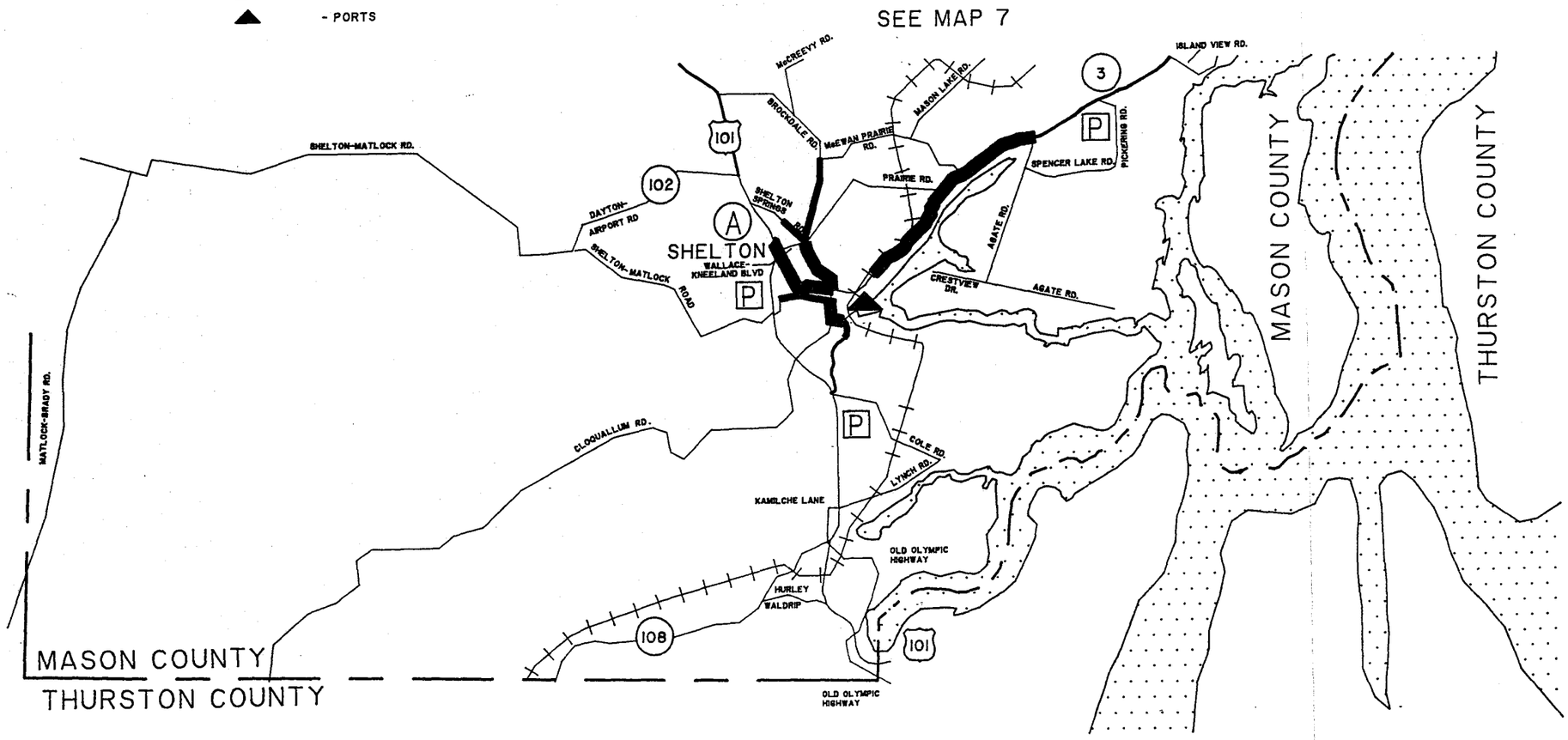


FIGURE 5.2

SCALE AS NOTED DRAWN A.S. CHECKED M.A.P. DATE 3/6/95	NO. DATE REVISION APP'D. BY	PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION CAPACITY DEFICIENCIES - MAP 8	JOB NO. 939-3689 F.B. NO. FILE NO. SEC. TWP. RGE. SHT. 9 OF 11

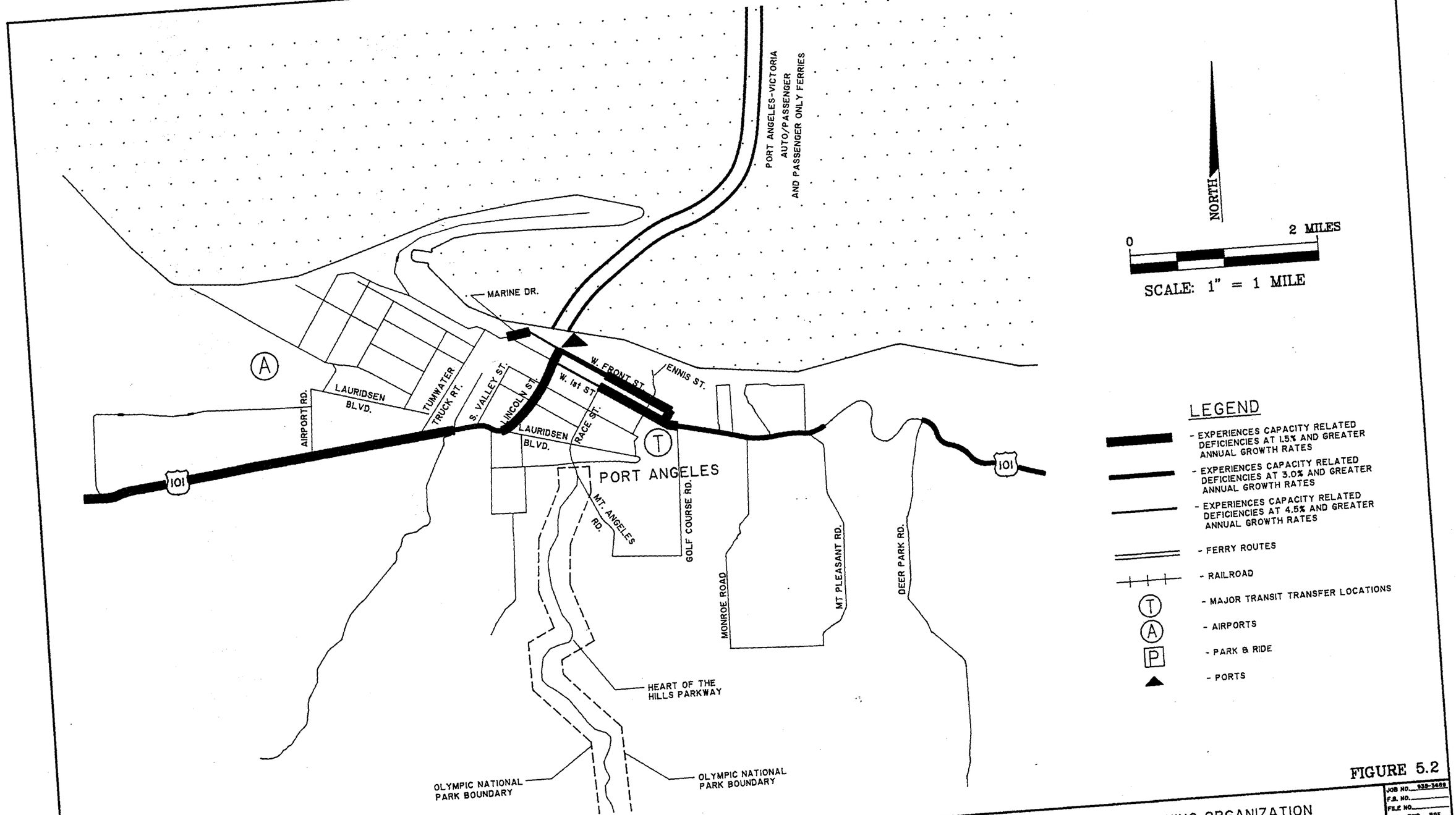


FIGURE 5.2

PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION
CAPACITY DEFICIENCIES - ENLARGEMENT I

JOB NO. 939-3480
F.B. NO.
FILE NO.
SEC. TWP. RGE.
SHT 10 OF 11

SCALE AS NOTED
DRAWN A.S.
CHECKED M.A.P.
DATE 3/6/95

NO.	DATE	REVISION	APP'D. BY

LEGEND

- EXPERIENCES CAPACITY RELATED DEFICIENCIES AT 1.5% AND GREATER ANNUAL GROWTH RATES
- EXPERIENCES CAPACITY RELATED DEFICIENCIES AT 3.0% AND GREATER ANNUAL GROWTH RATES
- EXPERIENCES CAPACITY RELATED DEFICIENCIES AT 4.5% AND GREATER ANNUAL GROWTH RATES
- FERRY ROUTES
- RAILROAD
- (T) MAJOR TRANSIT TRANSFER LOCATIONS
- (A) AIRPORTS
- [P] PARK & RIDE
- PORTS

NORTH

0 2 MILES

SCALE: 1" = 1.5 MILES

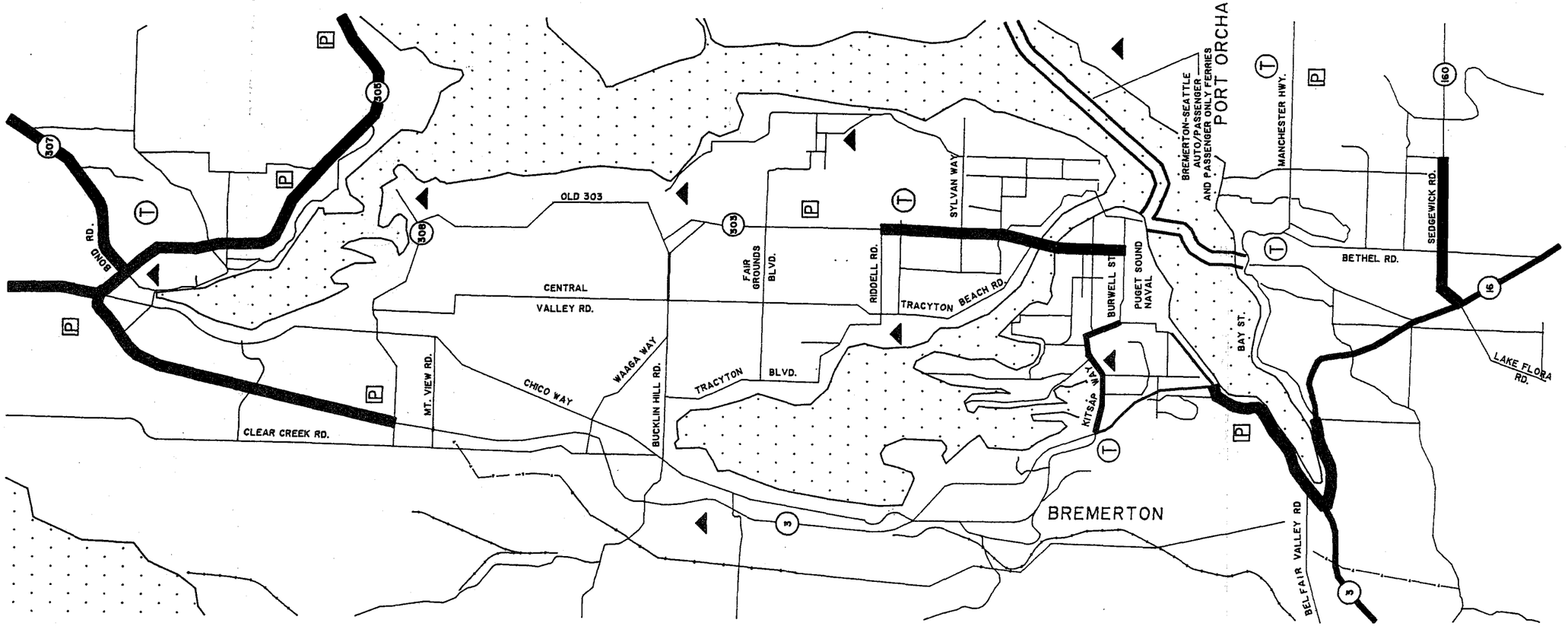


FIGURE 5.2

SCALE AS NOTED DRAWN A.S. CHECKED M.A.P. DATE 3/6/95		NO. DATE REVISION APP'D. BY	PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION CAPACITY DEFICIENCIES - ENLARGEMENT II	JOB NO. 938-3689 F.A. NO. FILE NO. SEC. TWP. RGE. SHT. II OF II

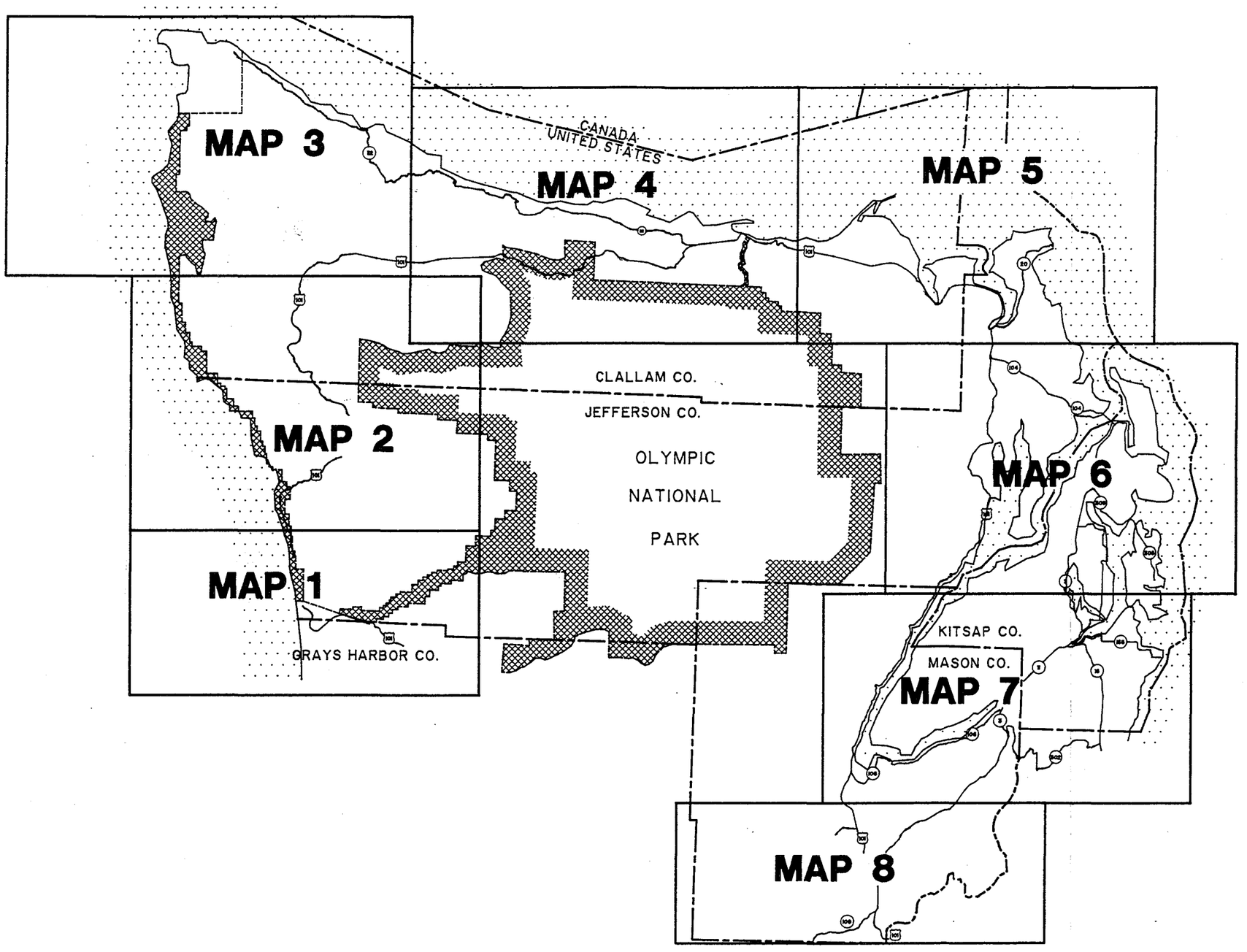
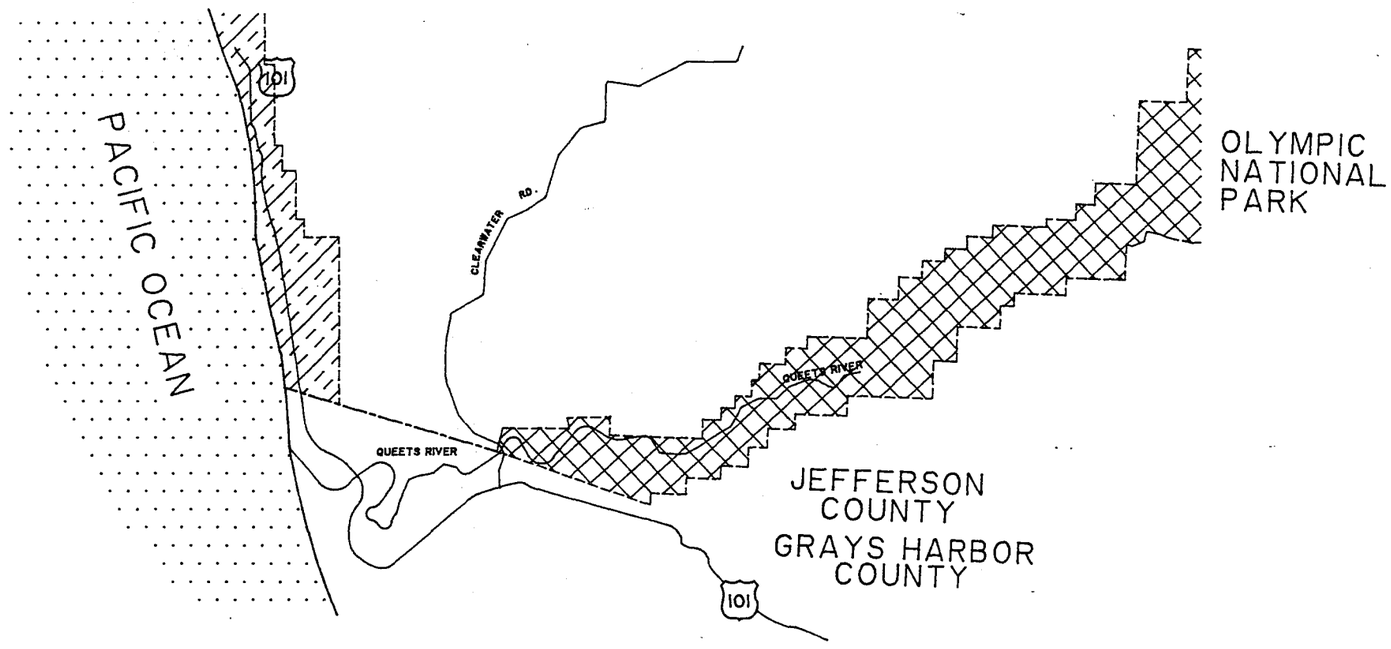
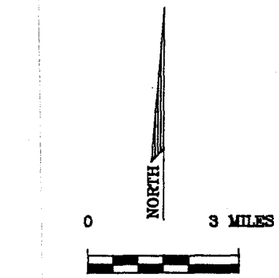


FIGURE 5.3

SCALE N.T.S. DRAWN A.S. CHECKED M.A.P. DATE 3/6/95		NO. DATE REVISION APP'D. BY	PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION ALTERNATIVE CAPACITY IMPROVEMENTS	JOB NO. 938-3689 F.A. NO. FILE NO. SEC. TWP. RGE. SHT. 1 OF 11

SEE MAP 2





SCALE: 1" = 3 MILES

LEGEND

- SIGNALIZATION/CHANNELIZATION
- RECONSTRUCTION/PAVING/SHOULDERS
- CHANGE DESIGNATION/LOS
- TRANSIT/BICYCLE & PEDSTRIAN FACILITIES
- ACCESS MANAGEMENT
- PASSING LANE/CLIMBING LANE
- WIDEN/ADD LANES
- INTERSECTION IMPROVEMENTS
- (T) MAJOR TRANSIT TRANSFER LOCATIONS
- (A) AIRPORTS
- [P] PARK & RIDES
- ▲ PORTS

FIGURE 5.3

SCALE AS NOTED DRAWN A.S. CHECKED M.A.P. DATE 3/6/95.	NO. DATE REVISION APP'D. BY	PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION ALTERNATIVE CAPACITY IMPROVEMENTS - MAP I	JOB NO. 938-3469 F.B. NO. FILE NO. SEC. TWP. RGE. SHT 2 OF 11

SEE MAP 3

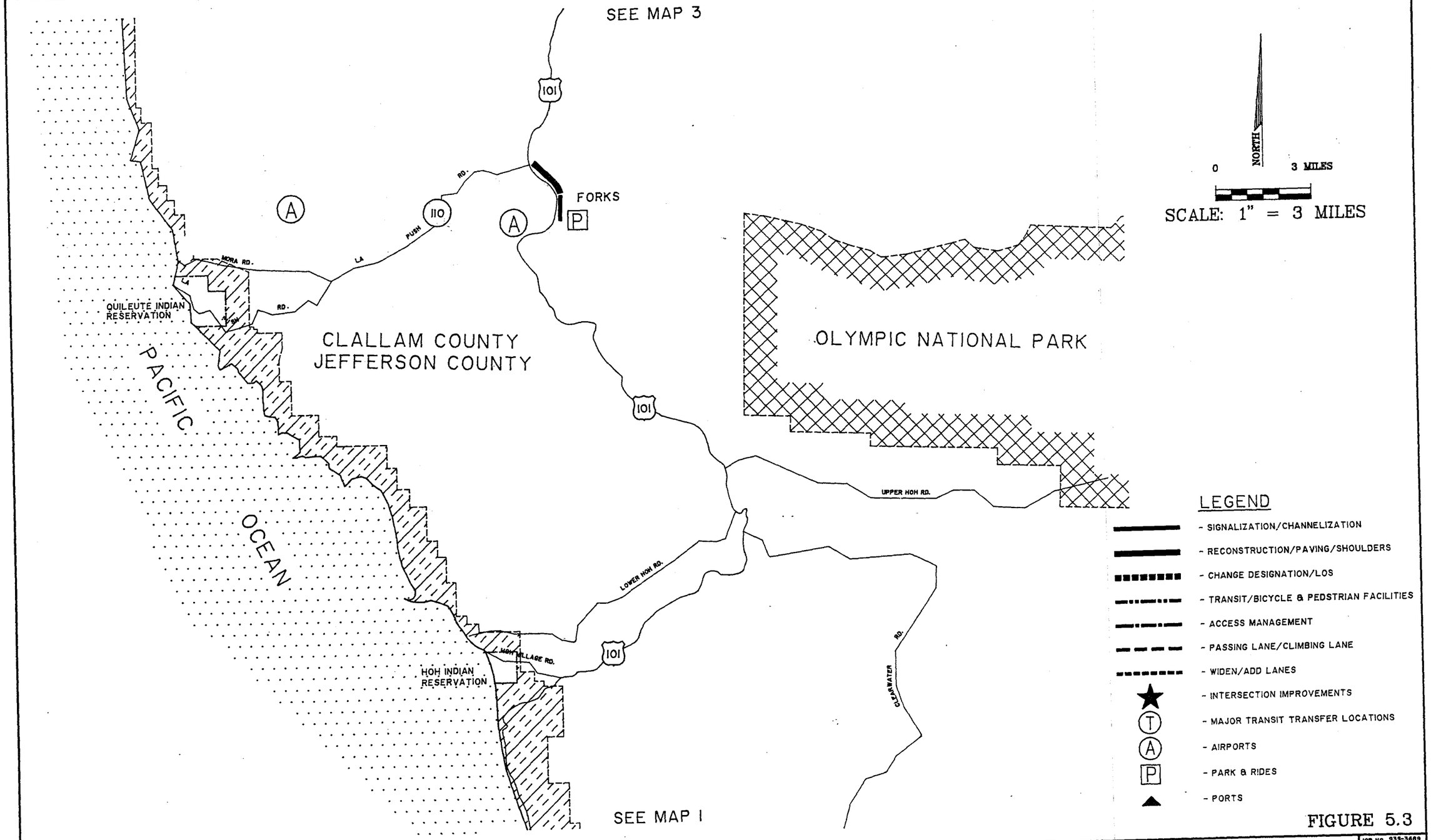


FIGURE 5.3

SCALE AS NOTED
DRAWN A.S.
CHECKED M.A.P.
DATE 3/6/95

NO.	DATE	REVISION	APP'D. BY

PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION
ALTERNATIVE CAPACITY IMPROVEMENTS - MAP 2

JOB NO. 933-3889
F.B. NO.
FILE NO.
SEC. TWP. RGE.
SHT 3 OF 11

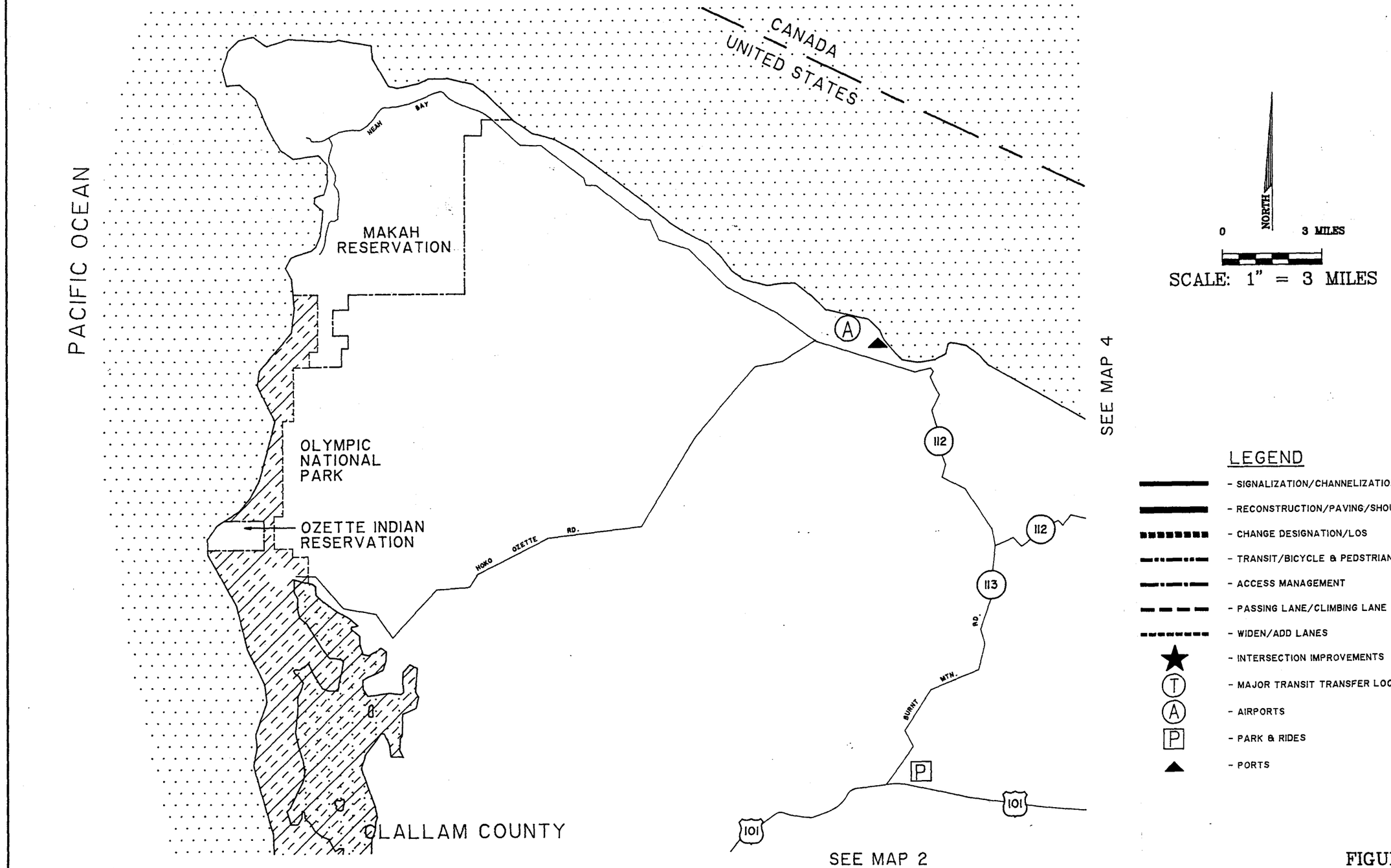


FIGURE 5.3

SCALE AS NOTED DRAWN A.S. CHECKED M.A.P. DATE 3/6/95	NO. DATE REVISION APP'D. BY	PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION ALTERNATIVE CAPACITY IMPROVEMENTS - MAP 3	JOB NO. 933-3689 F.B. NO. FILE NO. SEC. TWP. RGE. SHT 4 OF 11

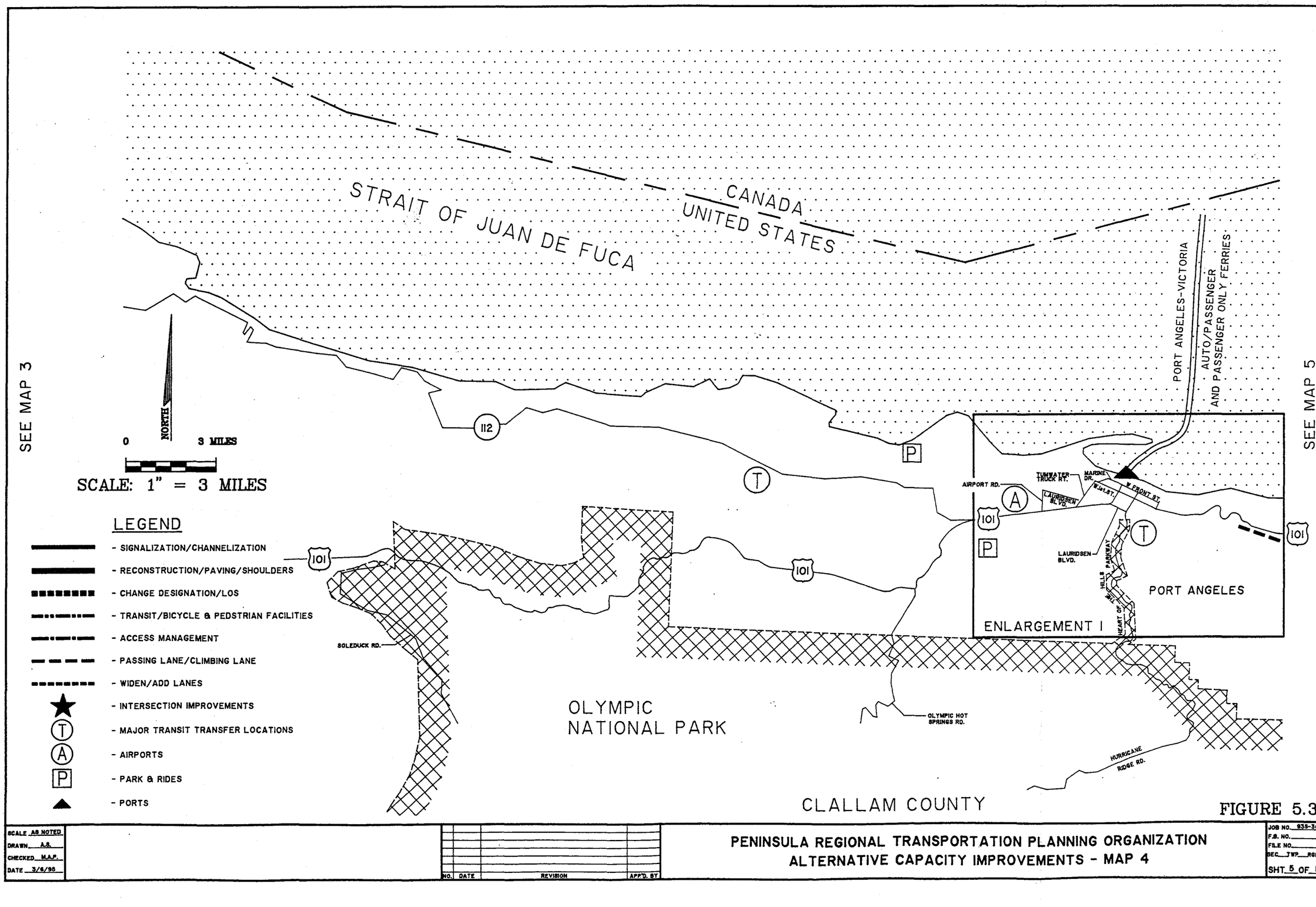


FIGURE 5.3

SCALE AS NOTED DRAWN A.S. CHECKED M.A.P. DATE 3/6/98	NO. DATE REVISION APP'D. BY	PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION ALTERNATIVE CAPACITY IMPROVEMENTS - MAP 4	JOB NO. 933-3689 F.S. NO. FILE NO. SEC. TWP. RGE. SHT 5 OF 11

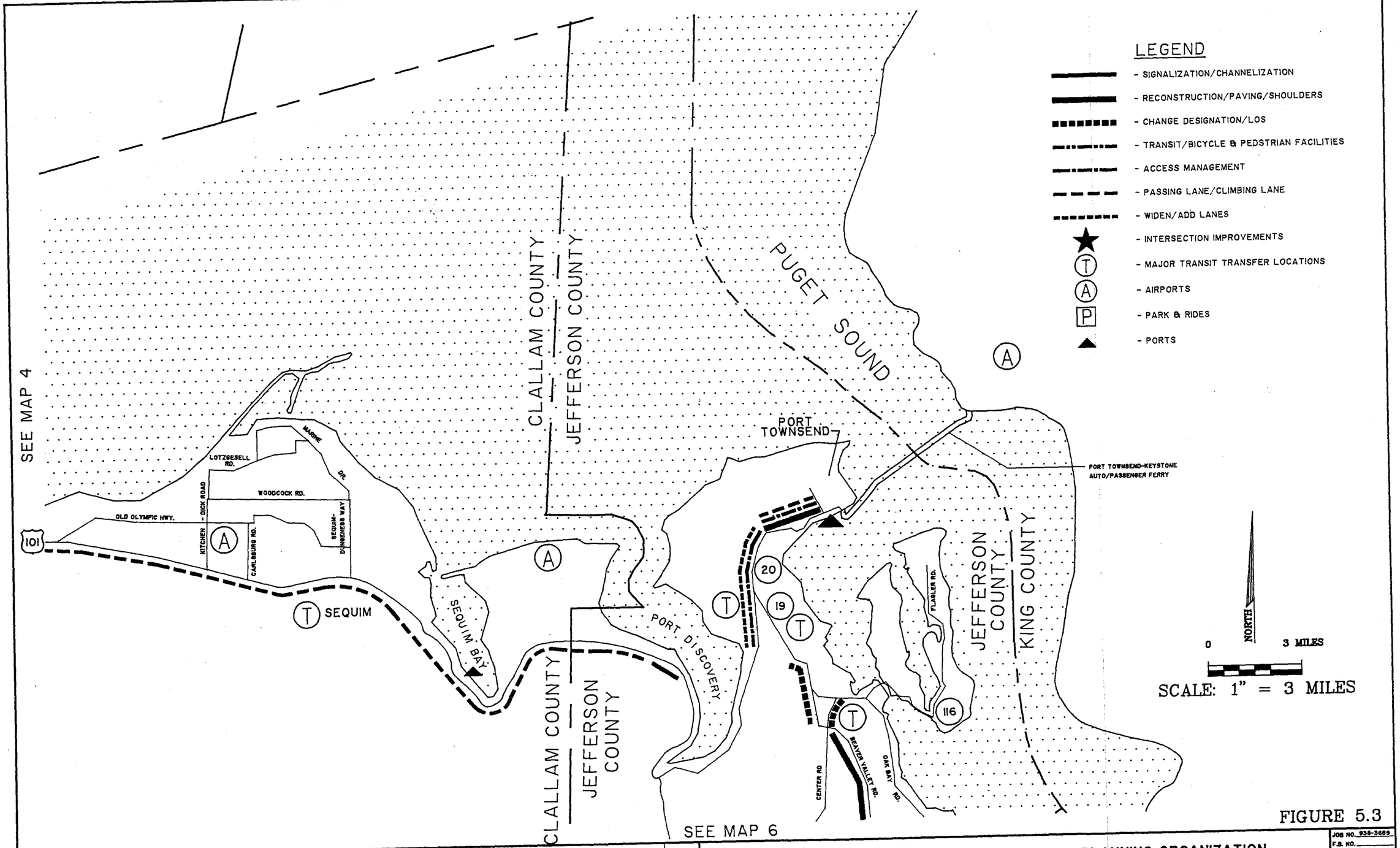


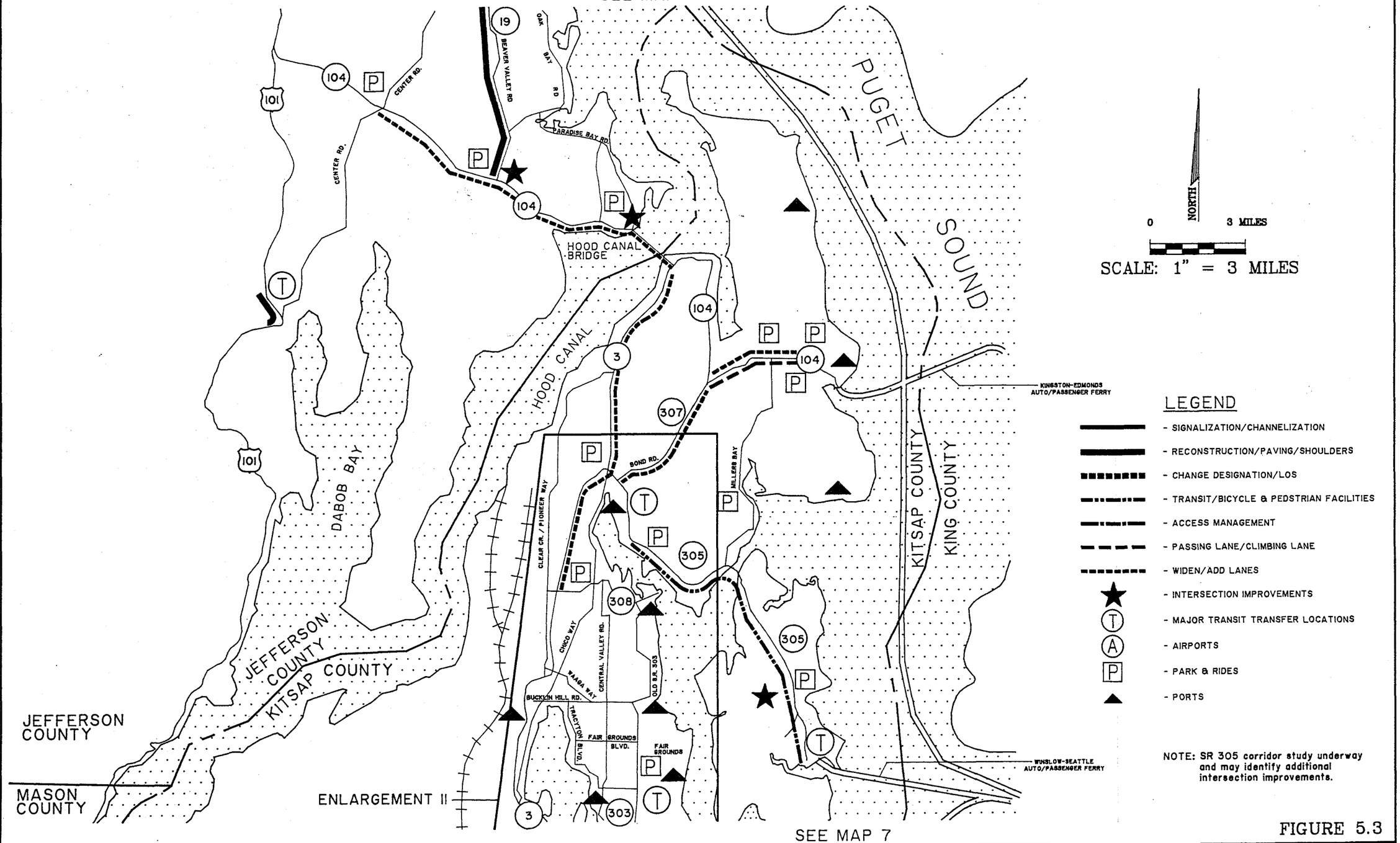
FIGURE 5.3

SCALE AS NOTED	NO.	DATE	REVISION
DRAWN A.S.			
CHECKED M.A.P.			
DATE 3/6/98			

PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION
ALTERNATIVE CAPACITY IMPROVEMENTS - MAP 5

JOB NO. 938-3689
F.S. NO.
FILE NO.
SEC. TWP. RGE.
SHT 6 OF 11

SEE MAP 5



NORTH

0 3 MILES

SCALE: 1" = 3 MILES

LEGEND

- SIGNALIZATION/CHANNELIZATION
- RECONSTRUCTION/PAVING/SHOULDERS
- CHANGE DESIGNATION/LOS
- TRANSIT/BICYCLE & PEDSTRIAN FACILITIES
- ACCESS MANAGEMENT
- PASSING LANE/CLIMBING LANE
- WIDEN/ADD LANES
- INTERSECTION IMPROVEMENTS
- MAJOR TRANSIT TRANSFER LOCATIONS
- AIRPORTS
- PARK & RIDES
- PORTS

NOTE: SR 305 corridor study underway and may identify additional intersection improvements.

FIGURE 5.3

SCALE AS NOTED
DRAWN A.S.
CHECKED M.A.P.
DATE 3/6/96

NO.	DATE	REVISION	APP'D. BY

PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION
ALTERNATIVE CAPACITY IMPROVEMENTS - MAP 6

JOB NO. 933-3669
F.B. NO.
FILE NO.
SEC. TWP. RGE.
SHT. 7 OF 11

LEGEND

- SIGNALIZATION/CHANNELIZATION
- RECONSTRUCTION/PAVING/SHOULDERS
- CHANGE DESIGNATION/LOS
- TRANSIT/BICYCLE & PEDSTRIAN FACILITIES
- ACCESS MANAGEMENT
- PASSING LANE/CLIMBING LANE
- WIDEN/ADD LANES
- INTERSECTION IMPROVEMENTS
- (T) MAJOR TRANSIT TR

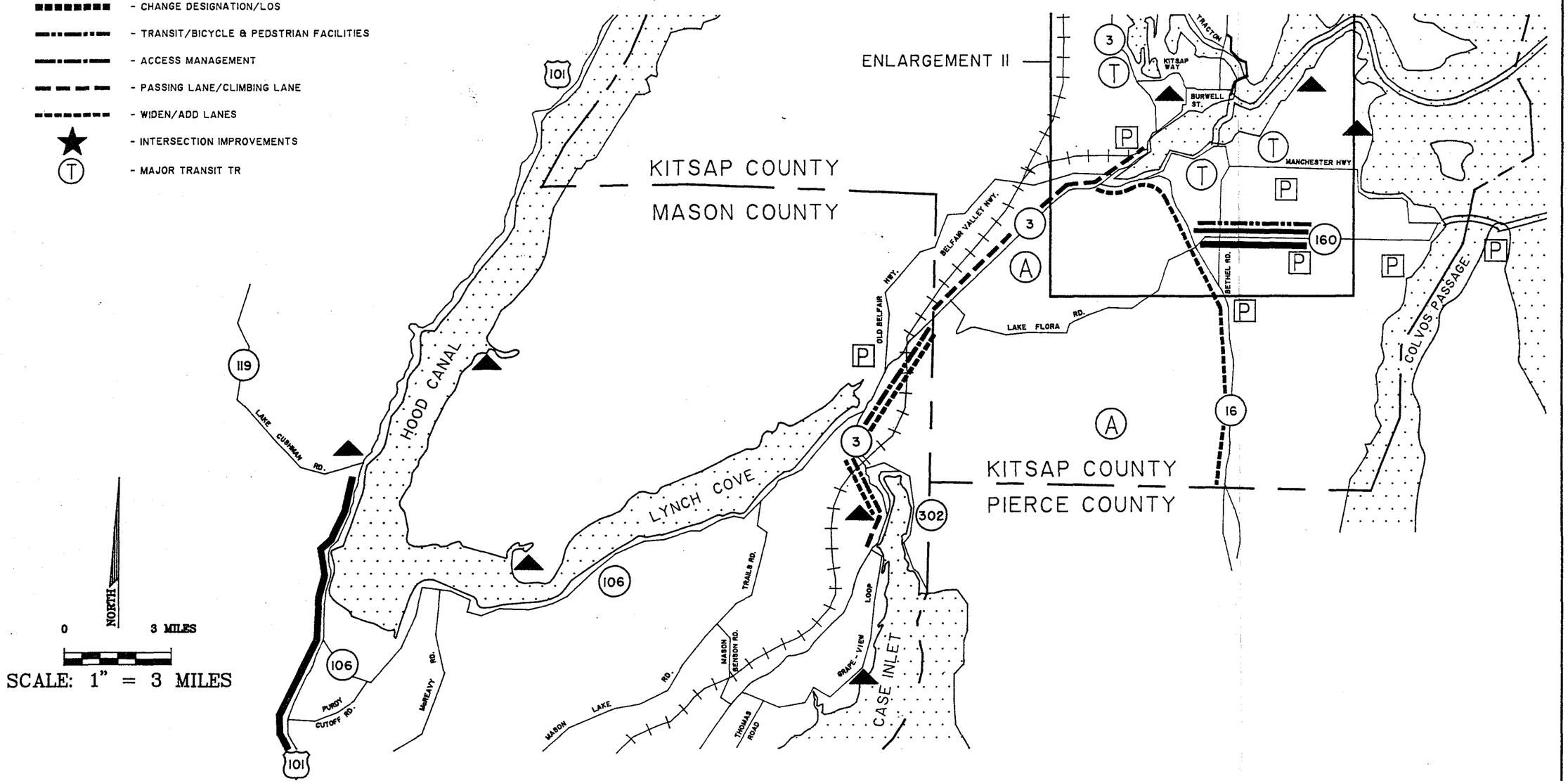
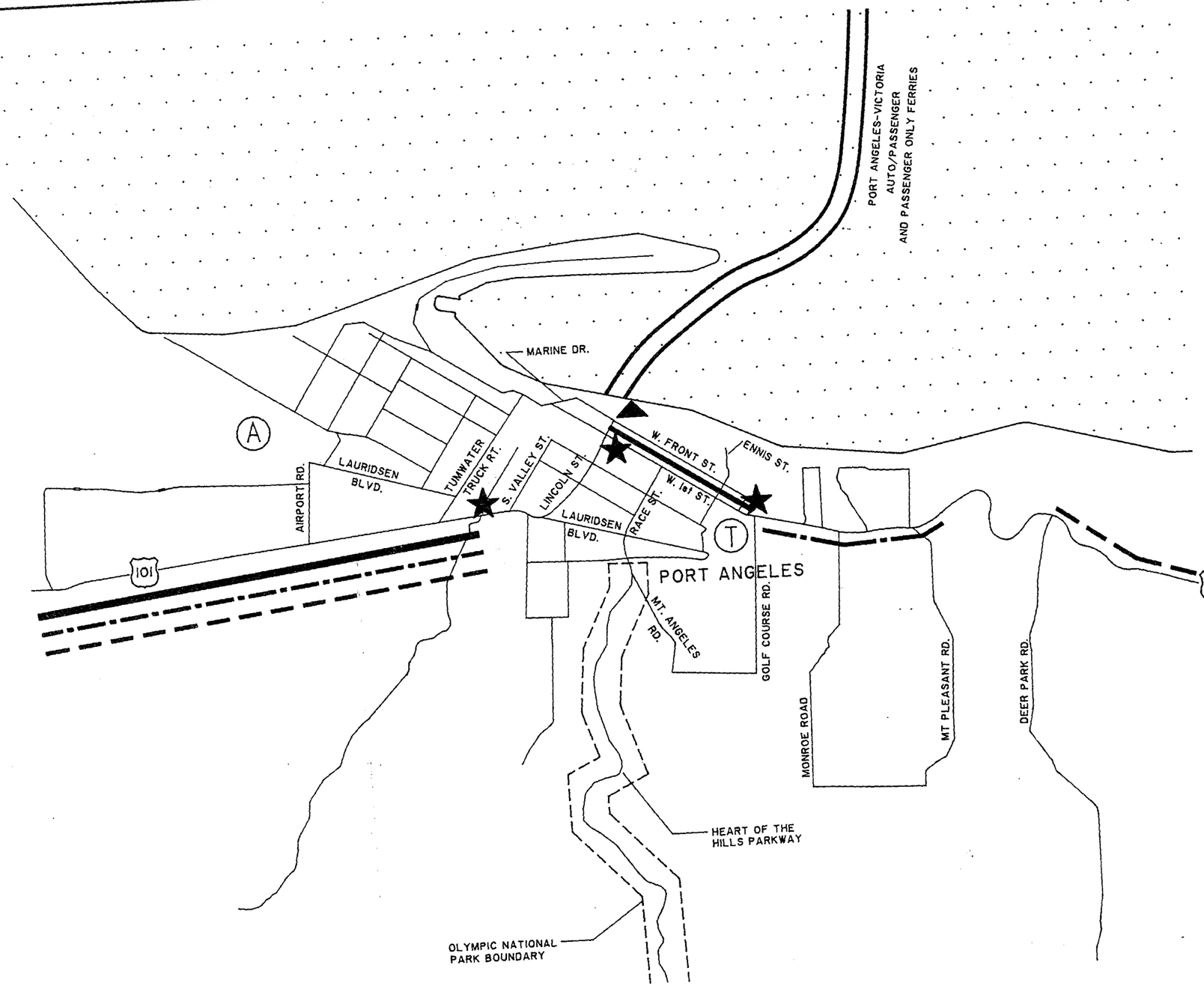
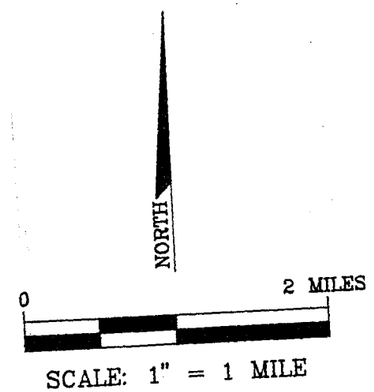


FIGURE 5.3

SCALE AS NOTED DRAWN A.S. CHECKED M.A.P. DATE 3/6/96	NO. DATE REVISION APP'D. BY	PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION ALTERNATIVE CAPACITY IMPROVEMENTS - MAP 7	JOB NO. 933-3689 F.B. NO. FILE NO. SEC. TWP. RGE. SHT. 8 OF 11





SCALE: 1" = 1 MILE

LEGEND

- SIGNALIZATION/CHANNELIZATION
- RECONSTRUCTION/PAVING/SHOULDERS
- CHANGE DESIGNATION/LOS
- TRANSIT/BICYCLE & PEDSTRIAN FACILITIES
- ACCESS MANAGEMENT
- PASSING LANE/CLIMBING LANE
- WIDEN/ADD LANES
- INTERSECTION IMPROVEMENTS
- MAJOR TRANSIT TRANSFER LOCATIONS
- AIRPORTS
- PARK & RIDES
- PORTS

FIGURE 5.3

PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION
ALTERNATIVE CAPACITY IMPROVEMENTS - ENLARGEMENT I

SCALE AS NOTED
DRAWN A.S.
CHECKED M.A.F.
DATE 3/6/95

NO.	DATE	REVISION	APP'D. BY

JOB NO. 938-3689
F.B. NO.
FILE NO.
SEC. TWP. RGE
SHT. 10 OF 11

LEGEND

- SIGNALIZATION/CHANNELIZATION
- RECONSTRUCTION/PAVING/SHOULDERS
- CHANGE DESIGNATION/LOS
- TRANSIT/BICYCLE & PEDSTRIAN FACILITIES
- ACCESS MANAGEMENT
- PASSING LANE/CLIMBING LANE
- WIDEN/ADD LANES
- INTERSECTION IMPROVEMENTS
- (T) MAJOR TRANSIT TRANSFER LOCATIONS
- (A) AIRPORTS
- [P] PARK & RIDES
- ▲ PORTS

NORTH

0 2 MILES

SCALE: 1" = 1.5 MILES

NOTE: SR 305 corridor study underway and may identify additional intersection inprovements.

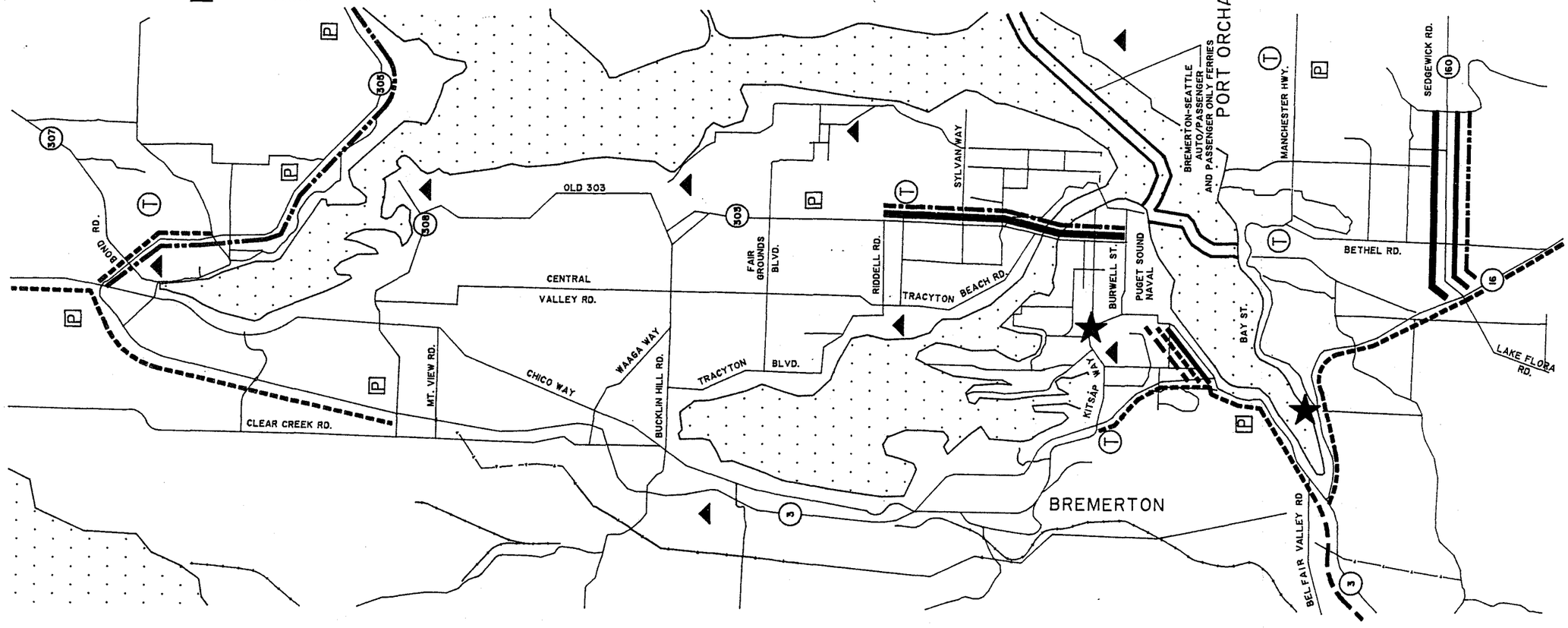


FIGURE 5.3

SCALE AS NOTED DRAWN A.S. CHECKED M.A.P. DATE 3/6/96		NO. DATE REVISION APP'D. BY	PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION ALTERNATIVE CAPACITY IMPROVEMENTS - ENLARGEMENT II	JOB NO. 938-3689 F.S. NO. FILE NO. SEC. TWP. RGE. SHT. II OF II

Chapter 6

Regional Multimodal System

CHAPTER 6

REGIONAL MULTIMODAL SYSTEM

INTRODUCTION

Emphasizing the efficient movement of people in many different ways or modes, not just by automobile, is one of the PRTPO's Regional Transportation Plan goals. This chapter focuses on transit and ferry service for the Kitsap and Olympic peninsulas.

Travelling by bus is a frequently used alternative to the automobile for a wide variety of people on the Peninsula, including commuters trying to make a ferry connection from a park and ride lot, young people, senior citizens, tourists, and those with special needs. The transit agencies provide an extensive transit network throughout the region, with operations and programs oriented towards serving their predominantly rural service areas. Because of new state and federal legislation targeting the reduction of both single occupancy vehicles and air pollution, an even greater emphasis will be placed on transit as a viable transportation option in the future.

Ferries also play a very important role in the PRTPO transportation network because they link the Kitsap and Olympic Peninsulas to the Central Puget Sound region and to neighboring island communities. Ferries must be able to accommodate a wide variety of travel modes besides the automobile: bicycles, motorcycles, commuter carpools and vans, buses, trucks, commercial vehicles, and walk-on passengers. Through the strategic management of ferry capacity and routes, the ferry system can influence the flow and location of vehicle travel on the peninsulas.

Ferry terminals can be seen as an extension of the network of transit routes and park and ride lots within the PRTPO area, as well as the PRTPO roadway system. Of critical importance to the PRTPO is measuring the performance of transit and ferry service and developing effective links between transit, ferries, and other forms of transportation. Doing so can help increase the efficiency of the PRTPO's transportation systems and can work to decrease the number of single-occupant vehicles on congested segments of the roadway.

Links with other multimodal forms of transportation, such as bicycle and pedestrian activities are important to Peninsula residents. While significant alternatives to motorized transportation, bicycling and walking are typically used for shorter trips within cities and towns or for recreation. They are given more emphasis in a Chapter 10 of the Regional Transportation Plan (RTP).

This chapter is divided into a discussion on transit service and ferry service. Each modal discussion is divided into five sections.

- Overview

- Existing Conditions
- Approach to Level of Service
- Levels of Service Today
- Regional Issues and Recommendations from a Peninsula Perspective

The first section, Overview, provides the background issues on transit and ferry service on the peninsulas. The second section, Existing Conditions, inventories services and facilities associated with transit and ferry services. The Approach to Level of Service section discusses requirements and criteria for the measuring performance and addresses level of service standards. A discussion on the results of the level of service analysis are presented in the Level of Service Today section. In the final section, region transit and ferry service issues, and recommendations for additional studies are briefly discussed from the more regional PRTPO perspective.

TRANSIT OVERVIEW

In general, transit characteristics and issues in the PRTPO region are typical of other rural car-oriented communities in the Northwest. Much of the residential development in the region has occurred in a pattern of dispersed, low density development. As a result, when going to or between major activity and employment centers, residents must travel considerable distances through rural areas and across county borders.

Travel within this fabric of rural land uses has typically been more easily accommodated by automobile than by bus. The roadway level of service analysis has shown that within the PRTPO regional transportation network the capacity of the roadways is relatively adequate to accommodate current traffic demands (see Chapter 3.0 *Regional Road System*). Yet, certain points in the system are congested, particularly at rush hour or during the tourist season or major events. In the future, vehicle traffic is anticipated to increase due to growing residential populations, tourism, and freight movement. As a result, these problem areas may only get more congested.

The most significant of these problems occurs on roadways around major activity and employment centers and at ferry terminals. For years, traffic congestion was not a problem and free parking in these areas was available. But now these areas and their surrounding communities are growing. More people are building homes in outlying areas and commuting to urban areas to work. Communities are being forced to consider various strategies and programs aimed at getting people where they need to go, yet at the same time, reducing the negative impact of congestion in their community.

Public transit has been part of the solution. A number of legislative efforts, such as the Growth Management Act and the Intermodal Surface Transportation Efficiency Act (ISTEA), are working to change the approach to transportation on a state and federal level. When considered alongside local issues about rural travel, congestion, and parking and alongside regional issues about air pollution, seamless transportation connections and the needs of the elderly, these legislative actions strengthen the emphasis on using public transit system to meet the transportation needs of the region.

EXISTING CONDITIONS

Currently, there are four transit agencies operating within the PRTPO -- Clallam, Jefferson, Kitsap and Mason Transit. Their existing service area and operations are described below.

Clallam Transit

The Clallam Transit System Public Transportation Benefit Area (PTBA) includes all of Clallam County, an area of 1,753 square miles. Clallam Transit provides fixed route urban, inter-city and rural services. The majority of the fixed routes originate in downtown Port Angeles, offering local service within the city. Regional service is provided to Forks, Sequim, and the unincorporated areas of the County, such as Agnew, Blyn, Carlsborg, Clallam Bay, Diamond Point, Dungeness, Joyce, Neah Bay and Sekiu. Clallam Transit provides a connection with Jefferson Transit in Sequim.

Clallam Transit also provides paratransit services and charter services. Paratransit services consist of three main components: 1) paratransit service to the elderly and persons with disabilities; 2) Forks Dial-A-Ride; and 3) Medical trips furnished by the Washington Department of Social and Human Services. Special services include the following: 1) the Port Angeles Trolley, which conducts a tour of the waterfront and the Port Angeles foothills during the tourist season; 2) a scheduled excursion service to Hurricane Ridge for skiers in the winter; and 3) special shuttle services for community events.

Jefferson Transit

Jefferson Transit Authority is an established PTBA providing regular fixed-route transit service throughout the area of Jefferson County outside of the Olympic National Park. Dial-A-Ride, vanpools, ride-matching, and special events services are also offered. Their elderly/disabled transportation currently offered by the Transit system is not in compliance with federal regulations mandated by the American Disabilities Association (ADA).[1]

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[1] *Jefferson Transit Public Transportation Comprehensive Plan*, April 1992.

Local and regional fixed-routes begin in Port Townsend, circulate through town and serve outlying areas such as Port Hadlock, Port Ludlow, Quilcene, and Sequim, with connections in Poulsbo to Kitsap Transit routes. Transit connections to the Washington State Ferries are located at the Port Townsend ferry terminal.

Transit surveys taken in 1991 showed that the four most frequent destinations on existing routes for East Jefferson County residents are Chimacum/Hadlock, Port Townsend, Silverdale/Bremerton, and Port Angeles/Sequim, in that order. For West Jefferson County residents surveyed, Forks was the most frequent destination point.

On a scale of 1 to 5 with 1 being of greater importance, 40 percent of the survey respondents ranked direct bus service to Winslow as the improvement which would most likely influence the respondents choice to ride the bus.

Kitsap Transit

Like Clallam and Jefferson Transit, Kitsap Transit is a PTBA. Initially, service was provided to the greater Bremerton and Port Orchard portions of Kitsap County. Later, service was expanded to cover most of south, central and north Kitsap County, and service now reaches approximately 140,000 of the County's 180,000 residents.

Kitsap Transit provides four types of service: 1) paratransit service for the elderly and disabled; 2) commuter service for the general public; 3) both regular and custom rush-hour routes; and 4) a large rideshare program composed of worker/driver buses, vanpools, and a ride-matching service.

Kitsap Transit also operates routes in the more urban areas of the County and serves the cities of Bremerton, Port Orchard, Poulsbo and Bainbridge Island. Transit connections to the Washington State Ferries are located at Kingston, Bainbridge Island, Bremerton, and Southworth.

Mason Transit

Mason Transit Authority (MTA) is the most recently formed transit agency in the PRTPO. MTA was enacted as a PTBA in January of 1992 and initiated service in December of the same year. Critical transportation needs were identified, and the MTA Board decided to implement efficient service as quickly as possible. Initially, service was designed as a general public demand/response system.

Data from initial transportation surveys indicated a large transportation dependent population. The survey also indicated public support for transit to meet other travel needs such as travel to destinations outside of Mason County This information was used to design a route system which

meets the demand for fixed-route service. The data was also used to develop dial-a-ride services.

Route service started in the Fall/Winter of 1993. The system expanded the primary fleet from five to seven vehicles, including two 28 passenger accessible coaches. Demand/response service, known as Dial-A-Ride, will be coordinated with system routes to avoid duplication and maximize system coverage to rural areas.

Development of connections with adjacent transit systems also began in 1993 with linkage to Intercity Transit (Olympia) at Steamboat Island, Kitsap Transit near Bremerton, and Jefferson Transit at Brinnon. The Thurston County/Intercity Transit link via SR 101 is the most significant inter-county connection for MTA ridership, although this link is not in the PRTPO region. This link also provides for direct connections with Grays Harbor and Pierce Transit.

Park and Ride Lot Inventory

Given the pattern of dispersed development in a rural area, providing all of the PRTPO's residential areas with door-to-door transit service is unrealistic. Instead, the transit agencies use a system where people will drive to a collection or pickup point, commonly called a park and ride lot, and board a bus.

The character of park and ride lots in the PRTPO region varies, from WSDOT owned lots with improvements such as lighting and signing, to much less "formal" facilities which in many cases double as parking lots for other uses, such as churches. The less "formal" types of park and ride lots have been obtained by cooperative lease arrangements. While the development and use of these "informal" park and ride lots are cost effective, their chief drawbacks are a lack of visibility, poor identity as a transit resource, and the temporary nature of some of the arrangements. The development of facilities and services around these lots, such as day care and dry cleaning, would increase the utility of the lots to users and reduce the amount of vehicle miles travelled to accomplish these tasks elsewhere.

Tables 6.1 and 6.2 provide an inventory of the park and ride lots within the four county area, as well as the number of cars each lot is able to accommodate. The majority of the park and ride lots and stalls (70 percent) are located in Kitsap County.

According to WSDOT, those park and ride lots in need of expansion are located in Kitsap County and include the Port Orchard Armory, Mullinex, Sportsman Club and Agate Pass. Park and ride lots currently under-utilized are located near the following intersections: Sappho at SR 101 and SR 112 at Peters Road in Clallam County; and Beaver Valley Road at SR 104 and Center Road at SR 104 in Jefferson County.

WSDOT has also identified locations for new park and ride lots (Table 6.3). In addition, Kitsap Transit has also incorporated into their 1990 comprehensive plan a short and long range strategy

to develop an extended network of park and ride lots in key locations. These park and ride lots would be of substantial size and equipped with facilities and improvements to make them more attractive to potential. Listed in Kitsap's short term park and ride plan are lots located in Bremerton, South Kitsap, Bainbridge, Poulsbo, Kingston, Indianola and Silverdale.

TABLE 6.1

INVENTORY OF PARK AND RIDE LOTS

Park and Ride Lot Location	Comments	Capacity (No. of cars)
Clallam County		
Sappho & SR 101	Currently not in use as a park and ride.	35
SR 101 & Deer Park	Rarely used; barely exists.	50
SR 101 & Piedmont Rd		15
Lairds Corner - SR 101 & SR 112		50
Tillicum Park (Forks) & SR 101		20
Peters Road & SR112	Unimproved	20+
Jefferson County		
Center Road & SR 101		20
SR 101 at Kalaloch		15
SR 101 & South Point Ferry Dock		39
Beaver Valley Road & SR 104		75
Mason County		
Cole Road Interchange - SR 101		40
Pickering Rd & SR 101		30

Source: WSDOT & Clallam County, March 1994

TABLE 6.2

INVENTORY OF PARK AND RIDE LOTS

Park and Ride Lot Location	Capacity (Number of cars)
Kitsap County	
Kingston Ferry Terminal - SR 104 & Washington Blvd	66
Kingston - Hansville Road at George's Corner	180
Bayside Community Church - Barber Cut-off Road, Kingston	50
JRO - Viking Way & Lindvig Way, Poulsbo	30
Keyport Junction - SR 308 & Viking Way	30
Agate Pass - SR 305 at Agate Passage	33
Bainbridge Alliance Church - Sportsman Club Road, Bainbridge Island	75
Suquamish United Church - NE Division & Geneva, Poulsbo	30
Christ Memorial Church - 8th & Hostmark, Poulsbo	97
Bainbridge Island Ferry Terminal	1245
McWilliams - SR 303 & McWilliams Road	100
Full Gospel Assembly Church - SR 3 & Division St., Gorst	40
Port Orchard Armory - SR 160 at Karcher	55
Southworth Ferry - SR 160 & Southworth Dr. SE	288
Harper Evangelical Free Church - Sedgwick Rd & Wilson Creek Rd	150
Church of the Nazarene - Viking Way & SR 305	100
Bethany Lutheran - High School Rd & Finch Rd	50
Mullinex Road at SR 16	75

Source: WSDOT, March 1994, and PSRC Inventory, September 1993 and Kitsap Transit

TABLE 6.3

AREAS IDENTIFIED FOR NEW PARK AND RIDE LOTS

Proposed Park and Ride Lot Location	Proposed Capacity (Number of Cars)
Kitsap County	
SR 16 at Burley - Ollala Road	30
SR 104 in Kingston (Vicinity of sewage treatment plant)	200
SR 104 & Bond Road I/S	150
SR 104 - Hood Canal Bridge	30
Full Gospel Assembly Church - SR 3 & Division St., Gorst	50 additional
Mullinex - SR 16 & Mullenix Road	200 additional
Suquamish Way - Division	60
Olhava - Finn Hill Road - SR 305	100
Bayside Community Church - Kingston	30 addtional
Christ Community Church - Moran Road - Bainbridge Island	65
Suquamish United Church	20 additional
Mason County	
SR 3 (Vicinity of Deer Creek)	30
SR 101 - Taylor Town (South of Shelton)	30
SR 101 - Steamboat Island I/C	160
Jefferson County	
Port Townsend	278 estimated
Clallam County	
Forks Multi-Use Transfer Center: park-and-ride lot, rest stop, and interpretative center	To Be Determined

Source: WSDOT, June 1991, Updated March 1994,Clallam Transit, Jefferson Transit, and Kitsap Transit

LEVEL OF SERVICE (LOS) ANALYSIS PROCEDURE

Requirements and Criteria

The Growth Management Act provides the initial requirement to measure the performance of transit systems and to develop transit service level standards. The PRTPO has chosen to measure transit performance by evaluating the ability to travel by bus between activity centers such as cities and ferry terminals on the Kitsap and Olympic peninsulas. Based on this concept, the PRTPO has established levels of service for the type and frequency of transit service offered between activity centers.

Activity centers within the PRTPO area fall into two types of categories; major destination points for shopping or work or transfer stations for buses or ferries. For example, activity centers can include rural centers located at crossroads of major roadways in unincorporated areas; small cities in more rural parts of the region; larger regional centers such as Port Angeles; inter-regional transit transfer centers, like those in Poulsbo; or ferry terminals.

From the regional perspective, transit service should be offered between activity centers to serve the transit dependent and as an alternative to automobile travel. However, the type and level of transit service provided between activity centers will vary with the center's role in the region and the amount and type of travel between them. For example, service between a route serving the small, rural, residential community of Neah Bay, and running to Port Angeles may carry a relatively low ridership of shoppers, employees and tourists. Conversely, the route between Port Townsend and Poulsbo serves a larger volume of riders travelling between regions and major activity centers, such as commuters on their way to the Bainbridge Island Ferry Terminal or shoppers travelling to the Silverdale Mall. Consequently, the number of trips needed per day on the Neah Bay/Port Angeles route may be less than between Port Townsend and Poulsbo. In addition, the days per week that service is offered may also vary between routes.

LOS Methodology

Table 6.4 depicts the concept of varying the LOS standards to match the type of travel between activity centers. The Table identifies activity centers and the appropriate type of transit service to link the activity centers. The three types of service transit service "links" are identified below.

- Rural Routes
- Commuter - Regional Routes
- High Capacity Feeder Routes

Table 6.4 also identifies the recommended LOS standard for each type of transit service link based on the number of trips offered per day and the number of days per week service must be available.

The routes and activity centers are depicted in Figure 6.1. In general, Rural routes link less populated rural activity areas. The LOS standards for transit service between these activity centers are 1 trip per day, 7 days per week. Commuter - Regional routes link larger activity centers and are more heavily travelled Monday through Friday. The LOS standards for transit service between these activity centers are 5 trips per day, 5 days per week. High Capacity Feeder (HCF) routes operate between activity centers and ferry terminals in Kitsap County. The HCF LOS standards require transit to meet every ferry, 7 days per week.

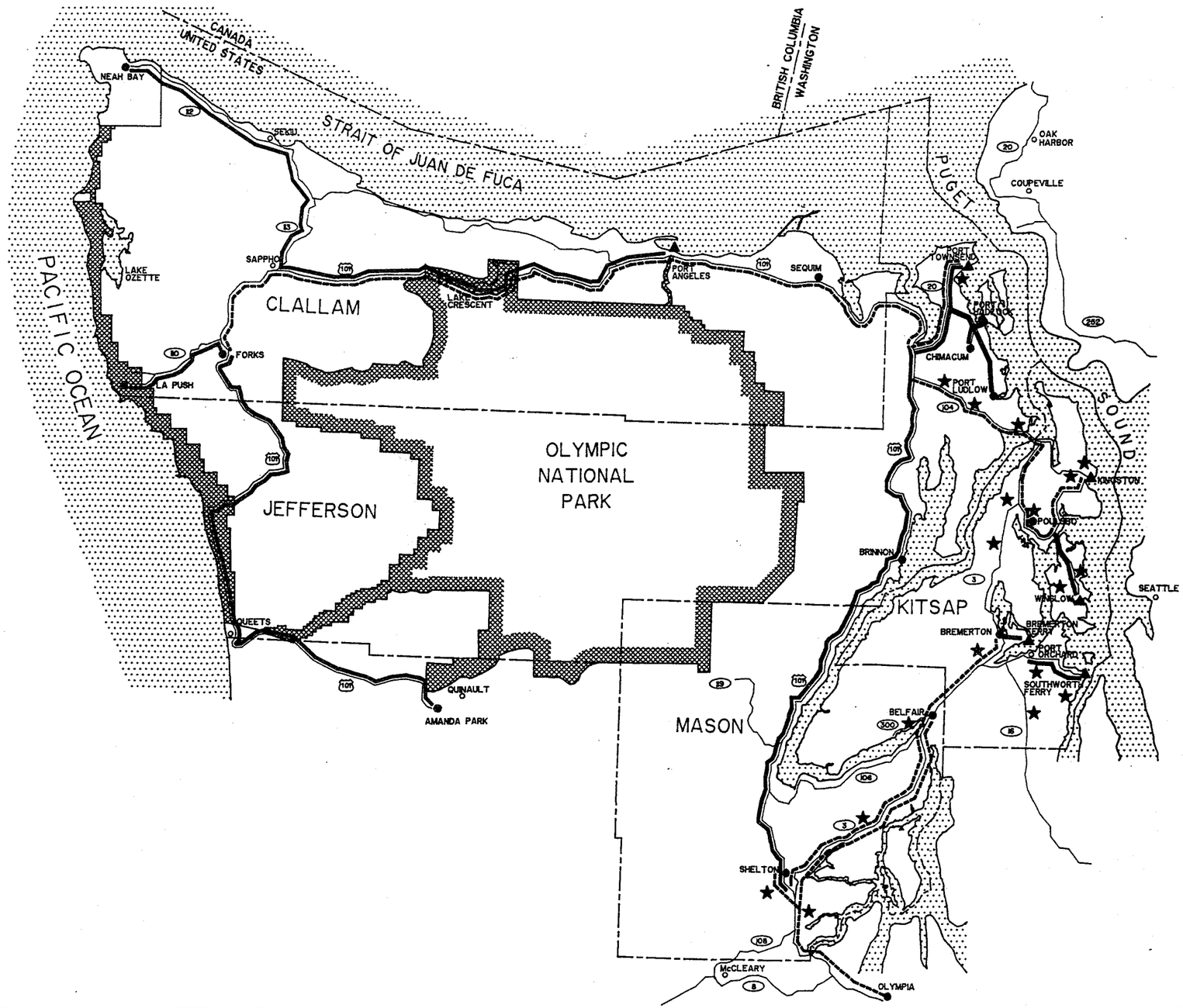
Over time, the list of activity centers and transit service links should be reviewed and revised as the character of land uses or the function of the activity centers change.

TABLE 6.4

LOS STANDARDS FOR TRANSIT SERVICE LINKS BETWEEN ACTIVITY CENTERS

TRANSIT SERVICE LINK	RECOMMENDED LEVEL OF SERVICE (LOS) (1)	
RURAL ROUTES (Includes travel in both directions)		
LOS Standards	1 Trip Per Day	7 Days Per Week
Amanda Park - Forks Port Townsend - Brinnon Shelton - Brinnon Port Townsend - Port Ludlow Forks - La Push Port Angeles - Neah Bay Port Townsend - Cape George Port Townsend - Marrowstone Island		
COMMUTER - REGIONAL ROUTES (Includes travel in both directions)		
LOS Standards	5 Trips Per Day	5 Days Per Week
Forks - Port Angeles Port Angeles - Sequim Sequim - Port Townsend Port Townsend - Poulsbo Kingston - Poulsbo Port Townsend - Chimacum/Port Hadlock Port Townsend - Kingston Shelton - Belfair Shelton - Thurston County Shelton - (Belfair) - W.Bremerton Transfer Center		
HIGH CAPACITY FEEDER (HCF) ROUTES (Includes travel in both directions)		
LOS Standards	Meets Every Ferry	7 Days Per Week
Poulsbo - Bainbridge Island ferry Port Orchard - Southworth ferry W.Bremerton Transfer Center - Bremerton ferry		

(1) Number of trips made per day.
Number of days per week service is available



SCALE: 1" = 12 MILES

LEGEND

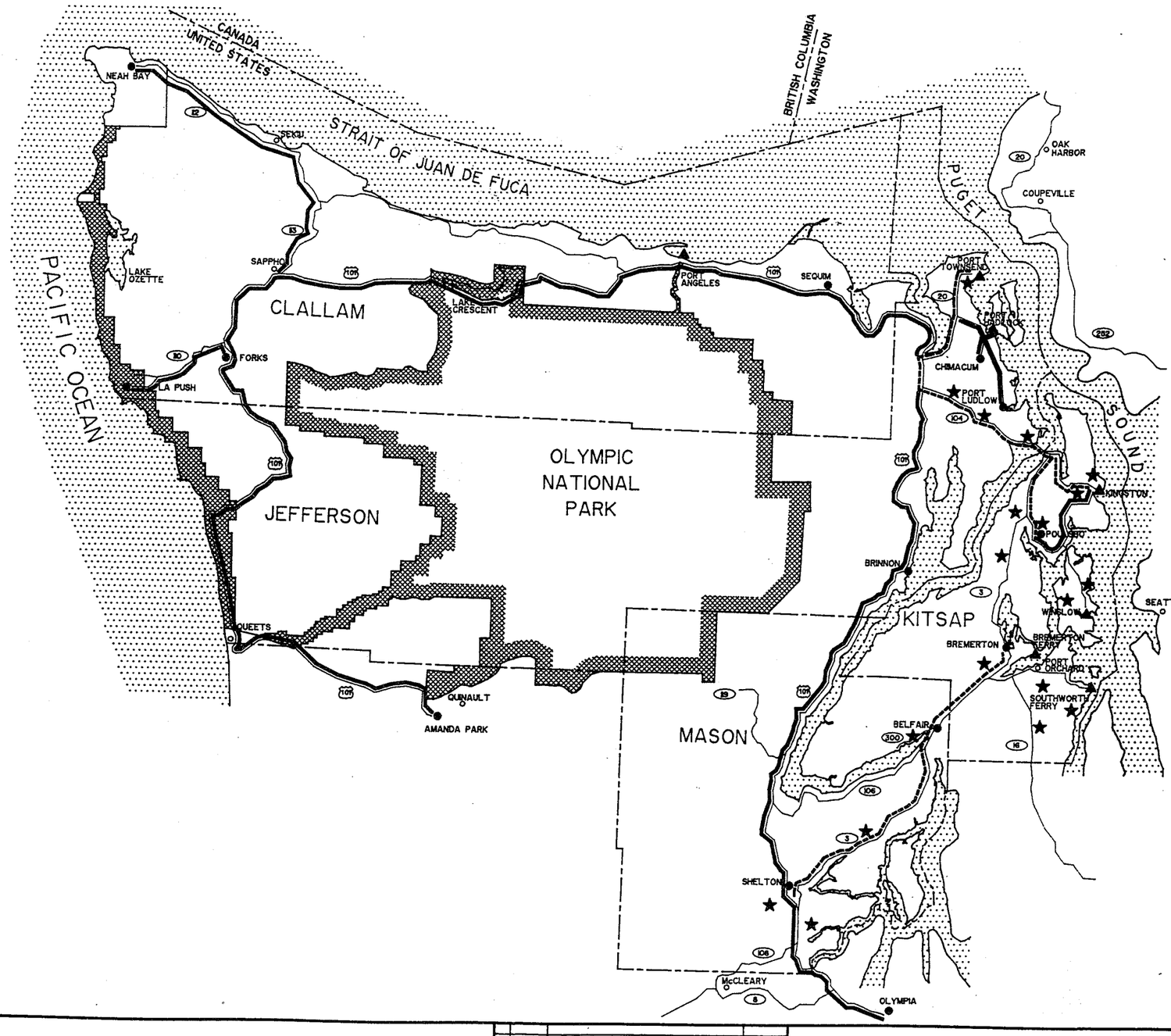
- RURAL ROUTES
  1 Trip daily - 7 days per week
- COMMUTER - REGIONAL ROUTES
  5 Trip daily - 5 days per week
- HIGH CAPACITY FEEDER ROUTES
  Meets every ferry - 5 days per week
- ★ Park and Ride
- ▲ Ferry Landing
- FORKS ● Activity Centers

FIGURE 6.1

SCALE AS NOTED			JOB NO. 30005.00
DRAWN A.S.			F.B. NO.
CHECKED L.M.			FILE NO.
DATE 5/8/95			SEC. TWP. RGE.
	1 2/28/96	Revised commuter regional route	M.A.P.
	NO. DATE	REVISION	APP'D. BY

PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION
TRANSIT SERVICE LINKS BETWEEN ACTIVITY CENTERS

SHT 1 OF 4



NORTH

0 12 MILES

SCALE: 1" = 12 MILES

LEGEND

- MEETS OR EXCEEDS LOS STANDARD
- DOES NOT MEET LOS STANDARD
- ★ Park and Ride
- ▲ Ferry Landing
- FORKS ● Activity Centers

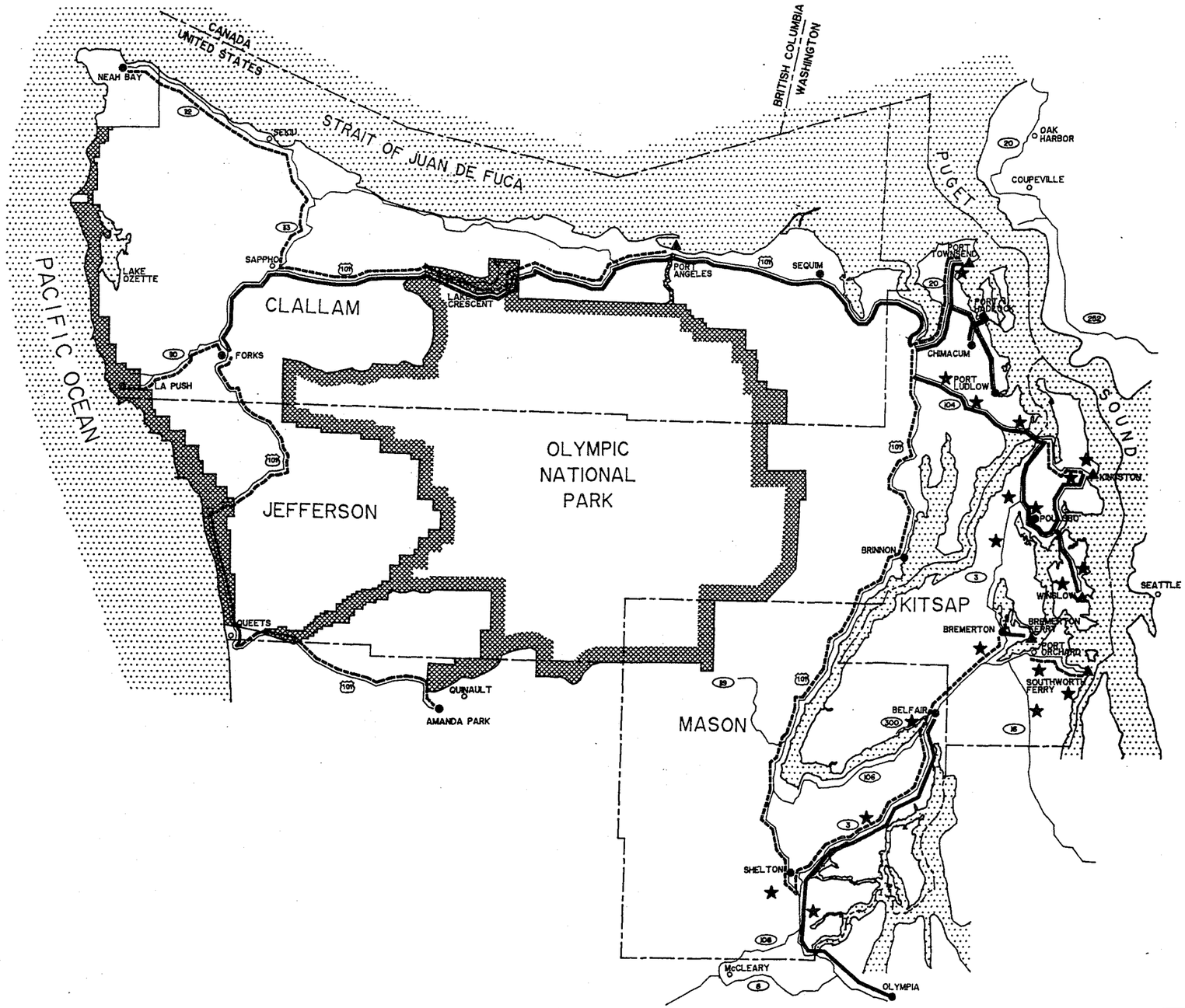
FIGURE 6.2

SCALE AS NOTED		
DRAWN A.S.		
CHECKED L.M.		
DATE 5/8/95		

NO.	DATE	REVISION	APP'D. BY
1	2/26/95	Revised LOS standard	M.A.P.

PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION
LOS STANDARD - NUMBER OF TRIPS PER DAY

JOB NO. 30005.00
F.B. NO.
FILE NO.
SEC. TWP. RGE.
SHT 2 OF 4



NORTH

0 12 MILES

SCALE: 1" = 12 MILES

LEGEND

- MEETS OR EXCEEDS LOS STANDARD
- DOES NOT MEET LOS STANDARD
- ★ PARK AND RIDE
- ▲ FERRY LANDING
- FORKS ● ACTIVITY CENTERS

FIGURE 6.3

SCALE AS NOTED			JOB NO. 30005.00
DRAWN A.S.			F.S. NO.
CHECKED L.M.			FILE NO.
DATE 5/8/95			SEC. TWP. RGE.
	1 2/28/96	Revised LOS standards	M.A.P.
	NO. DATE	REVISION	APP'D. BY

PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION
LOS STANDARD - NUMBER OF DAYS PER WEEK

SHT. 3 OF 4

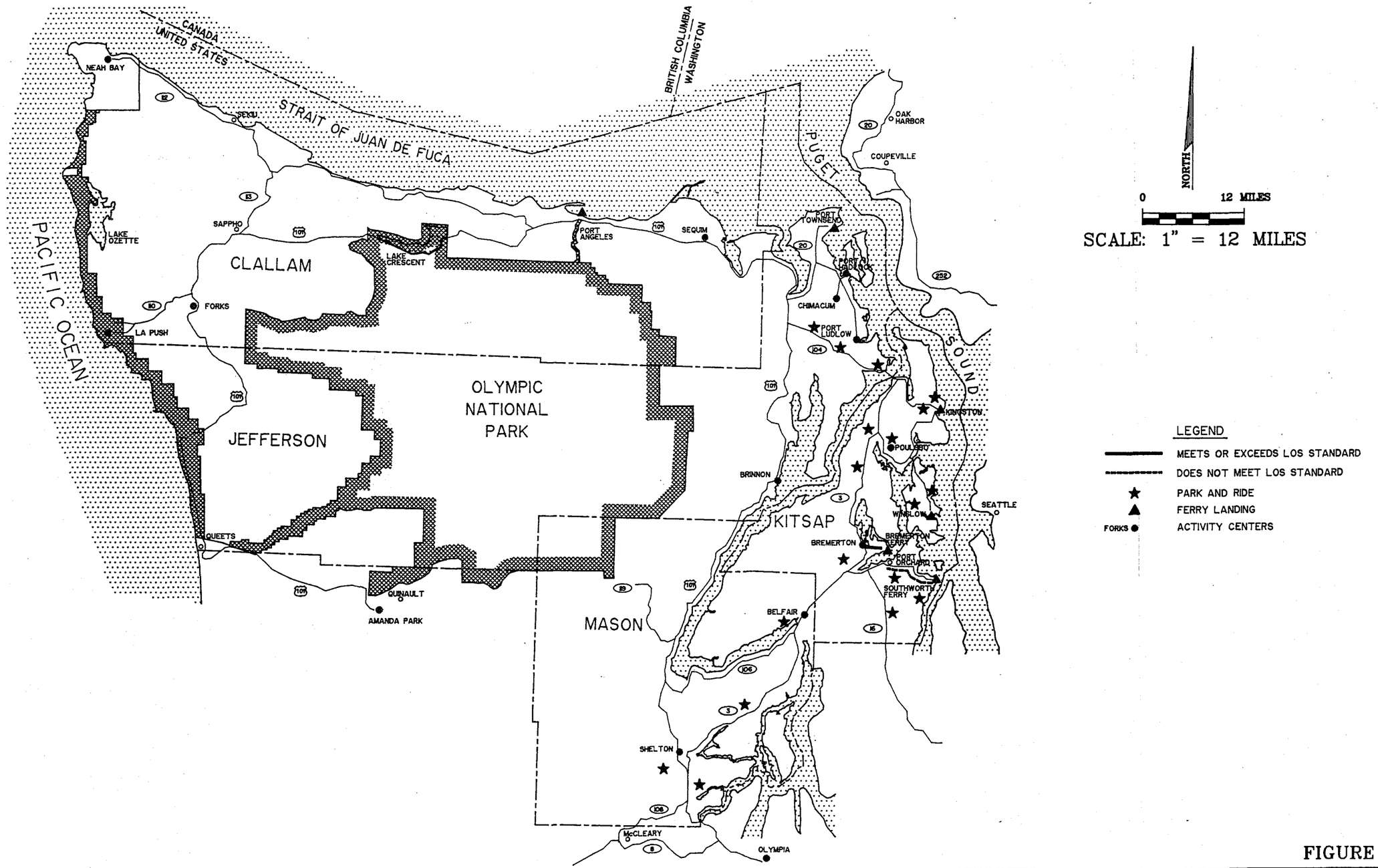


FIGURE 6.4

SCALE A DRAWN A.S. CHECKED L.M. DATE 5/8/95		NO. DATE REVISION APP'D. BY	PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION LOS STANDARD - MEETS EVERY FERRY	JOB NO. F.B. NO. FILE NO. SEC TWP RGE SHT 3 OF 4

LEVELS OF SERVICE TODAY

Table 6.5 summarizes the results of the LOS analysis for transit performance between designated activity centers. Figures 6.2, 6.3, and 6.4 depicts these results.

Rural Routes

- In general, transit service between the majority of the designated activity centers meets or exceeds the recommended LOS standard of providing at least one trip per day, but fall short of the LOS standard of providing service seven days a week. Instead, transit service to these centers is provided Monday through Friday, with some Saturday service.

- Transit service is not currently offered between Port Townsend and Cape George or Port Townsend and Marrowstone Island. However, these routes should be considered as future opportunity areas for service.

Commuter-Regional Routes

- The majority of Commuter-Regional routes meet or exceed the recommended LOS standards of providing five days per week. Only one route falls short of the recommended standards of providing five trips per day -- the inter-regional route operating between Jefferson and Kitsap Counties. However, some of this inter-regional travel demand is accommodated by vanpools and worker driver vans. Vanpools and worker-driver vans are not evaluated in this LOS analysis.

- A direct link between Port Townsend and the Kingston ferry terminal is recommended for consideration in the future. A direct connection is not currently offered between these two centers. Instead, riders must travel through Poulsbo.

High Capacity Feeder (HCF) Routes

- The majority of the HCF transit routes do not achieve the recommended LOS standard of meeting every ferry. Instead, the HCF routes serve commuter and daytime travel needs and miss the early morning and late evening ferries. However, the majority of the routes meet the recommended LOS standard of operating seven days per week.

TABLE 6.5

LOS SUMMARY ANALYSIS

✓ = Satisfies recommended LOS standard
✓+ = Exceeds recommended LOS standard
(-) = Does not satisfy recommended LOS standard

TRANSIT SERVICE LINK	RECOMMENDED LEVEL OF SERVICE (LOS) (1)	
RURAL ROUTES		
LOS Standards	1 Trip per day	7 Days Per Week
Amanda Park - Forks	✓+	(-)
Forks - Amanda Park		
Port Townsend - Brinnon	✓+	(-)
Brinnon - Port Townsend		
Shelton - Brinnon	✓+	(-)
Brinnon - Shelton		
Port Townsend - Port Ludlow	✓+	✓
Port Ludlow - Port Townsend		
Forks - La Push	✓+	(-)
La Push - Forks		
Port Angeles - Neah Bay	✓+	(-)
Neah Bay - Port Angeles		
Port Townsend - Cape George	No Service	No Service
Cape George - Port Townsend		
Port Townsend - Marrowstone Island	No Service	No Service
Marrowstone Island - Port Townsend		

TRANSIT SERVICE LINK	RECOMMENDED LEVEL OF SERVICE (LOS) (1)	
COMMUTER - REGIONAL ROUTES		
LOS Standards	5 Trips Per Day	5 Days Per Week
Forks - Port Angeles Port Angeles - Forks	✓+	✓+
Port Angeles - Sequim Sequim - Port Angeles	✓	✓+
Sequim - Port Townsend Port Townsend - Sequim	✓	✓+
Port Townsend - Poulsbo Poulsbo - Port Townsend	(-)	✓+
Kingston - Poulsbo Poulsbo - Kingston	✓+	✓
Shelton - Belfair Belfair - Shelton	✓+	✓+
Shelton - Thurston County Thurston County - Shelton	✓+	✓+
Shelton - (Belfair) - W. Bremerton Transfer Center (Kitsap) W. Bremerton Transfer Center (Kitsap) - (Belfair) - Shelton	(-)	✓+
Chimacum/Port Hadlock - Port Townsend Port Townsend - Chimacum/Port Hadlock	✓+	✓+
Port Townsend - Kingston Kingston - Port Townsend	No direct service	No direct service

TRANSIT SERVICE LINK	RECOMMENDED LEVEL OF SERVICE (LOS) (1)	
HIGH CAPACITY FEEDER (HCF) ROUTES		
LOS Standards	Meets Every Ferry	7 Days Per Week
Poulsbo - Bainbridge Island Ferry Terminal	(-)	✓
Bainbridge Island Ferry Terminal - Poulsbo		
Port Orchard - Southworth Ferry Terminal	(-)	(-)
Southworth Ferry Terminal - Port Orchard		
W.Bremerton Transfer Center (Kitsap) - Bremerton Ferry Terminal	✓	✓
Bremerton Ferry Terminal - W.Bremerton Transfer Center (Kitsap)		

(1) Number of trips made per day.
Number of days per week service is available

Implications of the LOS Analysis

The transit LOS analysis is oriented towards evaluating the existing opportunities for regional transit service between activity centers. The existing LOS serves two functions for the PRTPO. First, based on the LOS analysis, regional service deficiencies can be identified and rectified by providing additional service or rescheduling routes. Second, the analysis can be used to indicate a need for specific types of capital improvements which are associated with the different types of transit routes. An example of this is ensuring that park and ride lots are appropriately located to serve the designated Commuter-Regional routes.

OTHER CONSIDERATIONS FOR TRANSIT SERVICE

Trips Across the PRTPO Region

While the transit LOS analysis focuses on the ability to travel by bus *between* activity centers, the PRTPO is also concerned with characterizing the opportunities and limitations of multimodal travel *across* the peninsulas. Of particular interest is determining whether inter-regional connections can be made during peak hours, how long the waiting time is between inter-agency bus connections and between bus and ferry connections, and how long the total trip takes from beginning to end. In addition, the PRTPO is concerned about the ability to make bus and ferry connections in a timely and "seamless" manner.

Inter-agency Transit Connections

Currently, Clallam and Jefferson Transit provide service connections for commuters, travellers and shoppers in Sequim during peak and non-peak hours. Five connections are offered daily, Monday through Friday. The waiting time between connections (both directions) averages around eight minutes.

Jefferson and Kitsap Transit provide service connections in Poulsbo. These connections allow passengers to travel between Port Townsend and the ferry terminals at Kingston and Bainbridge Island. Two connections in each direction are offered daily, Monday through Friday, between Port Townsend and both ferry terminals. Connections can be made in the AM peak period, mid-day or during the PM peak period. The waiting time between connections in Poulsbo on the Port Townsend - Bainbridge Island route (both directions) averages around ten minutes. The wait in Poulsbo for the connection from Port Townsend to Kingston is 30 minutes, and from Kingston to Port Townsend is fifteen minutes.

Mason Transit currently provides transit service to the West Bremerton Transfer Center in Kitsap County . Transit connections to the Bremerton ferry terminal can be made at this point. Transit service connections between Mason Transit and Jefferson Transit are provided at Brinnon.

Regional Transit and Ferry Connections

Many transit routes serve the ferry terminals on the Olympic and Kitsap Peninsulas. However, this analysis looks only at the level of coordination between regional transit routes (those that are linked by at least one inter-agency connection) and ferry arrival and departures.

Waiting times between bus and ferry service connections at the Kingston and Bainbridge Island ferry terminals are short. Buses will wait for the ferries to arrive before departing the terminal for destinations on the peninsula -- hence, there is a zero headway. According to the transit and ferry schedules, buses will arrive at the ferry terminals approximately five to fifteen minutes before the scheduled ferry departure. Headways between transit and ferry connections at the Port Townsend ferry terminal (Port Townsend/Keystone route) are less timely. Passengers can wait from six minutes to up to one hour for a connection.

Tourists wanting to visit Victoria, B.C. can journey from Seattle or Edmonds by bus, and travel from Port Angeles to Victoria, B.C. by private ferry. Two private ferry companies serve the Victoria/Port Angeles route. The private ferry schedules vary seasonally. The auto/passenger service's winter schedule is limited to one round trip crossing, whereas the summer tourist season demands four round trips per day. The trip crosses the Strait of Juan de Fuca in 1 hour and 35 minutes. Transit passengers arriving from Seattle or Edmonds would only be able to make the ferry connection to Victoria the same day as they arrive in Port Angeles during the summer months. During other parts of the year they must overnight and catch a morning ferry. Ferry passengers arriving from Victoria will have a three to four hour wait for the next bus with connections to Seattle or Edmonds.

The walk-on passenger service can traverse the Strait of San Juan de Fuca in 55 minutes. Four daily round trips are offered in the summer season and two round trips in the spring and fall. During the winter, the passenger ferry is closed, but the auto ferry service is in operation.

Total Travel Time

Short waiting times between transit and transit/ferry connections are a very desirable quality for regional trip making. Another more important quality of the trip is travel time -- the amount of time it takes to arrive at your destination.

In the PRTPO region, depending on the time of day a passenger wishes to travel, the total travel time across Clallam, Jefferson and Kitsap County by bus and ferry can be equal to or almost 2 times longer than traveling by automobile. Passengers can travel between Port Angeles and Port Townsend in approximately 1.5 hours; between Port Townsend and Edmonds in approximately 2.5 to 3 hours; and between Port Townsend and Seattle in about 2 to 2.5 hours. Passengers wanting to travel between Port Angeles and Seattle or Edmonds would have their choice of a morning, mid-day or afternoon bus, and the trip would take from 3 to 6.5 hours. To make the reverse trip, three buses are available, and the trip would last 3 to 6 hours, depending on the time of day travelling.

REGIONAL ISSUES AND RECOMMENDATIONS FROM A PENINSULA PERSPECTIVE

Each transit agency has adopted its own long range comprehensive plan detailing the types of improvements necessary to provide services in the near and long term future. The recommended improvements are based on the adopted service standards, thresholds, and criteria of each agency. In general, the types of improvements considered by transit agencies are either service or facility oriented. Typically, these improvements include expanding transit services, upgrading and rehabilitating the transit fleet and facilities, developing park and ride lot networks, and developing special service programs such as vanpools, ridesharing, or dial-a-ride.[2] The identified improvements will be geared towards helping the agencies reach their goals for their respective service area.

However, a number of regional issues, based on a peninsula perspective, relate to the provision of transit service and the integration of transit services with other forms of transportation. These regional issues may not be addressed in the local transit plans. These issues are recommended for further study and integration into future updates of the RTP. By developing a better contextual understanding of the transportation needs of the region, more appropriate transit service responses can be developed. The issues are briefly outlined below:

- The PRTPO should examine the potential for developing a consolidated or multimodal LOS measure and standard for segments of the regional transportation network. This LOS measure and standard should integrate measures of roadway capacity, transit supply and demand, and non-motorized forms of transportation. The analysis of feasibility should consider whether this type of measure is an appropriate response for a relatively rural area.

- The PRTPO should develop goals and policies to facilitate transit movement through congested roadways. The PRTPO should also recommend the types of improvements which would allow transit to move quickly and smoothly through these congested areas. These improvements could include High Occupancy Vehicle (HOV) lanes, queue bypasses, and special signalization.

- Some areas of the PRTPO region do not currently have transit service. Additional studies should be undertaken to determine whether travel patterns to these areas warrant transit service, as well as the economic feasibility of providing services. The major areas currently without transit include: 1) the area between Port Townsend and Cape George; 2) the area between Port Townsend and Marrowstone Island; and 3) parts of Mason County.

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[2] For specific information on the transit agencies' recommended improvements, refer to the Comprehensive Plans and Six Year Capital Plans for Clallam Transit, Jefferson Transit, Kitsap Transit, and Mason Transit.

- In the future, the PRTPO should consider incorporating the following measures into the transit LOS evaluation. Under concurrency, these measures may help define the types of new transit-oriented services or improvements needed as development occurs within the PRTPO:

    1. Coverage - Percent of population within a specified number of miles of a transit route.

    2. Inter-county connectivity - Factors which would indicate the availability and convenience of inter-county connections, including the number of connections per day, number of days per week, total travel time, time between connections, and destinations.

- The PRTPO should measure LOS for carpool, vanpool, and dial-a-ride services in future updates of the regional transportation plan. To accomplish this, the subsidized cost of vanpool/rideshare use could be compared against the perceived cost of a similar trip by a single occupancy vehicle (SOV). The general costs could include those costs incurred for parking, gas, oil, insurance savings/discounts, and vehicle depreciation. Measures comparing travel time and reliability are also recommended.

  In addition, in isolated areas with dispersed rural populations currently without transit, these types of services may be more cost effective than a traditional fixed-route system.

- The Tourism Chapter recommends additional traffic studies to assist in developing an understanding of tourist traffic within the PRTPO region. Using the results of this analysis, recommendations for additional transit services to popular tourist destinations could be made. For example, travel data may show that new routes could be used to accommodate travelers visiting Fort Worden or Fort Flagler in Jefferson County.

- The transit agencies' buses cannot reach all of the PRTPO residents. One strategy for providing service is the combined commute trip which focuses on getting people to use their own cars to reach a pick-up point or park and ride lot. The PRTPO should research the feasibility of siting of an extended system of park and ride lots throughout the PRTPO. These lots could be in close proximity to the Commuter-Regional routes and to more heavily travelled roadways, such as those leading from higher density residential settlements in rural areas to ferry terminals. In addition to capturing SOV trips, the park and ride network would facilitate transit trip-making. The PRTPO should also investigate how to increase the utilization of existing park and ride lots.

- The PRTPO should work with local transit agencies in considering the need for other types of transit-oriented improvements within the region which would enhance or facilitate transit use. For example, providing bus shelters along rural transit routes with long headways between service.

- Disincentives could be used to increase transit ridership. The PRTPO should consider recommending implementation of more restrictive parking policies in severely congested areas, such as in city downtowns and the ferry terminals. This would help make automobile driving a less desirable option to tourists and residents. More restrictive parking policies should be coupled with enhanced levels of transit service in these areas. Or, restrictive parking standards could be set for all commercial businesses served by adequate bike and transit facilities.

- Connections between other forms of multimodal transportation is important in facilitating regional and inter-regional travel. The transit agencies should examine the opportunity for increasing and enhancing existing regional coordination, especially for commuters during peak hours, with Washington State Ferries, private ferry operations, and adjacent operators outside of the PRTPO, including those located in Grays Harbor and Thurston Counties, METRO, and Community Transit. Of critical importance is ensuring coordination between the planning efforts and LOS standards of the PRTPO and the PSRC, so that similar transit/ferry connections are provided at ferry terminals. Working together with WSDOT these agencies can develop mutually compatible schedules and enhance existing marketing programs.

- The PRTPO should research peak hour travel patterns throughout the PRTPO region. Are the transit routes and schedules serving commuter needs both within their own service areas and regionally between agencies? Are express buses needed? Do peak hour services need to be extended or shifted? Are connections from ferry terminals and across transit service area boundaries (and vice versa) smooth and timely? The PRTPO should consider incorporating origin/destination studies into this analysis.

- The PRTPO should research the transportation needs of the rural transit dependent populations on the peninsulas. The transit dependent are people for whom public transit is the only transportation mode available. This includes the peninsulas' growing senior citizen population, lower income populations, and the disabled. Efforts should focus on data collection and analysis, and recommendation for service alternatives and options.

WASHINGTON STATE FERRY SYSTEM - OVERVIEW

Washington State Department of Transportation, Marine Division, commonly known as Washington State Ferries (WSF), operates ferry transport to various islands and peninsulas in western Washington. Because the PRTPO area is almost completely surrounded by water, ferries play an important part of the PRTPO's overall transportation system. WSF operates both combination vehicle/passengers vessels and passenger-only vessels on routes within the peninsula service area.

The most direct link from the Peninsulas to the Central Puget Sound region is via the ferry system. Auto/passenger ferry service to greater Puget Sound in Kitsap County is provided via Kingston, Bainbridge Island, Bremerton and Southworth. In addition, passenger-only service is provided between Seattle and Bremerton and between Seattle and Vashon Island. The latter route allows for transfers between the Southworth auto/passenger ferry.

Ferry service to Whidbey Island is provided via Port Townsend in Jefferson County. In general, the ferry routes are part of a well-travelled "tourist loop" that runs from Seattle, through the North Cascades Highway, the San Juan Islands, and the Olympic and Kitsap Peninsulas. In the summer months, spring and fall weekends, and holidays, it is not uncommon for the system to experience vehicle overloads resulting in long waits for passengers.

EXISTING CONDITIONS

As seen in Table 6.6, vehicle ridership grew approximately 23 percent between 1988 and 1993 on the total system, and 22 percent on the Cross-Sound routes. As seen in Table 6.7, the approximately 17 percent increase in passenger ridership on the total system was less than that of vehicle ridership. For both vehicles and passengers, the Port Townsend/Keystone route experienced the highest percentage increase in ridership, followed by the Edmonds/Kingston route. However, the Port Townsend/Keystone route has the smallest ridership of all the ferry routes within the PRTPO service area. The Seattle/Bainbridge Island route continues to carry the most vehicles and passengers per year. In 1993, approximately 2,160,202 vehicles and 4,075,548 passengers used this route.

Overloads are a frequent occurrence on all of the Cross-Sound routes. On the Edmonds/Kingston, Seattle/Bainbridge Island, and Fauntleroy/Vashon/Southworth routes, overloads often occur on a daily basis from early morning through early evening. The overloads on the Seattle/Bremerton route are mostly confined to weekday commuter peak hours.

TABLE 6.6

VEHICLE RIDERSHIP - 1988 TO 1993

Year	System Total	Cross-Sound Total	Seattle/ Bremerton	Seattle/ Bainbridge Island	Fauntleroy/ Vashon/ Southworth	Edmonds/ Kingston	P.Towns/ Keystone
1993	10,221,323	6,846,203	676,031	2,160,202	1,723,460	1,914,764	371,746
1992	10,049,825	6,794,019	667,251	2,144,236	1,763,799	1,847,463	371,270
1991	9,680,131	6,571,755	659,827	2,107,642	1,701,380	1,746,487	356,419
1990	9,113,347	9,167,937	638,689	1,991,157	1,602,506	1,645,605	328,980
1989	8,692,099	5,877,628	655,802	1,892,362	1,494,941	1,521,698	312,825
1988	8,301,189	5,626,643	603,608	1,793,997	1,472,644	1,471,866	284,528
Percent Increase	23.13%	21.67%	12.0%	20.41%	17.03%	30.09%	30.65%

Source: WSF, 1994.

TABLE 6.7

PASSENGER RIDERSHIP - 1988 TO 1993

Year	System Total	Cross-Sound Total	Seattle/ Bremerton	Seattle/ Bainbridge Island	Fauntleroy/ Vashon/ Southworth	Edmonds/ Kingston	P.Towns/ Keystone
1993	13,029,068	9,446,340	1,694,234	4,075,548	1,336,144	1,893,260	447,154
1992	13,209,091	9,639,665	1,856,310	4,059,040	1,380,046	1,892,836	451,433
1991	12,846,812	9,397,746	1,806,392	3,991,264	1,367,764	1,800,196	432,130
1990	12,331,633	9,080,807	1,771,905	3,822,786	1,364,784	1,717,666	403,666
1989	11,493,375	8,474,013	1,532,521	3,592,391	1,371,758	1,591,287	386,056
1988	11,084,162	8,206,519	1,538,150	3,443,038	1,284,280	1,581,644	359,407
Percent Increase	17.55%	15.11%	10.15%	18.37%	4.04%	19.70%	24.41%

Source: WSF, 1994.

APPROACH TO LEVEL OF SERVICE (LOS)

Requirements and Criteria

The ferries are considered part of the regional transportation network, as defined by the PRTPO. Similar to roadways and transit, ferry service performance must be measured, and standards recommended to guide the provision of appropriate levels of service.

Through the work of a broad based committee and assisted by consultants, WSF in 1992/93 developed a ferry LOS calculation method. Applying the method, WSF developed a data set on the performance of all the routes.

Methodology

The methodology to measure ferry performance employs standards based on quantitative data versus qualitative indicators. The steps used to calculate LOS are outlined below. A more detailed description of the methodology can be found in the PRTPO's *Working Paper Number 3: Multimodal Level of Service Analysis*.

- Select days of the week for measurement;

- Select a daily peak period;

- Calculate the v/c ratio for each 5-minute period.

  The volume to capacity (v/c) ratio expresses traffic volumes in terms of a facility's capacity to handle that traffic. In the case of ferries, v/c ratios are derived by dividing traffic volumes on a particular route by the carrying capacity of the vessel(s) assigned to that route. Capacity used in this calculation is the capacity of the ferry for the next sailing.

- Calculate the 85th percentile v/c ratio from each 5-minute increment of vehicle arrival data for the daily peak period;

  The 85th percentile concept in traffic engineering is a statistical procedure used to peg facility performance calculations at a typical - but not the full spectrum - of travel experience on that facility. The 85th percentile is the 85th division among 100 equal divisions of a complete range of travel experiences. The idea is simply to exclude "extreme" experiences from performance measures. As applied to ferries, the v/c ratios experienced on a sailing or a number of sailings are arrayed, and the 85th division selected as the typical experience.

- Express the result in terms of "boat waits".

  Recognizing that ferry riders typically think of delay in terms of boat waits, the v/c ratio is ultimately expressed as the number of boat wait(s) typically experienced on a particular route within defined periods.

Level of Service Standards

WSF staff has been working through regional transportation planning organizations to adopt both the calculation method and to set service standards by route. Recognizing that ferry routes must be treated from terminal to terminal, WSF is presently working with ferry-served communities and their RTPOs in an effort to reconcile calculation methods and standards for both ends of a route.

Among the various modes of travel on the ferry system, to date WSF has established loading policies for only one mode, i.e. registered vanpools and carpools or other Transportation Demand Management vehicles. WSF's policy guarantees priority loading for these vehicles. Effectively, this policy sets their LOS standard at 0 boat wait. On the San Juan routes, commercial vehicles have priority loading status.

WSF also expects to develop standards in a systemwide context through this long range planning planing, which began in fall 1994 with a work schedule of approximately 18 months.

Levels of Service Today

To date, only ferry LOS for vehicular travel has been calculated on all the system's routes, on select (i.e. typical) weekdays and weekends during daily peak periods in summer and fall. The existing LOS for these routes is depicted in Table 6.8.

PRTPO POLICY BOARD RECOMMENDATIONS

At its June 1994 meeting, the PRTPO Policy Board adopted service standards for WSF routes within the PRTPO service area for inclusion in the PRTPO Transportation Plan. These standards are shown in Table 6.12. Standards for weekday service were identified for all routes within the PRTPO service area and weekend levels of service standards were identified for the Edmonds/Kingston and Port Townsend/Keystone routes.

TABLE 6.8

EXISTING 1992 SEASONAL LEVEL OF SERVICE (AUTO TRAFFIC)

Route	Vessel Capacities	NUMBER OF BOAT WAITS							
		Season							
		Winter		Spring		Summer		Fall	
		Weekend	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend	Weekday
Seattle to Bremerton	100	0	1	1	1	1	1	0	1
Bremerton to Seattle	Same	1	0	1	0	1	1	0	0
Seattle to Winslow	206,206	1	0	1	1	1	1	1	1
Winslow to Seattle	Same	1	0	2	0	3	1	1	0
Edmonds to Kingston	160,160 (summer) 160, 130 (fall, winter & spring)	0	0	1	0	1	1	1	0
Kingston to Edmonds	Same	1	0	2	0	2	0	2	0
Fauntleroy to Southworth	130, 100, 75	1	0	1	1	1	1	0	1
Southworth to Fauntleroy	Same	0	0	0	0	0	1	0	0
Southworth to Vashon	130, 100, 75	0	0	0	0	0	0	0	0
Vashon to Southworth	Same	0	0	0	0	0	0	0	0
Port Townsend to Keystone	2 - 75 (summer, fall & spring) 1 - 75 (winter)	0	0	0	0	1	1	0	0
Keystone to Port Townsend	Same	0	0	0	0	1	0	0	0

Source: Consultants and Task Force, 1994

TABLE 6.9

GENERAL PURPOSE VEHICLE TRAFFIC - LOS MEASUREMENT
PRTPO RECOMMENDATIONS

Route	General Purpose Vehicles	
	Westbound Weekday (MAY) P.M. Peak (3:00 - 7:00 p.m.)	Eastbound Sunday (MAY) P.M. Peak (3:00 - 7:00 p.m.)
Seattle/Bremerton	1	No specified service level
Seattle/Bainbridge Island	2	No specified service level
Edmonds/Kingston	1	1
Fauntleroy/Southworth	2	No specified service level
Port Townsend/Keystone *	1	1

Source: Consultants and Task Force, 1994

* August LOS for Port Townsend/Keystone

Notes:
(1) This table is a composite of efforts by the Technical Committees of the Kitsap Regional Planning Council, the Island County RTPO, the PRTPO Multimodal Subcommittee, and modified by the Kitsap Regional Planning Council and the PRTPO Policy Board.
(2) All other categories of traffic (passenger, pre-registered HOV's, buses) would have a boat wait of 0.
(3) Weekday freight and goods movement would have a boat wait of 0 westbound between 5 AM and 2 PM; eastbound between 9 AM and 3 PM on two designated freight routes: Seattle/Bremerton (serving Kitsap & Mason County markets) and Edmonds/Kingston (serving Jefferson & Clallam County markets).
(4) The KRPC and PRTPO recommend setting the frequency level of passenger-only service to Southworth, Bremerton and Kingston from Colman Dock in Seattle at one trip every 45-minutes during peak hours.

The weekday LOS standards were based in part on work developed at the Kitsap Regional Planning Council, then modified by the PRTPO Technical Advisory Committee and Policy Board. Recommendations applied to all routes include a standard for no delay (a "zero" boat wait) for foot passengers, preregistered carpools and vanpools, and buses. A zero boat wait for commercial vehicles was identified for specified weekday time periods on two designated freight corridors - Edmonds/Kingston and Seattle/Bremerton. A service frequency standard of one sailing every 45 minutes during peak periods was identified for present and proposed passenger-only ferry routes serving Southworth, Bremerton and Kingston from Seattle.

For general purpose vehicle traffic, the revised PRTPO ferry LOS standards were developed to equalize the overall weekday total trip time across a ferry route (including wait time, frequency of service, and crossing time). As a rule, this equalled two hours in the westbound weekday PM peak direction (east to west), and the number of boat waits was then calculated from the two hour total trip time. The exceptions to this rule are the Edmonds/Kingston and Port Townsend/Keystone routes. The PRTPO Policy Board elected to identify these two corridors as the main access routes for vehicles to the Olympic Peninsula and correspondingly to have a better LOS than the other routes serving the area (a total trip time of one hour 15 minutes instead of two hours, translating to a one boat wait instead of two).

The issue of weekend service standards was reviewed by the Policy Board. This is viewed as a recreational traffic and economic development issue. It was concluded that it was important to the economic diversification efforts of the Peninsula area that two routes be identified for general purpose vehicle service standards on weekends. This would ensure that some access for the recreational driver could be obtained without a significant delay. The two routes identified for this weekend standard were, the Edmonds/Kingston and Port Townsend/Keystone. These routes were given service standards for the eastbound Sunday traffic time period of a one boat wait.

WSF will incorporate these recommendations for ferry LOS into the planning process now underway to develop the long range Ferry System Plan. Future traffic levels will be forecast and measured against the service standards to see where the ferry system is deficient. Solutions will be developed and costed out; depending upon financial feasibility of the solutions, the LOS may need to be revised.

REGIONAL ISSUES FROM A PENINSULA PERSPECTIVE

The PRTPO Multimodal Sub-Committee identified ferry service issues from a regional, multimodal transportation planning perspective. These issues are recommended for further study and integration into future updates of the RTP. The issues are briefly outlined below.

- How can the ferry LOS standards be coordinated with the LOS standards for connecting transit services & roadways?

- What are the implications of the adopted LOS standard for ferry service on private ferry operators in the PRTPO region?

- How will ferry system LOS standards and improvements affect the PRTPO's overall transportation system?

  - Should traffic be encouraged or discouraged from individual ferry corridors?

  - Which terminal will the majority of ferry traffic use?

  - What types of improvements will the PRTPO need to consider to reduce congestion in these areas? More park and ride lots, increased transit service, increased roadway capacity, or providing carpool facilities?

- What are the implications of establishing a very high LOS for weekend service? Current measures of LOS for weekend service may be lower than proposed standards. Hence, it may be financially difficult to provide a better LOS in the future. But to help reduce the amount of weekend traffic, and thus make it easier to maintain higher ferry LOS standards, the PRTPO may want to consider encouraging alternative transportation systems. Effective alternative transportation systems, such as transit or bicycling, would enable people to enjoy recreational opportunities on the Olympic and Kitsap Peninsulas without using their automobile.

- Similarly, what are the implications of the ferry LOS on concurrency? If the ferry LOS falls below recommended standards because it cannot keep pace with the impacts of future development on the peninsulas, what are the implications? Again, the PRTPO may want to consider encouraging alternative transportation systems which enable people to travel on the Olympic and Kitsap Peninsulas without using their automobile.

Chapter 7
Tourism

CHAPTER 7

TOURISM

INTRODUCTION

This chapter discusses tourist or recreational travel. Tourist travel has a different purpose than other trip types, and travel patterns differ significantly. Tourist trips are frequently more indirect than other types of trips because tourists often take lengthy or even circular routes.

Tourist travel is also referred to as recreational travel; therefore, a distinction must be made between tourist or recreational *travel* and recreational *vehicles* (RV's). RV's are one way of participating in tourist travel; the family car, a personal light duty truck, or a bicycle are other forms of tourist travel. This chapter deals with all forms of motorized tourist travel, but because RV's are large and impact roadway visibility and driver perception -- particularly driver perception of maneuverability and passing safety -- they are specifically discussed in this chapter. Non-motorized tourist travel, as in the case of bicycle tours, is popular but is not examined here. However, the importance of non-motorized travel should not be underestimated. Many people come to the region explicitly to bicycle or to hike.

The Washington State Ferry system plays a significant role in tourist activities in the PRTPO area. The Washington State ferry system links the Kitsap and Olympic Peninsulas to the Central Puget Sound region and neighboring island communities.

Because the PRTPO area is almost completely surrounded by water, ferries play an important part of the PRTPO's overall transportation system. WSF operates both combination vehicle/passengers vessels and passenger-only vessels on routes within the peninsula service area. Ferry terminals can be seen as an extension of the network of transit routes and park-and-ride lots within the PRTPO area, as well as an extension of the PRTPO roadway system.

The most direct link from the Peninsulas to the Central Puget Sound region is via the ferry system. Auto/passenger ferry service to greater Puget Sound in Kitsap County is provided via Kingston, Bainbridge Island, Bremerton and Southworth. In addition, passenger-only service is provided between Seattle and Bremerton and between Seattle and Vashon Island. The latter route allows for transfers between the Southworth auto/passenger ferry.

Ferry service to Whidbey Island is provided via Port Townsend in Jefferson County. In general, the ferry routes are part of a well-travelled "tourist loop" that runs from Seattle, through the North Cascades Highway, the San Juan Islands, and the Olympic and Kitsap Peninsulas. In the

summer months, spring and fall weekends, and holidays, long waits for available ferry capacity are not uncommon.

The chapter is comprised of three main sections, which are listed below.

- Historical Trends and Existing Conditions
- Impacts of Regional Road System
- Recommendations for Future Analysis

The first section, Historical Trends and Existing Conditions, describes both tourist activity and traffic volumes on major roads in the PRTPO area. The two components are synthesized into a single analysis in "Impacts of Regional Road System". The recommendations for recreational travel focus on identifying additional studies. At this time the current data available does not provide enough information to make project recommendations.

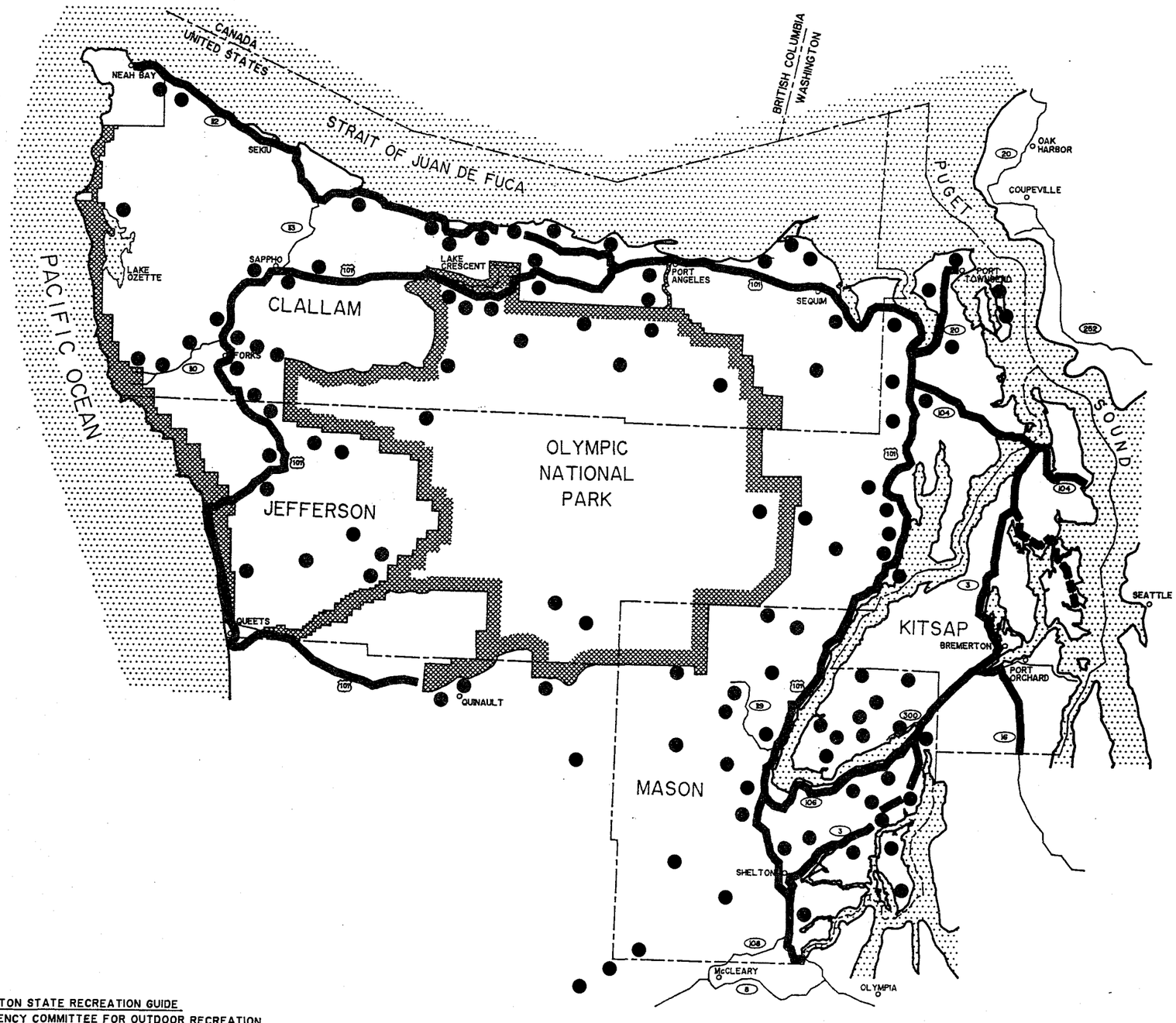
HISTORICAL TRENDS AND EXISTING CONDITIONS

Figure 7.1 depicts the main roadways and some of the numerous tourist attractions in the Peninsula RTPO area. As shown on the map, these main travel routes are State Routes. The major access highway to Olympic National Park is the northern portion of US 101 near Sequim and Port Angeles.

Also shown in Figure 7.1 are the designated "Tourist Corridors" as adopted by the PRTPO Highways/LOS/Tourism Subcommittee. These identified segments consist of roadways which serve as primary tourist conduits providing access to and from major tourist areas. They include: Highway 101, SR 104, SR 3, SR 20, SR 106, SR 112, SR 16 and SR 305.

The Highway/LOS/Tourism Subcommittee developed a set of criteria to identify Tourist Corridors. The Highway/LOS/Tourism Subcommittee set the following criteria for Regional Tourist Corridors.

1. The responsible jurisdiction must determine the roadway to be a primary tourist conduit providing access to and from tourist attractions or areas. The other members of the Peninsula RTPO Technical Advisory Committee must concur with the determination.



SOURCE: WASHINGTON STATE RECREATION GUIDE
INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION
PUBLISHING ENTERPRISES, SEATTLE WASHINGTON

FIGURE 7.1

SCALE AS NOTED DRAWN A.S. CHECKED S.M.M. DATE 3/6/95		NO.	DATE	REVISION / APP'D. BY

PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION
EXAMPLES OF RECREATIONAL SITES

JOB NO. 923-2049
F.S. NO.
FILE NO.
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SHT. 1 OF 1

2. The roadway typical section must conform to WSDOT design standards for principal arterials, minor arterials and major collectors; and have minimum 8-foot width shoulders. (Note: Those segments of designated Tourist Corridors that do not currently meet the geometric requirements will be listed as segments containing deficiencies on the project needs inventory.)

With an 8-foot minimum shoulder, the Tourist Corridor designation provides enough roadway width vehicles to large recreational vehicles to pull over so that other vehicles may pass them.

It should be recognized that, in addition to the roadways listed above, many of the region's other roads also serve as tourist access routes (roadways providing direct access to specific tourist attractions and local tourist/recreational areas). Examples of tourist access routes include those roads leading to the Lake Cushman, Hurricane Ridge and Hoko/Ozette Recreational Areas, and SR 10 to LaPush.

Tourist areas are discussed first, followed by an analysis of traffic volume. Under the tourist attractions, the Olympic National Park is analyzed separately from those recreational sites outside of the National Park. The discussion of traffic volumes focuses on historical traffic growth. All traffic growth is analyzed because at this time no specific data exists on recreational travel.

Tourist Attractions

The Olympic Peninsula contains a wide variety of tourist attractions, ranging from national parks and recreation areas to river access, fishing areas, resorts and historic sites. These tourist attractions exist throughout the PRTPO area. Figure 7.2, Recreational Sites Analyzed, is only a partial showing of recreational sites in the areas. This figure graphically demonstrates the wide dispersion and large number of recreational areas in the PRTPO region. The Olympic National Park on the Olympic Peninsula is the largest tourist attraction.

Both the Olympic National Park and ten additional recreational sites outside the Park were analyzed. Figure 7.2 depicts all of the recreational sites that were analyzed for this chapter, including those inside and outside of the Olympic National Park Boundaries.

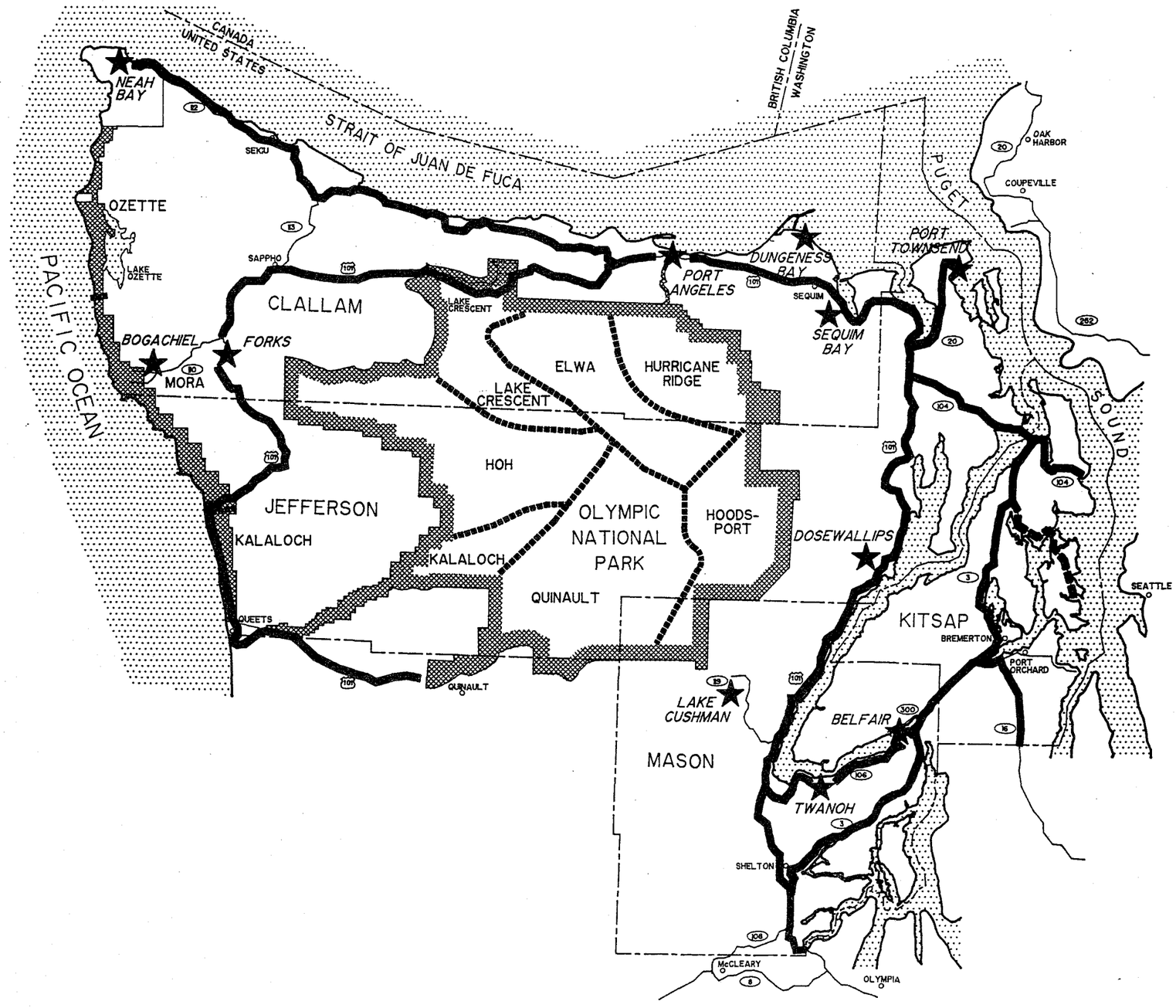


FIGURE 7.2

SCALE AS NOTED DRAWN A.S. CHECKED S.M.M. DATE 3/6/95	NO. DATE REVISION APP'D. BY	PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION RECREATIONAL SITES ANALYZED	JOB NO. 923-2049 F.B. NO. FILE NO. SEC. TWP. RGE. SHT 1 OF 1

Olympic National Park

Because of its size, the Olympic National Park is informally divided into subareas according to various geographic boundaries including lakes, streams, and mountain ranges. The subareas are listed below and are also shown in Figure 7.2.

- Elwha Subarea
- Hurricane Ridge Subarea
- Hoh Subarea
- Hoodsport Subarea
- Kalaloch Subarea
- Lake Crescent Subarea
- Mora Subarea, along the Pacific Coastline
- Lake Ozette Subarea, along the Pacific Coastline
- Quinault Subarea

In 1990, over three and half million people visited the Park and over 50 percent of the visitors went to the Lake Crescent Subarea of the Park. Since 1980, the annual number of visitors to Olympic National Park increased by 49 percent. Table 7.1, Olympic National Park Subarea Visitations, 1980 to 1990, depicts visits to the subareas in the Olympic National Park.

After the Lake Crescent Subarea, Kalaloch is the second most frequented subarea, but has less than one fifth the number of visitors as the Crescent Lake Subarea. The third most frequented area in the Olympic National Park is Hurricane Ridge.

The visitor growth rates for the different subareas indicate that the Lake Ozette Subarea has the fastest increasing visitor growth rate (107 percent since 1980). However, because of its smaller base number (22,337 people in 1980) this higher growth rate translates into only an additional 23,808 visitors. In contrast, the Lake Crescent Subarea has grown by 84 percent but has seen an increase of more than 900,000 visitors.

TABLE 7.1

OLYMPIC NATIONAL PARK
VISITORS BY SUBAREA
1980 TO 1990

Subarea	1980	1985	1990	Change 1980-1985	Change 1985-1990	Change 1980-1990
Elwha	79,107	119,900	78,652	52%	-34%	-1%
Hoh	104,816	116,191	156,788	11%	35%	50%
Hoodsport	158,684	120,685	106,866	-24%	-11%	-33%
Hurricane Ridge	248,924	356,017	386,819	43%	9%	55%
Kalaloch	233,734	365,833	443,205	57%	21%	90%
Lake Crescent	1,084,329	1,657,887	1,991,387	53%	20%	84%
Mora	176,163	224,414	200,833	27%	-11%	14%
Lake Ozette	22,337	31,081	46,145	39%	49%	107%
Quinault	269,236	60,525	103,384	-78%	71%	-62%

Source: Olympic National Park

Other Recreational Attractions

Eleven sites outside of the Olympic National Park were chosen for analysis. Site choice was based on size, availability of data and geographic location. Below are the sites outside of the Olympic National Park that are analyzed in this chapter.

- Belfair Recreation Area
- Bogachiel Recreation Area
- Dosewallips Recreation Area
- Dungeness National Wildlife Area
- Forks Visitor Center
- Lake Cushman Recreation Area
- Makah Museum and Cultural Center
- Port Angeles Visitor Center
- Port Townsend Visitor Center

- Sequim Bay Recreation Area
- Twanoh Recreation Area

Table 7.2, Other Recreational Sites' Visitor Counts, 1985-1990 depicts the visitor counts to tourist attractions outside of the Olympic National Park. Data for areas outside the Olympic National Park is only available for a shorter period of time (from 1985 or 1986 to present). In contrast, data for Olympic National Park is available from 1974 to the present.

Table 7.2 shows wide variation in the growth rates for those areas outside of Olympic National Park. The Forks Visitor Center grew dramatically (nearly 4,000 percent) in the four years from 1986 to 1990, but other ares showed significant declines, such as the Dosewallips Recreational Area (-58 percent) and the Sequim Bay Recreation Area (-45 percent). Between those two extremes are more moderate growth rates of 10 to 15 percent and less dramatic declines of 18 or even 2 percent.

Summary of All Recreational Visits

Review of visitor trends shows wide variation. While there is no obvious trend in the growth rates, when mapped, a rough geographical east/west split appears. Generally, on the western edge of the Peninsula visits have increased, but visits have decreased (or have not increased as much) on the eastern side of the region.

The difference in growth rates is highlighted by increased number of visits to the Forks Visitors Center on the eastern side of the Peninsula. Here, visitation data is only available since 1986, but during that time, visits have increased by almost a factor of 4000, from 252 visits to 9,740 (3,765 percent increase). In contrast, visits at the Dosewallips Recreational Area on the eastern side have decreased by 58 percent since 1985. A similar decrease has also occurred for Sequim (-45 percent). On the western side of the Peninsula the reverse is true. But the split between increased visits on the east side and decreased visits on the west side is not consistent. For example, the Twanoh Recreational Area on the western side of the Olympic Peninsula has experienced a 14 percent increase in visits since 1985 while Bogachiel Recreational area has seen a 18 percent drop in visits between 1980 and 1990. Overall, though there is a rough east/west split in visits to tourist and recreational areas in the PRTPO region.

Within the Olympic National Park, visits to those sites on the far western side of the Olympic National Park have increased between 1980 and 1990. Since 1980, the greatest percentage increase in visitors has occurred at the western most portion of the Olympic National Park at the Lake Ozette Subarea along the Pacific Ocean. Visits to this area have doubled from 1980 to 1990, from 22,337 to 46,145 (107 percent). The Kalaloch Subarea, also located along the western side, has experienced a 90 percent increase in visits between 1980 and 1990, while visits to the Lake Crescent Subarea have increased by 84 percent.

Along the eastern side of Olympic National Park, only the Hoodsport subarea has direct access to the eastern edge. Other areas on the easterly side, such as Hurricane Ridge or the Quinault subarea are reached from the north or from the south. Access to Hurricane Ridge, for example, is via the Port Angeles vicinity. Hurricane Ridge continues to be popular and has not experienced a decline in the number of visitors.

TABLE 7.2

OTHER RECREATIONAL SITES VISITOR COUNTS 1985-1990

Area	1985	1986	1987	1988	1989	1990	Change 1985-1990
Belfair Recreation Area	351,470	354,371	230,329	267,673	420,857	345,743	-2%
Bogachiel Recreation Area	190,820	119,598	114,812	123,222	139,178	156,028	-18.2%
Dosewallips Recreational Area	463,318	463,717	305,996	243,507	215,356	195,277	-58%
Dungeness National Wildlife Area	7,139	7,008	7,365	7,371	7,412	7,895	10.6%
Forks Visitor Information Center	N/A	252	6,578	12,001	9,135	9,740	3,765%*
Lake Cushman	154,226	108,915	155,853	162,051	166,384	189,671	22%
Makah Museum and Cultural Center	N/A	12,583	13,768	14,930	15,111	15,907	26%*
Port Angeles Visitor Center	N/A	53,571	57,343	53,293	104,743	125,268	133%*
Port Townsend Visitor Center	N/A	52,568	63,232	58,509	60,701	60,614	15%*
Sequim Bay Recreation Area	811,216	845,688	483,887	505,921	467,969	440,155	-45%
Twanoh Recreational Area	396,576	420,721	470,653	501,346	482,721	453,853	14%

* Change 1986 to 1990.

Traffic Analysis

Figure 7.3, Main Travel Routes, depicts the main roadways experiencing significant volumes of tourist traffic within the Peninsula RTPO area. As shown on the map, these main travel routes are State Routes -- including SR 104 from Kitsap County to US 101 in Jefferson County, SR 3 in Kitsap and Mason Counties, and all of US 101 in Jefferson, Clallam, and Mason Counties. The major access highway to Olympic National Park is the northern portion of US 101 near Sequim and Port Angeles.

The PRTPO Highways/LOS/Tourism Subcommittee and the Technical Advisory Committee have adopted designated "Tourist Corridors" which are depicted in Figure 7.3. Also depicted in Figure 7.3 are the tourist access routes. Tourist access routes are Tourist access routes roadways provide direct access to specific tourist attractions and local tourist/recreational areas.

Traffic Growth Analysis

Average daily traffic counts were collected for 17 sites on the Olympic Peninsula. These sites were chosen in order to represent traffic flows on the Peninsula and to provide growth rates of traffic flows over the past ten years. 1980, 1985, and 1990 traffic volumes are presented in Table 7.3, Selected Traffic Counts, 1980-1990. Figure 7.4, Traffic Count Locations, depicts the location of these counts and their growth rates from 1980 to 1990.

A review of Table 7.3 and Figure 7.4 shows that in Kitsap County SR 305 west of Bond Road has seen the highest growth rate from 1980 to 1990 (150 percent). SR 3, also in Kitsap County, north of Pioneer Way also has a high growth rate (107 percent). These growth rates are substantially higher than rates at other locations. The third highest volume is 61 percent on SR 112 west of the junction with US 101.

The lowest growth rate between 1980 and 1990 was along US 101 north of Russell Road in Jefferson County. At this location, which is on the west side of the Olympic Peninsula near Bogachiel, average daily traffic volumes have dropped 40 percent from 1980 to 1990. A similar decline occurred further north on US 101 west of Port Angeles and east of SR 112, where volumes dropped 32 percent from 1980 to 1990. Overall, this data indicates varying growth rates on the major Peninsula travel routes.

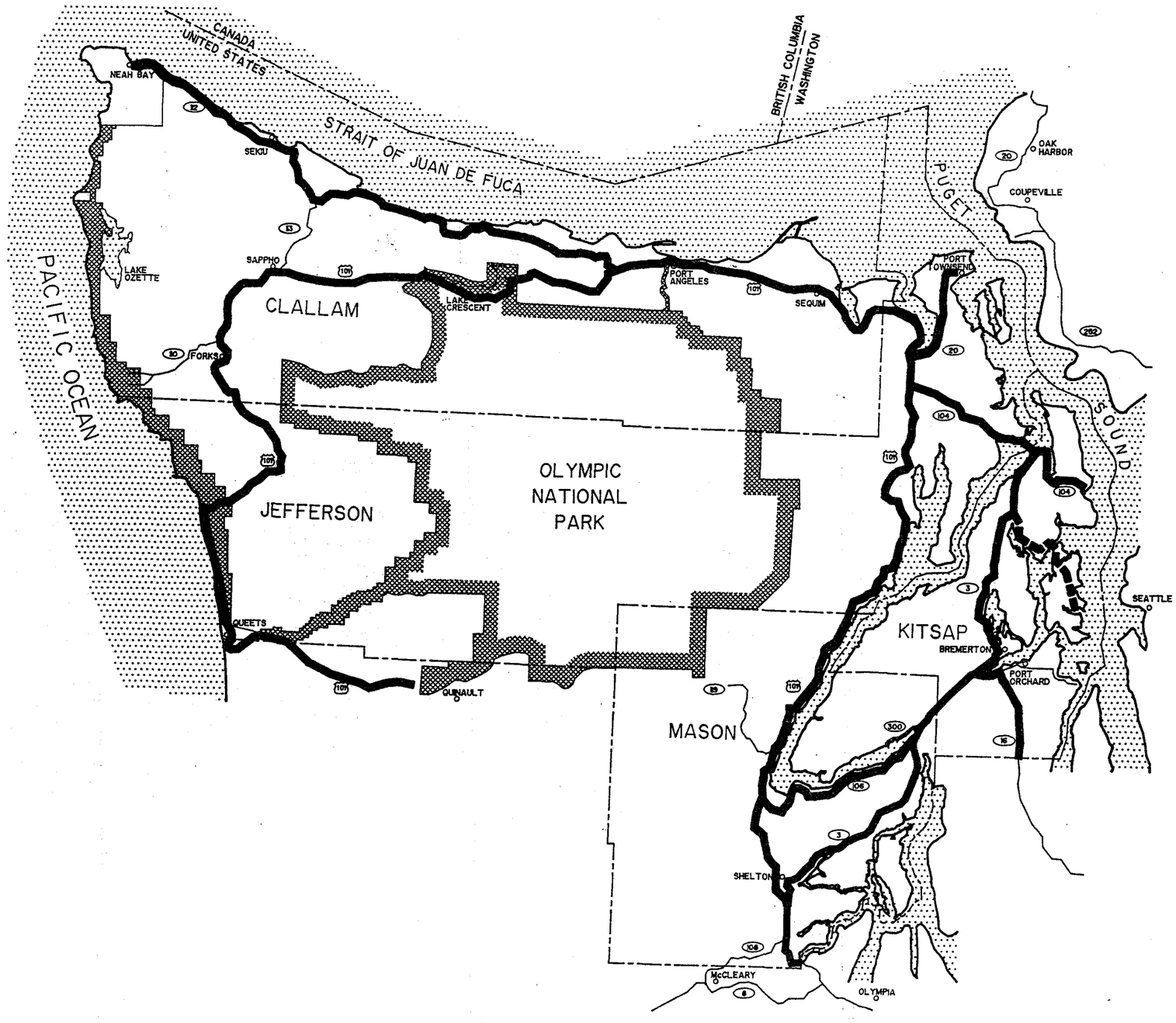


FIGURE 7.3

SCALE AS NOTED DRAWN A.S. CHECKED S.M.M. DATE 3/6/95	NO. DATE REVISION APP'D. BY	PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION MAIN TRAVEL ROUTES	JOB NO. 923-2049 F.B. NO. FILE NO. SEC. TWP. RGE. SHT. 1 OF 1

TABLE 7.3

SELECTED TRAFFIC COUNTS
1980-1990

Map ID	Route	Mile Post	Segment Description	1980	1985	1990*	1980-1990 Change
A	101	167.59	North of Hoh Village Road	1,230	N/A	1,210	-2%
B	101	190.02	North of Jct. Russell Road	4,200	N/A	2,500	-40%
C	101	193.12	North of La Push Road	5,400	N/A	5,600	4%
D	101	242.99	East of Jct. SR 112	7,300	N/A	5,000	-32%
E	101	282.56	West of SR 20	4,989	5,100	7,700	54%
F	101	294.59	After Jct. Center Road	2,750	N/A	2,550	-7%
G	101	339.48	North of Jct. Purdy Cutoff	5,600	N/A	4,750	-15%
H	101	356.92	Mason/Thurston County	8,800	11,300	13,700	56%
I	3	2.93	After Jct. Front Street	5,400	N/A	6,200	15%
J	3	56.03	North of Pioneer Way	4,500	5,600	9,300	107%
K	20	0.09	North of SR 101	2,450	2,650	2,900	18%
L	104	10.96	East of South Pt. Road	3,650	6,600	4,550	25%
M	106	0.00	North of Jct. SR 101	1,800	600	1,400	-22%
N	106	20.05	South of Jct. SR 3	3,150	2,250	3,800	21%
O	112	23.12	East of Jct. Burnt Mtn. Road	1,550	1,850	1,800	16%
P	112	61.25	West Jct. SR 101	2,950	N/A	4,750	61%
Q	112		Boundary of Makah Reservation (Neah Bay)	---	860**	890**	6%**
R	305	12.82	West of Jct. Bond Road	6,800	N/A	17,000	150%

* In 1987 WSDOT changed the way it carried out traffic counts and began to count in terms of units rather than axle equivalents. For example, under the new approach, a five axle truck is reported as one vehicle as compared to two and a half under the old approach.

** Counts at this location were only available for 1991 and 1992; therefore, the percent change represent an annual growth rate, not a ten year growth rate.

Additional analysis was carried out on RV's. RV's are a subset of recreational travel because RV's are a specific vehicle type. Recreation travel consists of all vehicles making recreational trips, and RV's are one type of vehicle. Separate analysis of RV's is relevant because their large size impacts roadway visibility and driver perception of maneuverability and passing safety. WSDOT conducted traffic counts of RV's at two locations on the Olympic Peninsula. The counts took place in 1992 on and around Labor Day weekend on US 101 and SR 104 (see Table 7.4, Vehicle Classification Counts and Percentages). The study indicated that recreational vehicles can make up 5 to 7 percent of the overall traffic or can be as low as 1.5 percent of all traffic.

Summary of Roadway Traffic Data

As depicted in Table 7.3 and Figure 7.4, traffic growth rates varied widely for US 101. Along the Hood Canal, the percentage change indicated a decline in annual average daily traffic. Traffic on US 101 at Center Road declined by 7 percent and, further south near the Purdy Cutoff, by 15 percent. Along the Pacific Coast, traffic is also decreasing from as little as 2 percent at Hoh Village Road to as much as 40 percent at Russell Road just south of Forks.

Traffic growth rates are consistently positive for US 101 north of SR 104 until Port Angeles and the US 101/SR 112 intersection west of Port Angeles. Here the growth in traffic continues on SR 112 but not on US 101. In fact, just after this junction, traffic on US 101 has decreased by 32 percent from 1980 to 1990. On SR 112 traffic has grown by 61 percent for the same time period, though this growth in traffic drops to 6 percent at the Makah Reservation Boundary. Over the course of a year, traffic volumes appear to be higher during the summer months for all locations.

Ferry Travel

Ferry travel plays an important and unique role in tourist activity in the PRTPO area. Because the PRTPO area is almost completely surrounded by water, ferries play an important part of the PRTPO's overall transportation system. WSF operates both combination vehicle/passengers vessels and passenger-only vessels on routes within the peninsula service area.

The most direct link from the Peninsulas to the Central Puget Sound region is via the ferry system. Auto/passenger ferry service to greater Puget Sound in Kitsap County is provided via Kingston, Bainbridge Island, Bremerton and Southworth. In addition, passenger-only service is provided between Seattle and Bremerton and between Seattle and Vashon Island. The latter route allows for transfers between the Southworth auto/passenger ferry.

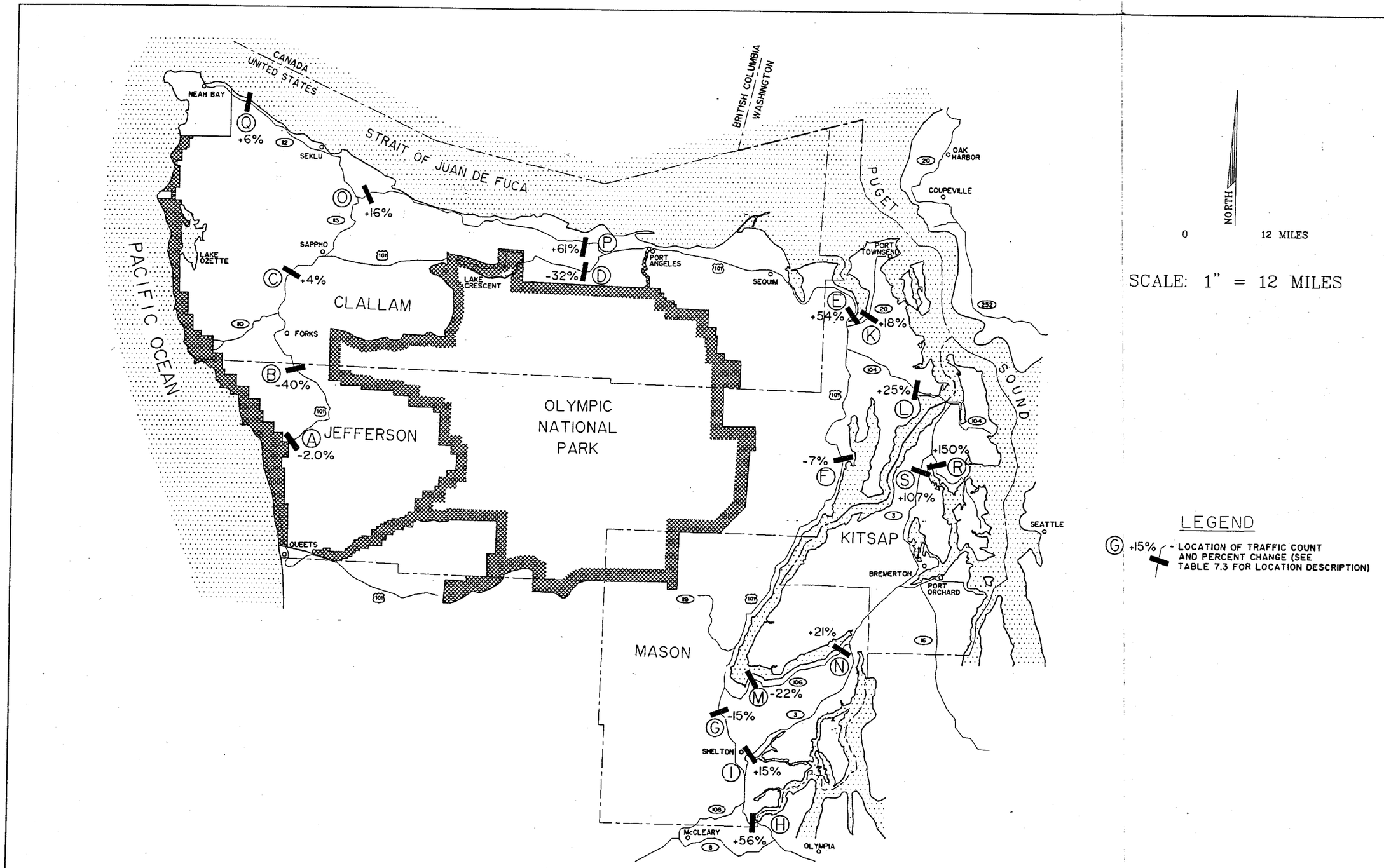


FIGURE 7.4

SCALE AS NOTED DRAWN A.S. CHECKED S.M.M. DATE 1/10/94					PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION TRAFFIC COUNT LOCATIONS
	1	2/28/95	Revised designations & counts	M.A.P.	JOB NO. 925-2049 F.B. NO. FILE NO. SEC. TWP. RGE. SHT. 1 OF 1
	NO.	DATE	REVISION	APP'D. BY	

TABLE 7.4

VEHICLE CLASSIFICATION COUNTS & PERCENTAGES

US 101 IN MASON COUNTY AND STATE ROUTE 104 @ HOOD CANAL BRIDGE

LABOR DAY WEEKEND

	September 4, 1992				September 7, 1992				September 9, 1992			
	US 101*		SR 104**		US 101*		SR 104**		US 101*		SR 104**	
Vehicle Type	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent
Automobiles	3,010	91.57%	4,252	90.76%	3,967	91.26%	6,846	92.70%	2,168	91.13%	3,072	93.26%
Recreational Vehicles	176	5.35%	282	6.02%	307	7.06%	429	5.81%	56	2.35%	50	1.52%
Trucks	75	2.28%	133	2.84%	42	0.97%	43	0.58%	137	5.76%	147	4.46%
Buses	2	0.06%	6	0.13%	0	0.00%	2	0.03%	7	0.29%	8	0.24%
Motorcycles	19	0.58%	7	0.15%	31	0.71%	61	0.83%	7	0.29%	17	0.52%
Bicycles	5	0.15%	5	0.11%	0	0.00%	4	0.05%	4	0.17%	0	0.00%
TOTAL	3,287	100.00%	4,685	100.00%	4,347	100.00%	7,385	100.00%	2,379	100.00%	3,294	100.00%

* US 101 traffic counts were taken by the Washington D.O.T. at M.P. 344.71 near Fairground Road. The counts were taken for four hour durations (4:00 p.m. - 8:00 p.m.) on September 4 and 9, 1992, and for six hour durations (2:00 p.m. - 8:00 p.m.) on September 7, 1992.

** SR 104 traffic counts were taken by the Washington D.O.T. at M.P. 15.47 near the junction w/SR 03. The counts were taken for four hour durations (4:00 p.m. - 8:00 p.m.) on September 4 and 9 1992, and for six hour duration (2:00 p.m. - 8:00 p.m.) on September 7, 1992 (Labor Day).

TABLE 7.4 (Continued)

VEHICLE CLASSIFICATION COUNTS & PERCENTAGE

US 101 IN MASON COUNTY AND STATE ROUTE 104 @ HOOD CANAL BRIDGE

AUGUST 28 TO SEPTEMBER 2, 1992

	August 28, 1992				August 30, 1992				September 2, 1993			
Vehicle Type	US 101*		SR 104**		US 101*		SR 104**		US 101*		SR 104**	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent
Automobiles	2,819	94.28%	4,502	93.50%	3,956	94.87%	7,430	96.98%	2,323	92.99%	3,314	93.17%
Recreational Vehicles	72	2.41%	119	2.47%	138	3.31%	150	1.96%	43	1.72%	57	1.60%
Trucks	76	2.54%	131	2.72%	41	0.98%	56	0.73%	102	4.08%	175	4.92%
Buses	0	0.00%	14	0.29%	2	0.05%	7	0.09%	8	0.32%	6	0.17%
Motorcycles	21	0.70%	42	0.87%	28	0.67%	0	0.00%	19	0.76%	0	0.00%
Bicycles	2	0.07%	7	0.15%	5	0.12%	18	0.23%	3	0.12%	5	0.14%
TOTAL	2,990	100.00%	4,815	100.00%	4,170	100.00%	7,661	100.00%	2,498	100.00%	3,557	100.00%

* US 101 traffic counts were taken by the Washington D.O.T. at M.P. 344.71 near Fairground Road. The counts were taken for four hour duration (4:00 p.m. - 8:00 p.m.) on August 28 and September 2, 1992, and for six hour durations (2:00 p.m. - 8:00 p.m.) on August 30, 1992.

** SR 104 traffic counts were taken by the Washington D.O.T. at M.P. 15.47 near the junction w/SR 03. The counts were taken for four hour durations (4:00 p.m. - 8:00 p.m.) on August 28 and September 2, 1992, and for six hour durations (2:00 p.m. - 8:00 p.m.) on August 30, 1992.

Ferry service to Whidbey Island is provided via Port Townsend in Jefferson County. In general, the ferry routes are part of a well-travelled "tourist loop" that runs from Seattle, through the North Cascades Highway, the San Juan Islands, and the Olympic and Kitsap Peninsulas. In the summer months, spring and fall weekends, and holidays, it is not uncommon for the system to experience vehicle overloads resulting in long waits for passengers. WSF, has five routes to the Peninsula area.

Fauntleroy/Vashon/Southworth
Downtown Seattle/Bremerton
Downtown Seattle/Bainbridge Island
Edmonds/Kingston
Port Townsend/Keystone

All are key links to the PRTPO area, but the routes to Kingston and to Port Townsend are considered to be the most significant tourist routes. Table 7.5, WSDOT Ferry Ridership, presents the ridership counts for 1991. More recent data is available, but this recent data does not distinguish recreational vehicles from other vehicle types. The 1991 data provides insight into the proportions of regular vehicle, commuter, RV, and commercial travel for each of the ferry routes serving the PRTPO.

Table 7.5 shows the Port Townsend/Keystone route as carrying the largest percentage of recreational vehicles -- 7 percent. Two percent of all vehicles on the Edmonds/Kingston route recreational vehicles, and the three other routes to the PRTPO have less than 1 percent recreational vehicles as compared to all other vehicles.

While the Port Townsend/Keystone route has the highest percentage of recreational vehicles, the actual count of RV's on the Port Townsend/Keystone route (24,494) is almost half of that on the Edmonds Kingston Route (43,741). The Seattle/Bainbridge Island route has the highest use but carries only 0.6 percent (12,827) are recreational vehicles.

TABLE 7.5

WASHINGTON STATE FERRY SYSTEM
1991 VEHICLE COUNTS

	TOTAL VEHICLES	REGULAR AUTO		COMMUTER		RECREATIONAL		COMMERCIAL		MISC.	
		Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count
ROUTE											
Seattle/Bremerton	670,177	67%	449,019	29%	193,011	0.5%	3,351	1%	6,702	3%	18,095
Seattle/Bainbridge Island	2,137,856	52%	1,118,099	42%	895,762	0.6%	12,827	2%	47,033	3%	64,136
Fauntleroy/Vashon/ Southworth	1,750,616	31%	546,192	63%	1,102,888	0.4%	7,002	2%	40,264	3%	52,518
Edmonds/Kingston	1,822,548	67%	1,221,107	26%	468,395	2%	43,741	3%	54,676	2%	34,628
Port Townsend/ Keystone	371,119	82%	302,833	6%	23,009	7%	24,494	2%	7,793	2%	6,309

WSDOT Marine Division, Rider Segment Report, July 1991 to June 30, 1992

While these statistics provide some insight into the amount of tourist travel using ferry routes, the data is insufficient because many of the regular auto trips could be recreational trips. However, the split between recreational and non-recreational auto travel is not possible from this information. In addition, because of variations in the counting methods (see Chapter 8), making direct comparisons between ferry auto counts and WSDOT state route counts is difficult without additional study and details.

Also in regards to the Washington State ferries, the PRTPO Policy Board reviewed the issue of weekend service standards. These standards are viewed as a recreational traffic and economic development issue. It was concluded that it was important to the economic diversification efforts of the PRTPO area that two routes be identified for general purpose vehicle service standards on weekends. This would ensure that some access for the recreational driver could be obtained without a significant delay. The two routes identified for this weekend standard were the Edmonds/Kingston and the Port Townsend/Keystone routes. These routes were given service standards for the eastbound Sunday traffic time period of a one boat wait.

Additional ferry service to the PRTPO area is also provided by the Blackball ferry service and the Victoria Clipper. Both are international routes from Port Angeles in Clallam County to Victoria, British Columbia in Canada. Blackball ferry service carries both walk-on passengers and vehicles, but the Victoria Clipper only carries walk-on passengers and functions primarily as a tourist cruise to Victoria, British Columbia.

The Blackball ferry service provides a more diverse service. This ferry route carries tourists, business travel, and freight. In 1991, this ferry service carried a total of 144,094 vehicles, 119,297 (83 percent) of which were automobiles, 10,447 (7 percent) were trucks and truck trailers and the remainder (14,450 or 10 percent) were trailers, campers, motor homes or bus stages. Interestingly, 4,500 bicycles used this route in 1991.

IMPACTS ON ROAD NETWORK

Recreational travel has several impacts on roadways. Recreational directional flow and peak hours may not correspond to commuter peak hours and conventional directional design volumes. The road's design characteristics -- such as width, alignment, and sight distance -- may be inappropriate for recreational driving or for RV's. The width and height of RV's can obstruct the sight distance of other vehicles which may impact roadway alignment. Or, RV's may require different turning radii or driveway access.

Consequently, transportation improvements stemming from recreational travel depends on the roadway, the type of activity (e.g., turning or passing), and the type of vehicles, such as RV's. This chapter provides insight into the recreational activities in the PRTPO area, but to determine the type of transportation improvement, needed additional traffic studies are necessary, as described in the Recommendations section.

To make specific transportation recommendations, transportation professionals need to understand the reasons behind variations in traffic volumes as compared to the actual recreational volumes. This facilitates transportation planning and project development. As the analysis indicated, the PRTPO area has wide variations in both traffic and tourist growth.

Review of visitor trends shows wide variation. While there is no dominating trend, when mapped, a rough geographical east/west split appears. Generally, on the western edge of the Peninsula visits have increased, but visits have decreased on the eastern side of the Olympic Peninsula. (Figure 7.5, Visit Increases and Decreases). Several potential reasons exist for the discrepancy between recreational visits and traffic flow:

- Decreased recreational visits to the eastern side of the Olympic Peninsula may possibly be due to increased development in that area;

- A portion of the increased recreational visits to the western side of the Olympic Peninsula may possibly be due to recreational travelers seeking more remote areas as the eastern side develops;

- The increase in recreational visits on the western side of the Olympic Peninsula may also be attributed to the pro-active marketing efforts of the area's tourist industry;

- Decreased 1980-1990 traffic on the western side may be the result of reduced truck traffic caused by the declining timber industry.

The reasons listed here represent possible explanations for the recent variations in growth rates for traffic and recreational visits. These explanations could serve as hypothesis for additional study.

There are other recently identified economic issues on the Olympic Peninsula which may have significant far-reaching impacts on tourist travel. The recent closure of salmon fishing may cause a decrease in sport fishing related travel along the coastline. Those recreational trips, however, may be redirected towards other activities and destinations.

The introduction of Native American gambling concessions will in all probability increase tourist related traffic on regional routes serving those establishments. The specific impacts of the salmon fishing closure and the construction of new casinos are not yet completely identified and must, therefore, be included in future studies and plan updates.

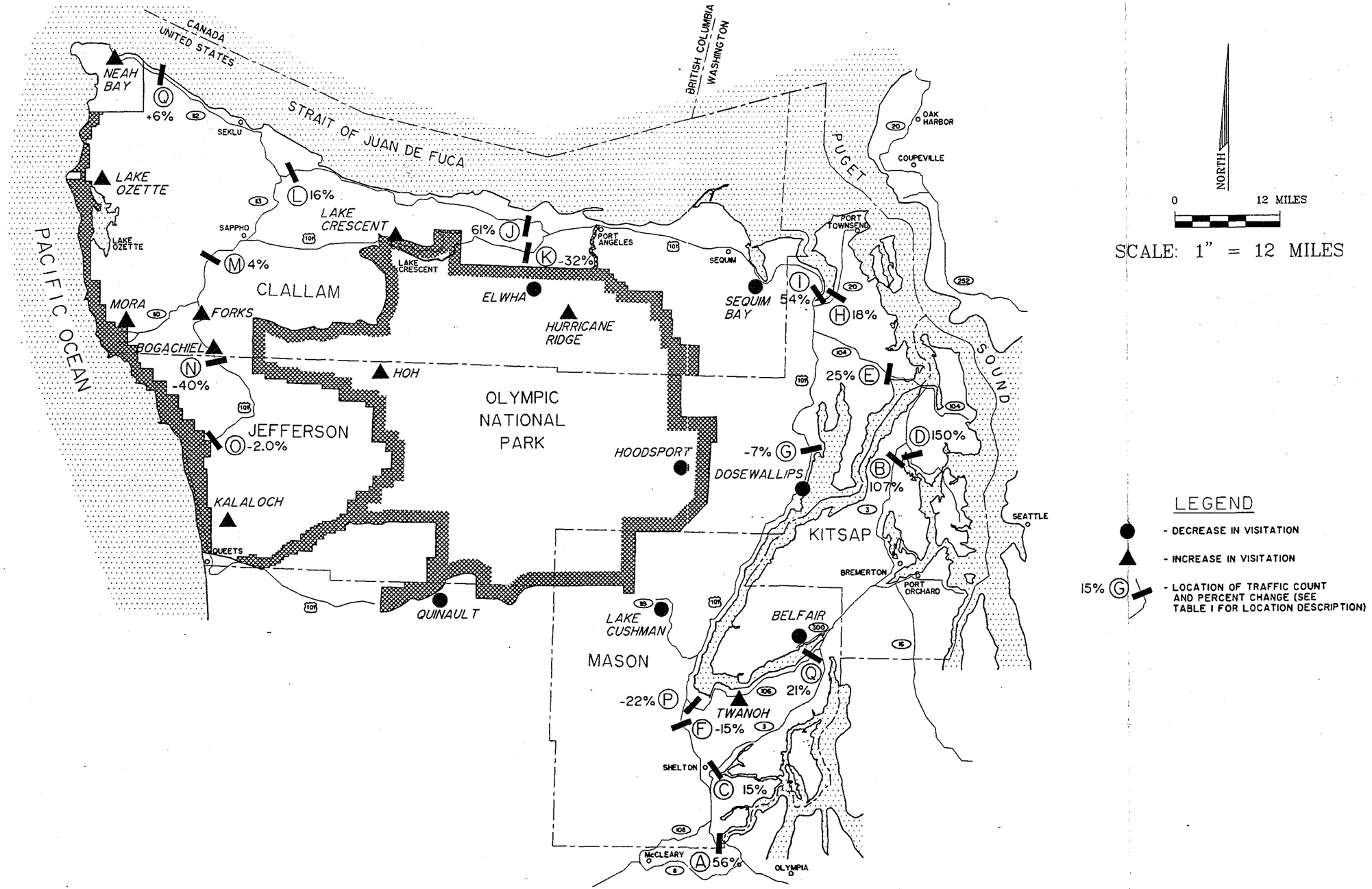


FIGURE 7.5

SCALE AS NOTED DRAWN A.S. CHECKED S.M.M. DATE 3/6/95	NO.	DATE	REVISION / APP'D. BY

PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION
VISIT INCREASES AND DECREASES

JOB NO. 925-2049
F.B. NO.
FILE NO.
SEC. TWP. RGE.
SHT 1 OF 1

RECOMMENDATIONS

Understanding recreational travel on the Olympic Peninsula is an important component for developing an assessment of transportation needs. Recreational travel influences roadway capacity and design and the identification of future transportation corridors. In order to determine the impact of recreational travel, a more sufficient database is required. Recommendations include traffic studies which would provide information on the mode, travel route, variations in season, day, and time of day for recreational traffic. Provided below is a description of the type of analysis which would be carried out in order to distill relevant information from the data.

These studies should be carried out in conjunction with any freight or truck activity studies to increase efficiency and reduce costs. The studies should consist primarily of collecting and analyzing additional traffic counts. Ideally, these counts should be taken at over time regular intervals over a period of time in order to establish trends and changes in travel mode and pattern.

The following discussion details a traffic study which would be applicable to both a one time count and to a series of counts taken over time. The study is presented in greater detail in the PRTPO's Working Paper Number 8, *Scope and Methodology: Truck and Recreational Vehicle Traffic Study.* The recommended study has three components: 1) count location; 2) season, day, and time of day; and 3) collection method.

Count Location: The additional traffic counts should be taken at locations which provide information on the patterns of recreational (and truck) travel.

Season, Day, and Time of Day: Recreational vehicle travel counts should ideally occur in both the winter and summer months and on weekday and week ends to determine if there is a seasonal or weekday variation in recreational travel. Recreational travel patterns are also likely to differ from peak or commuter travel patterns, therefore, extrapolation of peak hour counts is not possible and the counts must be taken all day (6:00 a.m. to 8:00 p.m.).

Collection Method: Counts at the identified locations should be taken manually to distinguish between autos, trucks and recreational vehicles.

After the data has been collected, results should be compiled and analyzed based on the following criteria.

- Comparison of weekday and week-end counts, as well as seasonal variations.

- Analysis and presentation of count patterns (e.g., 100 RV's cross the Hood Canal Bridge and 80 of these RV's turn north on US 101, while 20 RV's travel south towards Quilicene).

- A discussion of the implications of data on the state route system.

The intent of this analysis is to provide a picture of recreational travel patterns in the PRTPO area. At this time very little specific information regarding recreational travel exists and additional data is necessary to recommend specific transportation projects which address recreational travel.

In addition to the recommendations for further studies, a number of segments of the designated "Tourist Corridors" should be upgraded. The Highways/LOS/Tourism Subcommittee recommended that all tourist corridors have a geometric section that conforms to WSDOT's design standards for principal arterials, minor arterials and major collectors; and have minimum 8-foot width shoulders. In some areas topographical constraints may prohibit widenings.

CONCLUSIONS

This chapter reviews both recreational activity and traffic volumes in the PRTPO area. The review indicates that overall visits to recreational sites is increasing on the west side of the Olympic Peninsula and decreasing on the east side. In contrast, traffic volumes are generally decreasing on the west side while increasing in some areas on the east side. Further, recent salmon fishing closures and the construction of new gambling casinos will have significant (but, yet unknown) traffic impacts on the regional system. Recommendations for further study are made, as is additional discussion about the value of understanding the overall context of travel in the PRTPO area, such as through broad economic and the trip origin and destinations studies.

Chapter 8

Freight

CHAPTER 8

FREIGHT

INTRODUCTION

Efficiently moving commodities to their markets is critical to the region's economic well being. This flow of goods is dependent upon an integrated transportation network of highways, railroads, airports, ports and waterways.

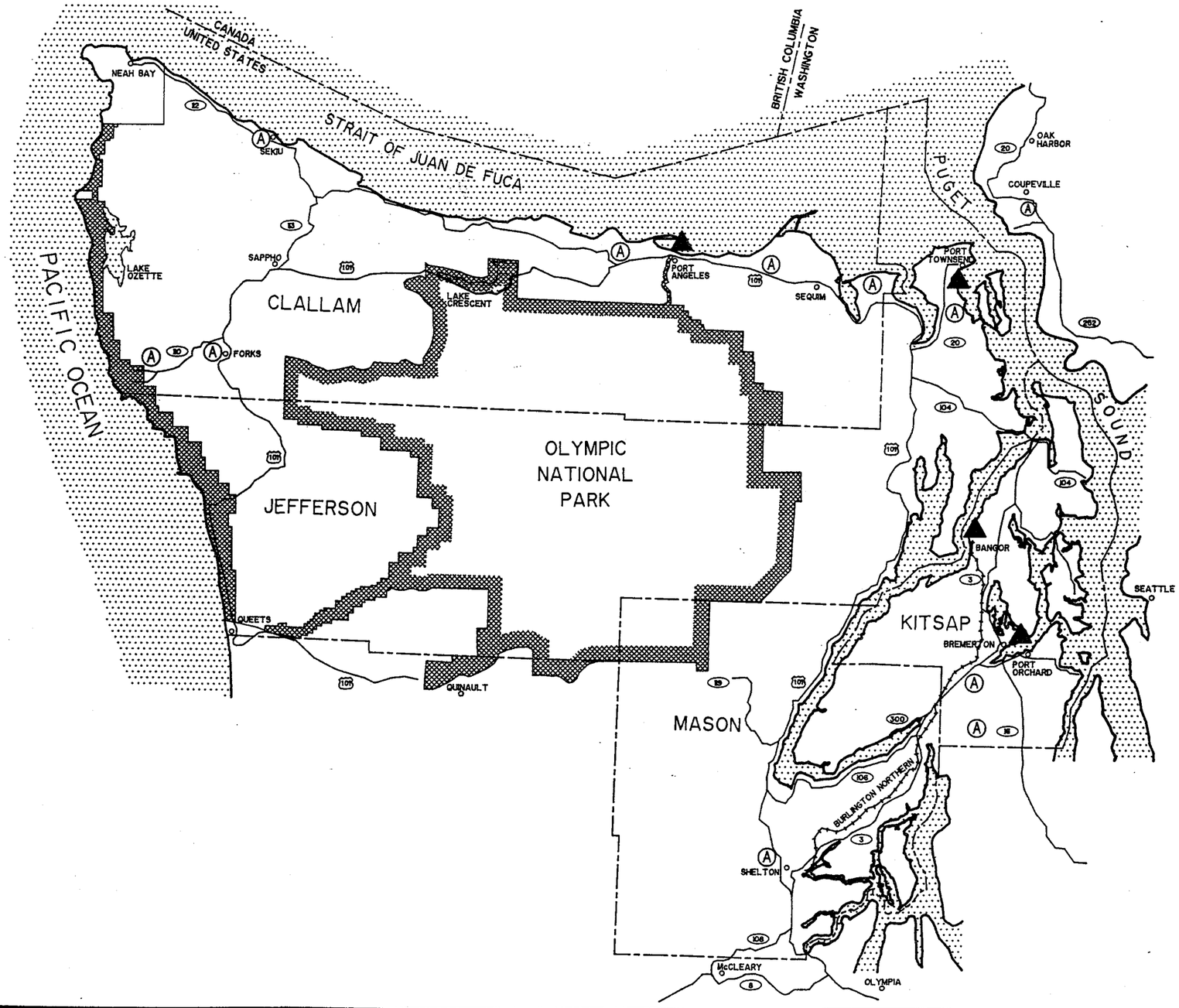
WSDOT has established a procedure to measure freight travel on all of its state routes. This is referred to as the Freight and Goods Transportation System (FTGS), but this system is not yet complete and cannot be incorporated into this chapter. Nonetheless, a review of truck travel on the system was completed which provides a generalized picture of truck travel in the PRTPO area.

The Olympic and Kitsap Peninsulas have four forms of freight travel: truck, waterborne (steamship and barge), air and rail. Trucking activity dominates, but the waterborne commerce plays a key role. Air and rail freight travel make up a relatively small percentage. Figure 8.1 depicts the major forms of freight transportation in the region, including State Highway routes, those water ports through which significant volumes of freight move, airports and a rail line.

This report provides an overview and system description of freight activity on the Olympic and Kitsap Peninsulas. The report is divided into three sections, as listed below.

- Historical Trends and Existing Conditions
- Impacts of Regional Road System
- Recommendations for Future Analysis

The first section, Historical Trends and Existing Conditions, describes freight activity for all modes: trucking, waterborne, air, and rail. These are synthesized into a single analysis in the Impacts of Regional Road System section. The Recommendations for Future Analysis focuses on identifying additional studies. At this time, current data available does not provide enough information to make project recommendations.



NORTH

0 12 MILES

SCALE: 1" = 12 MILES

LEGEND

- (A) - AIRPORTS
- ▲ - PORTS
- ⊢⊢⊢ - RAILROAD

FIGURE 8.1

SCALE AS NOTED DRAWN A.S. CHECKED S.M. DATE 3/6/95	NO. DATE REVISION APP'D. BY	PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION AIRPORT AND PORT LOCATIONS	JOB NO. 933-3689 F.B. NO. FILE NO. SEC. TWP. RGE. SHT 1 OF 1

HISTORICAL TRENDS AND EXISTING CONDITIONS

Trucking Activity

Truck volumes in the Peninsula Regional Transportation Planning Organization (PRTPO) area were analyzed from several perspectives. Truck volume data was first examined based on roadways. This analysis was supplemented by examining truck activities on the ferries in the region. Lastly, trucking activity data at the largest port in the area was examined. For these reasons, this section is divided into four parts:

- Truck volumes on State Routes.
- Truck volumes on Washington State ferries.
- Truck volumes on the Black Ball.
- Truck volumes to the Port of Port Angeles.

Each of these were examined to produce a comprehensive picture of trucking activity on the Peninsula.

Truck Volumes on State Routes

Volumes of all trucking activity on the Kitsap and Olympic Peninsulas State Routes are based on Washington State Department of Transportation (WSDOT) truck percentages of Average Annual Daily Traffic (AADT). These truck volumes are estimates and not actual counts. However, they do provide information into the trucking activity on the Kitsap and Olympic Peninsulas. Table 8.1, Total Truck Volumes, and Figure 8.2, State Route Truck Volumes, depict the 1990 total truck volumes on US and State Routes on the Peninsulas.

Trucking activity on the Kitsap and Olympic Peninsulas was analyzed in detail in PRTPO Working Paper Number 5, *Existing Freight Traffic*. The conclusions of that Working Paper identified three main points:

- Most of the total truck freight is being carried over the Hood Canal Bridge and then north towards Port Townsend, or the westbound truck freight is being carried up US 101 through Shelton.
- On a systemwide basis, the least amount of truck activity is occurring on the western side of the Olympic Peninsula on US 101 near Queets.

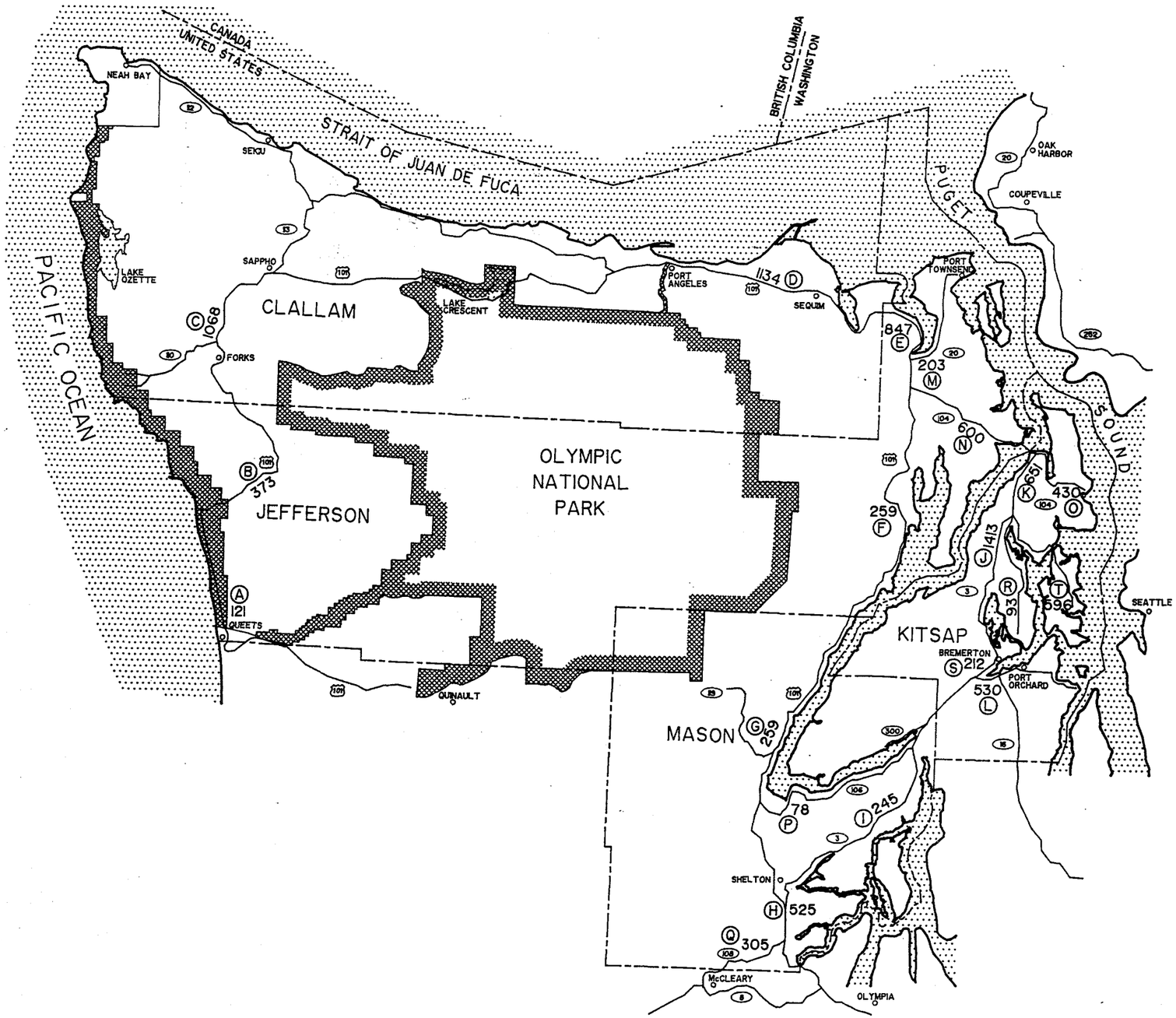
TABLE 8.1

TOTAL TRUCK VOLUMES

(As a Percent of 1990 AADT)

Map ID	Route	Mile Post	Highway Segment	Total Units	Percent Totals	AADT
A	101	MP 152.02	North of Jct Queets Cannery	121	10.00%	1,210
B	101	MP 177.33	North of Upper Hoh Road	373	25.03%	1,490
C	101	MP 193.12	North of La Push Road	1068	24.00%	4,450
D	101	MP 254.97	East of Weight Station	1134	7.00%	16,200
E	101	MP 282.56	East of SR 20	847	11.00%	7,700
F	101	MP 296.65	At Big Quilcene River Bridge	259	11.02%	2,350
G	101	MP 327.33	South of Lilliwaup St.	259	14.00%	1,850
H	003	MP 1.49	South of Arcadia Ave.	525	5.00%	10,500
I	003	MP 14.65	North of Grapeview Loop Road	245	7.00%	3,500
J	003	MP 52.22	North of Finn Hill Road	1413	9.00%	15,700
K	003	MP 56.03	North of Pioneer Way	651	7.00%	9,300
L	016	MP 28.96	At Gorst	530	10.00%	5,300
M	020	MP 0.09	North of SR 101 Wye	203	7.00%	2,900
N	104	MP 06.10	West of Sandy Shore Road	600	10.00%	6,000
O	104	MP 23.10	West of Barber Cutoff	430	5.00%	8,600
P	106	MP 1.78	North of Purdy Cutoff	78	6.00%	1,300
Q	108	MP 0.11	After Jct. County Road	305	7.01%	4,350
R	303	MP 5.81	North of Waaga Way	93	3.00%	3,100
S	304	MP 2.63	North of SR 303	212	2.26%	9,400
T	305	MP 0.98	North of High School Road	596	4.00%	14,900

Source: Washington State Department of Transportation
Annual Traffic Report, 1991
Permanent Traffic Counters (Mechanical)



NORTH

0 12 MILES

SCALE: 1" = 12 MILES

LEGEND

Ⓗ - LOCATION OF SITES (REFER TO TABLE I FOR SITE DESCRIPTION)

555 - TOTAL TRUCK COUNT AT LOCATION

FIGURE 8.2

SCALE AS NOTED			JOB NO. 923-2049
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CHECKED S.M.M.			FILE NO.
DATE 3/6/95	1 2/28/95 Revised designations	M.A.P.	SEC. TWP. RGE.
	NO. DATE REVISION	APP'D. BY	SHT. 1 OF 1

PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION
STATE ROUTE TRUCK VOLUMES

- The estimated average truck volumes on State Routes leading to and from the region's ferry terminals are SR 305 with 596 trucks per day; SR 104 at Kingston with 430 trucks per day; and SR 304 at Bremerton with 212 trucks per day. Data was not available for SR 160 at Southworth. Truck volumes were estimated as a percentage of total traffic volumes (AADT) as determined by WSDOT.

- All truck types (single, double, and triple axle) have some similar travel patterns.

An analysis of monthly travel for all vehicle types in the PRTPO shows that August has the highest volumes for any month of the year, while the lowest volumes occur in the winter months -- November through February . The travel data is for all trips and does not distinguish between truck travel and other types of travel; however, it is an indication of travel patterns on the Peninsulas. This seasonal variation in traffic coincides with the most popular tourist months, indicating a possible roadway conflict between trucks and recreational vehicles..

Ferry Systems

Two ferry systems exist in the PRTPO area that are involved in transporting freight. They are the Washington State Ferries and the privately owned Black Ball Transport route between Port Angeles and Victoria, British Columbia. The Washington State Ferry system has service to several locations in the PRTPO area, including four terminals in Kitsap County and one in Port Townsend. Black Ball Transport only operates out of Port Angeles.

Washington State Ferries

The Marine Division of Washington State Department of Transportation operates the ferry transport to various cities, islands, and peninsulas in western Washington, including Kitsap County and Port Townsend.

The Marine Division maintains records for Kitsap County and Port Townsend on regular and commercial vehicle travel by route. **This data is not directly comparable to the estimated daily truck count data on the US and State Routes because the collection methods vary.** For the Marine Division, trucks are part of the commercial vehicle class. Commercial vehicles include all oversized vehicles. WSDOT data is based on vehicle axle count estimations. Nonetheless, review of the Marine Division data on the State ferries does provide additional insight into freight activity on the Olympic Peninsula.

Table 8.2, Washington State Ferry System, Rider Segment Report, shows the annual volume of total, regular and commercial vehicle travel on the ferry routes to Kitsap County and Port Townsend. According to the Marine Division's figures (as shown in Table 8.2), the highest commercial truck volumes occur on the Edmonds/Kingston route with 54,676 commercial

vehicles per year. The second highest volumes occur on the Seattle/Baingbridge Island route with 47,033 commercial vehicles.

The third highest volumes occur on the Fauntleroy/Vashon/Southworth route with over 40,264 commercial vehicles per year. The Port Townsend/Keystone route about 7,793 commercial vehicles per year, and the Seattle/Bremerton route carries 6,702.

Table 8.3, Comparison of Daily Commercial Traffic and Truck Counts, contains the estimated average daily commercial volumes by ferry route. For example, the Seattle/Bainbridge Island annual commercial volumes of 47,033 averages to 128 commercial vehicles per day. Also depicted in Table 8.3 are the available truck volumes for state route locations nearest the ferry terminals in Kitsap County and in Port Townsend. The differences in the two volumes present some interesting points for discussion. One possible reason for the difference may be that the state ferry system includes all oversized vehicles and not just trucks in their commercial vehicle classification.

Black Ball Transport

Black Ball Transport provides private ferry service from Port Angeles, Washington, to Victoria, British Columbia in Canada. Table 8.4, Black Ball Transport, Inc. Traffic Statistics, M.V. Coho, depicts the traffic statistics for all vehicles traveling on the Black Ball ferry. Both the monthly volume and the seasonal changes in truck traffic are depicted for trucks and truck trailers.

That data clearly shows truck volumes to be highest in the summer months, with about 1,000 vehicles carried per summer month in 1991. Winter months carry the lowest volume of trucks and trucks with trailers. January had the lowest volume, with approximately 525 trucks and truck trailers. December and February carried approximately 660 truck and truck trailers in 1991. It is important to note however, that Black Ball ferry service is reduced during the winter months.

TABLE 8.2

WSDOT 1991 FERRY RIDERSHIP

	TOTAL VEHICLES	REGULAR AUTO		COMMUTER		RECREATIONAL		COMMERCIAL		MISC.	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count
ROUTE											
Seattle/Bremerton	670,177	67%	449,019	29%	193,011	0.5%	3,351	1%	6,702	3%	18,095
Seattle/Bainbridge Island	2,137,856	52%	1,118,099	42%	895,762	0.6%	12,827	2%	47,033	3%	64,136
Fauntleroy/Vashon/Southworth	1,750,616	31%	546,192	63%	2,102,888	0.4%	7,002	2%	40,264	3%	52,518
Edmonds/Kingston	1,822,548	67%	1,221,107	26%	468,395	2%	43,741	3%	54,676	2%	34,628
Port Townsend/ Keystone	371,119	82%	302,833	6%	23,009	7%	24,494	2%	7,793	2%	6,309

TABLE 8.3

COMPARISON OF DAILY COMMERCIAL TRAFFIC AND TRUCK COUNTS

Routes	Average Annual Daily Commercial Ferry Traffic[1]	WSDOT Truck Counts Near Ferry Terminals[2]
Seattle/Bremerton	18	212
Seattle/Bainbridge Island	128	596
Fauntleroy/Vashon/Southworth	110	N/A
Edmonds/Kingston	149	430
Keystone/Port Townsend	21	86

(1) Source: Washington State Ferry System
(2) Source: Washington State Department of Transportation

TABLE 8.4

BLACK BALL TRANSPORT, INC.

1991 TRAFFIC STATISTICS, M.V. COHO

ALL VEHICLES

Month	Autos	Trailers	Campers	Motor Homes	Trucks, & Truck Trailers	Stages	Other	Total	Bikes
*January	1,056	22	18	31	524	N/A	N/A	1,651	6
February	1,922	39	28	59	632	3	4	2,687	48
March	5,137	100	76	145	889	12	19	6,378	109
April	7,679	122	106	180	904	20	52	9,063	138
May	11,854	240	143	342	1,020	99	181	13,879	190
June	16,472	551	246	769	1,010	148	338	19,534	553
July	20,320	898	396	1,305	998	217	713	24,847	1,179
August	20,899	947	398	1,256	1,008	175	768	25,451	1,297
September	17,477	501	295	857	1,054	102	349	20,635	761
October	9,245	125	109	320	872	12	76	10,759	170
November	4,535	83	70	111	875	6	16	5,696	39
December	2,701	41	35	68	661	3	5	3,514	10
Totals	119,297	3,669	1,920	5,443	10,447	797	2,521	144,094	4,500

*Out of service, January 20, 1991-February 3, 1991, at Shipyard.
Current Blackball Ferry schedule may vary from 1991 schedule.

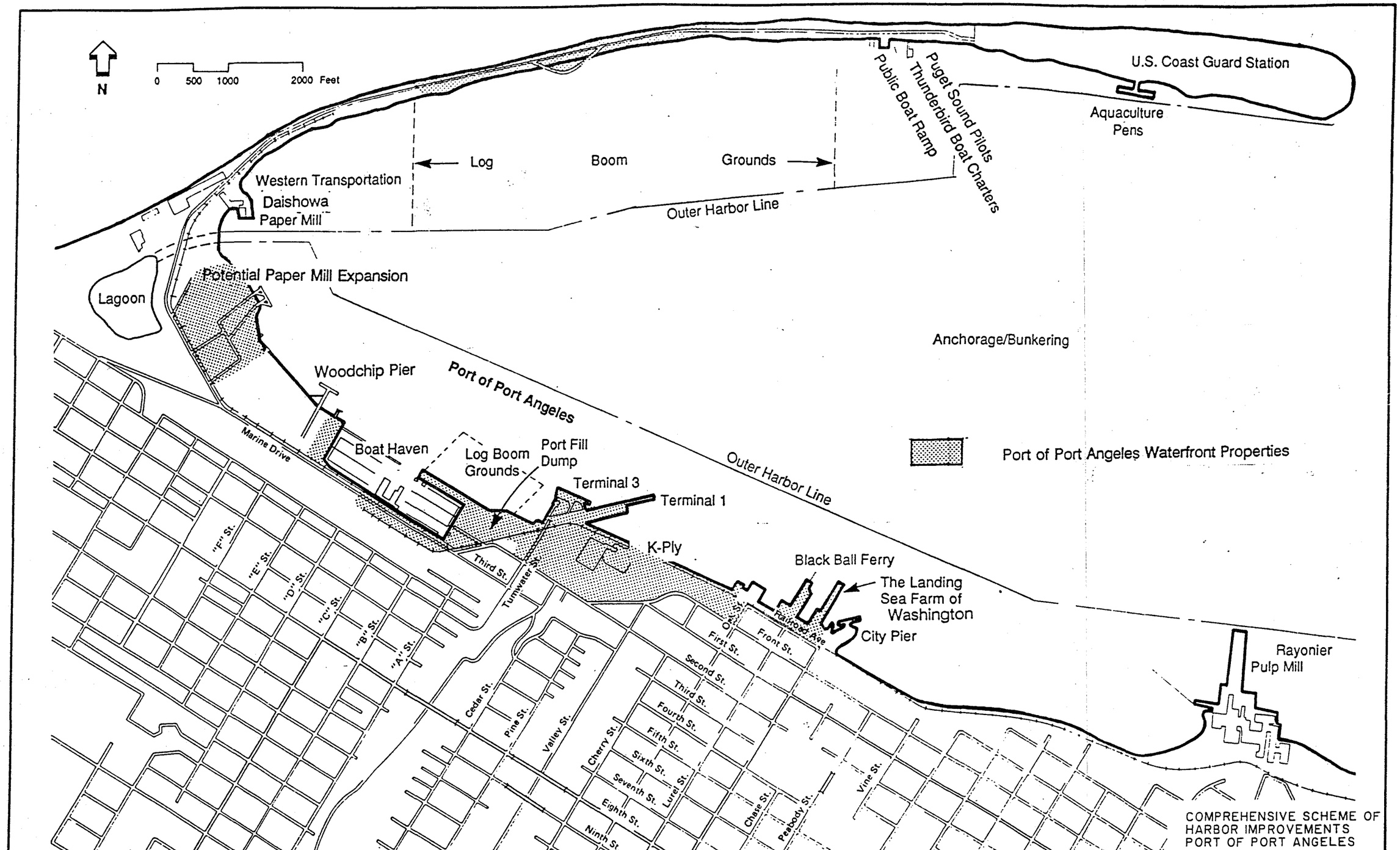

N
0 500 1000 2000 Feet
U.S. Coast Guard Station
Aquaculture Pens
Puget Sound Pilots
Thunderbird Boat Charters
Public Boat Ramp
Log Boom Grounds
Outer Harbor Line
Western Transportation
Daishowa Paper Mill
Potential Paper Mill Expansion
Lagoon
Anchorage/Bunkering
Woodchip Pier
Port of Port Angeles
Marine Drive
Boat Haven
Log Boom Grounds
Port Fill Dump
Terminal 3
Terminal 1
K-Ply
Black Ball Ferry
The Landing
Sea Farm of Washington
City Pier
Rayonier Pulp Mill
Port of Port Angeles Waterfront Properties
"F" St.
"E" St.
"D" St.
"C" St.
"B" St.
"A" St.
Third St.
Tumwater St.
Railroad Ave
First St.
Front St.
Second St.
Third St.
Fourth St.
Fifth St.
Sixth St.
Seventh St.
Eighth St.
Ninth St.
Cedar St.
Pine St.
Valley St.
Cherry St.
Laurel St.
Chase St.
Peabody St.
Vine St.
COMPREHENSIVE SCHEME OF HARBOR IMPROVEMENTS PORT OF PORT ANGELES
SCALE AS NOTED
DRAWN A.S.
CHECKED S.M.M.
DATE 11-30-93
NO. DATE REVISION APP'D. BY
PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION
PORT ANGELES HARBOR EXISTING WATERFRONT USAGE
JOB NO. 925-2049
F.A. NO.
FILE NO.
SEC. TWP. RGE.
SHT 1 OF 1

FIGURE 8.3

Truck Travel to the Port of Port Angeles

This section focuses on truck travel to the Port of Port Angeles marine terminals. Shipping activity at the Port is discussed in a later section. As can be seen in Figure 8.3, Port Angeles Harbor Existing Waterfront Usage, the port and private marine terminals are located to the west of the Black Ball ferry terminal. The primary access to the industrial waterfront is down the Tumwater Truck Route and along Marine Drive. The Port is dependent upon the logging industry, and trucking activity at the Port primarily consists of log trucks bringing in cargo for export. Some lumber is brought in for shipment however, the bulk of the trucking is the delivery of raw logs.

After arriving at the Port area, the logs are either stored on land or in the water. Those stored on land are later transported to ships. Those stored in the water are either later loaded from the water to ships or made into rafts and towed to mills in the Puget Sound area, such as those in Tacoma or Everett.

In 1993, the Port log dump received 22,810 truck loads of logs, or approximately 89 loads per day. In addition, because of the limited log storage space in the marine terminal area, some trucks deliver loads directly to shipside during ship loading. These loads originate at log storage areas south and west of the City. The Port estimates there were 11,900 truck loads delivered directly to ships in 1993.

Trucking activity to the Port has declined in recent years because of reduced logging activity (see Table 8.5). The Port has been examining ways to diversify its activities. At this time, the Port is considering several possible options, including ship repair and temporary berthing.

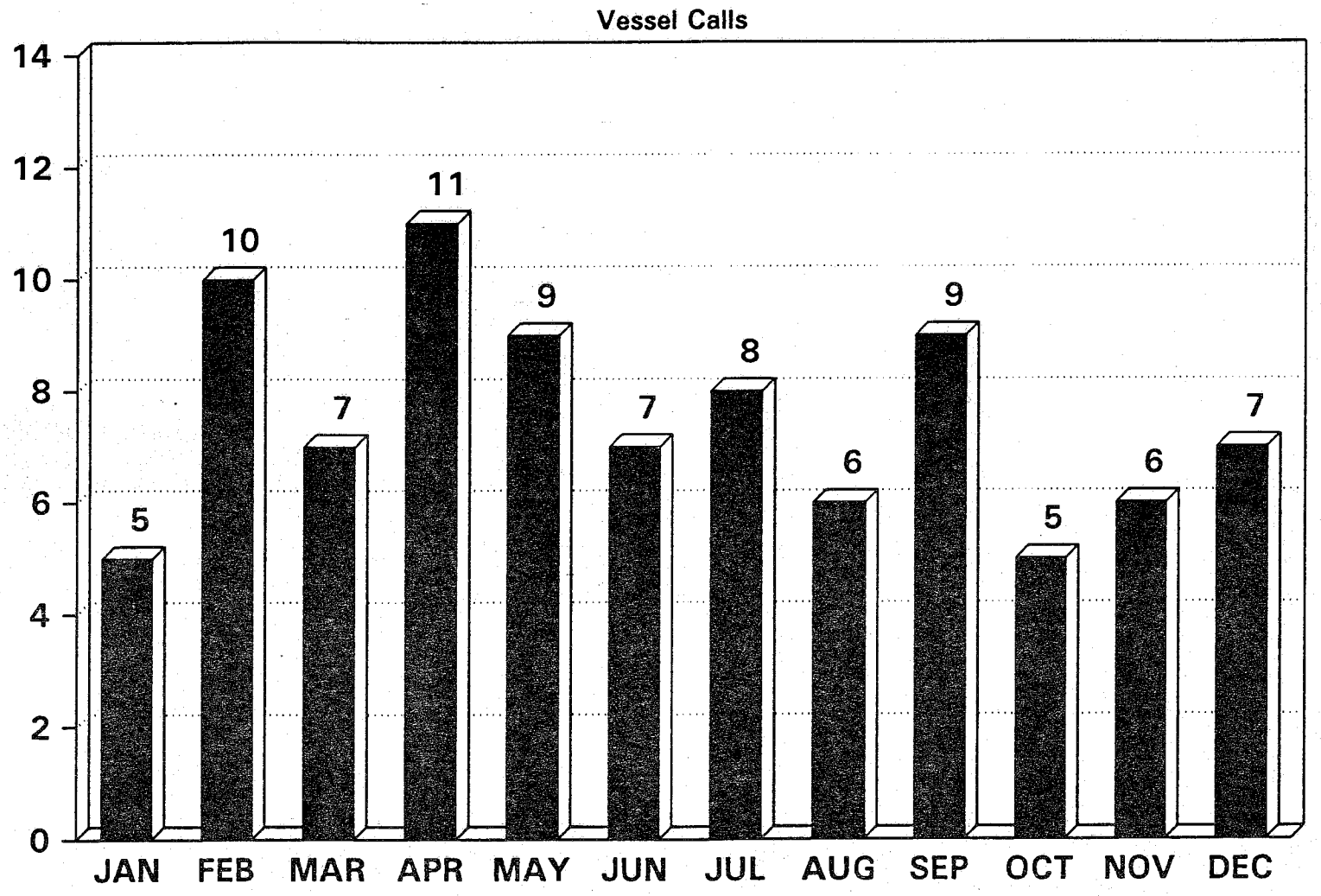
In addition to the trucking activity at the Port itself, the pulp mills on either side of the Port (see Figure 8.3) also generate trucking activity. This activity primarily consists of trucks transporting milled products to the Tacoma and Seattle areas. Many of these trucks return empty to pick up another load. Since this increases freight costs, truckers and mill producers are looking for return loads to bring back from the Tacoma and Seattle areas.

Shipping Activity

Port of Port Angeles

The Port of Port Angeles has five berths ranging in depth from 34 feet to 45 feet. All have expected economic life spans of about 20 years. Logging and related products are the major outbound cargo, but the Port does have the berths capable of handling other products (*Port of Port Angeles Comprehensive Scheme of Harbor Improvements,* TAMS, 1986, pages 3.1.1 and 3.1.2). The Port is limited because it has insufficient terminal support area and backup land (*Ibid*, page 2.2).

PORT OF PORT ANGELES
MONTHLY VESSEL ARRIVAL PATTERN



Source: *Port of Port Angeles*
Comprehensive Scheme of Harbor Improvements TAMS, 1986 Page 3.3.6

FIGURE 8.4

While marine shipping is often more economical than truck shipping, the Port Townsend Paper Corporation, generates over 40 in-bound trucks per day. In-bound freight consists primarily of raw materials, such as wood chips, while outbound trucking freight are paper goods.

The Port of Shelton

The Port of Shelton is located south of the Hood Canal along Oakland Bay. While adjacent to water, this port has no shipping activity; freight activity is conducted by truck or by rail. The rail line is a part of the same line that serves the Bremerton Naval Shipyard and the Bangor Submarine Base. The Port of Shelton also has an airfield.

The Port of Shelton has several tenants and the activities at the port range from chip production to machinery and fabrication. Three of the tenants are timber-related: chip production from raw timber, pole and piling production, and panel production at the saw mill. The fourth major tenant activity is in the area of machinery and fabrication. Specifically, this tenant dismantles Boeing 727's and 737's. The planes are flown to the Port's airfield and then brought to the tenant's area for dismantling. The parts from the dismantled plan are then shipped out by truck to Seattle or Paine Field.The rail line is used for export from Shelton south to the Olympia area and beyond. Lumber is the main export, particularly poles and pilings, which are shipped to California for treatment.

Mason County and the Shelton area are also an important areas for Christmas trees and for evergreens for Christmas boughs and swags. Consequently, during the eight weeks before Christmas there is a notable increase in trucking activity as these goods are transported from the fields to the markets. Christmas trees from the Mason County area are shipped all over the United States and all over the world. Trees going to the southwestern and Asian markets leave the fields during the first part of the season. Those to the Southwest are trucked via US 101 and Interstate 5 while those to Asia are trucked to Seattle and then shipped across the Pacific.

Specific information on the volume of trees shipped, the number of trucks and their routes is not readily available. Each individual Christmas tree company maintains their own records. The companies contacted expressed support for detailed study of truck movement, but this in depth study was beyond the scope of the current project. Inclusion of any Christmas related truck traffic is recommended for any additional freight study in the PRTPO area.

Navel Undersea Warfare Center

The Naval Undersea Warfare Center (NUWC) at Keyport in Kitsap County functions as headquarters for several depots, ranging, and testing activities, including three-dimensional under-sea test ranges. While Keyport is the main facility, there are also are four "detachments"

located throughout the west: Indian Island, Washington; Hawthorne, Nevada; Lualualei, Hawaii; and San Diego, California.

Information was not available for two military installations: Indian Island and the Manchester Fueling Station. Several efforts were made to gather information, but response was not forthcoming. Indian Island is located east of Port Townsend at the mouth of Admiralty Inlet, which leads to both the Hood Canal and to the Seattle/Tacoma Metropolitan area. The Island primarily functions as a loading station. The Manchester Fueling Station is in Kitsap County, east of Port Orchard. Presumably, the fuel is stored there for use by naval ships located across the Sinclair Inlet at the Puget Sound Naval Shipyard in Bremerton.

Puget Sound Naval Shipyard

The Puget Sound Naval Shipyard is located in Bremerton, adjacent to the WSDOT ferry dock. The Shipyard is home base to five or six vessels, including two supply ships and two nuclear cruisers. Traditionally, the Shipyard has been primarily involved in overhaul and repair of ships and submarines. But now the Navy is downsizing, and the Shipyard is involved in recycling submarines. This process essentially consists of taking the submarines apart and shipping the metal by rail to other destinations for melting and recycling.

In addition to exporting metal for recycling, the rail lines also supply the Shipyard with material and coal for its steam plant. The coal shipments are expected to decline in the future because the Shipyard plans to convert its coal plant to gas. Trucks also supply goods and materials to the Shipyard, but no specific volume count for truck traffic was available.

Bangor Naval Base

Bangor Naval Base is located on the western side of Kitsap County along the Hood Canal. The Naval Base is the shore support for the Ohio Class Trident Submarines. The Trident program consists of three parts: the nuclear powered submarine, the missile, and the shore support for both the submarine and the missile. Bangor Naval Base is responsible for maintaining both the submarines and their crews. Some goods, such as coal, are supplied to the base by rail.

Rail Activity

The only active railroad line in the four county PRTPO area is in Kitsap County. The rail line runs north through Shelton and continues up to the Bangor Naval Station. This line is owned by the US Navy and is operated by the Burlington Northern Railroad. There is a spur line that cuts off of this branch line and runs into the Bremerton Naval Shipyard.

The Navy is the only shipper on this line. As mentioned earlier, the rail line is used by both Puget Sound Naval Shipyard and by Bangor Naval Base. The type and quantity of freight

shipped on the line varies. The commodities include munitions, parts and machinery, and other supplies that are needed at the naval facilities. The latest count available from WSDOT indicated that in 1991, there were 175,000 ton-miles of freight shipped on the line (a ton-mile is equal to one ton of freight carried one mile). This was the only specific data available about freight shipped on the line.

In Port Townsend, there is a small remnant of the former Port Townsend to Port Angeles rail line. This line had been the Olympic Peninsula Subdivision of the Chicago, Milwaukee, St. Paul and Pacific Railroad. Upon this railroad's bankruptcy and subsequent abandonment of the line, a shortline operator ran the line until that operator went bankrupt and shut down in 1984. The segment that remains in Port Townsend is approximately two miles long and runs from the barge/carfloat docks to the Port Townsend Paper Company. Although this line is not currently operating, it is intact and could be returned to service.

Air Freight Activity

The four county region has a total of eleven airports. Of these airports, only the William R. Fairchild Airport in Port Angeles has regularly scheduled commercial air service. The four cargo operators at the Port Angeles airport include Horizon Airlines, Federal Express, United Parcel Service, and Pony Express Air Service. There was a total of 335 tons of air cargo originating or terminating at the airport) that passed through this airport in 1992.

The airport master plan does not contain any relevant information about landside operations, so there is no specific information about associated truck traffic. United Parcel Service and Federal Express have air service to the airport five to six days a week, so there is at least one truck from each company meeting the air cargo flight. With one or two other daily cargo/passenger flights to the airport each day, there are an estimated four or five trucks going into the airport each day. In contrast, the Forks Airport has no scheduled service. This airport is a general aviation facility that has an occasional charter flight in to bring parts for logging companies and to provide emergency or "as needed" service.

IMPACTS ON ROAD NETWORK

Freight travel, like recreational travel, has several impacts on roadways. The road's design characteristics -- such as width, alignment, and sight distance -- may be inappropriate for trucks. The size of the trucks can obstruct the sight distance of other vehicles, which may impact roadway alignment. The pavement structure is also impacted by the heavy weight of the trucks. Trucks, like RV's, may require different turning radii or driveway access.

Consequently, transportation improvements stemming from freight travel depends on the roadway, the type of activity (e.g., turning or passing), and the type of vehicles using the

roadway, such as a concentration of trucks. To determine the type of transportation improvement needed, additional traffic studies are necessary, as described in the **Recommendations** section.

The analysis of freight activity in the PRTPO area indicates that Port Angeles is the center for freight activity and may be the focal point of freight-related roadway improvements. According to WSDOT truck estimates, the Port Angeles area has one of the highest truck volumes of all sites analyzed. Port Angeles also has the largest shipping activity, with both the Port of Port Angeles and Black Ball ferry service located there. In addition to the waterborne activities, the Port and Black Ball attract trucking activity, as do the active two pulp mills located on the waterfront.

The Port Angeles area also has the most active airport, the William R. Fairchild Airport. This airport has three commercial cargo flights five or six days a week and generates about 8 truck trips per day. Because Port Angeles has the most active airport, water ports, and trucking activity, it can be seen as the hub of freight activity in the PRTPO region.

Kitsap County also has significant freight activity. While the data is limited, it does indicate that the Puget Sound Naval Shipyard and Bangor Naval Base are major freight destinations, but the amount of freight travel arriving by truck as compared to that arriving by rail is unclear. However, in addition to these destination points, Kitsap County also has high volumes of through freight travel, both on the highway system and on the ferry system.

Overall, the data available on freight activity in the PRTPO region is sketchy at best. Inferences can be made about freight travel patterns, but detailed analysis is not possible. For example, trucking activity in Kitsap County is highest on SR 3 near Finn Hill Road, where estimated volumes are over 1,400 trucks per day. But north of Finn Hill Road on SR 3 and south on SR 305, estimated truck volumes are roughly 500 to 600 trucks per day, implying that truck travel is splintering off onto SR 3 north and SR 205. These travel pattern can be inferred, but the validity of the inference cannot be verified. More detailed truck counts and their turning movements at the interchange of SR 3 and SR 205 is necessary.

RECOMMENDATIONS

Trucking activity influences roadway capacity and design as well as the identification of future transportation corridors. A more sufficient database is necessary to determine the impact of trucks on the roadways and identify where specific improvements may be necessary. Recommendations include traffic studies which would provide information on the mode, travel route, variations in season, day, and time of truck traffic. Provided below is a description of the type of analysis which should be carried out in order to distill relevant information from the data.

These studies should be carried out in conjunction with any recreational travel studies in order to increase efficiency and reduce costs. The studies should consist primarily of collecting and analyzing additional traffic counts. Ideally, these counts should be taken at regular intervals over a period of time in order to establish trends and changes in mode and pattern.

The following details a traffic study which would be applicable to both a one time count and to a series of counts taken over time. The study is presented in greater detail in the PRTPO's Working Paper Number 8, *Scope and Methodology: Truck and Recreational Vehicle Traffic Study*. The recommended study has three components: 1) count location; 2) season, day and time of day; and 3) collection method. These components are described below.

Count Location: The additional traffic counts should be taken in locations that could provide information on the patterns of truck (and recreational) travel.

Season, Day, and Time of Day: Freight travel studies should ideally occur in both the winter and summer months and on weekday and week ends to determine if there is a seasonal or weekday variation. Freight travel patterns are likely to differ from peak or commuter travel patterns, therefore, extrapolation of peak counts is not possible, and the counts should be taken all day (6:00 a.m. to 8:00 p.m.).

Collection Method: Counts at the identified locations should be taken manually to distinguish between autos, recreational vehicles, trucks, and the different truck classifications.

After the data has been collected, results should be compiled and analyzed based on the following criteria.

- Comparison of weekday and weekend counts, as well as seasonal and time of day variations.
- Analysis and presentation of count patterns (e.g., 100 trucks cross the Hood Canal Bridge and 20 trucks use SR 112).
- A discussion of the implications of data on the state route system.

The intent of this analysis is to provide a picture of freight activity in the PRTPO area. At this time, very little specific information exists regarding freight activity, and additional data is necessary to identify specific transportation projects which address recreational travel.

CONCLUSIONS

This chapter reviews freight activity in the PRTPO area. The review indicates that Port Angeles has the most freight activity in the area. The Port of Port Angeles handles shipping and ferry service and attracts significant truck volumes. Nearby is the William R. Fairchild airport, which is the busiest in the region. Kitsap County also has notable trucking activity. SR 3 near Finn Hill Road has one of the highest truck volumes in the PRTPO region. Kitsap County also has four ferry terminals which bring in trucks from the Central Puget Sound area.

Before specific recommendations can be developed for freight activity, additional study is required. Currently, available data on freight activity does not sufficiently indicate roadway deficiencies caused by freight travel. Consequently, at this time a recommendation is made for additional study. For efficiency, this study should be carried out in conjunction with the previously recommended recreational travel study.

Chapter 9

Transportation Demand Management

CHAPTER 9

TRANSPORTATION DEMAND MANAGEMENT

INTRODUCTION

Travel Demand Management (TDM) has become an important focus of transportation planning and policy. This chapter presents an overview of TDM and its applicability to the PRTPO region. The objective is to provide a regional perspective of TDM so that the PRTPO can develop appropriate plans and strategies for eventual implementation.

Defining TDM

TDM is easily confused with Transportation Control Measures and with Transportation System Management. TDM is essentially a subset of Transportation Control Measures (TCM) and the opposite of Transportation System Management (TSM). TDM measures focus on transportation demand, while TSM measures focus on transportation supply. The Washington State Department of Transportation has developed definitions of each of these management tools, and these definitions are presented below.

> **Transportation Demand Management (TDM):** Actions that address traffic congestion by focusing on reducing travel rather increasing transportation supply. Travel demand is reduced by measures which either eliminate trip making or accommodate person trips in fewer vehicles. Examples include flexible working hours, car and vanpooling, and commute trip reduction hours.
>
> **Transportation Control Measures (TCM):** Broadly defined as any transportation project or program intended to decrease automotive travel or otherwise reduce vehicle emission.
>
> **Transportation System Management (TSM):** Actions that improve the efficiency of existing transportation services and facilities to increase the carrying capacity and facilitates the use of high-occupancy vehicles (HOV's). Examples include traffic signal optimization; improved transit operations; and surveillance, control, and driver information systems.

Commute Trip Reduction Act

Related to TDM is Washington State's Commute Trip Reduction (CTR) law. CTR is essentially one form of TDM. CTR is essentially a form of TDM that is focused on the commute trip.

In an effort to reduce air pollution, traffic congestion and energy use, the State Legislature passed the Commute Trip Reduction Act. The Commute Trip Reduction Task Force produced *Guidelines*, a reference document designed to assist communities and employers complying with the legislation. As described in *Guidelines*, the intent of the CTR legislation is to "improve air quality, reduce traffic congestion, and reduce the consumption of petroleum fuels through employer based programs that encourage the use of alternatives to the single-occupant vehicle for the commute trip".

In addition, CTR is only applicable to employers located in Counties with over 150,000 population who have 100 or more full-time employees at a work site scheduled to begin their work day between 6:00 a.m. and 9:00 a.m. (*Guidelines*, page viii). These CTR Plans/Ordinances would require all major employers to develop and implement CTR programs for their employees, that would reduce the number of commute trips made in single occupant vehicles (SOV). Kitsap County is currently the only county in the PRTPO that has a population greater than 150,000.

IMPLEMENTING TDM

At the regional level, implementing TDM is addressed in two stages: current implementation efforts and future efforts. This distinction is made because the type of effort changes overtime. Presently, efforts are appropriately focused on the policy level, while future efforts are more likely to be project oriented. The following discussion about implementing TDM addresses both of these aspects of implementing TDM.

Current Implementation

At this time, three of the four counties in the PRTPO -- Clallam, Jefferson, and Mason --are not required to implement CTR. Consequently, implementing TDM at the regional level comes primarily in the form of goals and policies. These goals and policies provide the framework for county and city jurisdictions and for transit agencies to develop implementing measures, such as well placed transit stops or adequate pedestrian facilities. Local jurisdictions and transit agencies would also work with the Washington State Department of Transportation to implement TDM measures on state routes.

However, Kitsap County is taking additional steps in implementing TDM. Because of its size, Kitsap County is the only county in the PRTPO region required to develop and implement a Commute Trip Reduction Plan. With Kitsap Transit as the lead, the county has taken steps to meet the CTR goals outlined in the law.

Lastly, the PRTPO has worked to develop a multimodal element to the RTP. Fully outline in Chapter 6, the multimodal element works to linked transit use with other modes of travel,

particularly ferry travel. These three elements -- Goals and Policies, the Commute Trip Reduction Act, and the Multimodal Chapter -- demonstrate how the PRTPO is actively integrating TDM into it's Transportation Plan.

Goals and Policies

The PRTPO has developed goals and policies which support TDM measures. The following examples of the PRTPO Goals and Policies indicate the strong level of support that TDM has in the Peninsula region. By developing these goals and policies, the PRTPO is providing the region with the framework to implement successful programs and viable transportation alternatives.

For example, one of the Overall Goals of the PRTPO is to "(s)upport reducing the reliance on the single occupant vehicle and increasing use of alternative modes in urban growth areas and in regional commuter traffic."

This overall goal is supported throughout the other, more specific goals and policies. A review of the PRTPO Regional Transportation Plan chapter on Goals and Policies shows how fully TDM is supported by the PRTPO. The full Goals and Policies are can be found in Chapter 2, but the individual goals relevant to TDM are presented below.

Goal A) Develop multimodal transportation service connections and transfers at transfer sites such as ferry terminals, airport facilities, and bus depots.

Goal B) Encourage adoption of land-use development regulations that implement transit-oriented development within Urban Growth Areas.

Goal C) Encourage reducing reliance on the single-occupant vehicle by reducing the need for vehicle trips and by providing and coordinating other modes of transportation. Also support increasing the cost and time savings of alternative modes so they are effective competitors to the single-occupant vehicle.

Goal D) All transportation modes and facilities should be accessible to all persons.

Policy 4) Support transit, alternative, and multimodal travel with land use policies for low-income housing, affordable housing, higher density housing, and major employment centers.

Goal E) The geographic region of he PRTPO is uniquely situated to use marine transportation corridors. These marine corridors will be consistently and regularly considered in transportation issues.

Policy 1) Consider ferry routes and vessels as a form of mass transit.

Policy 4) Promote high occupancy vehicle priorities on ferry vessels.

Other categories identified in the PRTPO Goals and Policies support TDM measures. Under Levels of Service goals, the efficient and safe movement of people and goods is emphasized. Under Freight, Goal 2, Policy 2 specifically calls for more emphasis on TDM strategies to enhance freight movement. The Highways goals and policies also express support for TDM measures by calling for the increased efficiency of the regional highway system by maximizing use of existing facilities, while the non-motorized and the multimodal goals stress increased options and access to various transportation alternatives besides the single occupant vehicle.

Commute Trip Reduction

Kitsap county is the only county in the PRTPO region that has a population of over 150,000. Through a 1992 Interlocal Agreement with Kitsap County and the cities of Bainbridge Island, Bremerton, Port Orchard, and Poulsbo, Kitsap Transit was given the "lead agency role" in developing, implementing, and administering the CTR Plans/ordinances for all five jurisdictions. Kitsap Transit hired a full-time Transportation Demand Management Planner to perform the duties necessary to fulfill its obligations under this Agreement.

A CTR steering committee was formed and is made up of representatives from major employers, both private and public, throughout the county. Using input from this CTR steering committee, Kitsap transit developed a CTR plan/ordinance that was adopted into law in early 1993 by each jurisdiction. Kitsap Transit is now administering all of the CRT Plans/Ordinances within the County.

Early in 1993 all major employers within the county conducted a State provided CTR employee survey. As the information gained from this survey becomes available, employers will be able to customize their CTR programs to meet the transportation needs of their employees. These CTR programs must be developed and submitted to Kitsap Transit for review by August 1993. Each CTR program must be approved by Kitsap Transit and implemented no later than February 1, 1994. In administering the CTR Plans/Ordinances in Kitsap County, Kitsap Transit will work closely with and report to the Washington State Energy Office.

During the next seven years, Kitsap Transit will monitor each employer's CTR program and its progress toward reducing the number of commute trips made in SOV's. All of the CTR plans/Ordinances require a 15 percent reduction in the number of SOV's by 1995, a 25 percent reduction by 1997, and a 35 percent reduction by 1999. To help major employers meet these CTR goals, Kitsap Transit will provide the following services:

assist each employer in developing its CTR program;

provide the employer with formal "employee transportation coordinator" training; and

provide consultation and training in parking management, telecommuting and a variety of other Transportation Demand Management Topics.

Kitsap Transit offers several transit services that can help employers meet the SOV trip reduction goals. These are described below.

Regular routed service: Kitsap Transit offers regular service to several key locations, including ferry terminals, Puget Sound Naval Shipyard, Bangor Naval Base, and the Kitsap Mall.

Paratransit service: This is a specialized bus service providing door-to-door transportation for individuals whose disability prevents theme form riding regular routed Kitsap Transit bus service.

Worker/Driver Bus Program: This program is a specialized commuter bus service with routes designed around Puget Sound Naval Shipyard (PSNS) employees and their neighborhoods. This program is unique because it allows a PSNS employee to also be employed by Kitsap Transit and allowed to drive a Kitsap Transit bus between home and work. The worker/driver picks up neighboring PSNS employees and carries them to and from the shipyard.

Commuter Ridematch Service: Kitsap Transit offers a free computerized ridematching service for commuters wanting to join or form a car or vanpool. The Ridematch Service matches commuters with a similar or flexible work schedules to share their commute with others traveling to the same work place or the same general area. Kitsap Transit's ridematch system uses a state-of-the-art computerized database program to bring commuters together.

Carpool Registration Program: Kitsap Transit's Carpool Registration Program is free to all employers within Kitsap County. An employer wanting to participate in the program receives parking signs from Kitsap Transit. These signs are free to the

employer. They read "Kitsap Transit Registered Carpool Only, 1-800-501-RIDE". An employer chooses a number of preferential parking spaces and posts these signs in the parking spaces. Commuters wanting to park in the preferential spaces must first register their carpool, at no cost, with Kitsap Transit. All carpools must re-register every six months. Each carpool is issued a permit that must be displayed on the vehicle. Every carpool member received a Smart Commuter Discount Card and is eligible for a fee "Guaranteed Ride Home" in the event of an emergency.

Smart Commuter Discount Cards: Kitsap Transit provides all Smart Commuter (commuters that walk, bicycle, carpool, vanpool or takes the bus to work) a "Smart Commuter Discount Car". This card enables the holder to receive discounts off a variety of merchandise and services from over 100 local merchants. To receive this card, a Smart Commuter must register with Kitsap Transit.

Guaranteed Ride Home Program: Kitsap Transit provides a free guaranteed taxi ride home, in the event of emergency, to all register Smart Commuters. A smart Commuter may receive a free trip when

he/she or a family member is ill, or

he/she unexpectedly has to work late at the request of a supervisor, or

he/she missed or will miss a normal ride due to an unexpected change in the schedule of others (e.g, car pool driver has to work late).

Kitsap Transit also offers a School Education Program to increase students awareness of commute options and the impacts of single occupant travel. The program comes with an entertaining and brightly colored booklet called "How to become a Kitsap Transit Smart Tripper, A Student Guide to Public Transit".

These programs offered by Kitsap Transit are intended to assist employers in meeting the goal of the CTR legislation. They are described here to indicate the depth and range of the CTR program in the PRTPO area.

Future Implementation

As the region works with local jurisdictions, transit agencies, and the state to implement the regional Goals and Policies, the PRTPO may develop regional TDM projects. These projects are not foreseeable now because the region is just beginning to implement the Regional Goals and Policies. But over time, the PRTPO will identify potential regional TDM projects.

CONCLUSION

This chapter defines TDM and describes how TDM differs from other transportation management tools. Other management tools such as Transportation System Management, which uses supply to manage travel. This chapter also describes how the PRTPO has demonstrated support of TDM by incorporating demand management measures into the regional Goals and Policies. Applying the Goals and Policies is the first step towards implementing TDM in the region. The Goals and Policies lay the groundwork for developing more specific, project oriented TDM.

Chapter 10
Non-motorized

CHAPTER 10

NON-MOTORIZED

INTRODUCTION

This chapter discusses non-motorized travel, primarily pedestrian and bicycle. Historically, planning for non-motorized accommodations and facilities was primarily a local matter, reflecting real differences in urban, suburban and rural settlement and travel patterns. Today, because of GMA, ISTEA, the Clean Air Act, and other regional and local priorities, greater federal, state and local emphasis is being placed on non-motorized travel; and as a result, these alternative ways to meet capacity needs are also addressing environmental, community health and livability issues.

Adjacent land uses and densities, denoting urban or rural character, are key factors in determining non-motorized accommodations. However, planning for, and selecting, appropriate corridors and facility improvements can be complicated by the fact that usually more than one jurisdiction is involved with their own respective design and facility standards. This is also true of the PRTPO four county region.

In general, the adoption and implementation of different development policies and design standards by neighboring jurisdictions oftentimes results in a piecemeal approach to addressing non-motorized modes that is quite different from the treatment given to other modes of travel. Developing comprehensive and sound non-motorized plans and facilities now, and in the future, requires consistent standards and close coordination between jurisdictions and other modes of transportation.

This chapter is divided into three main sections:

- Existing Conditions
- Issues and Needs
- Recommended Goals and Policies

The first section, Existing Conditions, will present an overview of applicable federal, state, regional and local legislation, policies and plans, including an inventory of efforts in the PRTPO area. This section will also include municipal non-motorized transportation plans as well as information from the four transit companies in the PRTPO planning area.

The Issues and Needs section will focus on opportunities and challenges inherent in non-motorized transportation planning for the PRTPO area. General issues, such as level-of-use data, institutionalization, vision and non-motorized master plan, funding, education, safety and enforcement, coordination and consistency, will be presented.

The Recommended Goals and Policies section will build upon those already set forth in the Regional Goals and Policies Chapter of this Plan with additional more specific goals and policy recommendations for the PRTPO planning area. This section will complete the element with policy recommendations for future work efforts aimed at improving non-motorized transportation planning and facilities in the PRTPO region.

EXISTING CONDITIONS

Federal

Intermodal Surface Transportation Efficiency Act (ISTEA, 1991)

ISTEA is intended to "develop a National Transportation System that is economically efficient, environmentally sound, provides the foundation for the Nation to compete in the global economy and will move people and goods in an energy efficient manner".

In addition, ISTEA establishes bicycling and walking as legitimate forms of transportation and provides support to the widespread development of bicycle and pedestrian facilities. It requires states and metropolitan areas to develop multimodal transportation systems that maximize mobility while minimizing fuel consumption and pollution.

The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) have issued regulations governing the development of ISTEA-mandated plans and programs, including the following, which are important to note from the standpoint of the pedestrian and bicycle component:

- The transportation plan shall identify pedestrian walkways, bicycle transportation facilities (in accordance with 23 USC 217 (g)), and transportation enhancements;

- The transportation improvement program (TIP) shall include all transportation projects (including pedestrian walkways, bicycle transportation facilities and transportation enhancements) proposed for funding with Federal transportation monies;

- With regard to "regionally significant projects", the regulations note the Act requires the consideration of all projects. Also, only projects included in the plan and program are eligible for federal funds; and

- With regard to projects in the TIP, "minor projects such as those that may be grouped in the TIP do not have to be individually identified, but the plan must clearly indicate the resources that will be devoted to such projects by type, functional classification and jurisdiction". Also on the subject, "Projects that are not considered to be of appropriate scale for individual identification in a given program year may be grouped".

Washington Clean Air Act (RCW 70.94.524-551)

To reduce automobile-related air pollution, energy consumption and traffic congestion, the Washington State Legislature passed the Clean Air Act. in 1990. The law calls for cities and counties with major employers in Clark, King, Kitsap, Pierce, Snohomish, Spokane, Thurston and Yakima counties to adopt commute trip reduction ordinances detailing requirements for employers.

Major employers must implement commute trip reduction programs, consistent with the state law and local ordinances, to reduce the number of trips and miles people commute alone to work. The employer programs will use strategies known as "transportation demand management".

National Bicycling and Walking Study (1994)

The Federal Highway Administration has ongoing research about bicycling and walking as alternative transportation choices for a changing America. Through their National Bicycle and Pedestrian Clearinghouse, they distribute reports, case studies, and other forms of technical assistance related to integrating bicycle and pedestrian considerations into state and local transportation planning, design and operations.

The National Bicycling and Walking Study Final Report (1994) presents the following National goals and statistics regarding walking and bicycling:

- The current use nationwide is 7.2% walking and 0.7% bicycling. The federal goal is to double the current percentage of total trips made by both walking and bicycling to 15.8%.

- The potential for increasing use is that 25% of all trips are one mile or less; 40% are two miles or less.

- Safety is another primary goal of the study; therefore the study recommends reducing the national percentage of bicyclists and pedestrians killed or injured in traffic crashes by 10%.

- The study further recommends engineering, education, enforcement, encouragement, and local government commitment as a means to accomplish these goals.

Americans with Disabilities Act (ADA 1990)

The ADA sets standards for accessibility on sidewalks and other public infrastructure. Curb cuts and sidewalk widths must be able to accommodate wheelchairs. Proposed rules implementing the act will affect both transportation facilities and building sites. The ADA requires that public and private developments provide access to all people.

For example, public facilities such as hotels, parks and hospitals will be required to remove barriers gradually, beginning with those that can be handled quickly and economically. These improvements tend to benefit the broader pedestrian community beyond the physically-challenged people targeted by the ADA.

American Association of State Highway and Transportation Officials (AASHTO)

Since 1981, bicycle facility construction has been guided by the ASSHTO "Guidelines for Development of New Bicycle Facilities". AASHTO's Guide covers some elements of the planning process and general design characteristics of roadway improvements for bicycles (drain gates, railroad crossings, pavement, traffic control devices, shoulders, wide curb lanes, bicycle routes, and bicycle lanes) and bicycle paths (width and clearance, design speed, horizontal alignment and superelevation, grade, sight distance, intersections, signing and marking, pavement structure, drainage, lighting, restriction of motor vehicle traffic, and multi-use). The Guide was updated in 1991; still providing an overview of these issues.

Olympic National Park

Olympic National Park is growing in popularity with recreational and touring bicyclists. Approximately 12 miles of Highway 101 is actually within the Park (along the Lake Crescent shoreline). Highway 101 forms a nearly complete loop around the boundary of the Park; with access into the Park limited largely to radial spur roads from Highway 101, terminating at trailheads, campgrounds and resorts.

The Olympic National Park Road System Evaluation (1985) inventories the existing road system and classifies and makes recommendations for all park roads based on projected visitor use and current conditions. Approximately 14 miles of Hurricane Ridge Road (National Park Service road) leading to the NPS Visitor's Center, is within the Park and also considered a popular bicycling route, in spite of its inadequate condition for bicyclists (NPS Personal Communication). A number of state, county and federal roads either pass through the Park or

provide sole access to park resources. Coordination is required to ensure road improvements are coordinated and complimentary to National Park Service road improvements.

Discussions with NPS staff have indicated that approximately 300 bicyclists have recently visited the Park during a recent peak use month (July 1994).

Olympic National Forest

The Olympic National Forest occupies a large portion of the Olympic Peninsula, and surrounds much of the Olympic National Park. The Forest is approximately 632,324 acres in size, divided between four ranger districts. Much of the Forest is located inland from Highway 101, although some portions of the highway pass through the Quinault, Soleduck, Quilcene and Hood Canal Ranger Districts. A total of approximately seventeen miles of Highway 101 is within these ranger districts.

State

Washington State Law HB 1081 (1991)

HB 1081 includes several items of critical importance to bicyclists: Defines bicyclists as vehicles and requires a new Chapter in the Revised Code of Washington called Non-Motorized Vehicles; requires minimum pavement marking standards to include a line designating the limits of the motor vehicle lane along the right side of arterials without curbs or sidewalks; and requires the appointment of a full-time state bicycle and pedestrian program manager.

Washington State Chapter RCW 47.30 (Trails and Paths)

This law provides for the local designation of a minimum one-half of one percent of the total amount of funds received from the motor vehicle fund for the establishment of pedestrian, bicyclist and equestrian trails and paths for highways, roads and streets. The chapter does not apply to a city or town in any year in which the one-half of one percent equals five hundred dollars or less, or to a county in any year in which the one-half of one percent equals three thousand dollars or less.

Washington State Department of Transportation (WSDOT Bicycle Coordinator Role)

The Washington State Department of Transportation (WSDOT) has developed a 1993 Statewide Systems Plan Map for bicycles. The map identifies state bicycle touring routes, State Routes with deficient bicycle shoulders, ferry routes and other State Routes. The Washington State bicycle coordinator's office distributes copies of these maps as well as related information concerning statewide bicycle planning and facilities.

WSDOT has also adopted design standards for bicycle facilities. These parallel American Association of State Highway and Transportation Officials guidelines (AASHTO 1991); however, they hold greater weight in Washington State because they are standards, not guidelines. These standards apply to most projects using state or federal money, except for areas with charter governments, where local design standards prevail. Clallam County is the only charter government within the PRTPO area.

Washington State Bicycle Transportation Policy Plan (1993)

The Policy Plan identifies four bicycling-related policy topics with recommended action strategies for their implementation. The policy topics are: Bicycle Facilities, Bicycle Safety Education, Bicycle Promotion, and Bicycle Funding. Some action strategies from these topics include designation of, and improvements to, appropriate bicycle routes; investigating bicycle data and enforcement issues in order to improve bicycle safety programs statewide; supporting joint research to develop statewide "bicycle Tourist" profiles; and investigating the potential of bicycle user-fees to help pay for bicycle facilities.

Washington State Multimodal Transportation Plan (1994)

The non-motorized transportation element of the State Multimodal Plan outlines service objectives for both pedestrians and bicyclists including: Improvements to bicycle and pedestrian safety; identification of current system deficiencies and future strategies to achieve a doubling of the amount of walking and bicycling while reducing the number of crashes by 10% over the next 20 years; and addressing costs involved in meeting these service objectives. Essentially, all counties and cities statewide would spend approximately $500 million over the next 20 years on sidewalks, walkways and multipurpose trails. (Note: The Plan assigns no specific roles for implementing the proposed DRAFT service objectives).

DRAFT Phase I Washington Coastal Corridor (1994)

The DRAFT Phase I Coastal Corridor Study has identified bicycle access as a key factor in Coastal Corridor development; in particular, through improved bicycle access along Highway 101. U.S. Senator Patty Murray has an interest in development of bicycle and pedestrian routes around the Olympic National Park and has submitted language in a 1994 Senate transportation appropriations bill to provide funds for access development.

Named the Washington State Pacific Coast Bike Route, the purpose of this project is to help economically distressed communities by encouraging more bicycling touring on the Olympic Peninsula. Through transportation appropriations, the following improvements are envisioned to be completed quickly to encourage more bicyclists to use Highway 101:

- Provision of more shoulder width in high priority areas along Highway 101.

- Installation of signing to designate Highway 101 as the Pacific Coast Bike Route.

- Promoting the Olympic Peninsula as a bicycling touring destination in both national bicycling magazines and local shoppers. Additional promotional efforts could include producing a bike map of Highway 101 to show road conditions, services, parks and side trips.

The National Park Service (NPS) has stated that many prime recreation areas along Highway 101, for example, Lake Crescent, are very dangerous for bicyclists. Furthermore, many local governments, agencies and the business community recognize the potential for economic development through improving access for bicycle recreationists.

Another project of interest to the NPS noted in the DRAFT Coastal Corridor Study with inter-agency support is maintaining the Lake Quinault loop (Highway 101 - South Shore Road - North Shore Road) and further developing the loop for bicycle access. The NPS has stated that there is also support among agencies for developing an information center for the loop.

Washington State Pedestrian Facilities Planning and Design Course (1994)

A resource handbook and accompanying day-long workshop have recently been presented by the WSDOT Bicycling Coordinator's office. The resource materials used in the workshop have been prepared by two employees of the Florida Department of Transportation with significant experience in guidelines and standards for walkable communities.

The resource handbook and course have been offered 90 times to 5,700 people in six states, all in the past three years. Briefly, the course covers the following topics in pedestrian planning and engineering: Crash causation, human factors, encouragement of walking, congestion management/public space, pedestrian related laws, pedestrian oriented development, land use, transit, zoning, parking, retrofitting sites, multi-modal planning, public involvement, traffic calming and roundabouts, midblock crossings and local case studies.

Washington State Ferries

A total of 198,135 bicycle round trips were made on all WSF routes in 1993. WSF expects this number to be over 200,000 for 1994. (Personal Communication, WSF). The ferry system also anticipates even more bicyclists aboard their vessels in the future as WSF encourages the public to travel without their vehicles. A Bicycle Task Force, appointed by WSF, has identified the following statement as its mission:

"Washington State Ferries recognizes the need to, and advantages of, encouraging bicycle riders on WSF and further recognizes the need to develop with the WSF Bicycle Advisory Committee

guidelines, policies and procedures for both WSF employees and bicycle riders to improve safety, consistency, convenience and access".

To help achieve these goals, Washington State Ferries has recently implemented a bicycle registration program aimed at regular cyclists. The pilot program registers the bicyclist through an identification tag program. The I.D. tag identifies the bicyclist as a regular ferry system user and waives the bicycle surcharge on most routes. For the frequent user this can be a significant savings. In exchange, the bicyclist is required to read and understand specific policies governing loading and storage of bicycles on the ferries. As of February 1995, there are 340 registrants in the program. However, approximately 60% of these registrants primarily use the Seattle-Bainbridge Island ferry routes. (Personal Communication, WSF). WSF terminals in the PRTPO area include Port Townsend, Kingston, Southworth, Bremerton and Winslow.

Washington State Department of Natural Resources

The Olympic Region of DNR manages 386,000 acres of state trust forest lands within Jefferson, Clallam, Kitsap and Mason counties. Approximately 50 miles of Highway 101 are adjacent to the forest lands in the lower elevation managed by the DNR. In addition, DNR maintains more than 1000 miles of forest access road network for its management activities within these areas.

A special visitor opportunity is the forest access road from mile post 147 to mile post 176, where a 30 mile two-lane paved route travels through the heart of the Hoh-Clearwater State Forest. Two organized campgrounds and numerous scenic vistas are available along this forest mainline. The road also serves as an emergency detour. It was used in the 1980's during the Hoh River flood events and bridge abutment washouts on Highway 101.

There are also approximately one hundred miles of single-lane paved and several hundreds of miles of graveled logging roads within the area. Land management activities conducted by DNR on these lands influence travelers' experiences along Highway 101. A major DNR influence is the ability of the traveler to leave the highway and enter adjacent forests on the network of roads used for forest management activities. Forest access roads managed by the DNR are open to the public unless vandalism, garbage dumping or wildlife harassment require their closure.

Along the Highway 101 corridor, from the Oregon border to the end of Highway 101 near Olympia, about a dozen organized DNR camp and picnic areas are adjacent to, or readily accessible from, the highway.

Local

The four-county PRTPO planning area is unique due to its relative isolation from the urban corridor between Vancouver, B.C. and Portland, Oregon with the west side of the Olympic

Peninsula considered the most remote. In addition, the Olympia Peninsula is also unique because of the linear nature of its land transportation due to the mountainous terrain in the interior and the marine coastline surrounding the perimeter. Some areas of the Olympic Peninsula are accessible by only one road (Highway 101), and therefore must address and accommodate all transportation modes on Highway 101.

There is a range of experience with non-motorized plans and facilities in the PRTPO area. Some jurisdictions within the planning area have significant experience; others have less. Following is a brief discussion by surveyed jurisdiction regarding their existing or on-going non-motorized plans and facilities.

Clallam County Bicycle Plan (DRAFT July 1994)

The goal of Clallam County's Bicycle Plan is to improve conditions for bicycling in the county and to encourage more bicycling as a healthy, traffic-reducing alternative to motorized transportation. The majority of the Plan is oriented towards improvements for bicyclists. However, in rural areas, wider shoulders will also benefit pedestrians, since rural shoulders are used by walkers, runners, horseback riders, families with strollers and wheelchair users. The Plan designates bicycle routes on federal (Olympic National Park) state, county and city roads; identifies alternative routes to Highway 101; recommends facility improvements (with design guidelines) to roads, shoulders, standards, bridges, hazard areas; bicycle parking, and transit connections; discusses incentives, including transportation demand management; discusses education and enforcement roles in the context of law, bicycle advisory committees and local bike clubs; and outlines bicycle facility funding sources.

Existing facilities in Clallam County include the first phase Waterfront Trail in Port Angeles - Railroad Avenue to ITT Rayonier - constructed in 1986. The trail continues along Marine Drive to the Coast Guard Station on Ediz Hook. Trail expansion will occur along the Chicago-Milwaukee abandoned railroad easement to the Morse Creek Scenic Overlook on Highway 101, an additional four miles. This facility provides 7.7 miles of scenic and safe alternative to Highway 101 urban corridor for touring bicyclists and for commuters to westside Port Angeles. A network of feeder routes will make this facility accessible to the general population within the Port Angeles Urban Growth Area and to bicyclists who need to access services and employment on the eastside of Port Angeles.

The Railroad Bridge Park is another trail that links the communities of Carlsborg and Sequim in Clallam County. The tressel bridge over the Dungeness River, which connects Hendrickson Road and East Runion Road, was constructed with entirely volunteer labor.

A major trail proposed in Clallam County which could significantly improve bicycle and pedestrian access alternatives to Highway 101 is the Olympic Discovery Trail. The secured portions of the trail are comprised of the Waterfront Trail and the Dungeness Railroad Park

mentioned above. The Peninsula Trails Coalition is working with multiple agencies and private landowners on this 52-mile pedestrian/bicycle/equestrian trail from Port Angeles to Port Townsend. The trail is envisioned to utilize significant segments of the abandoned right-of-way of the Chicago, Milwaukee, St. Paul and Pacific Railroad line. The Olympic Discovery Trail is considered a priority transportation facility by Clallam County to be used to bring non-motorized travelers from Jefferson County to the Port Angeles region.

On-going shoulder width improvements to Old Olympic Highway, from Towne Road to Kendall Road, have also been a very desired recent bicycle facility improvement. The completion of the Old Olympic Highway (county road) reconstruction projects in the Six-Year Road Plan 1995-2000 will expand this facility by 1997.

The Clallam County DRAFT Transportation Plan (1994) also identifies the Heart of the Hills Parkway in the Port Angeles sub-region to be constructed south and parallel to Highway 101 as a new arterial mainly for heavy vehicles, regional traffic, Hurricane Ridge tourists and touring bicyclists. Upon completion, this would provide another alternative to Highway 101 for bicyclists.

Port Angeles (Transportation Element 1994)

Port Angeles identifies the intent of its Transportation Element is "to define in a comprehensive manner how traffic is to be routed from one portion of the community to another in the most efficient, economical, and compatible manner". Transportation element policies which address pedestrians and bicycles include:

- Pedestrian and bicycle paths, bike racks, storage facilities, drinking fountains and benches should be an integral part of the circulation system.
- The safety of non-motorized modes of transportation should be a primary consideration in the circulation system. Adequate sidewalks, bicycle paths, and handicapped access should be provided.
- The city should coordinate with the county's and the PRTPO's planning efforts.
- The development of the city's comprehensive service and facilities plan for streets, bikeways, pedestrian walkways and the overall transportation system, and regional transportation plans should be consistent.
- The City of Port Angeles will establish a task force to develop a city-wide bikeway master plan.

Sequim Transportation Plan

The City of Sequim Visioning Report (Sept. 1993) identifies "Safe, separate and convenient alternative modes of transportation and pedestrian movement should be encouraged including, but not limited to, bike and foot trails for transportation and recreation".

The Sequim Draft Land Use Goals and Policies (November 1994) identifies the following policies which address non-motorized transportation:

- Improve circulation throughout the downtown and make parking more convenient for shoppers.

- Encourage and support development of safe, separate and convenient rights-of-way for bicycles, pedestrians, and other modes of transport uses for both recreation and transportation.

Clallam Transit

Since 1993, Clallam Transit busses have installed bus racks on the front of buses. They accommodate four bicycles at a time to travel any route and allow bus riders to complete their destination by bike. There is tremendous potential in Clallam County for linking bicycling with transit due to the linear orientation of Highway 101. Several county road collectors, of generally 6-8 miles each (ideal commuting distance) connect with Highway 101. With facilities such as secure bicycle parking and bike racks, bicycling becomes a strong alternative for many commuters living miles outside of the urban growth areas.

A very important consideration in non-motorized transportation is that of safety for both bicyclists and pedestrians in crossing the highway to and from transit stops. The most suitable solution in Clallam County may be bicycle/pedestrian overpasses at major intersections. A candidate site could be the junction of Old Olympic Highway and Highway 101; this could allow traffic flow without the use of traffic signals.

The safety and service goals identified in the Clallam Transit Comprehensive Transportation Plan 1993-1998 most directly related to the non-motorized element of the PRTPO include the following opportunities for system improvements:

- Increase frequency and hours of service to increase ridership. (Current ridership is 2.2% in the county).

- Increase ridesharing alternatives for major employment sites.

- Investigate feasibility of Sunday service.

- Continue to install bicycle racks, bus shelters and benches at appropriate locations and times.

Jefferson County DRAFT Transportation Plan 1994 (Non-Motorized Transportation Element)

Jefferson County, similar to the other counties of the PRTPO region, is considered a rural county; therefore, travel is predominantly by motorized vehicles. However, pedestrian circulation is an important traffic circulation consideration in terms of reducing demand on motorized vehicles. Pedestrians should be able to access a number of services in developed areas on foot, without having to get in a car and drive down the street because no pedestrian access was provided. Adequate pedestrian circulation is also an important safety consideration, especially at highway, arterial and collector road crossing locations.

The following problems were identified by participants in a public workshop in 1992 addressing pedestrian issues within Jefferson County: Mode integration (pedestrian, bicycle and transit); pedestrian safety in centers; and pedestrian safety in general. Bicycles are also a popular form of transportation for Jefferson County residents and visitors, and several roadways within the county have been designated as bicycle routes, including Highway 101.

Following are the policy statements contained in the DRAFT Transportation Element (1994) addressing non-motorized transportation:

- Through the six-year TIP, upgrade existing roadways and construct new roadways to provide safe bicycle and pedestrian travel in all roadway improvement projects.

- In coordination with the County Parks Department, federal, state and regional agencies, and citizen groups, promote the development of new trails in accordance with the Comprehensive Parks Plan.

- Promote coordinated bicycle, equestrian, and pedestrian way improvements emphasizing access to schools, parks, employment and service centers, and mass transit facilities (ferry, bus, etc).

- Develop bicycle/pedestrian facilities' standards compatible with county road standards and those applicable standards of adjacent jurisdictions.

- Support educational opportunities for children and adults that will encourage safe access of roadways and sidewalks for all transportation modes.

- Provide safe, convenient and protected bicycle parking at activity centers.

- In coordination with the Comprehensive Parks Plan, provide signage for on-street segments of bicycle, pedestrian and equestrian routes in accordance with the federal Manual on Uniform Traffic Control Devices (MUTCD).

- Promote development of adequate pedestrian walkways and crossings. Identify existing deficiencies related to pedestrian walkways and crossings and incorporate improvements into the six-year TIP.

Jefferson Transit 1993 Transit System Summary Report / Six Year Development and Financial Program (March 1994)

Jefferson Transit provides a variety of services which include fixed-route, route deviation, vanpool, ridematching, community van, regional and intercity bus connections, local freight, and connections with Washington State Ferries.

The 1993 achievements for Jefferson Transit reflect a strong responsiveness to the ADA and paratransit needs. In addition, funding for a new park and ride/transit facility was secured. This facility will enhance access to historic downtown Port Townsend and support tourism and the marine trades.

The Jefferson Transit Six Year development and Financial Program seeks to integrate and coordinate with local, regional and state planning and policy development through a wide variety of jurisdictional planning activities. The goals may be categorized in the following areas: service, single occupant vehicle trip reduction, coordination, management and evaluation, fiscal management, community support and involvement, and marketing.

Significant operating changes for 1994-2000 include: service reconfiguration to utilize the transit center and park and ride facility in 1995; service expansion in many areas; service improvements to comply with ADA; feasibility studies for service improvements; funding development for west end service; special event service; and computerization of paratransit dispatch service.

Capital improvements include additional bus shelters and bicycle racks. (Currently all buses have capacity for carrying bicycles). Other capital improvements include signage and landscaping.

Port Townsend DRAFT Transportation Element (1994)

Port Townsend prides itself on being a walkable community. Paved sidewalks are currently found in the uptown and downtown areas. However, in many areas, the existing sidewalks do not connect. In places without sidewalks, people use the developed street to walk on. As population and traffic growth increase, additional hazards will be created for pedestrians.

Port Townsend has completed a DRAFT Transportation Element (Sept. 1994) addressing existing pedestrian and bicycle facilities and deficiencies. Arterial and collector roads which are deemed to have sufficient roadway width (28 feet) to accommodate bicycles and motorized vehicles are identified, as well as those designated arterials or collectors which have insufficient roadway to accommodate bicycles. In addition, informal unimproved trails, such as Kah Tai Lagoon, Fort Worden State Park and Cappy's Trails are recognized in the Port Townsend Transportation Element as high use pedestrian and bicycle trails, as well as numerous unimproved neighborhood trails (shortcuts through neighborhoods).

Policy direction identified in the Draft Plan on non-motorized system needs for pedestrian, bicycle and trails includes:

- Upon the adoption of new street standards, sidewalks, lighting, drainage and landscaping will become an integral part of the street; thereby, supporting the goal of narrower streets that provide for greater non-motorized opportunities.

- The Port Townsend Transportation Committee should continue to develop and refine the Draft Comprehensive Non-motorized Plan (March 1993) identifying areas where sidewalks need to be completed and informal trails and unopened rights-of-way identified. The non-motorized system should also link up with other modes of transportation including transit and ferry service.
- Street improvements identified in the Transportation Element Draft Plan (1994) will include improvements for bicycle and pedestrian use on all arterials and major collectors. Support services such as bike racks and storage lockers will also be encouraged.

- On neighborhood collector and local access streets, bike riders will use the vehicle lane for travel (Class IV bike lane). In some areas, planned trails (on and off street) can serve as part of the bike commuter network. A portion of the non-motorized improvements will be paid for as new development and redevelopment occurs. Other improvements will be included in the Capital Facilities Plan and built as funds become available.

Kitsap County DRAFT Transportation Plan and Greenways Plan (1994)

For more than 20 years, the county has had planning programs for non-motorized modes, including several trails plans. The county has a bicycle facilities guide that lists the road improvement projects that would aid bicycle travel. The guide is also an aid to the bicyclist, describing various facilities and their difficulty level. In the guide each bikeway was examined and rated on: Number of hills; condition of road service; shoulders; street width; parking; traffic volume; visibility obstructions; speed of traffic in miles per hour; existence of sidewalks; and the number of driving lanes.

The non-motorized travel goals of the Kitsap County DRAFT Transportation Plan (Feb. 1994) are to: Maximize the opportunity for non-motorized travel, including development of greenways; encourage development of rights-of-way to safely accommodate motorized and non-motorized travel; and to create a continuous non-motorized transportation system which integrates on-and off-road facilities.

The non-motorized policies identified in the DRAFT Transportation Plan (1994) are:

- Incorporate pedestrian, bicyclist, and equestrian needs throughout the planning and design of transportation projects and development proposals.
- Incorporate greenway projects into the overall transportation plan.
- Link greenway systems to bus, water transit, pedestrian, bicycle, and equestrian facilities.
- Develop and implement pedestrian and bicycle access standards for new developments in conjunction with county pedestrian, bicycle and greenway plans.
- Provide adequate and secure bicycle parking at all ferry terminals, park-and-ride lots, and public facilities.
- Preserve public access to public shoreline areas that are under jurisdiction of government entities.
- Incorporate bicycle parking requirements for employment, institutional and retail uses, in Kitsap County's zoning regulations. Zoning regulations will include the requirements for developments to provide secure bicycle facilities, which may include bicycle racks and secure rooms within buildings.

In addition, non-motorized modes of transportation are currently being evaluated in the context of the Kitsap County Greenways Plan. The vision of the Plan is to create "an integrated greenway network on a county-wide basis" which is multi-use (bicycle, pedestrian, equestrian); links schools, parks, neighborhoods, rural and urban; protects sensitive areas; preserves and enhances visual quality/character; provides for and enhances recreation; and protects wildlife corridors.

The on-going Kitsap County Greenways Plan will incorporate the existing Kitsap County Bicycle Resolution No. 100-1992 and the adopted Bicycle Plan. These will then be incorporated into the Kitsap County Comprehensive Plan.

A land ownership inventory, with a special emphasis upon existing public and quasi-public open space, has been the starting point for creating the greenway corridor. The Greenways planning process is also envisioned to have significant community involvement with action plans and an actual physical plan establishing its implementation program. The planning process has been substantially funded through ISTEA monies.

Poulsbo

The City of Poulsbo Transportation Element, "Pedestrian Issues" (1994) states that there is a strong commitment to pedestrian travel, and that the city intends to require that all future construction of roadways include sidewalks in their right-of-way. In addition, a strong wish by the city to provide for trails to accommodate pedestrians, bicyclists and others has been answered by the inclusion of trails and paths throughout future development, and in key areas of the city, linking open space and parks, as well as key community focal points.

The "Bicycle Facilities" issues section of the Poulsbo Transportation Element states that the integration of sidewalks, bicycle lanes and multi-use trails into roadway designs and rights of ways will enhance and give greater opportunity to use of these modes of transportation. In addition, the Element states that these routes are to be clearly marked and striped, and shall require a five foot minimum width, and shall not be combined with on-street parking.

Policy 6 of the Transportation Element states that all new streets shall be constructed to include sidewalks, flat-faced curb and gutter and street lights.

Policy 18 states that the City of Poulsbo shall encourage and develop continuous and convenient bicycle routes to places of employment, shopping centers, schools, and other high activity areas with potential for increased bicycle use.

Policy 20 states that the city shall ensure that new development provides covered and protected bicycle racks for commercial, industrial and multi-family projects.

Policy 21 states that in order to facilitate alternative transportation, including public transit, bicycling and walking, the city shall encourage and consider innovative development techniques, including clustering and neo-traditional site planning.

Policy 28 states that the city shall encourage the development of footpaths within all new development whenever possible. Careful consideration of all development proposals shall include the connection of pedestrian access to community focal points, including schools, shopping and public transit.

Policy 38 states that the city shall encourage multimodal transportation whenever possible.

Bainbridge Island

Following are specific goals and policies of Bainbridge Island's Transportation Element (September 1994) addressing non-motorized transportation:

Goal 2 Preserve the Island's rural character, protect its natural environment and minimize the disruption of neighborhoods and communities.

> **Policy TR 2.5**
> Where street lighting is appropriate, light design and placement should minimize glare and maximize visibility of pedestrians, bicyclists and animals.

Goal 3 Establish transportation system Level of Service standards that are consistent with both the short and long-term vision of the Comprehensive Plan and which support desired changes in travel patterns.

Bikes/Pedestrians

> **Policy TR 3.9**
> Develop bike/pedestrian path access that encourages people to pedal or walk rather than drive. Provide safe and appropriately scaled pedestrian and bicycle access to connect neighborhoods with the nearest Neighborhood Service Center, with Winslow, and recreation areas. (The establishment of these pedestrian access systems should be coordinated with the Park District's Trail Plan).

Discussion: Methods of providing safe bicycle travel should include: 1) Non-pavement projects such as caution signs for cars, sweeping/clearing of shoulders, and public transit accommodation for bicycles, and 2) widening of roadways to accommodate bike lanes.

> **Policy TR 3.10**
> Provide safe bicycle travel along roadways identified in the Bike Access Plan in Winslow, along designated school routes and where needed for safety reasons.

> **Policy TR 3.11**
> Sidewalks shall be required in Winslow, along designated school routes, in areas where sidewalks have been historically located (e.g. Fort Ward) and where needed for safety reasons.

Goal 4 Minimize growth in motorized vehicle traffic and provide safe and appealing alternatives to single occupancy vehicles (SOV).

Ferry System Improvements

Policy TR 4.6

Encourage the Washington State Ferry System and Kitsap Transit to significantly improve transit, pedestrian, bicycle and auto access to the ferry, and circulation in and around the terminal.

Bicycle and Pedestrian

Policy TR 4.17

Work with the WSF to improve bike access and storage at the Winslow Ferry Terminal.

Policy TR 4.18

Encourage the WSF, Kitsap Transit and Metro to make bicycle commuting easier (e.g. lower fares and priority treatment).

Policy 4.25

Encourage pedestrian and driver education, and education for persons who ride bicycles or motorcycles.

In addition to the above policies, the Transportation Element also includes a recommended methodology for calculating both Bicycle LOS and Pedestrian LOS.

Port Orchard Draft Comprehensive Plan (Transportation Element January 1995)

The following non-motorized transportation goals and policies have been identified in the Port Orchard Draft Comprehensive Plan:

Promote pedestrian use.

- The city shall require installation of street lighting, landscaping, sidewalks, curbs and gutters adjacent to property as a consideration of development.
- The city shall require private development to provide pedestrian amenities as part of private development projects.
- Maintain a circulation system that facilitates efficient and safe pedestrian, bicycle and vehicular traffic.

Provide access for the disabled.

- The city shall meet the requirements of the Americans with Disabilities Act (ADA).

Provide aesthetically pleasing streets.

- The city shall maintain a circulation system that enhances community design and character.
- The city shall consider landscape parkways with swales, berms, straight or curvilinear sidewalks planted with street trees a mandatory design element.
- The city will allow a reduction in parking requirements if a development provides alternatives for multi-modal uses, such as bike lockers or other Transportation Demand Management (TDM) measures.

Recommended Actions

- Budget annually for at least one improvement to street landscaping including parkways, traffic islands and pedestrian ways.
- Develop design guidelines for landscaping, sidewalks, and maintenance within new developments.
- Develop a bikeway and pedestrian plan consistent with the Kitsap County Greenways Plan.

Kitsap Transit Long Range Plan (1993)

Kitsap Transit provides fixed route service, paratransit service, and a rideshare program including worker/driver buses, vanpools, and a ride-matching service. Many recent issues and concerns addressed in their Long Range Plan include: Expectation of tremendous county population growth (50% by 2020); sprawling development rather than cluster development; aging population, increasing the number of transit dependent riders and the need for affordability and accessibility; strategies for regional development and transportation development; linkages between land use planning and transit planning; transit support for passenger ferries; and the potential for transit to extend road and facility capacities.

Kitsap Transit goals and accomplishments reflect a strong response to the requirements of the ADA and the Commute Trip Reduction Act. The goals specifically relate to increasing ridership; improving rush hour capacities; accessibility; land use development integration; environmental quality; investment maximization; and TDM (Transportation Demand Management).

Kitsap County Transit supports non-motorized transportation through the above goals and through the provision of bike racks on buses; installation of parking racks, lockers and bicycle garages as appropriate; locating park and ride lots within walking and bicycling distances of communities and destinations where possible; and integrating transit needs into land use planning in order to facilitate increased transit use.

Mason County DRAFT Transportation Plan and Bicycle Plan (1994)

Mason County has identified the following goals and policies in its DRAFT Transportation Plan concerning pedestrians and bicycles:

- Encourage and provide safe means of travel for pedestrians and bicyclists on the county road network.

- Provide facilities for non-motorized travel and transit by (a) Incorporating improvements for non-motorized travel into programmed road improvement projects and (b) Exploring opportunities to provide low cost improvements within existing public right-of-way to improve conditions for non-motorized travel modes.

Improved shoulders, off-street trails and off-street paved corridors are some examples of typical improvements for non-motorized which are identified in the DRAFT Plan .

Their adopted Bike Plan identifies the following objectives:

- Develop and maintain a comprehensive bikeway system to link with other providers.

- Develop and maintain a comprehensive bikeway system to linkPlan and coordinate the development of bikeway links within Mason County and surrounding jurisdictions and to become facilitator for other provider and volunteer efforts.

- Acquire greenspace and natural corridors for bike trail development when possible.

- Promote appropriate planning and design solutions to avoid adverse environmental impacts on sensitive areas.

- Work closely with corporate business, private developers and public agencies to incorporate trails and bikeways, when feasible.

- Promote sensitive planning and develop support services to diminish landowner concerns.

- Promote sensitive planning solutions and design and develop support services such as education, enforcement, and maintenance to reduce personal safety hazards.

- Develop interpretive, and educational program for historic and environmentally significant sites along the trail and bikeway system.

Mason County has approximately 181 miles of state highways and approximately 525 miles of paved county roads, which could be used as bicycle facilities. Approximately 50 miles of Highway 101 runs through the center of Mason County.

The Mason County Bike Plan includes background information about elements of bicycle plans, in general, such as the need for policy statements; the need for a bicycle map showing key bicycle corridors; and the need for improvement projects to be included in the local TIP (Transportation Improvement Plan). The Plan also describes the national standard classification system for bicycling facilities: Class I Bike Path; Class II Bike Lane; Class III Bike Routes; and Class IV Shared Roadway with No Bikeway Designation. The Plan also includes a generalized discussion on the location of bikeways and safety, education and enforcement issues.

Mason County Transportation Authority

Mason County Transportation Authority provides routed and Dial-A-Ride service throughout Mason County. The Authority is committed to cost-efficiency, coordination with other transportation agencies, service to outlying areas, cultural and ethnic diversity awareness, and fixed routes based on demand and accessibility.

The service objectives outlined in the Six Year Development and Financial Program relating to non-motorized transportation include the installation of passenger shelters; installation of bike racks on all vehicles; evaluation of accessibility for disabled and limited mobility passengers; and the development of park and ride lots.

ISSUES AND NEEDS

Through the existing conditions survey, a number of pedestrian and bicycle issues and needs have been identified. The following summaries are preliminary and intended to become a basis for future work efforts.

Vision

Many jurisdictions within the PRTPO region are in the process of completing their comprehensive plans, including their transportation element. The first requirement for pedestrians and bicyclists is the adoption of a local vision for non-motorized transportation. Several of the jurisdictions surveyed in the Existing Conditions section of this chapter have already completed this. The vision includes a changed transportation system that offers choices among travel modes for specific trips, and presents these options so that there are real choices that meet the needs of individuals and society as a whole. A vision forms a jurisdiction's framework for their master plan.

Level-of-Use Data

Very little data has been collected on levels of pedestrian and bicycle use. For example, there is limited data on the number of people who walk or bicycle to local stores or other activity centers, or their patterns of pedestrian or bicycle travel, in general. There is also inadequate data available from bicycle sensitive traffic counters which would assist in acquiring better level-of-use data .

In addition, there is limited availability/usage of data regarding pedestrian, bicycle and vehicle accidents/collisions, which could serve to address pedestrian and bicyclist safety needs through better education programs in schools, traffic calming projects, other spot improvements and hazard alert programs.

There is, however, a composite of data from the Nationwide Personal Transportation Study, conducted by the University of North Carolina Highway Safety Research Center, that provides some information on walking trips and pedestrian travel in comparison to other transportation modes:

- For trips less than one mile, walking ranks second (39 % of all trips) to private vehicle trips (55 percent of all trips).
- Over 90% of all walking trips are less than one mile.
- Walking trips that are one mile or less account for 27% of the distance people travel by walking.

Institutionalization

The process of integrating bicycle and pedestrian considerations into state and local transportation planning, design and operations has become known as "institutionalization". The institutionalization of pedestrian and bicycle issues and needs into the transportation system

requires jurisdictions to become involved at a scale which is closer to implementation. All forms of traffic use roads. Pedestrians and bicyclists oftentimes share the road with cars, trucks, buses and sometimes, trains.

Institutionalization also requires the consideration of merits of a regional or local bicycle/pedestrian coordinator position and/or citizen advisory committee charged with meeting the goals and objectives of the non-motorized plan. Institutionalizing values that hold non-motorized travel as an important choice of transportation forces policymakers, planners, designers, engineers and others to cooperatively look at them in a new light. Adoption of goals, objectives and policies, including the development of an improvement program, are first steps in institutionalization of pedestrians and bicyclists into the transportation system.

Historically, engineers have designed the physical attributes of streets to accommodate the movement of vehicles. The problem is that planners, designers and others involved in non-motorized planning endeavor to enhance the personal experience of the individual - what works for one is often an obstacle to the other. ISTEA has been instrumental in placing the needs of all user groups "on the table" and working toward the same goals of providing choices among travel modes.

Standards and Ordinances

Pedestrian and bicycle standards do not exist in many jurisdictions. Where they do exist, the standards tend to be prescriptive in nature and do not necessarily identify the best type of pedestrian or bicycle facility to provide in certain situations. Combined with a jurisdiction's vision and master plan, zoning ordinances and subdivision ordinances are implementation methods available to address pedestrian/bicycle facilities and bicycle parking. The adoption of flexible zoning or performance standards, which allow a variety of uses and approaches as long as performance goals are met, can be a useful approach to consider.

Coordination and Consistency

The level of effort that jurisdictions place on pedestrian and bicycle facility planning varies greatly. Some of these differences can be attributed to the size of the jurisdiction and available resources. These differences can create issues where a pedestrian or bicycle facility crosses jurisdictional boundaries, especially where there are differences in goals or standards.

Through the local jurisdiction's Transportation Plan (as mandated by ISTEA), individual jurisdictions must identify pedestrian walkways, bicycle transportation facilities and transportation enhancement projects, including regionally significant projects, proposed for funding with federal transportation monies.

A final objective of this goal is to target and eliminate key behaviors that lead to accidents, injuries and deaths. This goal places significant emphasis upon the development of a comprehensive database of information addressing existing level-of-use and accident-related information. The issues of accident reporting, enforcement and education will be addressed when meeting this goal.

Policy Recommendations

Design Standards and Engineering

Incorporate access and accommodation for bicyclists and pedestrians into all new and improved transportation facilities based on a set of design standards which consider local land uses and conditions. Develop design standards and guidelines for non-motorized projects which address PRTPO designated tourism and commuter routes.

Enhance bicycle and pedestrian access and safety through facility construction..

Include minimum standards, within local ordinances, for non-motorized facilities within major new developments.

Education

Encourage and enforce responsible behavior among bicyclists, pedestrians and motorists.

Sponsor regional and local non-motorized facility design workshops to provide planners and engineers with design standards and information.

Develop and distribute maps of non-motorized facility information for the PRTPO area.

Safety

Provide for safe and convenient travel for bicyclists and pedestrians of all abilities along, and across, every regional transportation corridor.

Provide for safe and convenient access across major transportation corridors at least as frequently as that provided for motor vehicles.
Consider traffic calming devices in facility improvements where appropriate.

ADA

Provide non-motorized facilities which are consistent with applicable standards of the Americans with Disabilities Act (ADA) or subsequent legislation.

Security

Emphasize security and safety of facilities and services provided for non-motorized travelers. (For example, a phone box installation on Highway 101 along Lake Cresent would provide better security and safety for all travelers).

Recommended Goal

Goal 2
Institutionalize Pedestrians and Bicyclists into the Regional and Local Transportation System.

In order to provide a transportation system which offers real choices and reduces traffic congestion, jurisdictions can adopt a mind-set and transportation paradigm which includes bicycle and pedestrian in all transportation issues. Local/regional bicycle and pedestrian coordinators and citizen advisory committees can also further institutionalization in the areas of education, encouragement, engineering, enforcement, training, plan and policy development, and project review.

The PRTPO, and member jurisdictions, are beginning the institutionalization process by recognizing and incorporating alternative modes of transportation into the Regional Transportation Plan, local transportation and local transit plans. Adoption of recommended goals and policies, and ultimate implementation of local, regional and state improvement programs, will further institutionalize pedestrians and bicyclists into the regional transportation system.

Policy Recommendations

Project Review

Address non-motorized concerns during the project review process.

Public Involvement

Provide for regular opportunities for public involvement in the review of non-motorized facility improvements.

Conduct local and regional surveys to determine pedestrian and bicycle usage and accidents/collisions in the PRTPO area.

Seek public involvement when determining improvement needs, such as a spot improvement recommendation form.

Convene a citizens advisory committee, representing various representatives, for review of the RTP non-motorized element as updates are completed.

Leadership and Coordination

Institutionalize and integrate non-motorized transportation planning for the PRTPO area through the full support of elected officials, agency directors and other policy decision makers.

Designate a RTP non-motorized coordinator who will provide leadership and assistance to local jurisdictions implementing their non-motorized elements of the RTP.

Maintenance

Address non-motorized facilities in facility maintenance budgets, schedules and standards.

Include non-motorized facility usage in records of traffic counts.

Funding

Provide for non-motorized maintenance and improvements in local jurisdiction's annual budgets and transportation improvement plans.

Consider all potential funding sources for non-motorized facilities, including ISTEA, local funding, mitigation, developer dedications and private donations.

Encourage public/private partnerships in the funding and development of non-motorized facilities.

Chapter 11

Airport Activity

CHAPTER 11

AIRPORT ACTIVITY

INTRODUCTION

The GMA requires comprehensive plans to include an inventory and description of airports. The PRTPO area has eleven airports. Of these 11, the Fairchild International Airport near Port Angeles is the largest, and the Bremerton National Airport south of Bremerton on SR 3 is the second largest airport. The 11 airports in the PRTPO area are listed alphabetically below.

1.	Apex	Kitsap County
2.	Bremerton National	Kitsap County
3.	Diamond Point	Clallam County
4.	Fairchild International (Port Angeles)	Clallam County
5.	Forks	Clallam County
6.	Jefferson County International	Jefferson County
7.	Port Orchard	Kitsap County
8.	Quillayute	Clallam County
9.	Sanderson Field	Mason County
10.	Sekiu	Clallam County
11.	Sequim	Clallam County

This report provides an overview of airports in the PRTPO region. The alphabetical list above is provided only for reference. The following discussion on the region's airports is presented by county to provide a geographical picture of airport activity in the PRTPO area. This report focuses on aspects of airports particularly relevant to regional planning and does not contain the details of airport master planning. For example, this report's description of the airport capacity focuses on total acres and the number of runways. These two pieces of data are simple estimates of airport size and do not and (are not intended to) accurately reflect the full range and depth of more precise airport capacity calculations.

County airport activity in the Peninsula region is presented in the following order: Clallam, Jefferson, Kitsap, and Mason Counties.

CLALLAM COUNTY

Clallam County has six airports: Diamond Point, Fairchild, Forks, Quillayute, Sekiu and Sequim. These airports are located in the northern and western portions of the county.

Diamond Point Airport

Diamond Point is a privately owned airport but is open to the public. The airport is located near the Protection Island Wildlife Refuge. Since nearby areas are forested, pilots are warned to watch for deer. This airport is located near Sequim and consists of a single runway. This runway is 2,335 feet long and only 20 feet wide. Eighteen aircraft are now based at the Diamond Point Airport. In 1991 landside traffic to the airport was reported as 570 vehicle trips per day.

Fairchild International Airport

The majority of the information for the Fairchild International Airport (FIA) is derived from the *Final Airport Master Plan Update Report*, completed in January 1988. No other data sources are currently available.

The Fairchild International Airport is the principal air carrier and general aviation facility for the northern Olympic Peninsula. Fairchild International Airport is located on the western edge of the City of Port Angeles, north of US 101. Owned by the Port of Port Angeles, Fairchild totals 797 acres, with 382 acres used for aeronautics. Scheduled passenger service connects Port Angeles with the Seattle-Tacoma airport and with Victoria British Columbia in Canada.

As stated in the *Final Airport Master Plan,* Fairchild Airport has two active runways, and the primary runway is 6,350 feet long. The western 2,853 -foot portion of the runway is 150 feet wide and the remainder is 160 feet wide. The second runways is a crosswind utility runway and is 3,250 feet long and 150 feet wide. Both runways have lighting.

FIA has both commercial and general aviation facilities. At the time of the Master Plan study, total commercial passenger enplanements were approximately 28,000 per year. Total non-commercial travel was estimated to be 26,580 trips, which includes general aviation, commuter and military trips. Military trips made up about three percent of all non-commercial trips in 1985. Over 60,000 passengers used the airport in 1985.

FIA lies north of US 101 and west of downtown Port Angeles. Access to FIA is by "L" Street at the eastern edge of the airport along Lauridsen Boulevard, but engineering plans have been completed to realign Lauridsen Boulevard. The most densely populated areas of Port Angeles are also east of the airport, but these areas are separated from the airport by Lincoln Park. The northern edge of the airport is bordered by an abandoned railroad right-of-way, and the southern side of the airport is edged by various agricultural parcels and roadways.

The Airport Master Plan Update recommends a wide variety of improvements to be implemented in three stages. Stage I was planned for the years 1988 through 1993 and consisted of runway overlay and lighting. Stage II, planned for the years 1993 through 1997, is dependent upon the

realignment of the Edgewood Drive/Airport Road/Lauridsen Boulevard interchange. The Stage II improvements include redesigning the circulation system for the airport and providing a new access road. These improvements are expected to open up development opportunities along the south side of the airport. In the end, the improvements identified in Stage II are expected to provide the greatest revenue-generating potential. Stage III consists of concluding projects, such as repaving. Also included in Stage III are hangars, expanded aprons, additional airline and cargo facilities, and a new access road from the southwest (which would be an extension of Reddick Road).

Forks Airport

The Forks Airport is located just west of the City of Forks on the western side of the Olympic Peninsula. The aviation property consists of 71.25 acres, 38 of which is used for aviation. The remaining 33.25 acres is industrial land. The airport has one turf runway strip, which is 100 feet wide and 2,175 feet long as determined by the runway lighting. The runway is illuminated with low-intensity lights.

North of the airport is US 101 and southwest of the airport is Mill Creek Road, a county roadway. Both north of US 101 and adjacent to the west side of Mill creek Road are private residences. Commercial activities lie to the northeast of the runway.

Recommendations for improvements to the airport include a Phase I improvement of increasing the runway above Design Group 2 criteria (as defined by the Federal Aviation Administration). Specifically, the recommendations are to increase the length to 2,400 feet and to have the runway be 75 feet wide, which is 15 greater than the Design Group 2 criteria. The recommendation for exceeding the criteria is based on cost-effectiveness and the safety improvements required for turbulent wind conditions.

Ultimately, the runway length is planned to be 3,000 linear feet. Other improvements include converting the airport's access road to a central driveway rather than continue the practice of individual driveways the serve each T-hangar. This access conversion would eliminate uncontrolled access long US 101.

Quillayute Airport

The Quillayute Airport is located west the Forks Airport, near La Push along the Pacific coastline. Property around the airport is undeveloped and zoned primarily industrial or agricultural. This airport was built in 1944 by the Corps of Engineers for the military.

Facilities consist of two runways. The first runs northeast/southwest and is 5,000 feet long and 150 feet wide. The second runway is northwest/southeast and is 4,700 feet long and 200 feet wide. The terminal area consists of a 350 foot by 12,000 foot warming apron and related

buildings. Structures in use in the terminal area include a maintenance hangar that is used for aircraft storage and maintenance. An air traffic control tower also exists. The tower and related offices are no longer in use.

Currently, the northwest/southeast runway is closed because of trees growing in the clear zone approaches to the runway. Trees have also limited the length of the northeast/southwest runway to 4,000 feet. The airport carried 5,600 general aviation operations in 1985 and was forecast to carry 6,400 in 1995. The access road to the airport carried 201 vehicle trips in 1987 and 156 in 1988.

The Quillayute Airport site was reviewed as an alternative for the Forks Airport on the basis of evaluating the improvements necessary to accommodate existing activity from the Forks Airport and to accomplish required maintenance. A crack sealing program is necessary to prevent further deterioration of the concrete pavement system and a runway and airfield lighting project needs to be accomplished. However, the existing paved runway and taxiway system exceeds the runway length and width requirements documented as part of the demand/capacity and facility requirements.

Sekiu Airport

The Sekiu Airport is owned and operated by the Port of Port Angeles. Sekiu is located 34 miles west of the Fairchild International Airport along SR 112 towards Neah Bay. The airfield services the Clallam Bay and Sekiu area and their fishing, resort, residential, commercial, and industrial activities.

The Port of Port Angeles acquired land for the airport in 1971. The original 2,100 foot grass runway was paved in 1972. In 1977, 800 feet were added to the runway, for a total length of 2,900. Improvements to the runway have continued and the airport now has a 2,980 foot by 60 foot paved and lighted runway. The airport is also equipped with a paved aircraft tie-down apron, hangars, public restrooms and public telephone.

A Visual Approach Slope Indicator (VASI) provides visual vertical guidance to approaching aircraft. An analysis of vertical interference indicates that tall trees exist on both sides of the runway along with a high ridge running on the north side of the runway. Caution is also warranted for approaching planes because both air turbulence and the sight line does not exists from end to end of the runway. Consequently, flight intentions must be announced.

Access to the airport is from Washington Road. In 1992, vehicular traffic counts on Washington Road totaled 399 trips. In 1985, the Sekiu Airport had 4,000 general aviation operations, which were forecast to increase to 4,800 by 1995. Also in 1985, the airport had a total of 5 aircraft based at Sekiu, all of which were single engine planes.

Sequim Valley

The Sequim Valley Airport is located north of US 101 between Carlsborg Road and Kitchen-Dick Road. The airport was founded in 1984 and has one runway which is 3,500 feet long.

An abandoned rail line right-of-way runs along the southern border of the airport, and the airport seems to be situated in an agricultural area with some rural/suburban development. At this time, land use or noise conflicts do not appear to be an issue. Currently, the airport does not appear to have specific expansion plans.

The airport had 1,800 general aviation operations in 1985, which were forecast to increase to 2,200 in 1995. Landside access included 1,710 trips in 1985, which dropped to 1,507 trips in 1992.

JEFFERSON COUNTY

Jefferson County has one airport: the Jefferson County International Airport near the Four Corners area. A new Master Plan has been developed for the Jefferson County International Airport (August 1994), and the following information is based on that updated Master Plan.

Jefferson County International Airport

Jefferson County International Airport (JCIA) began as a training field for the military prior to World War II. In 1947 the airport was turned over to the Port of Port Townsend. Several studies have been conducted analyzing either potential locations for anew regional airport or upgrading the exiting facility. Through the review process for each of these studies, the community decided that the economic and environmental impacts did not warrant a new location or significant expansion. In 1990, the existing turf runway was realigned 450 feet to the south and paved.

JCIA is a General Aviation Basic Utility Airport. The current runway is 3,000 feet long and 75 feet wide and in good condition. The runway has medium intensity runway lighting. Both ends of the runway have runway end identification lights (REIL).

Currently, Jefferson County International Airport does not have a full Fixed Based Operator (FBO), but two specialty fixed based operations are located at the airport: Port Townsend Airways and Tailspin Tommy's. Port Townsend Airways is an aircraft charter, rental, flight instruction, and fuel sales provider; and Tailspin Tommy's specializes in aircraft maintenance.

As part of the current Master Plan, four different improvement/expansion alternatives were developed for review. The Master Plan contains the following recommendation.

> Alternative 2 (the "Selected Alternative") calls for an extended apron area to the east. This alternative...impos(es) a building restriction line based upon the line of sight from the existing terminal services building to each end of the runway. This visual building restriction line would prevent any structures from interfering with an unobstructed view of the airfield from the center of the terminal areas. The rational for this restriction is twofold: first, it is to allow the UNICOM operator an unobstructed view of the runway ends in order to provide more accurate information to arriving and departing aircraft; and secondly, to preserve the attractiveness of the existing view of the airfield. (Page 4-3).

The Selected Alternative provides several advantages (other than described immediately above): 1) facilitates development of additional T-hangars, Fixed Based Operation, new terminal services building, corporate hangars, and associated parking within close proximity to existing aviation facilities; 2) encourage development of aviation related commercial industries within the Airport Operations area; 3) establishes an areas south of the runway for industrial/commercial/office activity; and, 4) establishes 5 restrictive zones.

> The airport has 20,500 general aviation operation in 1980, which had grown to 43,000 in 1992. General aviation operation are forecast to rise to 63,800 by 2012. All growth since 1980 has been and is forecast to be driven by itinerant activity.

Separately, information on landside traffic was derived from the PRTPO Airport Subcommittee. This information indicates that landside traffic to the JCIA increased significantly when activity at a nearby chipping plant increased after 1982. In 1982, vehicle trips totaled only 95, but in 1987 when the chipping plant was operating, vehicle trips peaked at 510 trips per day -- the highest traffic volumes in a ten year period. Since 1987 trips have remained high but not increasing beyond the 1987 peak. In 1990, 405 trips were counted; these dropped to 358 in 1992.

KITSAP COUNTY

Kitsap County has three airports: Apex Airport, Bremerton National, and Port Orchard. Apex Airport and the Port Orchard Airport are privately owned. Apex is located north of Silverdale and the Port Orchard is located south of Port Orchard and west of SR 16. At this time, no data is available for either privately owned airports.

Bremerton National Airport

The Bremerton National Airport is the largest airport in Kitsap County and the second largest airport in the PRTPO area. The information used here is derived from the *Draft Bremerton National Airport Master Plan Update 1992 - 2012.*

The Bremerton National Airport consists of two runways, one of which is currently closed. The runway which is open to air traffic is 6,200 feet long and 150 feet wide. Initially built in 1936 as a landing strip for local pilots, the airfield was operated by the US government in World War II. Kitsap County received control of the airport in 1948 and then deeded the site to the Port of Bremerton.

Currently Bremerton National Airport does not have a full service fixed based operator (FBO), but two specialty fixed based operations are located at the airport: Pegasus Air and Avian Aeronautics. Pegasus is an aircraft charter, rental, and flight instruction and Avian specializes in aircraft maintenance.

The adjacent land uses include rural 2.5-acre plots, forestry and various other activities. Of these other activities, three have been identified in the Long Range Plan as being potential conflicts with the airport. These include Bremerton Trap and Skeet, the Aero Mobile Court, and the Rodeo Drive-In Theater.

The Bremerton Trap and Skeet is 0.4 miles, or 2,000 feet north of the active runway and only 359 feet west of the extended runway centerline. The club is open year around and is lighted for night operations. The Aero Mobile Court is a half mile north of the active runway and east of the runway centerline. The trailer park has 49 units and 100 residents. The Rodeo Drive-In Theater is just over one half mile north of the active runway and 400 feet from the runway center line. The airport has aviation easements prohibiting property development which may be incompatible with aviation activity. Thus, aircraft are able to safely fly over many of these properties.

Recommendations for improvements focus on extending the runway length to 7,400 feet. This extended runway is capable of handling the U.S Navy's C-9 aircraft, which is the military's version of the McDonnell Douglas DC-9. Operation of these craft is expected to increase in the future. The future expansion program recommended in the Airport Master Plan includes increasing the current length of the runway 1,200 feet to the south. Other recommendations also include regrading and repaving the runway.

MASON COUNTY

Mason County has one airport located north of Shelton, called Sanderson Field. The following description of the airfield is based on the Sanderson Field Master Plan, dated 1979.

Sanderson Field is located north of Shelton, and south of the SR 102/US 101 intersection. U.S 101 runs along the easterly border of the field. The majority of users of Sanderson Field come from the Mason County and the Shelton areas. Because Sanderson Field is the only general aviation airport within a radius of 45 statute miles capable of handling corporate aircraft, the airport serves a large area.

Sanderson Field was initially developed as a 1,082 acre U.S. Naval Air Station fighter training base and was deeded to the County in 1948. This deed was based on two conditions: 1) the airport be retained for public use; and 2) the federal government retain the right to mine any fissionable materials that may be on the property. The airport was deeded to the Port of Shelton in 1957.

Originally, Sanderson Field had two runways, but the crosswind runway was closed in 1985. The airfield now consists of 1,097 acres and has one working runway. Of the 1,097 acres of Sanderson Field, 360 acres are in aeronautical and related used, 235 acres are leased to the Washington State Patrol and the Mason County Fairgrounds. The remaining 500 acres are used or reserved for industrial uses.

The airport consists of one active, lighted runway, which is paved and is 5,000 feet long and 100 feet wide. The terminal area and general aviation landside facilities lie in the southwestern portion of Sanderson Field and occupy 18 acres. In 1988 42 aircraft were based at the Field. Aircraft operation totaled 18,714.

The land use around the airfield is primarily forest and vacant land, though some existing facilities lies east of Sanderson Field. These facilities include, a fire station, a high school (which is on the southerly edge of a runway approach zone), an elementary school, a nursing home, and a county park. A middle school has also been proposed for construction in this area.

However, the airport lies within the City of Shelton's planning area, but not within City limits. Hence, current land use is under the jurisdiction of Mason County, but future land use is the responsibility of the City. These two jurisdictions are currently planning for this area and the Port of Shelton should work closely with them to maintain compatible surrounding land uses. Nearly all of the airport property and surrounding properties are under Mason County jurisdiction, underscoring the need for coordinated planning.

Because US 101 is located adjacent to the airfield and the land along US 101 is in demand, a Runway Protection Zone (RPZ) is recommended. A Runway Protection Zone is the ground area under the approach surface which extends from the primary surface to a point where the approach surface is fifty feet above the ground. This was formerly known as the clear zone (from the Glossary of the *Bremerton National Airport Master Plan Update*). The recommendations for the Runway Protection Zone include the areas east of U.S. 101 to Spring Road. The land to the west should also be purchased by the Port of Shelton to avoid development of incompatible uses.

Future, documented plans for Sanderson Field consist of extending the length of the runway from 5,000 feet to 7,500 feet with a pavement strength of 120,000 pound dual wheel loading. Runway width will remain at 100 feet. These standards are in keeping with the Federal Aviation Administration (FAA) Airplane Design Group III, which are capable of handling Transport type

aircraft. This standard will allow the field to accommodate aircraft with a wingspan of 118 feet (e.g., a Boeing 737).

In addition to these increased standards, recommendations also exist for adding a new 10-unit T-hangar or a similar number of single-unit hangars and for a new access road from US 101 to the abandoned runway. This new roadway would open up three-quarters of the land area adjacent to the north side of the active runway for aviation related uses. Permanent penetrations to the transmittal airspace exist west of the airfield.

Recommendations for improvement fall into three stages. The first stage of improvements are primarily associated with the extension of the runway to meet the projected increase in activity and size of aircraft projected to use the facility, including acquiring land, installing an expanded water system, and constructing a new main entrance road. The second stage includes acquiring land for the Runway Protection Zone, building a new roadway to the corporate hangar, installing a new T-hangar unit and developing a vial and noise buffer around the State Police area.

The third stage of the program is the largest because of the final expansion of the runway along with the development along the south side of the airport. Stage III improvements include extending the runway and the parallel taxiway west 1,500 feet, developing a south side entrance road, constructing both a south side aircraft apron and a parallel taxiway. Other Stage III improvements include installing three new T-hangars, extending the corporate runway, and installing a new instrument landing system.

IMPACTS ON ROADWAYS

Airports can have both a direct and an indirect impact on the regional road system. Direct impacts include projects such as roadway realignment. Indirect impacts of airports on the regional road system are more strongly related to the location of the roads to the airport. For example, the Jefferson County International Airport is located between and fairly close to two state routes. Consequently, not only is potential expansion of the airport limited, but increased airport activity may also be restricted because of its potential impact on regional road travel.

The following discussion highlights both the direct and the indirect impacts of PRTPO area airports on the regional road system.

Direct Impacts

Three of the airports reviewed have plans for realigning regional roadways: the Fairchild International Airport, the Bremerton National Airport and the Forks Airport. The propose developments at Jefferson County International Airport could also necessitate roadway improvements. The Fairchild International Airport Plan recommends realigning Lauridsen Road to improve access to the Airport. The proximity of the airport and the Edgewood Drive/Airport

Road/Lauridsen Boulevard Interchange to US 101 underscores the reason for including Fairchild International Airport as having direct impacts on the regional road system.

The most significant impact on the regional road system is the potential realignment of SR 3 near the Bremerton National Airport. In the Draft Master Plan of the Bremerton National Airport are recommendations for extending the runway and re-aligning SR 3 around the extension.

The Forks Airport is planning to convert the airport's access road to a central driveway and to discontinue the practice of individual driveways to service each T-hangar. This access conversion would eliminate uncontrolled access along US 101. Jefferson County International Airport development could result in the need to improve access and intersection alignment within as little as 2 years at SR 19 and SR 20.

Indirect Impacts

Many of the region's airports are located near state routes. As described below, the close proximity of the airports and the state routes could result in potential conflicts between airplane activity and vehicles on the roadway. The airports with such potential conflicts include Jefferson, Sekiu, and Sequim.

The Jefferson County International Airport is located between and fairly close to two state routes. Consequently, not only is potential expansion of the airport limited, but increased airport activity may also be restricted because of its potential impact on regional road travel. The Master Plan contemplates future activities at the airport that will affect roadway travel.

The Sekiu Airport is located between SR 112 and the Strait of Juan De Fuca, and this location may limit the airport's potential for expansion, particularly north and south expansion. However, because this airport is located in a fairly remote area, expansion may not be an issue.

The Sequim Valley Airport is located north of US 101 between Carlsborg Road and Kitchen-Dick Road. The area is relatively developed compared to other regions of the PRTPO. This development level, in conjunction with the airport's proximity to US 101 may inhibit facility expansion.

SUMMARY

This report reviews the existing characteristics, issues, and documented recommendations for airports in the PRTPO area and provides an overview of airport activity. The PRTPO area has 11 airports, three of which are privately owned: Apex and Port Orchard Airports in Kitsap County and Diamond Point Airport in Clallam County.

The largest airport is the Fairchild International Airport with 382 acres used for aeronautics and two active runways (6,350 and 3,250 feet long). The Bremerton National Airport is the second largest airport with one active runway 6,200 feet long. Both of these airports have potential conflicts with the surrounding areas. FIA airport has a park on the east side of the airport, and the trees from the park present a potential hazard to aircraft. Bremerton National Airport has three adjacent land uses which may adversely affect airport activity: the Bremerton Trap and Skeet, the Aero Mobile Court, and the Rodeo Drive In Theater.

Sanderson Field in Mason County is the third largest airport. This airport has one active runway and one runway closed because of tree obstructions to the runway approach path. Sanderson Field is the only airport within a 45 mile radius that can handle corporate aircraft.

The remaining airports (Apex, Port Orchard, Diamond Point, Jefferson, Forks, Sequim, Sekiu, and Quillayute) are smaller more local airports with runways of varying length. The Apex, Port Orchard, and Diamond Point airports are privately owned. The Jefferson County Airport is located in the Four Corners area and has a 3,000 feet long by 75 feet wide runway. The Forks and Quillayute airports are relatively close together, and of the two, the Quillayute Airport has the longer runways. The Quillayute Airport has runways of 5,000 and 4,700 feet long, while the Forks runway is 2,175 feet long. The Sequim and Sekiu Airports are both in Clallam County. Sequim is located north of US 101 between Carlsborg Road and Kitchen Dick Road. The Sekiu Airport has a 2,980 foot by 60 foot paved and lighted runway.

Three airports are likely to directly impact the regional road system: Fairchild International Airport, Jefferson County International Airport, and the Forks Airport. Fairchild International Airport is likely to influence the regional road system, both because of the airport's proximity to US 101 and because of changes to the airport access road. The Forks Airport is planning to alter its access road so that access from US 101 is limited to a single road, rather than the many individual driveways now used to reach the airport and its airplane hangars. Jefferson County International Airport is contemplating increased use of SR 19 and SR 20, with potential acceleration and deceleration lanes likely.

This review of airport activity in the PRTPO area is provided both to meet the requirements of the GMA and to help coordinate airport and roadway transportation planning. Most of the information provided is derived from the airports' individual master plans. This overview provides a summary of location, activity, and issues of airports in the PRTPO area.

Chapter 12

Scenic Highways

CHAPTER 12

SCENIC HIGHWAYS

THE SCENIC HIGHWAYS CHAPTER
WILL BE COMPLETED IN A LATER WORK PHASE

Chapter 13

Finance Element

CHAPTER 13

FINANCE ELEMENT

INTRODUCTION

The Peninsula Regional Transportation Planning Organization (PRTPO) is charged with the responsibility of coordinating the transportation needs for the Olympic and Kitsap Peninsulas. The regional transportation system defined by the PRTPO lies within the four counties of Clallam, Jefferson, Kitsap and Mason. Kitsap County is also part of the regional transportation planning organization for central Puget Sound, the Puget Sound Regional Council (PSRC). Funding for regional transportation needs in Kitsap County is addressed in the PSRC's regional transportation plan. Therefore, the finance element for the Plan addresses the funding needs for the three Olympic Peninsula counties: Clallam, Jefferson and Mason.

This chapter will address funding for regional transportation needs through the year 2010. Cost and revenue projections included in the plan are for a 15 year period beginning in 1996. These projections are based on planning level estimates which provide a general measure of the relationship between costs and funding sources but do not identify specific funding for specific projects.

DESCRIPTION OF TRANSPORTATION ELEMENTS

The following section describes the status of each one of the transportation elements and serves as an introduction to the discussion of finances.

Roads

Regional road needs were analyzed based on forecasted traffic growth and level-of-service (LOS) standards. The needs analysis is related to the regional road system's forecasted mobility needs and do not address preservation and maintenance or safety improvements. In some cases, mobility improvements may also address safety needs in an area--for example, improvements to intersections or provision of passing lanes might have an impact on safety as well as mobility. In general, however, the road deficiencies/solutions for the PRTPO Plan were based on the analysis of capacity needs. In addition, since the Plan addresses only the regional road system, local road needs are not included. These distinctions are important for the analysis of funding sources available for the road needs identified in this Plan.

Capacity requirements were determined for differing levels of anticipated traffic growth on the Peninsula (1.5 percent, 3 percent and 4.5 percent per year) and a constrained growth scenario of 4.5 percent per year (1996-2010) and 3.0 percent per year (2000-2010). Deficiencies and alternative solutions were identified and costs were estimated for the needs. The range of estimated costs for the identified improvements for the constrained growth scenario are shown in Table 13.1 (PRTPO Forecast Link Volumes and Level of Service) and are based on costs estimated as of October 6, 1994.

For the purpose of identifying potential funding sources for capacity related improvements to the regional roads system, the PRTPO Funding, Finance, and Prioritization Sub-Committee selected the Constrained Growth Scenario.

Transit

Transit related transportation needs are addressed in the Multi-Modal Chapter (Chapter 6). Potential funding sources for transit related needs include several sources that can also be used for road needs such as Transportation Improvement Account (TIA) funds, which are available for multi-modal uses, and ISTEA STP Regional, Statewide Competitive and Enhancement funds. In addition, Federal Transit Agency Section 18 funds for Non-urbanized Area Transit Assistance is also available. The operating needs of transit systems in the Olympic Peninsula are funded through fare revenue, sales taxes and MVET revenue. Since specific transit related projects and related costs have not yet been developed, transit needs are not further addressed in the Finance Element at this time.

Tourism

Recreational travel on the Olympic Peninsula is an important component for developing an assessment of transportation needs. It influences roadway capacity and design and the identification of future transportation corridors. In order to determine the impact of recreational travel, a more sufficient database is required. Recommendations include traffic studies which would provide information on the mode, travel route, variations in season, day, and time of day for recreational traffic. Costs to meet tourist related transportation needs and potential funding sources will be identified after further study is completed.

Freight

At this time, very little specific information exists regarding freight activity, and additional data is needed to identify specific transportation projects which address freight travel. Additional study could be carried out in conjunction with a recommended study on recreational travel. Costs and potential funding sources for freight related transportation needs will be identified after further study is completed.

Transportation Demand Management

Presently, efforts for TDM are appropriately focused on the policy level, while future efforts are more likely to be project oriented. After these projects are identified, costs and appropriate funding sources will be identified for the financing element.

Non Motorized Transportation

Regional non-motorized transportation needs (e.g., bicycles and pedestrian needs) are addressed in Chapter 10. Potential funding sources for bicycle and pedestrian projects include sources that can also be used for other modes (ISTEA STP Regional, Statewide Competitive and Enhancement funds and State Mobility funds). Bicycle needs may also be funded through the Washington State Department of Transportation (WSDOT) Economic Initiative program. A portion of the WSDOT construction program (0.3 percent) must be used for non-motorized transportation. In some cases, bicycle needs may be met by shoulder widening as part of a roads projects; in this situation funding for bicycle needs would not be separately identified. Other potential funding sources include the Non Highway Grant Program, a portion of city and county gas tax money (about 0.5 percent depending on size), and 75 percent of all money collected by cities for bicycle licenses, fees and penalties. At the discretion of local jurisdictions, any funding available for roads may also be used for bicycle related improvements.

Airports

The Regional Transportation Plan (RTP) identifies four airports in the region that are likely to have an impact on the regional road system: Bremerton National Airport, Fairchild (Port Angeles) International Airport, Jefferson County International Airport, and the Forks Airport. The information on regional airports will help coordinate airport and roadway transportation planning. Airport needs and funding sources are identified in airport master plans. Additional information regarding landside and airside improvements will be incorporated into RTP updates.

ROAD FINANCING

Overview

There are numerous sources of funding for roads improvements. Table 13.2, Eligible Jurisdictions and Uses for Revenues, summarizes these sources. (Note that the table includes only sources potentially available to this region, it does not include other sources that are only available to high density urban areas.) As discussed in the following section, many of these funds are used by local jurisdictions to meet road needs other than those identified in the regional plan, such as roads maintenance and safety. Also, several of the funding sources can

TABLE 13.2

ELIGIBLE JURISDICTIONS AND USES FOR REVENUES

REVENUE SOURCE	JURISDICTION			ELIGIBLE USES			
	City	County	State	Roads	Multimodal	Transit	Pedestrian & Bicycle
TIA: Transportation Improvement Account	✓	✓ Urban Counties		✓ Small cities	✓		
RAP: Rural Arterial Program		✓		✓			
CAPP: County Arterial Preservation Program		✓		✓ Preservation of paved arterials			
ISTEA STP Regional	✓	✓		✓	✓	✓	✓
ISTEA STP Statewide Competitive	✓	✓	✓	✓	✓	✓	✓
ISTEA STP Enhancement	✓	✓	✓	✓ Nontraditional (e.g., scenic byways, landscaping, mitigation of run-off pollution)	✓	✓	✓
ISTEA STP Safety	✓	✓	✓	✓ Hazard elimination & railroad crossings			
ISTEA Bridge Replacement	✓	✓		✓ Bridge only			
Mobility Funds (Gas Tax)			✓	✓ Capacity related deficiencies			

also be used for purposes other than road needs. Therefore the availability of these funds depend, in part, on competing uses within the region. Since projected costs for other elements of the transportation plan have not yet been determined, the relationship between these funding sources and the total regional need cannot yet be fully assessed. Table 13.2 also shows the eligible uses for these various funding sources.

Local Funding

The PRTPO plan addresses capacity related needs on the regional road system. A portion of these needs are on local roads which are part of the regional system. However the regional capacity needs on local roads are only a part of the total road needs that local jurisdictions must address with the available sources of funding. Local jurisdictions must also address safety and maintenance needs on all local roads -- including roads that are not on the regional system. It is important that funding for regional needs on local roads be examined in the context of the whole picture for these local jurisdictions. Without information on all the road needs in local jurisdictions, it is not feasible to determine what priority should be given to capacity related needs on local roads in the regional system versus other needs, and what local sources of funding would realistically be available to meet these needs.

The following examples illustrate the relative magnitude of local needs for safety and maintenance compared to capacity needs, and the relationship between the amount of local funds available compared to the total need:

- Jefferson County spends $4,071,000 for maintenance and preservation, $60,000 for safety and $85,000 for other road needs in an average year. No funds are spent on capacity related needs. The expenditures are balanced by revenues from various sources as required by law. However, the County has been using up its cash reserves to meet all of its expenditures, which indicates that available sources of funding are inadequate to meet current needs.

- Mason County spends $3.5 million on regular maintenance and $5 million on construction for maintenance and safety needs in an average year. Their 6 Year TIP identifies a total of $6 million per year in construction needs. This indicates a shortfall of $1 million per year in unfunded construction needs.

One piece of information that is not reflected in this data is the amount of all unmet local needs. While cities and counties go through a local prioritization process to identify what road needs will be funded, many needs are deferred because sufficient funding is not available. Only a few jurisdictions have in place systems for tracking these deferred needs. Therefore, the costs shown in this data does not reflect the total unmet needs, rather it shows only those needs for which there is potential funding.

The major point shown by this data is that regional capacity needs comprise a small to insignificant portion of the needs funded by local jurisdictions. Not surprisingly, the need to maintain and preserve existing roads and to correct safety problems takes a priority over projects to increase capacity. There may be situations where capacity problems have also created safety and maintenance problems; however, it is the latter that drives the local priority process. As growth occurs in the region, local roads that may be adequate based on capacity related standards (LOS standards) may become a higher priority for maintenance needs. At the local level, needs for maintenance and safety are compelling and available funding sources are not adequate to meet all these needs.

In order to address this issue within the regional planning process, a number of steps are needed to allow iteration between local planning and prioritization processes and development of the regional plan. The following steps are suggested:

1. Capacity needs on local roads within the regional system are identified through the PRTPO planning process.

2. Local jurisdictions include this information in updating their 6 year TIPs and developing their annual roads budget. Regional capacity needs on local roads are prioritized along with other local roads needs in this local process--in this context, projects that will receive local funding are identified as are projects for which the city or county will seek competitively allocated funds (e.g. STP Statewide competitive, STP Enhancements).

3. Using this information, the regional plan can be updated. The PRTPO planning process will then be coordinated with the local TIP's. The PRTPO will then have the information needed to evaluate options (new revenue sources, revised priorities, revised LOS standards) and prioritized capacity related needs.

Funding for City Streets

The ability of cities to fund capacity improvements on city streets that are part of the regional road system poses a special problem. All local jurisdictions face difficult choices in funding road improvements because the needs exceed the available funds. Jurisdictions have difficulty in meeting safety and maintenance needs, which generally have a higher priority than capacity needs.

This problem is further exacerbated for cities because their traditional sources of funding for roads and other transportation needs are more limited than the sources available to counties. Counties receive county road district property taxes, Rural Arterial Program funds, and County Arterial Preservation Program funds--these funds are not available to cities.

Although their funding sources are limited, cities are likely to face greater capacity related needs in the future because the urban areas of the region are where much of the future growth and development will take place. Cities will need to address these needs for city streets, both on the local systems and the regional system.

Cities may need to look at local funding options such as developer fees, impact fees, Transportation Benefit Districts and Street Utility Taxes to help pay for capacity related improvements. However, it would be difficult to justify using these local funding sources to pay for capacity improvements that are related to regional rather than local growth impacts. For example, the regional plan identifies capacity related needs on streets in the City of Shelton. These city streets lay within the regional system and connect SR 3 and US 101 as the traffic on these state roads enters and leaves Shelton. The capacity impacts on these city streets are therefore related not only to growth within the City but also to growth within the region.

State Funding

This section describes state funds that have, in the past, been allocated and prioritized at the state level. In the future, it is anticipated that RTPO's will have a greater role in prioritizing the use of these state funds. However, this role has not yet been clearly defined in state policy so the extent to which these funds can be tapped to meet regionally defined priorities is unclear.

In the 1995-97 biennium the Washington State Department of Department of Transportation (WSDOT) will be implementing a new state system plan with new program categories. These programs replace prior WSDOT programs for Highway Preservation (Category A), Interstate Construction (Category B), Non-Interstate Construction (Category C) and Non-Interstate Bridges (Category H). The funds previously allocated to these programs, which are primarily from state gas tax and MVET revenues, will be combined into one pot for allocation to the new programs. There are two major program categories for the new plan: Preservation and Improvement. Within the Improvements category there are four separate programs: Mobility, Safety, Economic Initiatives and Environmental Retrofit.

WSDOT has identified the potential amount of funding available to the Peninsula Region for the Mobility Program for 20 years and has developed a list of projects to be funded from this program. The PRTPO has been involved in prioritizing these projects. Funding amounts for the other programs (Safety, Economic Initiatives and Environmental Retrofit) have not yet been identified. Since the projects identified in the PRPTO's Regional Transportation Plan are based primarily on capacity deficiencies, funds from the WSDOT Mobility Program can be used to address some of these needs. In fact, there are significant overlaps in the projects identified by WSDOT for the Mobility Program and projects identified in the PRTPO Plan for Roads. It is possible that some projects may meet requirements for the other program categories (Safety, Economic Initiatives and Environmental Retrofit), but this is less likely. Therefore, the potential

funding for these other WSDOT programs have not been included in the forecasted revenues for the Finance Element.

Analysis Methodology

State Funding

The forecast of state gas tax revenues available to the region for Mobility projects (previously known as Category C funding) was provided by WSDOT for a 20 year period. To estimate revenue for the 15 year period of this plan, an average annual amount for the 20 year forecast was calculated and then prorated for a 15 year period. The forecasted total, including an amount for the Hood Canal Bridge, was $206 million (as of October 6, 1994). Of this amount, $55 million is for the Hood Canal Bridge, leaving $151 million for other regional mobility needs over a 20 year period. The annual revenue averages to $7.55 million per year, which would equal $113.25 over a 15 year period.

Local Funding

This plan does not include a forecast of local funding for the regional plan. As discussed previously, the only local road needs identified in the PRTPO are capacity related needs on local roads in the regional system. Because local funds have many competing uses besides the needs identified in the regional plan, it is not appropriate to identify specific local funding for regional needs outside the context of local processes for prioritizing local needs. An iterative process between the development of the regional plan and development of local 6 year TIPs and annual transportation budgets needs to occur. Using this first iteration of the regional plan, local jurisdictions can examine regional needs along with other priorities and provide appropriate feedback to the regional planning process. In future updates of the regional plan, this information can be incorporated to identify potential funding from local sources or other alternatives to balancing the costs and revenues for capacity improvements on local roads in the regional system.

Revenue Compared to Costs

Road Costs

The estimated costs to satisfy forecasted roads needs were based on an analysis of projected LOS deficiencies (capacity related needs), as discussed in Chapter 5. The analysis used different scenarios for annual growth rates.

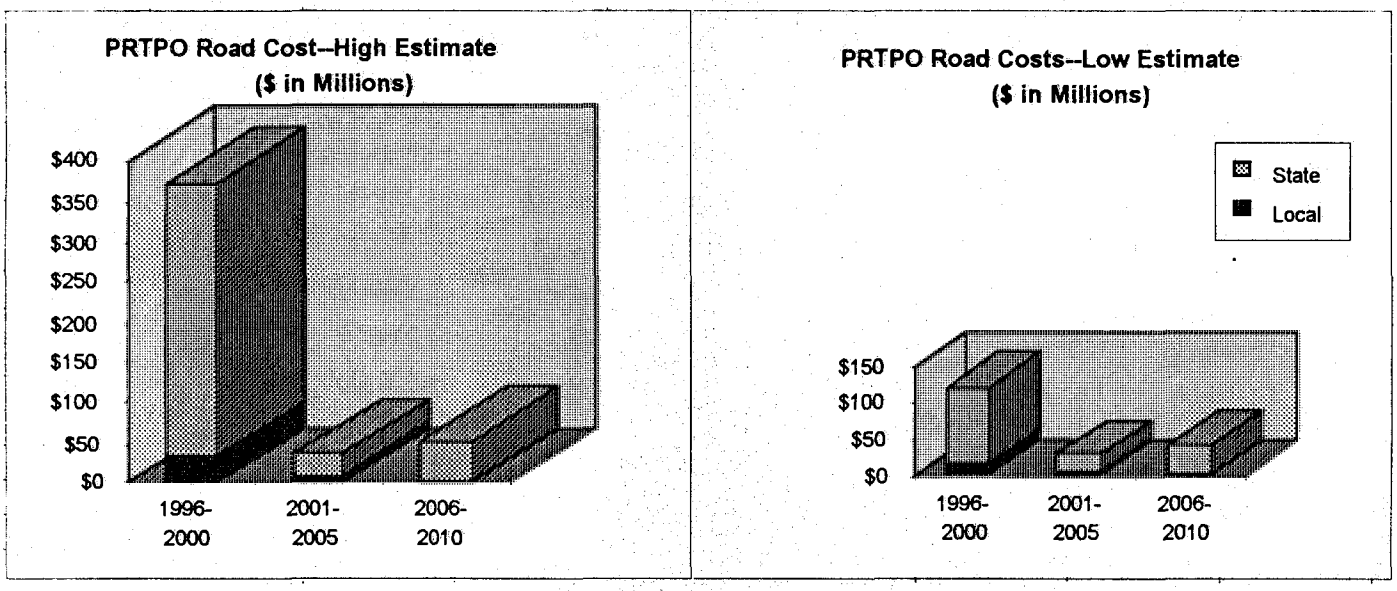
The results of the constrained growth scenario are summarized in the two graphs below showing high and low cost estimates. These graphs also indicate how costs are divided between improvements to state-owned roads and city or county-owned roads. Because the regional road

system consists primarily of state owned routes the greatest portion of the projected costs are on those routes. A relatively minor share of the costs are on locally owned routes and most of these are in Shelton where city streets serve as a connection between state routes.

Projected road costs for the first five years (1996-2000) range from $110.47 to $360.57 million ($17.4 to $33 million for local roads and $93.1 to $327.6 million for state routes). The total cost for the 15 year period is estimated to be in the range of $165.8 to $430.0 million.

FIGURE 13.1

PRTPO ROAD COSTS



These graphs also show that road costs are highest in the first five years of the planning period. This result stems from the method of analysis based on projected capacity requirements and reflects the fact that many routes in the regional system are now near capacity or already exceed capacity limits for the desired level of service. In contrast, revenues are forecasted to become available on a more uniform basis during the 15 year period (1996 - 2010).

Road Revenues

Over the 15 year planning period there is an estimated $113 million in revenue for State Mobility projects available, compared to the costs of $167 to $420 million on state roads in the regional system. For the five year period from 1996-2000 the discrepancy is even greater: $37.75 million in state mobility revenues compared to $102.67 to $340.27 million in costs for state routes.

in the first five years of the planning period. This creates a significant discrepancy between revenues and costs in the period from 1996-2000.

Balancing

The projected shortfall in revenue sources compared to needs shows the necessity of prioritizing needs, identifying new revenue sources, revising level of service standards and/or finding other approaches to balancing costs and revenues. It is recommended that the process of achieving a balance between road costs and revenue sources be done within the following policy guidelines:

- The goal of the PRTPO Plan is to balance revenues and expenditures for the first five years of the planning process and for the total 15 years of the planning period rather than on a year by year basis.

- The need to meet concurrency requirements on local facilities in the regional system will be addressed at the local level rather than through the regional planning process. Local jurisdictions will address potential new funding sources (e.g. impact fees) to meet concurrency requirements at the local level.

- The PRTPO will prioritized projects on the regional system for regional planning purposes.

- The PRTPO will not prioritized the use of local funds. This allows local jurisdictions to address other road needs not discussed in the regional plan. Local funds will be allocated to mobility, safety, preservation and other needs as needed to meet concurrency requirements and local priorities.

- Mobility related needs should be monitored in the future to assist local jurisdictions as well as the State in setting priorities for projects and identifying concurrency requirements.

Possible approaches to balancing the costs and revenues for road needs include:

1. Adjusting level of service standards.

2. Finding new revenue sources such a tolls, congestion pricing, gas tax increase, etc. Since local jurisdictions have to meet concurrency requirements, potential new local revenue sources, such as impact fees, can be addressed at the local level.

3. Implementing policies and procedures to control impacts to the transportation system through land use changes or transportation demand management.

4. Revising GMA requirements to better address growth related transportation needs that are not directly related to capacity requirements. LOS standards measure only one impact of growth on transportation systems--the impact on mobility. Growth also affects the maintenance and safety requirements for transportation systems, but these needs are not measured by current LOS methodologies. By including other yardsticks for measuring growth impacts, the GMA could provide a more realistic process for prioritizing transportation needs in regions with different urban/rural characteristics. This will allow local jurisdictions to make appropriate decisions in prioritizing mobility related needs along with safety and maintenance needs.

5. Adjusting the timing of projects to create a better match between revenues and costs over the entire planning period, particularly in the first five years when costs greatly exceed revenues. For example, the preliminary engineering and environmental analysis for several projects could be done simultaneously in the first five years while the final design and construction phases for the projects could be staggered over several years.

6. For regional road system projects on state routes use the PRTPO to assist in prioritizing projects from the Statewide System Plan.

Prioritization

The process of prioritizing projects should be flexible. As the PRTPO and local jurisdictions continue with the regional planning process and work to tie the regional process with local priorities, the approach to prioritizing regional process will be refined. Initially, the PRTPO proposes using the prioritization process developed for the 1994 Mobility projects. This process uses the following criteria to rank projects:

- WSDOT LOS Deficiency
- PRTPO LOS Deficiency
- Local agency support
- Regional Priority
- Multimodal/Intermodal Connectivity
- Promotes Economic Development

The following category rating definitions were used.[1]

WSDOT LOS Deficiency:
0 = Not in Plan (Statewide System Plan)
1 = Further LOS Deficiency

[1] These rankings are from "Prioritization Criteria Matrix PRTPO Mobility Projects Only" dated 8/10/94

2 = Current LOS Deficiency/Uncommitted Project
3 = Current LOS Deficiency/Committed Project

PRTPO LOS Deficiency

0 = Not in Plan (RTP) or included in RTP but nor LOS Deficiency under any growth scenario
1 = High/Medium Growth LOS Deficiency (4.5% & 3%)
2 = Low Growth LOS Deficiency (1.5%)
3 = Current LOS Deficiency

Local Agency Support

0 = Not in local Comprehensive Plan
1 = identified in local Comprehensive Plan
2 = Identified in Local Comprehensive Plan/Has Local Commitments (i.e. Interlocal Agreements, Permits, Memorandum of Understanding)

Regional Priority: Identified by PRTPO as being Regionally Significant and Fulfilling Regional Need

0 = Truck climbing lanes
1 = If they have specific identifiable impacts/benefits
2 = Extenuating circumstances/extraordinary benefits
2 = CBD Bypass/couplet

Multimodal/Intermodal Connectivity (Maximum of 3 points)

1 = Inside or Connects Urban Growth Areas
1 = Accommodates Alternative Modes (i.e. wide shoulders for bicycles/pedestrians, but high traffic volumes which discourage non-motorized use)
2 = Promotes Alternative Modes (i.e. HOV lanes, separate bicycle/pedestrian lanes)

Promotes Economic Development

0 = Does not promote economic development
1 = Promotes one type of economic development (i.e. freight or tourism)
2 = Promotes more than one type of economic development or provides connections between various types of economic development (i.e. freight and tourism).

The sum of a project's ranking for each criteria provide a total overall ranking which is then compared with other projects. Alternatively, certain criteria can be weighted if they are considered more important than other criteria. For example, PRTPO LOS Deficiency might be given a weighing of 2; in this case, the ranking for this criteria would be doubled then added to the rankings for other criteria to determine total overall ranking.

Table 13.1
ESTIMATED COSTS OF IMPROVEMENTS

PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION
FORECAST LINK VOLUMES AND LEVELS OF SERVICE
4.5% @ 10 YEARS, 3.0% @ 15 YEARS & 20 YEARS

3/8/95

County	Link	Roadway	From	To	LOS CAP	Formula Key	LOS Capacity	Date of Count	EXISTING ADT	EXISTING LOS	2000 4.50% Annual Rate Volume	LOS	Estimated Costs (M)	2005 3.00% Annual Rate Volume	LOS	Estimated Costs (M)	2010 3.00% Annual Rate Volume	LOS	Estimated Costs (M)
A	B	C	D	E	F	G	H	I	J	K	L	M		N	O		P	Q	
Clallam/Fork	192.07	Highway 101 (Tourist Corr.)	Forks City Limit	Johnson St	D	R2L-2A	14,300	1991	9,300	D	13,821	D		16,022	E	$1.5	18,574	E	
Clallam/P.A.	246.73	Highway 101 (Tourist Corr.)	SR 112	Pine St	D	R2L-1	10,000	1991	9,600	C	14,267	D	$20.0 - $105.0	16,539	E		19,173	E	
Clallam/P.A.	0.00	SR-101/Lauridsen Blvd(T.C.)	Pine St	Lincoln St	D	U2L-3U	21,900	1992	12,933	C	18,392	D		21,321	D		24,717	E	In 2000
Clallam/P.A.	0.00	SR-101/Lincoln St(Tourist Cor.)	Lauridsen Blvd.	Front St.	D	ART	13,400	1992	12,346	D	17,557	F	$20.0 - $116.0	20,354	F		23,595	F	
Clallam/P.A.	248.75	SR 101/Couplet/1st. St (T.C.)	Lincoln St	Race St	D	ART	27,900	1992	15,416	C	21,923	D		25,415	D		29,463	E	In 2000
Clallam/P.A.	249.12	SR101/End Cplt/1st St (T.C.)	Race St	Golf Course Rd	D	ART	27,900	1992	21,803	D	31,006	F	In Above	35,945	F		41,670	F	
Clallam/P.A.	248.75	SR101/Couplet/Front St (T.C.)	Lincoln St	Race St	D	ART	27,900	1992	17,773	C	25,275	D		29,301	E	In 2000	33,967	F	
Clallam/P.A.	249.12	SR101/End Cplt/Front St (T.C.)	Race St	Golf Course Rd	D	ART	27,900	1992	22,519	D	32,024	F	In Above	37,125	F		43,038	F	
Clallam/P.A.	251.32	Highway 101 (Tourist Corr.)	Golf Course Rd	Myrtle St	D	UMUL-2U	51,300	1992	34,526	C	49,099	D		56,920	E	In 2000	65,986	E	
Clallam	263.45	Highway 101 (Tourist Corr.)	Deer Park Rd	Sequim City Limit	D	U2L-1U	24,500	1991	17,000	C	25,264	E	$37.0 - $62.0	29,287	E		33,952	F	
Clal./Sequim	265.51	Highway 101 (Tourist Corr.)	Sequim City Limit	Sequim City Limit	D	U2L-3U	21,900	1991	14,000	C	20,805	D		24,119	E	In 2000	27,961	E	
Clallam	274.64	Highway 101 (Tourist Corr.)	Sequim City Limit	Jefferson/Clallam C.L.	D	R2L-1	16,100	1991	9,900	C	14,712	D		17,056	E	$0.57 - $0.77	19,772	E	
Jefferson	274.66	Highway 101 (Tourist Corr.)	Jefferson/Clallam CL	Old Gardiner Rd	D	R2L-1	16,100	1991	9,200	C	13,672	D		15,850	D		18,374	E	$12.2 - $16.3
Jefferson	282.25	Highway 101 (Tourist Corr.)	Old Gardiner Rd	Store Rd	D	R2L-1	16,100	1991	8,300	C	12,335	D		14,299	D		16,577	E	$0.25 - $0.33
Mason	1.19	SR 3 (Tourist Corridor)	Highway 101	Shelton City Limits	D	U2L-3U	21,900	1991	11,200	C	16,644	D		19,295	D		22,369	E	$2.9 - $3.8
Mason/Shelt.	2.18	SR 3 (Tourist Corridor)	Shelton City Limits	Delaware St	D	U2L-3U	21,900	1991	16,000	D	23,778	E	$4.1 - $9.1	27,565	E		31,955	E	
Mason/Shelt.	2.77	SR 3 (Tourist Corridor)	Delaware St	Railroad Ave	D	U2L-3U	21,900	1991	17,100	D	25,412	E	$0.02	29,460	E		34,152	F	
Mason	21.28	SR 3 (Tourist Corridor)	Grapeview Loop Rd	North Bay Rd	D	R2L-2	9,000	1991	7,200	C	10,700	D	$9.4 - $12.5	12,404	D		14,380	E	
Mason	24.95	SR 3 (Tourist Corridor)	North Bay Rd	SR 106	D	R2L-2	9,000	1991	10,300	D	15,307	E	$5.3 - $20.5	17,745	E		20,571	E	
Mason	26.78	SR 3 (Tourist Corridor)	SR 106	Cokelet Lane	D	R2L-2A	9,000	1991	12,200	D	18,130	E	In Above	21,018	E		24,366	E	
Mason	28.23	SR 3 (Tourist Corridor)	Cokelet Lane	Mason/Kitsap C.L.	D	R2L-1	10,000	1991	11,200	D	16,644	E	In Above	19,295	E		22,369	E	
Kitsap	34.14	SR 3 (Tourist Corridor)	Mason/Kitsap C.L.	Riverside St	D	R2L-1	16,100	1991	13,800	D	20,508	E	$7.2 - $10.0	23,775	E		27,561	F	
Kitsap	34.98	SR 3 (Tourist Corridor)	Riverside St	Gorst	D	U2L-2U	22,800	1991	14,900	C	22,143	D		25,670	E	In 2000	29,758	E	
Kitsap	37.47	SR 3 (Tourist Corridor)	Gorst	Bremerton City Limit	D	FREE	66,100	1991	52,700	C	78,317	F	In Above	90,791	F		105,252	F	
Kitsap/Brem.	38.73	SR 3 (Tourist Corridor)	Bremerton City Limit	Kitsap Way	D	FREE	66,100	1991	36,500	B	54,242	C		62,882	D		72,897	F	In 2000
Kitsap	50.34	SR 3 (Tourist Corridor)	SR 308	Sherman Hill Rd	D	R2L-1	16,100	1991	21,500	E	31,951	F	$16.7 - $22.3	37,040	F		42,940	F	
Kitsap	52.91	SR 3 (Tourist Corridor)	Sherman Hill Rd	SR 305	D	R2L-1	16,100	1991	17,000	E	25,264	E	$13.9 - $18.5	29,287	F		33,952	F	
Kitsap	59.73	SR 3 (Tourist Corridor)	SR 305	Babcock St	D	R2L-1	10,000	1991	14,400	D	21,400	E	$11.1 - $14.8	24,808	E		28,760	F	
Kitsap	60.02	SR 3 (Tourist Corridor)	Babcock St	SR 104	D	R2L-2	9,000	1991	10,600	D	15,753	E	In Above	18,262	E		21,170	E	
Kitsap	24.85	SR 16 (Tourist Corr.)	SR 302 spur	Sedgewick Rd	D	UMUL-1D	56,800	1991	36,400	C	54,094	D		62,710	E	In 2000	72,698	F	
Kitsap	28.16	SR 16 (Tourist Corr.)	Sedgewick Rd	SR 160	D	UMUL-1D	56,800	1991	38,500	C	57,215	E	$15.7 - $20.9	66,327	E		76,892	F	
Kitsap	29.19	SR 16 (Tourist Corr.)	SR 160	SR 3	D	UMUL-1D	56,800	1991	51,400	D	76,385	F	$3.7 - $4.9	88,551	F		102,655	F	
Jefferson	95200	SR 19/Rhody Dr	Four Corners	SR116/Ness' Corner Rd.	D	U2L-6R	21,200	1990	12,338	C	19,161	D		22,212	E	$1.40	25,750	E	
Jefferson	95200	SR 19/Rhody Dr	SR 116/Ness' Corner Rd.	Center Rd	C	R2L-6A	7,400	1990	7,595	D	11,795	D	$1.75	13,673	E		15,851	E	
Jefferson		SR 19/Beaver Valley Rd	Center Rd	Swansonville Rd	C	R2L-4	8,100	1990	5,041	C	7,829	C		9,075	D	$5.20	10,521	D	
Jefferson		SR 19/Beaver Valley Rd	Swansonville Rd	Larson Lake Rd	C	R2L-4	8,100	1990	4,178	C	6,488	C		7,522	C		8,720	D	$2.30
Jefferson		SR 19/Beaver Valley Rd	Larson Lake Rd	Oak Bay Rd	C	R2L-4	8,100	1990	4,226	C	6,563	C		7,608	C		8,820	D	$1.80
Jefferson		SR 19/Beaver Valley Rd	Oak Bay Rd	SR 104	C	R2L-4	8,100	1990	4,258	C	6,613	C		7,666	C		8,887	D	$2.50
Jefferson	8.26	SR 20 (Tourist Corridor)	Four Corners Rd	Old Fort Townsend Rd	D	U2L-4R	22,800	1991	11,900	C	17,685	D		20,501	D		23,767	E	$4.7 - $6.8
Jeff/P.Town	9.81	SR 20 (Tourist Corridor)	Old Fort Townsend Rd	Mill/Discovery Rd	D	U2L-4R	22,800	1991	11,600	C	17,239	D		19,984	D		23,167	E	In Above
eff/P.Town	10.78	SR 20 (Tourist Corridor)	Mill/Discovery Rd	Sherman St	D	U2L-6R	21,200	1991	12,400	C	18,428	D		21,363	E	$1.40	24,765	E	
ff/P.Town.	11.79	SR 20 (Tourist Corridor)	Sherman St	Benedict St	D	U2L-3U	21,900	1991	13,000	C	19,319	D		22,396	E	$8.30	25,963	E	

Table 13.1
ESTIMATED COSTS OF IMPROVEMENTS

PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION
FORECAST LINK VOLUMES AND LEVELS OF SERVICE
4.5% @ 10 YEARS, 3.0% @ 15 YEARS & 20 YEARS

3/8/95

County	Link	Roadway	From	To	LOS CAP	Formula Key	LOS Capacity	Date of Count	EXISTING ADT	EXISTING LOS	2000 4.50% Annual Rate Volume	LOS	Estimated Costs (M)	2005 3.00% Annual Rate Volume	LOS	Estimated Costs (M)	2010 3.00% Annual Rate Volume	LOS	Estimated Costs (M)
A	B	C	D	E	F	G	H	I	J	K	L	M		N	O		P	Q	
Jeff/P.Town.	12.19	SR 20 (Tourist Corridor)	Benedict St	Water St	D	U2L-3U	21,900	1991	12,200	C	18,130	D		21,018	D		24,366	E	In 2005
Jefferson	8.87	SR 104 (Tourist Corr.)	Center Rd	Beaver Valley Rd	D	R2L-1	16,100	1991	9,800	C	14,564	D		16,883	E	In Above	19,572	E	
Jefferson	11.46	SR 104 (Tourist Corr.)	Beaver Valley Rd	Teal Lake Rd	D	R2L-1	16,100	1991	10,200	D	15,158	D		17,572	E	$6.1 - $8.2	20,371	E	
Jefferson	13.88	SR 104 (Tourist Corr.)	Teal Lake Rd	Paradise Bay Rd	D	R2L-1	16,100	1991	9,946	C	14,781	D		17,135	E	In Above	19,864	E	
Jefferson	13.93	SR 104 (Tourist Corr.)	Paradise Bay Rd	Kitsap/Jefferson C.L.	D	R2L-2	14,300	1991	12,269	D	18,233	E	$0.50 - $0.70	21,137	E		24,503	E	
Kitsap	15.50	SR 104 (Tourist Corr.)	Kitsap/Jefferson C.L.	SR 3	D	R2L-3	14,600	1991	12,269	D	18,233	E	$372 - $496	21,137	E		24,503	F	
Kitsap	21.50	SR 104 (Tourist Corr.)	Bond Rd	Highland Rd	D	R2L-1	10,000	1991	10,000	C	14,861	D	$16.8 - $22.4	17,228	E		19,972	E	
Kitsap/King.	24.10	SR 104 (Tourist Corr.)	Highland Rd	West 1st St	D	R2L-2	9,000	1991	8,900	C	13,226	D	$6.7 - $8.9	15,333	E		17,775	E	
Kitsap		SR 160/Sedgewick Rd.	SR 16	Bethel Rd	D	R2L-6A	12,400	1992	15,300	E	21,758	E	$0.37 - $0.49	25,224	F		29,241	F	
Kitsap		SR 160/Sedgwick Rd	Bethel Rd	Long Lake Rd.	D	R2L-6A	12,400	1991	11,247	D	16,714	E	In Above	19,376	E		22,462	E	
Kitsap	0.62	SR 303	SR 304	17th St	D	ART	27,900	1992	32,400	F	46,076	F	$9.27 - $12.36	53,415	F		61,922	F	
Kitsap	1.46	SR 303	17th St	Sheridan Road	D	ART	27,900	1992	46,400	F	65,985	F	In Above	76,495	F		88,679	F	
Kitsap	2.75	SR 303	Sheridan Road	Riddel Rd	D	ART	27,900	1991	27,600	D	41,016	F	In Above	47,549	F		55,122	F	
Kitsap	0.40	SR 304	SR 3	Charleston Beach Rd	D	UMUL-2U	51,300	1991	26,500	B	39,382	C		45,654	D		52,925	E	$6.3 - $8.4
Kitsap/B.Isl.	0.35	SR 305 (Tourist Corr.)	Winslow Ferry Terminal	Winslow Way	D	R2L-5	12,900	1991	10,000	D	14,861	E	$23.4 - $53.2	17,228	E		19,972	E	
Kitsap/B.Isl.	2.31	SR 305 (Tourist Corr.)	Winslow Way	Sportsman Club Rd	D	R2L-5	12,900	1991	15,100	E	22,440	E	In Above	26,014	F		30,158	F	
Kitsap/B.Isl.	10.69	SR 305 (Tourist Corr.)	Sportsman Club Rd	Suquamish Rd	D	R2L-5	12,900	1991	14,500	E	21,548	E	In Above	24,980	F		28,959	F	
Kitsap/Pouls.	13.31	SR 305 (Tourist Corr.)	Suquamish Rd	Poulsbo City Limit	D	R2L-5	12,900	1991	15,600	E	23,183	E	In Above	26,876	F		31,156	F	
Kitsap		SR-307/ Bond Rd.	SR 305	SR 104	C	R2L-4	8,100	1991	8,956	D	13,309	E	$13.0 - $17.5	15,429	E		17,887	E	
Kitsap/Brem.		SR-310/Kitsap Way	SR 3	SR 304	D	UMUL-2U	51,300	1991	36,000	C	53,499	E	$1.0	62,020	E		71,899	F	
Mason	90090	Brockdale Rd	McEwan Prairie Rd	Shelton Springs Rd.	C	R2L-4	8,100	1992	4,963	C	7,058	C		8,182	D	$0	9,485	D	
Clallam/ P.A	47530	Marine Dr	Truck Route	Valley	D	U2L-3U	21,900	1991	18,803	D	27,943	E	In Previous	32,394	E		37,553	F	
Mason/Shelt		Railroad/Shelton-Matlock Rd	City Limits	1st	C	ART	9500	1991	7746	C	11,511	D	$0.80 - $4.8	13,345	D		15,470	F	
Mason/Shelt		Northcliff	Alder St	North 13th	C	ART	9500	1991	8024	C	11,924	D	$3.2 - $6.4	13,824	E		16,025	F	
Mason/Shelt		Shelton Springs Rd.	City Limits	North 13th	C	ART	9500	1992	6597	C	9,382	C		10,876	D	$4.2 - $8.8	12,608	D	
Mason/Shelt		Olympic Hwy North	SR 101	7th St	D	ART	13400	1992	14223	E	20,227	F	$0.80 - $4.8	23,448	F		27,183	F	
Mason/Shelt		Alder St	7th St	1st	D	ART	13400	1992	11180	D	15,899	F	$0.80 - $3.6	18,431	F		21,367	F	
Mason/Shelt		Brockdale Rd	City Limits	Shelton Springs Rd.	C	ART	9500	1992	7572	C	10,768	D	$4.6 - $9.2	12,483	D		14,471	E	
Mason/Shelt		North 13th	Shelton Springs Rd.	Olympic Hwy North	C	ART	9500	1991	8024	C	11,924	D	$2.2 - $4.2	13,824	E		16,025	F	
Kitsap/Poul		SR 305 (Tourist Corr.)	Poulsbo City Limit	SR 3	D	R2L-5	12900	1992	17700	E	25,171	F	In Previous	29,180	F		33,828	F	

TOTALS	w/ Kitsap	$249.31 - $567.82	$28.67 - $35.57	$32.95 - $42.23
	w/o Kitsap	$110.47 - $360.57	$28.67 - $35.57	$26.65 - $33.83
GRAND TOTAL	w/ Kitsap	$319.93 - $645.62		
	w/o Kitsap	$165.79 - $429.97		

TABLE 13.2

ELIGIBLE JURISDICTIONS AND USES FOR REVENUES

REVENUE SOURCE	JURISDICTION			ELIGIBLE USES			
	City	County	State	Roads	Multimodal	Transit	Pedestrian & Bicycle
TIA: Transportation Improvement Account	✓	✓ Urban Counties		✓ Small cities	✓		
RAP: Rural Arterial Program		✓		✓			
CAPP: County Arterial Preservation Program		✓		✓ Preservation of paved arterials			
ISTEA STP Regional	✓	✓		✓	✓	✓	✓
ISTEA STP Statewide Competitive	✓	✓	✓	✓	✓	✓	✓
ISTEA STP Enhancement	✓	✓	✓	✓ Nontraditional (e.g., scenic byways, landscaping, mitigation of run-off pollution)	✓	✓	✓
ISTEA STP Safety	✓	✓	✓	✓ Hazard elimination & railroad crossings			
ISTEA Bridge Replacement	✓	✓		✓ Bridge only			
Mobility Funds (Gas Tax)			✓	✓ Capacity related deficiencies			

also be used for purposes other than road needs. Therefore the availability of these funds depend, in part, on competing uses within the region. Since projected costs for other elements of the transportation plan have not yet been determined, the relationship between these funding sources and the total regional need cannot yet be fully assessed. Table 13.2 also shows the eligible uses for these various funding sources.

Local Funding

The PRTPO plan addresses capacity related needs on the regional road system. A portion of these needs are on local roads which are part of the regional system. However the regional capacity needs on local roads are only a part of the total road needs that local jurisdictions must address with the available sources of funding. Local jurisdictions must also address safety and maintenance needs on all local roads -- including roads that are not on the regional system. It is important that funding for regional needs on local roads be examined in the context of the whole picture for these local jurisdictions. Without information on all the road needs in local jurisdictions, it is not feasible to determine what priority should be given to capacity related needs on local roads in the regional system versus other needs, and what local sources of funding would realistically be available to meet these needs.

The following examples illustrate the relative magnitude of local needs for safety and maintenance compared to capacity needs, and the relationship between the amount of local funds available compared to the total need:

- Jefferson County spends $4,071,000 for maintenance and preservation, $60,000 for safety and $85,000 for other road needs in an average year. No funds are spent on capacity related needs. The expenditures are balanced by revenues from various sources as required by law. However, the County has been using up its cash reserves to meet all of its expenditures, which indicates that available sources of funding are inadequate to meet current needs.

- Mason County spends $3.5 million on regular maintenance and $5 million on construction for maintenance and safety needs in an average year. Their 6 Year TIP identifies a total of $6 million per year in construction needs. This indicates a shortfall of $1 million per year in unfunded construction needs.

One piece of information that is not reflected in this data is the amount of all unmet local needs. While cities and counties go through a local prioritization process to identify what road needs will be funded, many needs are deferred because sufficient funding is not available. Only a few jurisdictions have in place systems for tracking these deferred needs. Therefore, the costs shown in this data does not reflect the total unmet needs, rather it shows only those needs for which there is potential funding.

The major point shown by this data is that regional capacity needs comprise a small to insignificant portion of the needs funded by local jurisdictions. Not surprisingly, the need to maintain and preserve existing roads and to correct safety problems takes a priority over projects to increase capacity. There may be situations where capacity problems have also created safety and maintenance problems; however, it is the latter that drives the local priority process. As growth occurs in the region, local roads that may be adequate based on capacity related standards (LOS standards) may become a higher priority for maintenance needs. At the local level, needs for maintenance and safety are compelling and available funding sources are not adequate to meet all these needs.

In order to address this issue within the regional planning process, a number of steps are needed to allow iteration between local planning and prioritization processes and development of the regional plan. The following steps are suggested:

1. Capacity needs on local roads within the regional system are identified through the PRTPO planning process.

2. Local jurisdictions include this information in updating their 6 year TIPs and developing their annual roads budget. Regional capacity needs on local roads are prioritized along with other local roads needs in this local process--in this context, projects that will receive local funding are identified as are projects for which the city or county will seek competitively allocated funds (e.g. STP Statewide competitive, STP Enhancements).

3. Using this information, the regional plan can be updated. The PRTPO planning process will then be coordinated with the local TIP's. The PRTPO will then have the information needed to evaluate options (new revenue sources, revised priorities, revised LOS standards) and prioritized capacity related needs.

Funding for City Streets

The ability of cities to fund capacity improvements on city streets that are part of the regional road system poses a special problem. All local jurisdictions face difficult choices in funding road improvements because the needs exceed the available funds. Jurisdictions have difficulty in meeting safety and maintenance needs, which generally have a higher priority than capacity needs.

This problem is further exacerbated for cities because their traditional sources of funding for roads and other transportation needs are more limited than the sources available to counties. Counties receive county road district property taxes, Rural Arterial Program funds, and County Arterial Preservation Program funds--these funds are not available to cities.

Although their funding sources are limited, cities are likely to face greater capacity related needs in the future because the urban areas of the region are where much of the future growth and development will take place. Cities will need to address these needs for city streets, both on the local systems and the regional system.

Cities may need to look at local funding options such as developer fees, impact fees, Transportation Benefit Districts and Street Utility Taxes to help pay for capacity related improvements. However, it would be difficult to justify using these local funding sources to pay for capacity improvements that are related to regional rather than local growth impacts. For example, the regional plan identifies capacity related needs on streets in the City of Shelton. These city streets lay within the regional system and connect SR 3 and US 101 as the traffic on these state roads enters and leaves Shelton. The capacity impacts on these city streets are therefore related not only to growth within the City but also to growth within the region.

State Funding

This section describes state funds that have, in the past, been allocated and prioritized at the state level. In the future, it is anticipated that RTPO's will have a greater role in prioritizing the use of these state funds. However, this role has not yet been clearly defined in state policy so the extent to which these funds can be tapped to meet regionally defined priorities is unclear.

In the 1995-97 biennium the Washington State Department of Department of Transportation (WSDOT) will be implementing a new state system plan with new program categories. These programs replace prior WSDOT programs for Highway Preservation (Category A), Interstate Construction (Category B), Non-Interstate Construction (Category C) and Non-Interstate Bridges (Category H). The funds previously allocated to these programs, which are primarily from state gas tax and MVET revenues, will be combined into one pot for allocation to the new programs. There are two major program categories for the new plan: Preservation and Improvement. Within the Improvements category there are four separate programs: Mobility, Safety, Economic Initiatives and Environmental Retrofit.

WSDOT has identified the potential amount of funding available to the Peninsula Region for the Mobility Program for 20 years and has developed a list of projects to be funded from this program. The PRTPO has been involved in prioritizing these projects. Funding amounts for the other programs (Safety, Economic Initiatives and Environmental Retrofit) have not yet been identified. Since the projects identified in the PRPTO's Regional Transportation Plan are based primarily on capacity deficiencies, funds from the WSDOT Mobility Program can be used to address some of these needs. In fact, there are significant overlaps in the projects identified by WSDOT for the Mobility Program and projects identified in the PRTPO Plan for Roads. It is possible that some projects may meet requirements for the other program categories (Safety, Economic Initiatives and Environmental Retrofit), but this is less likely. Therefore, the potential

funding for these other WSDOT programs have not been included in the forecasted revenues for the Finance Element.

Analysis Methodology

State Funding

The forecast of state gas tax revenues available to the region for Mobility projects (previously known as Category C funding) was provided by WSDOT for a 20 year period. To estimate revenue for the 15 year period of this plan, an average annual amount for the 20 year forecast was calculated and then prorated for a 15 year period. The forecasted total, including an amount for the Hood Canal Bridge, was $206 million (as of October 6, 1994). Of this amount, $55 million is for the Hood Canal Bridge, leaving $151 million for other regional mobility needs over a 20 year period. The annual revenue averages to $7.55 million per year, which would equal $113.25 over a 15 year period.

Local Funding

This plan does not include a forecast of local funding for the regional plan. As discussed previously, the only local road needs identified in the PRTPO are capacity related needs on local roads in the regional system. Because local funds have many competing uses besides the needs identified in the regional plan, it is not appropriate to identify specific local funding for regional needs outside the context of local processes for prioritizing local needs. An iterative process between the development of the regional plan and development of local 6 year TIPs and annual transportation budgets needs to occur. Using this first iteration of the regional plan, local jurisdictions can examine regional needs along with other priorities and provide appropriate feedback to the regional planning process. In future updates of the regional plan, this information can be incorporated to identify potential funding from local sources or other alternatives to balancing the costs and revenues for capacity improvements on local roads in the regional system.

Revenue Compared to Costs

Road Costs

The estimated costs to satisfy forecasted roads needs were based on an analysis of projected LOS deficiencies (capacity related needs), as discussed in Chapter 5. The analysis used different scenarios for annual growth rates.

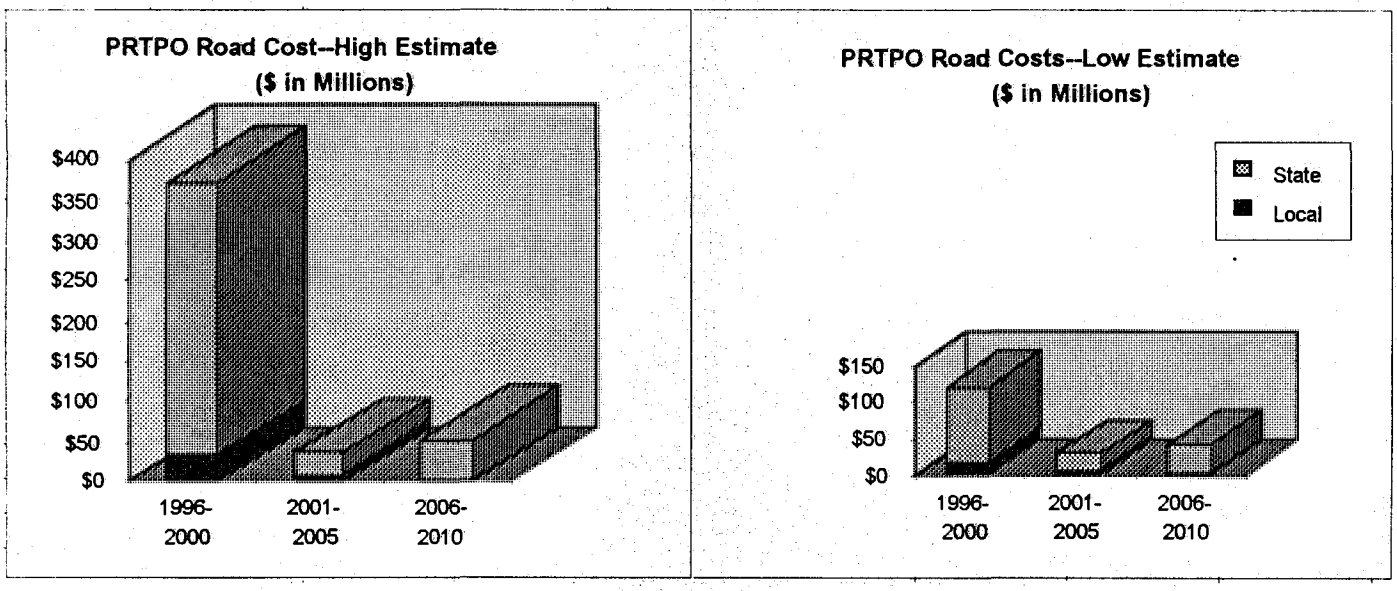
The results of the constrained growth scenario are summarized in the two graphs below showing high and low cost estimates. These graphs also indicate how costs are divided between improvements to state-owned roads and city or county-owned roads. Because the regional road

system consists primarily of state owned routes the greatest portion of the projected costs are on those routes. A relatively minor share of the costs are on locally owned routes and most of these are in Shelton where city streets serve as a connection between state routes.

Projected road costs for the first five years (1996-2000) range from $110.47 to $360.57 million ($17.4 to $33 million for local roads and $93.1 to $327.6 million for state routes). The total cost for the 15 year period is estimated to be in the range of $165.8 to $430.0 million.

FIGURE 13.1

PRTPO ROAD COSTS



These graphs also show that road costs are highest in the first five years of the planning period. This result stems from the method of analysis based on projected capacity requirements and reflects the fact that many routes in the regional system are now near capacity or already exceed capacity limits for the desired level of service. In contrast, revenues are forecasted to become available on a more uniform basis during the 15 year period (1996 - 2010).

Road Revenues

Over the 15 year planning period there is an estimated $113 million in revenue for State Mobility projects available, compared to the costs of $167 to $420 million on state roads in the regional system. For the five year period from 1996-2000 the discrepancy is even greater: $37.75 million in state mobility revenues compared to $102.67 to $340.27 million in costs for state routes.

in the first five years of the planning period. This creates a significant discrepancy between revenues and costs in the period from 1996-2000.

Balancing

The projected shortfall in revenue sources compared to needs shows the necessity of prioritizing needs, identifying new revenue sources, revising level of service standards and/or finding other approaches to balancing costs and revenues. It is recommended that the process of achieving a balance between road costs and revenue sources be done within the following policy guidelines:

- The goal of the PRTPO Plan is to balance revenues and expenditures for the first five years of the planning process and for the total 15 years of the planning period rather than on a year by year basis.

- The need to meet concurrency requirements on local facilities in the regional system will be addressed at the local level rather than through the regional planning process. Local jurisdictions will address potential new funding sources (e.g. impact fees) to meet concurrency requirements at the local level.

- The PRTPO will prioritized projects on the regional system for regional planning purposes.

- The PRTPO will not prioritized the use of local funds. This allows local jurisdictions to address other road needs not discussed in the regional plan. Local funds will be allocated to mobility, safety, preservation and other needs as needed to meet concurrency requirements and local priorities.

- Mobility related needs should be monitored in the future to assist local jurisdictions as well as the State in setting priorities for projects and identifying concurrency requirements.

Possible approaches to balancing the costs and revenues for road needs include:

1. Adjusting level of service standards.

2. Finding new revenue sources such a tolls, congestion pricing, gas tax increase, etc. Since local jurisdictions have to meet concurrency requirements, potential new local revenue sources, such as impact fees, can be addressed at the local level.

3. Implementing policies and procedures to control impacts to the transportation system through land use changes or transportation demand management.

4. Revising GMA requirements to better address growth related transportation needs that are not directly related to capacity requirements. LOS standards measure only one impact of growth on transportation systems--the impact on mobility. Growth also affects the maintenance and safety requirements for transportation systems, but these needs are not measured by current LOS methodologies. By including other yardsticks for measuring growth impacts, the GMA could provide a more realistic process for prioritizing transportation needs in regions with different urban/rural characteristics. This will allow local jurisdictions to make appropriate decisions in prioritizing mobility related needs along with safety and maintenance needs.

5. Adjusting the timing of projects to create a better match between revenues and costs over the entire planning period, particularly in the first five years when costs greatly exceed revenues. For example, the preliminary engineering and environmental analysis for several projects could be done simultaneously in the first five years while the final design and construction phases for the projects could be staggered over several years.

6. For regional road system projects on state routes use the PRTPO to assist in prioritizing projects from the Statewide System Plan.

Prioritization

The process of prioritizing projects should be flexible. As the PRTPO and local jurisdictions continue with the regional planning process and work to tie the regional process with local priorities, the approach to prioritizing regional process will be refined. Initially, the PRTPO proposes using the prioritization process developed for the 1994 Mobility projects. This process uses the following criteria to rank projects:

- WSDOT LOS Deficiency
- PRTPO LOS Deficiency
- Local agency support
- Regional Priority
- Multimodal/Intermodal Connectivity
- Promotes Economic Development

The following category rating definitions were used.[1]

WSDOT LOS Deficiency:
0 = Not in Plan (Statewide System Plan)
1 = Further LOS Deficiency

[1] These rankings are from "Prioritization Criteria Matrix PRTPO Mobility Projects Only" dated 8/10/94

2 = Current LOS Deficiency/Uncommitted Project
3 = Current LOS Deficiency/Committed Project

PRTPO LOS Deficiency

0 = Not in Plan (RTP) or included in RTP but nor LOS Deficiency under any growth scenario
1 = High/Medium Growth LOS Deficiency (4.5% & 3%)
2 = Low Growth LOS Deficiency (1.5%)
3 = Current LOS Deficiency

Local Agency Support

0 = Not in local Comprehensive Plan
1 = identified in local Comprehensive Plan
2 = Identified in Local Comprehensive Plan/Has Local Commitments (i.e. Interlocal Agreements, Permits, Memorandum of Understanding)

Regional Priority: Identified by PRTPO as being Regionally Significant and Fulfilling Regional Need

0 = Truck climbing lanes
1 = If they have specific identifiable impacts/benefits
2 = Extenuating circumstances/extraordinary benefits
2 = CBD Bypass/couplet

Multimodal/Intermodal Connectivity (Maximum of 3 points)

1 = Inside or Connects Urban Growth Areas
1 = Accommodates Alternative Modes (i.e. wide shoulders for bicycles/pedestrians, but high traffic volumes which discourage non-motorized use)
2 = Promotes Alternative Modes (i.e. HOV lanes, separate bicycle/pedestrian lanes)

Promotes Economic Development

0 = Does not promote economic development
1 = Promotes one type of economic development (i.e. freight or tourism)
2 = Promotes more than one type of economic development or provides connections between various types of economic development (i.e. freight and tourism).

The sum of a project's ranking for each criteria provide a total overall ranking which is then compared with other projects. Alternatively, certain criteria can be weighted if they are considered more important than other criteria. For example, PRTPO LOS Deficiency might be given a weighing of 2; in this case, the ranking for this criteria would be doubled then added to the rankings for other criteria to determine total overall ranking.

Chapter 14

Regional Consistency, Guidelines and Certification

CHAPTER 14

REGIONAL CONSISTENCY, GUIDELINES and CERTIFICATION

INTRODUCTION

Regional Transportation Planning Organizations (RTPO's) are required to carry out three steps to determine coordination between the regional transportation planning and both county and city planning. The three steps to determine regional and local coordination are Consistency, Guidelines and Principles, and Certification.

Consistency is the broadest level of coordination. Local transportation plans are required to be consistent with the regional goals and policies set forth by the PRTPO in their Regional Transportation Plan. For this consistency analysis, the countywide planning policies were assumed to guide the development of the local plans, so the countywide planning policies have been analyzed for consistency with the PRTPO Goals and Policies. In addition, local transportation elements are also required to be coordinated with adjacent jurisdictions, and reference to regional transportation policies can be a mechanism for assuring that coordination.

Guidelines and Principles make up the second level of coordination required between the PRTPO and local jurisdictions. In 1994, the State Legislature passed Substitute House Bill 1928 (SHB 1928), now known as RCW 47.80. Section 3 of the legislation requires RTPO's to establish Guidelines and Principles that provide specific direction for the development and evaluation of the transportation elements of comprehensive plans and to assure that state, regional and local goals for the development of transportation systems are met.

Guidelines and Principles are closely related to the Goals and Policies. But rather than guiding decisionmaking as goals and policies do, these guidelines and principals form the criteria for certifying city and county comprehensive plan transportation elements in the comprehensive plans.

Certification, the third step of regional and local coordination, requires RTPO's to certify that local transportation elements of comprehensive plans are based on the Guidelines and Principles. The Guidelines and Principles form the criteria for certifying city and county transportation elements in the comprehensive plans.

The PRTPO has chosen to develop a checklist for the local jurisdictions to submit for local transportation element certification. The checklist would delineate the requirements of the

Guidelines and Principles and ask the jurisdictions to explain how they met these Guidelines and Principles. The checklist approach allows the jurisdictions to judge their effectiveness in meeting the criteria before submitting their transportation elements. To carry out the certification process, the PRTPO has chosen to develop a checklist for the local jurisdictions. This method allows jurisdiction allows the jurisdictions to judge their effectiveness in meeting the criteria before submitting their transportation elements to the PRTPO.

These three steps (the analysis of Consistency, the recommended Guidelines and Principles, and the details of the Certification process) are provided in this chapter.

CONSISTENCY ANALYSIS

The Consistency analysis is the first step in establishing regional and local coordination in developing the Regional Transportation Plan. According to the GMA the transportation goals and policies developed by the PRTPO are intended to guide transportation planning activities within the region. Consequently, local transportation plans are required to be consistent with the goals and policies set forth by the PRTPO in their regional transportation plan. Local transportation elements are also required to be coordinated with adjacent jurisdictions, and reference to regional transportation policies can be a mechanism for assuring that coordination.

The PRTPO's has the responsibility to review the local transportation plans for consistency with the goals and policies set forth in the regional plan. To determine consistency, Clallam, Jefferson, Kitsap and Mason Counties' Countywide Planning Policies (CPP) on transportation were reviewed and analyzed in relation to the regional plan's goals and policies. The results are summarized in Table 14.1. As a basis for this analysis, the countywide planning policies were assumed to guide the development of the local plans. Therefore, if the countywide planning policies are determined to be consistent with the goals of the regional transportation plan, the local plans should also be consistent.

Table 14.1 depicts the six general categories of goals and policies addressed by the regional transportation plan: level of service, airports, freight, highways, non-motorized forms of transportation, and multimodal transportation. The table also illustrates whether each county's adopted countywide transportation planning policies address the six categories of goals and policies developed by the PRTPO. In some cases, additional comments have been made on specific countywide policies recommended by the counties. The lower portion of the table indicates the countywide planning policies on transportation are inconsistent with the regional transportation plan's goals and policies.

As seen in Table 14.1, many of the counties' policies (other than Clallam County) did not address all of the general categories of the regional transportation plan's goals and policies. In general, all of the counties included policies on setting levels of service and multimodal

transportation activities. Missing from three-quarters of the counties were policies on airports and freight. Yet, none of the countywide planning policies on transportation set forth by the counties were found to be inconsistent with the goals and policies of the regional transportation plan. In addition, all of the counties included policies on the role of intergovernmental coordination in the transportation planning process. In most cases, the counties' policies referenced the activities of the PRTPO and the goals and policies of the regional transportation plan.

GUIDELINES AND PRINCIPLES

In 1994, the State Legislature passed Substitute House Bill 1928 (SHB 1928), now know as RCW 47.80. The aim of the legislation is to improve coordination between the different levels of planning and to support prudent and cost-effective transportation investment by the state and local governments.

Section 3 of the legislation specifies the requirements of the second step of coordination between regional and local agencies. Section 3 of the legislation requires RTPO's to establish Guidelines and Principles that provide specific direction for the development and evaluation of the transportation elements of comprehensive plans and to assure that state, regional and local goals for the development of transportation systems are met. These Guidelines are expected to address, at a minimum, the following factors.

1. Concentration of economic activity

2. Residential density

3. Development corridors and urban design that, where appropriate, supports high capacity transit

4. Freight transportation and port access

5. Development patterns that promote pedestrian and non-motorized transportation, multimodal systems access to regional systems, effective and efficient highway systems;

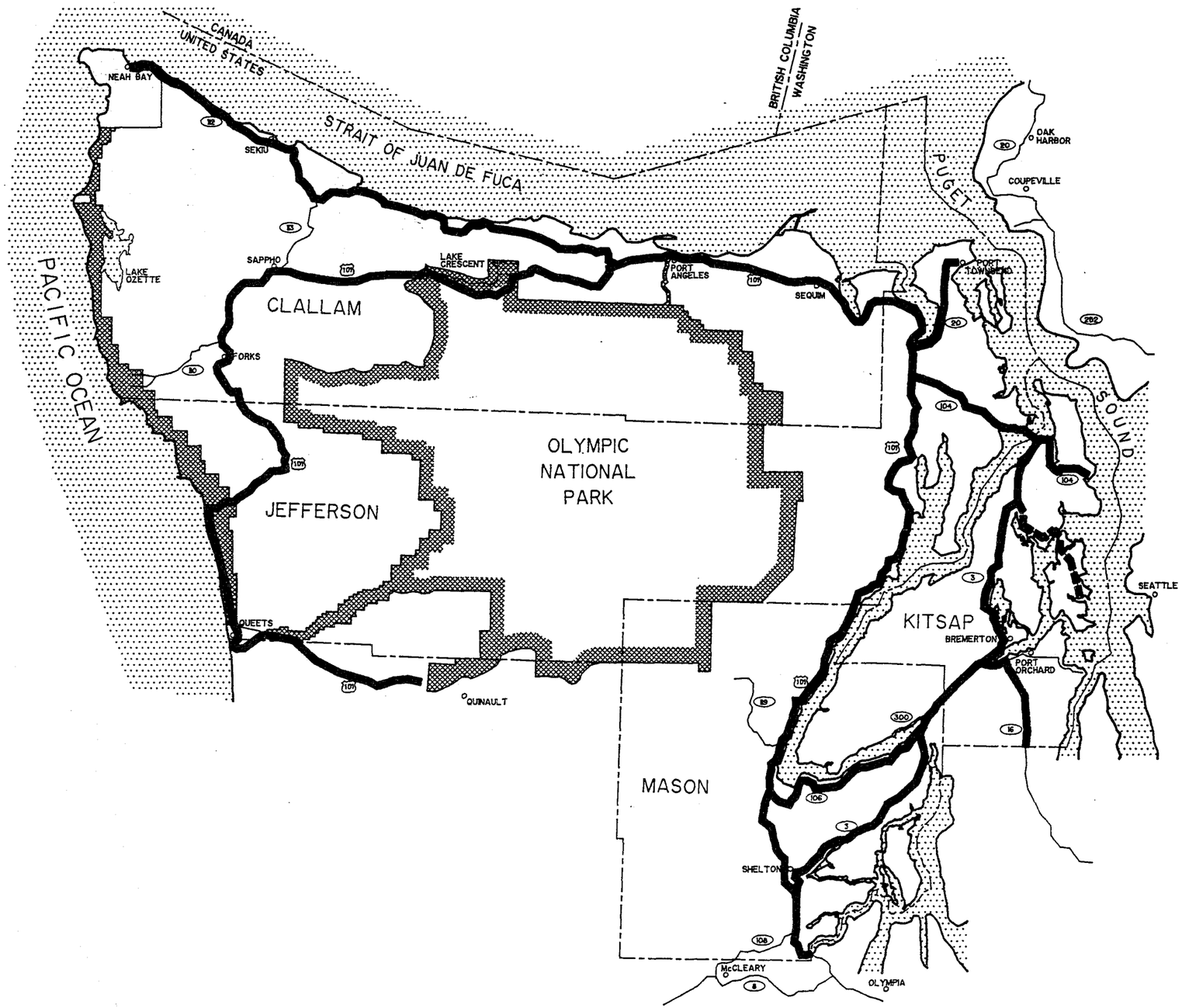


FIGURE 14.1

SCALE AS NOTED DRAWN A.S. CHECKED S.M.M. DATE 3/6/95		NO. DATE REVISION APP'D. BY	PENINSULA REGIONAL TRANSPORTATION PLANNING ORGANIZATION TOURIST CORRIDORS	JOB NO. 923-2048 F.B. NO. FILE NO. SEC. TWP. RGE SHT. 1 OF 1

6. Ability of transportation facilities and program to retain existing and attract new jobs and private investment and to accommodate growth in demand

7. Transportation Demand Management

8. Joint mixed use development

9. Present and future railroad right-of-way corridor utilization

10. Intermodal connections

The Guidelines and Principles are determined and developed by the region and should address the factors listed above. Each region has the flexibility to determine how to address each of these factors and may include those factors that are appropriate or determine factors that do not apply to the region (WSDOT Interpretation, Draft, dated March 31, 1994) Certification of local transportation elements of comprehensive plans is based on the Guidelines and Principles.

Approach

To develop the Guidelines and Principles, the existing Regional Goals and Policies were reviewed. Goals and Polices which met the RCW 47.80 factor criteria were identified as both a Goal and a Policy and Guideline or Principle. In some cases a Goal or Policy could not serve verbatim as a Guideline or Principle but could with some minor or unsubstantial modification.

To address the ten factors listed in RCW 47.80, the PRTPO has developed Guidelines and Principals that are based on the Regional Goals and Policies. The Guidelines and Principles form the criteria for certifying city and county transportation elements in the comprehensive plans. The detail of the Goals and Policies provides both the clarity and specificity necessary for the Certification process.

A review of the Goals and Policies shows that the PRTPO does not directly address concentration of economic activity, residential density, and joint mixed use development (Factors 1, 2, and 7) which are identified in RCW 47.80. But the individual counties do address these factors, and their policy wording has been incorporated into the Guidelines and Principles.

The regional Goals and Policies are made up of six categories: the first is Overall Goals and Policies and the remaining five categories range from Level of Service to Airports to Bikes, Paths and Trails. Each category of goals has several policies describing and defining

implementation guidelines. The seven categories are presented below. A full listing of the categories is presented in the Chapter 2, Goals and Policies.

Overall
Level of Service
Airports
Freight
Highways
Bikes, Paths, and Trails

Table 14.2, attached, presents the relationship between the ten factors required in RCW 47.80, and Goals and Policies.

CERTIFICATION

The Guidelines and Principles form the criteria for certifying city and county transportation elements in the comprehensive plans. The PRTPO has chosen to develop a checklist for the local jurisdictions to submit for local transportation element certification. The checklist would delineate the requirements of the Guidelines and Principles and ask the jurisdictions to explain how they met these Guidelines and Principles. The checklist approach allows the jurisdictions to judge their effectiveness in meeting the criteria before submitting their transportation elements to the PRTPO.

The PRTPO, or a designated committee, would then review the checklist to determine if the transportation elements meet the certification requirements of the Guidelines and Principles. Designating a committee with representatives from both the cities, counties, and WSDOT, to review the checklists and determine certification is likely to be the most direct process than requiring a review by the entire PRTPO.

TABLE 14.2

GUIDELINES AND PRINCIPLES

Factor	Guidelines and Principles
1. Concentration of economic activity	Identify adequate areas for future commercial, retail, and industrial economic growth, preferably in or near areas already so designated. (Compilation of county policies) Coordinate identification of areas with the provision of efficient transportation services. (Compilation of county policies) The county and cities shall encourage the full utilization/development of industrially and commercially zoned areas. The County and the cities shall promote revitalization within existing developed industrial and commercial ares to take advantage of the significant investments in the existing buildings and infrastructure. (Kitsap County, Economic Development, Policy 2e.) Consider and, when possible, implement the following when developing transit transfer centers: locate transit transfer centers in activity centers and concur with local land-use plans. (Overall Goal A, Policy 3a and e).
2. Residential density	Identify land for future multifamily, high density, or infill development inside urban growth areas that are coordinated with appropriate transportation services. (Compilation of county policies) Support transit, alternative, and multimodal travel with land use policies for low-income housing, affordable housing, higher density housing, and major employment centers.
3. Development corridors and urban design that, where appropriate, supports high capacity transit	Encourage adoption of land-use development regulations that implement transit-oriented development within Urban Growth areas. (Overall Goal B) Support site designs that encourage high occupancy vehicle/vessel travel and discourage single occupancy travel. (Overall Goal B, Policy 1). Encourage land use development at ferry terminals which supports transit use. (Overall Goal B, Policy 2). All transportation modes and facilities should be accessible to all persons. (Overall Goal D).

Factor	Guidelines and Principles
4. Freight transportation and port access.	Prevent land use conflicts around the region's airports. (Airports, Goal 2) Keep housing, schools, and other noise sensitive land uses away from airports to avoid gradually bring more people within range of the noise created from aircraft operations, and thus generating complaints and opposition to the airports. (Airports, Goal 2, Policy 1) Prevent construction in airport vicinities of high buildings and other structures which obstruct normal aircraft flight and represent a safety hazard. (Airports, Goal 2, Policy 2) Use appropriate tools and techniques developed to identify potential land use conflicts in the vicinity of airports and to prevent land use conflicts. (Airports, Goal 3) Airports that have developed noise exposure maps under Federal Aviation Regulation Part 150 (which provides guidance for noise control and land use compatibility planning) will provide the maps and reports to local governments to assist in developing appropriate land use plans and zoning for the airport vicinity. (Airports Goal 3, Policy 1) Airports with master plans that include a necessary airspace plan will provide those master plans to local governments. Local governments may use the plans to adopt height restrictive ordinances for the airport vicinity. (Airports Goal 3, Policy 2) Any industrial uses in the airport vicinity will be regulated to prevent impacting airborne aircraft because of height of structures, smoke, glare, lights which shine upwards, and radio interferences from transmissions. (Airports Goal 3, Policy 3) All reasonable efforts will be made to minimize hazards from wildlife. (Airports, Goal 3, Policy 4) Ensure that developments in the airport approach area (safety zone) will not be visually distracting, create electrical interference nor cause other safety problems for aircraft. (Airports, Goal 3, Policy 5) Provide adequate roadway and transit connections to airports from existing major arterial streets, roads and highways. (Airports, Goal 4) Provide a transportation system that supports the economic vitality of the Kitsap/Olympic Peninsula region, and prepares for long-term freight mobility needs. (Freight, Goal 1)

Factor	Guidelines and Principles
4. Freight transportation and port access.	CONTINUED Identify options to mitigate both the impacts of urban congestion on roadway freight movement and the impacts of roadway freight movement on urban congestion. (Freight Goal 1, Policy 2). Recognize and enhance the intermodal freight connections, such as, ports and rail-barge facilities, which are critically important to freight transportation on the Peninsula. (Freight Goal 1, Policy 3). Provide for a safe and efficient transportation system for freight. (Freight Goal 2)
5. Development patterns that promote pedestrian and non-motorized	Develop multimodal transportation service connections and transfers at transfer sites such as ferry terminals, airport facilities, and bus depots. (Overall Goal A) Minimize the walking distance between different modes at transfer points and, when feasible, provide the passengers with shelters, paths, and other facilities for comfortable and convenient transfer conditions. (Overall Goal A, Policy 1). Support implementing schedule coordination among modes. (Overall Goal A, Policy 2). Consider and, when possible, implement the following when developing transit transfer centers (Overall Goal A, Policy 3): a) Locate transit transfer centers in activity centers; b) Provide safe access for pedestrians and bicyclists; c) Provide storage facilities for bicycles where feasible and appropriate; d) Give high occupancy vehicles priority in traffic and ferry operations; e) Concur with local land-use plans; f) Include multimodal access, including a pedestrian network, to the transfer center. This access shall be promoted through development standards for adjacent projects. Develop a regional park-and-ride lot system that implements the following characteristics (Overall Goal A, Policy 4): a) Provides convenient/safe access to transit; b) Minimizes adverse impact to adjacent land-uses; c) Evaluates the feasibility of incorporating retail services into park and ride lots. This includes consideration of the impacts on adjacent or nearby business; d) Provides access for pedestrians and bicyclists and related facilities, such as bike racks; e) Coordinates with other parking lot owners, such as churches or movie theaters, to provide joint use park-and-ride lots.

Factor	Guidelines and Principles
5. Development patterns that promote pedestrian and non-motorized	CONTINUED Provide cost-effective and time efficient alternatives to the single occupant vehicle to maintain personal mobility while reducing vehicle trips. (Overall Goal A, Policy 5). Encourage adoption of land-use development regulations that implement transit-oriented development within Urban Growth areas. (Overall Goal B). Support site designs that encourage high occupancy vehicle/vessel travel and discourage single occupancy travel. (Overall Goal B, Policy 1). Encourage land use development at ferry terminals which supports transit use. (Overall Goal B, Policy 2). Provide a range of non-motorized opportunities within the Regional Transportation System. (Bikes, Paths, and Trails, Goal 1) Plan and construct separate off-highway bicycle trail facilities, when economically feasible, along the regional transportation system in the Kitsap/Olympic Peninsula region. (Bikes, Paths, and Trails Goal 2).
6. Ability of transportation facilities and program to retain existing and attract new jobs and private investment and to accommodate growth in demand	Provide a transportation system that supports the economic vitality of the Kitsap/Olympic Peninsula region, and prepares for long-term freight mobility needs. (Freight Goal 1) Work towards a procedure and funding mechanism for identifying and assessing resources needed to establish and maintain a core system of all-weather roads for freight travel. (Freight Goal 1, Policy 1). Identify options to mitigate both the impacts of urban congestion on roadway freight movement and the impacts of roadway freight movement on urban congestion. (Freight Goal 1, Policy 2). Recognize and enhance the intermodal freight connections, such as, ports and rail-barge facilities, which are critically important to freight transportation on the Peninsula. (Freight Goal 1, Policy 3).

Factor	Guidelines and Principles
7. Transportation demand management	The geographic region of the PRTPO is uniquely situated to use marine transportation corridors. These marine corridors will be consistently and regularly considered in all transportation issues. (Overall Goal E) Emphasize the efficient movement of people and goods. (LOS Goal 1) Encourage land use and access control to preserve the integrity of bypass routes. (Highway Goal 1, Policy 1). Optimize traffic signals synchronization to minimize travel delays. (Highway Goal 1, Policy 2). Examine and implement ways to reduce congestion on the regional highway system: a) Give priority to the 101 corridor and to urban areas; b) Use intermittent passing lanes throughout the Regional Transportation System. (Highway Goal 1,Policy 3) Encourage Transportation Demand Management techniques throughout the region. (Highway Goal 1, Policy 4). Support the development and implementation of a regional access management system for the regional highway system to reduce interference from the local roadway network. (Consolidate access points through shared access, frontage roads, etc.) (Highway Goal 1, Policy 5). Implement Transportation System Management techniques throughout the regional system and monitor rates of high occupancy vehicle (HOV) usage. (Highway Goal 1, Policy 6). Provide cost effective and/or time saving travel alternatives to single occupant vehicles (SOVs). (Highway Goal 1, Policy 7). Whenever possible, designate alternate bicycle routes off the regional system. (Highways, Goal 3, Policy 1). Provide enhanced roadway/informational/directional signing along the Regional Transportation System when appropriate and feasible. (Highways, Goal 3, Policy 2) Provide bicycle-friendly facilities on bicycle routes designated on the Regional Transportation System.(Highways, Goal 3, Policy 3). Encourage placement and operation of safety rest stops along the regional system about every 75 miles. (Highways, Goal 4, Policy 4).

Factor	Guidelines and Principles
7. Transportation demand management	CONTINUED Encourage reducing reliance on the single occupant vehicle by reducing the need for vehicle trips and by providing and coordinating other modes of transportation. Also support increasing the cost and time savings of alternative modes so they are effective competitors to the single occupant vehicle. (Overall Goal C). Promote the use of the Peninsula marine resources as mass transit. (Overall Goal C, Policy 1). Promote disincentive strategies to the single occupant vehicle such as parking fees. (Overall Goal C, Policy 4). Encourage reducing single occupant vehicle trips by supporting the major employment and commercial centers enacting ride sharing, transit, staggered work hours or other transportation demand management strategies. (Overall Goal C, Policy 6). Support capital improvement projects that facilitate and contribute to the success of transportation demand management measures. (Overall Goal C, Policy 7).
8. Joint mixed use development	Consider joint mixed-use as a possible appropriate land use that can potentially support transit and/or pedestrian and bicycle travel. (Synthesis of various Goals and Policies) Minimize the walking distance between different modes at transfer points and, when feasible, provide the passengers with shelters, paths, and other facilities for comfortable and convenient transfer conditions. (Overall Goal A, Policy 1). Develop a regional park-and-ride lot system that implements the following characteristics: a) Provides convenient/safe access to transit; b) Minimizes adverse impact to adjacent land-uses; C) Evaluates the feasibility of incorporating retail services into park and ride lots. This includes consideration of the impacts on adjacent or nearby business; d) Provides access for pedestrians and bicyclists and related facilities, such as bike racks; e) Coordinates with other parking lot owners, such as churches or movie theaters, to provide joint use park-and-ride lots. (Overall Goal A, Policy 4)
9. Present and future railroad right-of-way corridor utilization	Support developing right of way options for future transportation use. (Highway Goal 5).

Factor	Guidelines and Principles
10. Intermodal connections	Develop multimodal transportation service connections and transfers at transfer sites such as ferry terminals, airport facilities, and bus depots. (Overall Goal A) The geographic region of the PRTPO is uniquely situated to use marine transportation corridors. These marine corridors will be consistently and regularly considered in all transportation issues. (Overall Goal E) Provide a transportation system that supports the economic vitality of the Kitsap/Olympic Peninsula region, and prepares for long-term freight mobility needs. (Freight Goal 1) Recognize and enhance the intermodal freight connections, such as, ports and rail-barge facilities, which are critically important to freight transportation on the Peninsula. (Freight Goal 1; Policy 3).

Certification Requirements

The certification criteria are based on the requirements of both Growth Management Act (GMA) and RCW 47.80. Both pieces of legislation address coordinating transportation planning between cities, counties, and the regional organization. The GMA calls for regionally coordinated service levels for arterial and for transit. RCW 47.80 requires regional planning organizations to develop Guidelines and Principles to direct the development and evaluation of city and county transportation elements. The intent of both pieces of legislation is to facilitate local and regional transportation planning for both project and policy consistency.

The PRTPO has identified four different categories for evaluation of local transportation elements, listed below.

- Road Levels of Service
- Tourist Corridors
- Project Consistency
- Guidelines and Principles

Each of these categories are discussed in the following sections. Certification of local transportation elements is dependent upon how local transportation elements address the issues and intent of these categories.

Road Levels of Service

Levels of service (LOS) are measures of congestion. The congestion can be calculated for either a road segment or at an intersection level. LOS is divided into five levels, A through F, where A represents the lowest level of congestion and F represents the worst. LOS E is considered to be "capacity", when a roadway or intersection is functioning at capacity, and LOS F is considered to be overcapacity or gridlock.

Table 14.3 presents definitions for arterial road LOS. These definitions differ from intersection LOS but provide a good description of LOS. Intersection LOS is a more detailed measurement which uses seconds of vehicle delay. Both measurements are widely accepted in the transportation planning and traffic engineering field. These differences in road segment and intersection LOS methodology indicate how much the calculation methodology can differ and still be acceptable. Because of the wide variation in methodology, the PRTPO will accept variations in local jurisdiction calculation but limits acceptability to those methods based on the Highway Capacity Manual.

Table 14.3

Roadway Level of Service Definitions

Level of Service Category	Definition
Level of Service A	Describes a condition of free flow with low volumes and high speeds. Freedom to select desired speeds and to maneuver within the traffic stream is extremely high. Stopped delay at intersections is minimal.
Level of Service B	Represents reasonably unimpeded traffic flow operations at average travel speeds. The ability to maneuver within the traffic stream is only slightly restricted and stopped delays are not bothersome. Drivers are not generally subjected to appreciable tensions.
Level of Service C	In the range of stable flow, but speeds and maneuverability are more closely controlled by the higher volumes. The selection of speed is now significantly affected by interactions with others in the traffic stream, and maneuvering within the traffic stream requires substantial vigilance on the part of the user. The general level of comfort and convenience declines noticeably at this level.
Level of Service D	Represents high-density, but stable flow. Speed and freedom to maneuver are severely restricted, and the driver or pedestrian experiences a generally poor level of comfort and convenience. Small increases in traffic flow will generally cause operational problems at this level.
Level of Service E	Represents operating conditions at or near the maximum capacity level. Freedom to maneuver within the traffic stream is extremely difficult, and it is generally accomplished by forcing a vehicle or pedestrian to "give way" to accommodate such maneuvers. Comfort and convenience levels are extremely poor, and driver or pedestrian frustration is generally high. Operations at this level are usually unstable, because small increases in flow or minor disturbances within the traffic stream will cause breakdowns.
Level of Service F	Describes forced or breakdown flow, where volumes are above theoretical capacity. This condition exists wherever the amount of traffic approaching a point exceeds the amount which can traverse the point. Queues form behind such locations, and operations within the queue are characterized by stop-and-go waves which are extremely unstable. Vehicles may progress at reasonable speeds for several hundred feet or more, then be required to stop in a cyclic fashion.

Source: Transportation Research Board, *Highway Capacity Manual Special Report 209, Washington, D.C., 1985*

In addition, determining roadway capacity also varies. A simple road segment capacity based on functional classification is just as acceptable as a more sophisticated analysis which includes

intersection spacing, signalization, terrain, or speeds. Clearly, the results will vary, but either method, and several hybrids, are acceptable to the PRTPO.

To meet both state requirements and local needs, the PRTPO recommends the following.

- To provide local flexibility in implementing LOS standards, allow local jurisdictions to develop their own calculation methodology and capacity determination.

- To provide regionally coordinated standards, adopt LOS C for rural areas and LOS D for urban areas.

- To allow for seasonal fluctuation in traffic volumes, allow LOS D on designated tourist corridors.

- The PRTPO will not review LOS on roads that are not on the regionally significant road system.

Chapter 5, Regional Road System, has an extensive table identifying the roadway LOS classification for the regional system. The rural and urban distinctions are not easily mapped and Table 5.7 in Chapter 5 is the best reference. In general, those roadways with an LOS standard of C are rural and those with D are urban. Tourist corridors are LOS D and may be either urban or rural. Tourist corridors are easily mapped and are shown in Figure 14.1. Local transportation elements should incorporate the regional LOS on the regionally significant road system. Differences should be resolved in the Regional Transportation Plan.

Tourist Corridors

Both the Kitsap and the Olympic Peninsulas contain many tourist attractions and travel routes. Because of the high level of tourist activity in the region, the PRTPO has designated specific key roadways as Tourist Corridors. These are discussed in Chapter 7. Figure 14.1 depicts the roadways designated as tourist corridors.

TABLE 14.1 PRTPO GOALS AND POLICIES AND THE COUNTYWIDE PLANNING POLICIES CONSISTENCY ANALYSIS

PRTPO Goals & Policies Categories	COUNTYWIDE PLANNING POLICIES (CPPs)							
	CLALLAM		JEFFERSON		KITSAP		MASON	
	Addressed by CPPs?	Comments	Addressed by CPPs?	Comments	Addressed by CPPs?	Comments	Addressed by CPPs?	Comments
Level of Service	✓	• Policies support establishing higher roadway LOS standards in rural areas than in urban areas. Policies also support establishing transit LOS standards.	✓	• Standards will be set in Transportation Plan element.	✓	• Policies state that they will seek consistent LOS standards between the County, cities & state. UGA management agreements shall designate LOS standards. No standards set.	✓	• Recommends establishing LOS standard - no standards set.
Airports	✓		✓					
Freight	✓							
Highways	✓		✓		✓	• Policies relate to the identification of facility & service improvements.	✓	• Includes policy to restrict access points on high volume corridors.
Non-Motorized	✓		✓				✓	
Multimodal	✓		✓	✓ Multimodal indirectly supported through HOV and non-motorized.	✓	• Policies state that local plans must include multimodal issues & needs.	✓	
ANY INCONSISTENCIES FOUND?	• No. CPPs are consistent with the PRTPO goals & policies.		• No. CPPs are consistent with PRTPO goals & policies, when they are addressed.		• No. CPPs are consistent with PRTPO goals & policies, when they are addressed.		• No. CPPs are consistent with the PRTPO goals & policies, when they are addressed.	
Other Comments	• Includes CPPs supporting the PRTPO planning process, reassessment of land use & transportation elements, coordination with the state, siting facilities, financing, and TDM.		• CPPs include other issues not addressed by PRTPO such as Fiscal Impact Analysis and Use, Monitoring, Review and Amendment.		• Most CPPs relate to the planning process, versus targeted issues. For example, many CPPs address how the County will coordinate their transportation planning efforts with PSRC & the PRTPO.		• Contains CPP referencing PRTPO goals & policies, stating that they will be incorporated & applied where appropriate.	

Tourist Corridors have been designated for two main reasons: safety and feasibility. One of the requirements of a tourist corridor is an eight foot shoulder provide space to for pulling off the roadway during an emergency and increases safety when large vehicles, such as RVs, are being passed. Tourist Corridors that do not already have eight foot shoulders are identified as deficient in the roadway analysis. Increasing shoulder width to 8 feet is a recommended project for all tourist corridors with shoulders no less than 8 feet.

The designation of Tourist Corridors is related to LOS and roadway improvements. The seasonal fluctuation in tourist travel reduces the level of service in along the corridors. But this reduced LOS is seasonal and primarily limited to the summer months. Improving a roadway in order to accommodate traffic volumes that only occur for a few months out of the year may not be the most efficient use of funds. For the remainder of the year, the road is functioning well because it is carrying only local travel and not tourist travel. Consequently, the recommended LOS for these Tourist Corridors is LOS D even in rural areas. Safety concerns regarding the mix of vehicle types (RV's cars, trucks, bicycles) are addressed because the Tourist Corridors will either have or will be required to put in eight foot shoulders.

While the PRTPO has not developed land use, urban design, or scenic view protection standards for tourist corridors, local action is encouraged. Incorporation of such standards in local plans would be consistent with the regional plan.

Project Consistency

Local plans should incorporate relevant projects already designated in the Regional Transportation Plan. If a local project is on the regional system, that project should also be in the Regional Transportation Plan. When a local jurisdiction has a project for the regional system not yet in the Regional Transportation Plan, the jurisdiction should bring the issue to the attention of the PRTPO so that regional significance of the proposed project can be discussed. A full listing of PRTPO Regional Transportation Plan recommended projects can be found in Chapter 5 of the Regional Transportation Plan.

CONCLUSION

RTPO's are required to carry out three steps to determine coordination between the regional transportation planning and local planning, including both county and city planning. The three steps required to determine regional and local jurisdiction coordination have been outlined and detailed in this chapter. The three steps to determine regional and local coordination are Consistency, Guidelines and Principles, and Certification.

To determine consistency, Clallam, Jefferson, Kitsap and Mason Counties' Countywide Planning Policies (CPP) on transportation were analyzed in relation to the Regional Plan's Goals and

Policies. The countywide planning policies were assumed to guide the development of the local plans. So, if the local plans are consistent with the county plans and the countywide planning policies are determined to be consistent with the goals of the Regional Transportation Plan, the local plans should also be consistent.

Guidelines and Principals based on the Regional Goals and Policies have also been developed. The Guidelines and Principles form the criteria for certifying city and county transportation elements in the comprehensive plans. The detail of the Goals and Policies provides both the clarity and specificity necessary for the Certification process.

Certification will be conducted by the jurisdictions through a checklist, which delineates the criteria established in the Guidelines and Principles. The checklist will then be reviewed by the PRTPO and/or a subcommittee. The checklist will also the local jurisdictions to judge their effectiveness in meting the criteria before submitting their transportation elements to the PRTPO. By establishing these three procedures -- Consistency, Guidelines and Principles, and Certification - the PRTPO has meet the state requirements for regional and local jurisdiction coordination for developing the Regional Transportation Plan.

Chapter 15
Recommendations

CHAPTER 15

RECOMMENDATIONS

INTRODUCTION

This is the first regional transportation plan prepared for the Olympic and Kitsap Peninsulas. This plan, prepared by the Peninsula Regional Transportation Planning Organization, coordinates the regional transportation needs for the Olympic and Kitsap Peninsulas. For this purpose, the plan identifies the regional transportation needs for four counties: Clallam, Jefferson, Mason and Kitsap. Kitsap County is also part of the PSRC, the regional transportation planning organization for central Puget Sound.

This Regional Transportation Plan, referred to as the RTP, is a system improvement and strategy plan that defines specific improvements related to the road system, transit coordination and service, and tourism and freight needs. Strategic actions are contained in the goals and policies, guidelines and principles, and finance sections of the plan, as well as in the modal chapters of the plan. Suggested road system improvements range from major (continuous) widenings and new corridors to spot/intersection widenings, channelization, signalization, and shoulder improvements. A list of improvements is identified. Recommendations for the other modes are more general at this time, reflecting the availability of data.

The Regional Transportation Plan addresses mobility needs. Maintenance, operations, and safety are very important considerations but are left to the responsibility and focus of the individual jurisdictions and transportation providers, in this first regional plan. Mobility needs, including capacity improvements and system connectivity, are the focus of this regional transportation plan. All needs are considered in the prioritization of scarce funds.

PROJECT PRIORITIZATION PROCESS

The discrepancies between the timing of revenue sources and project needs, and the projected shortfall in revenue sources compared to project needs, show the necessity of prioritizing projects needs, identifying new revenue sources and/or revising level of service standards.

It is recommended that the process of achieving a balance between road costs and revenue sources be done within the following policy guidelines.

A. The goal of the PRTPO Plan is to balance revenues and expenditures for the first five years of the planning process and over the 15 year planning period rather than on a year by year basis.

B. The need to meet concurrency requirements at the local level will be addressed at the local level rather than through the regional planning process.

C. The PRTPO will prioritize projects on the regional system for regional planning purposes. The PRTPO will not prioritize use of local funds. This allows local jurisdictions to address other road needs not addressed in the regional plan.

D. Mobility related needs should be monitored in the future to assist local jurisdictions as well as the state in setting priorities for projects and identifying concurrency requirements.

Possible approaches to balancing the costs and revenues for road needs include:

1. Adjusting level of service standards

2. Finding new revenue sources such as tolls, congestion pricing, gas tax increase, etc. Since local jurisdictions have to meet concurrency requirements, potential new local revenue sources, such as impact fees, can be addressed at the local level.

3. Implementing policies and procedures to control impacts to the transportation system through land use changes or transportation demand management.

4. Revising GMA requirements to better address growth related transportation needs that are not directly related to capacity requirements. LOS standards measure only one impact of growth on transportation systems -- the impact on mobility. Growth also affects the maintenance and safety requirements for transportation systems, but these needs are not measure by current LOS methodologies. By including other yardsticks for measuring growth impacts, the GMA could provide a more realistic process for prioritizing transportation needs in regions with different urban/rural characteristics. This will all ow local jurisdictions to make appropriate decisions in prioritizing mobility related needs along with safety and maintenance needs.

5. Adjusting the timing of projects to create a better match between revenues and costs over the entire planning period, particularly in the first five years when costs greatly exceed revenues. For example, the preliminary engineering and environmental analysis for several projects could be done simultaneously in the first five years while the final design and construction phases for the projects could be staggered over several years.

6. For regional road system projects on state routes use the PRTPO to assist in prioritizing the Statewide System Plan.

RECOMMENDED STRATEGIES AND IMPROVEMENTS

Regional Goals and Policies

Goals and policies form the foundation and the guidelines for transportation planning and development. The goals form the vision of the transportation system, and the policies provide the framework for implementing the vision. The Overall Goals reflect the multimodal nature of this regional transportation plan.

A. Develop multimodal transportation service connections and transfers at transfer sites such as ferry terminals, airport facilities, and bus depots.

B. Encourage adoption of land-use development regulations that implement transit-oriented development within Urban Growth areas.

C. Encourage reducing reliance on the single occupant vehicle by reducing the need for vehicle trips and by providing and coordinating other modes of transportation. Also support increasing the cost and time savings of alternative modes so they are effective competitors to the single occupant vehicle.

D. All transportation modes and facilities should be accessible to all persons.

E. The geographic region of the PRTPO is uniquely situated to use marine transportation corridors. These marine corridors will be consistently and regularly considered in all transportation issues.

Roads and Highways

The PRTPO has developed a multimodal transportation plan that addresses the regional road system, tourism, freight, non-motorized, transit, and ferry travel. Each of these modes has been addressed in individual chapters, though the inter-relationship of the modes is recognized.

One of the primary elements of the analysis of the regional transportation system is the study of the Regional Road System. This system consists of State Routes, county roads and city streets which have been determined to have "regional significance" by the PRTPO member agencies. Throughout the analysis, the regional road system is described in terms of functional classification, vehicle capacity, traffic volumes, and level of service.

The plan addresses improvements only on this regional system. The main role of the RTP was defined as identifying mobility and capacity improvements and the analysis successfully achieves that goal. However, because of the rural and suburban nature of the PRTPO area, the focus of many jurisdictions in the PRTPO is on safety and maintenance issues, a fact kept in mind throughout the development of the RTP.

The regional goals for the regional road and highway system are as follows:

1. Increase the efficiency of the regional highway system by maximizing use of existing facilities.

2. Support improving the quality of travel on the regional system.

3. Improve travel safety on the regional system.

4. Capacity improvements to the Regional Transportation System shall be consistent with the regional goals and policies.

5. Support developing right of way options for future transportation use.

Regionally coordinated level of service standards have been established for the regional highway system. There are four level of service standards for roadways. The level of service definitions are from the *Highway Capacity Manual.*

In addition to rural and urban service level definitions, the PRTPO Highways/LOS/Tourism Subcommittee and the Technical Advisory Committee have adopted designated "Tourist Corridors" which are depicted in Chapter 7, Figure 7.3. Also depicted in Figure 7.3 are the tourist access routes. Tourist access routes defined as roadways that provide direct access to specific tourist attractions and local tourist/recreational areas. The LOS standards used in their analysis are as follows:

Rural	LOS C	Includes areas outside city limits and urban growth boundaries
Urban	LOS D	Includes areas within city limits and urban growth area boundaries
Tourist Corridor	LOS D	Rural roadways which are identified regionally as major tourist traffic corridors
Tourist Access Routes	LOS C	Roadways providing direct access to specific tourist attractions and local tourist areas.

Nearly all roadways on the regional system are currently operating at or above the designated level of service standard threshold. However, travel forecasts to the year 2010 revealed a number of roadways which would experience capacity deficiencies.

The suggested roadway improvements are concentrated in the eastern portion of the peninsula. This can be attributed to the fact that this is where the majority of the growth and development has and is occurring. There are several areas where traffic congestion has developed due to the rapid growth and development. The following paragraphs summarize the transportation issues in the urbanized or incorporated areas of the PRTPO.

The growth encountered in the Port Angeles area has saturated the current roadway system. Traffic generated by the logging industry and the ferry system add complexity to any traffic problems and their solutions. Plans for an alternate route around the city center will help alleviate some of the congestion but because of the rapid growth additional measures will need to be implemented to control the traffic. A detailed study of the area that includes the gathering of traffic data will aid in identifying problems and providing alternative solutions. Access management, transit enhancement, intersection improvements, and alternative travel routes will all need to be evaluated and implemented to control the traffic problems.

The Sequim area has also experienced a rapid growth of traffic volumes and development. Because of the close proximity of Port Angeles and Sequim the roadways linking the two cities and the areas between are also experiencing increased traffic problems. Similar to Port Angeles a bypass around the city center will alleviate some of the congestion. However additional measures will have to be implemented to provide a comprehensive solution to the traffic problem.

Port Townsend is no exception in experiencing growth and development and the corresponding problem of traffic congestion. However, Port Townsend differs in the fact that it is usually an end point of destination. A bypass can not be constructed to assist in alleviating traffic volumes from the city center. With essentially one major route leading to and from the city the solutions to traffic congestion become limited. Improvements to the roadway will help with the immediate traffic problems, but the continued increase in development and tourist activities will offset any gains made through reconstruction and widening of the roadway. Other measures will have to be implemented in order to stay abreast of the traffic problem. Enhancing public transit, pedestrian, and bicycle facilities coupled with access management, signalization and alternate routes each have their particular benefits for improving traffic problems.

The Bremerton/Port Orchard area requires additional attention be allocated for evaluating the transportation system. This area has a greater population than any other of the areas on the peninsula and a complex geographical layout. The Puget Sound and various inlets in the area provide physical barriers that the roadway system must navigate to provide access to surrounding areas. The influence of the naval bases, ports and its proximity to Tacoma provide additional variables that must be considered in the evaluation of roadway improvements. The principal arterials located in the region can be improved by the addition and widening of lanes and access management. In areas where this is not feasible other measures such as increased transit,

bicycle, and pedestrian facilities, alternate routes, intersection improvements, and public education will have to be utilized.

The Shelton area has experienced growth and development to the point that it is increasing the traffic volumes and causing problems. The area in and around the Shelton city limits requires a different approach in alleviating traffic congestion. The widening and addition of lanes will help on specific roads, although it is not possible to accomplish this on roadways that have limited right-of-way width. Instead, methods such as signalization/channelization, access management and improving the traffic circulation system may prove to be the only options available. Before considerable changes are made, a detailed study of the area and evaluations of proposed changes must occur.

The Forks area is primarily experiencing an increase in recreational travel, as can be seen from the rapid increase in visitors to the Forks Visitor Center. That center saw an increase of almost 4,000 percent from 1986 to 1990. Recommendations for improvements to the regional system in this area consist of signalization and channelization in and just south of the Forks city limits and upgrading US 101 to have eight foot shoulders in order to comply with its designation as a tourist corridor.

Several unincorporated areas are also experiencing growth. North Kitsap County and northeast Jefferson County contain principal arterial roadways that connect major points of destination on the peninsula. The majority of these roadways, except for the Hood Canal Bridge, allow for the addition of passing/climbing lanes or the widening of the roadway to four lanes as a solution to the traffic volumes. It is also important to implement additional measures such as access management, intersection improvements, signalization and channelization. It is important to evaluate all new development in this area and require roadway improvements at the time of initial construction. The eastern corridor of Highway 101 in Mason and Jefferson counties can be improved through the addition of climbing/passing lanes and the widening of the shoulders to eight feet for bicycle lanes and safety measures.

In addition, several roadways in Kitsap County have been identified by the Puget Sound Regional Council (PSRC) as potential routes for HOV lanes (High Occupancy Vehicle lanes). The PSRC is the transportation planning organization for the eastern side of the Sound and consists of King, Kitsap, Pierce, and Snohomish Counties. Kitsap County has the unique role of belonging to two transportation planning organizations. The routes identified as candidates for HOV in the PSRC Metropolitan Transportation Plan include the following.

- SR 16 from SR 3 to I-5 (Tacoma)
- SR 104 from Hansville Road to the Kingston ferry

- SR 304 from SR 3 to the Bremerton ferry
- SR 305 from Bainbridge ferry to SR 3

These HOV recommendations are separate from the PRTPO recommendations but are included to facilitate coordination between the two agencies.

The improvements recommended for the regional transportation system have been placed into categories that reflect the type of improvement suggested for the various roadway segments. The categories developed are: signalization/channelization, reconstruction/paving/shoulder work, change designation/lower LOS cap, transit/bicycle & pedestrian facilities improvement, access management, construct passing/climbing lane, widen/add lanes, and intersection improvements. A roadway segment can be included in more than one category based upon the work involved to complete the improvement or if there is more than one type of recommendation for improvement. Figure 15.1, Segment Deficiency Type Analysis, compares the segment deficiency types by county.

Multimodal

A number of regional issues, based on a peninsula perspective, relate to the provision of transit service and the integration of transit services with other forms of transportation. These regional issues may not be addressed in the local transit plans. These issues are recommended for further study and integration into future updates of the RTP. By developing a better contextual understanding of the transportation needs of the region, more appropriate transit service responses can be developed. The issues are briefly outlined below:

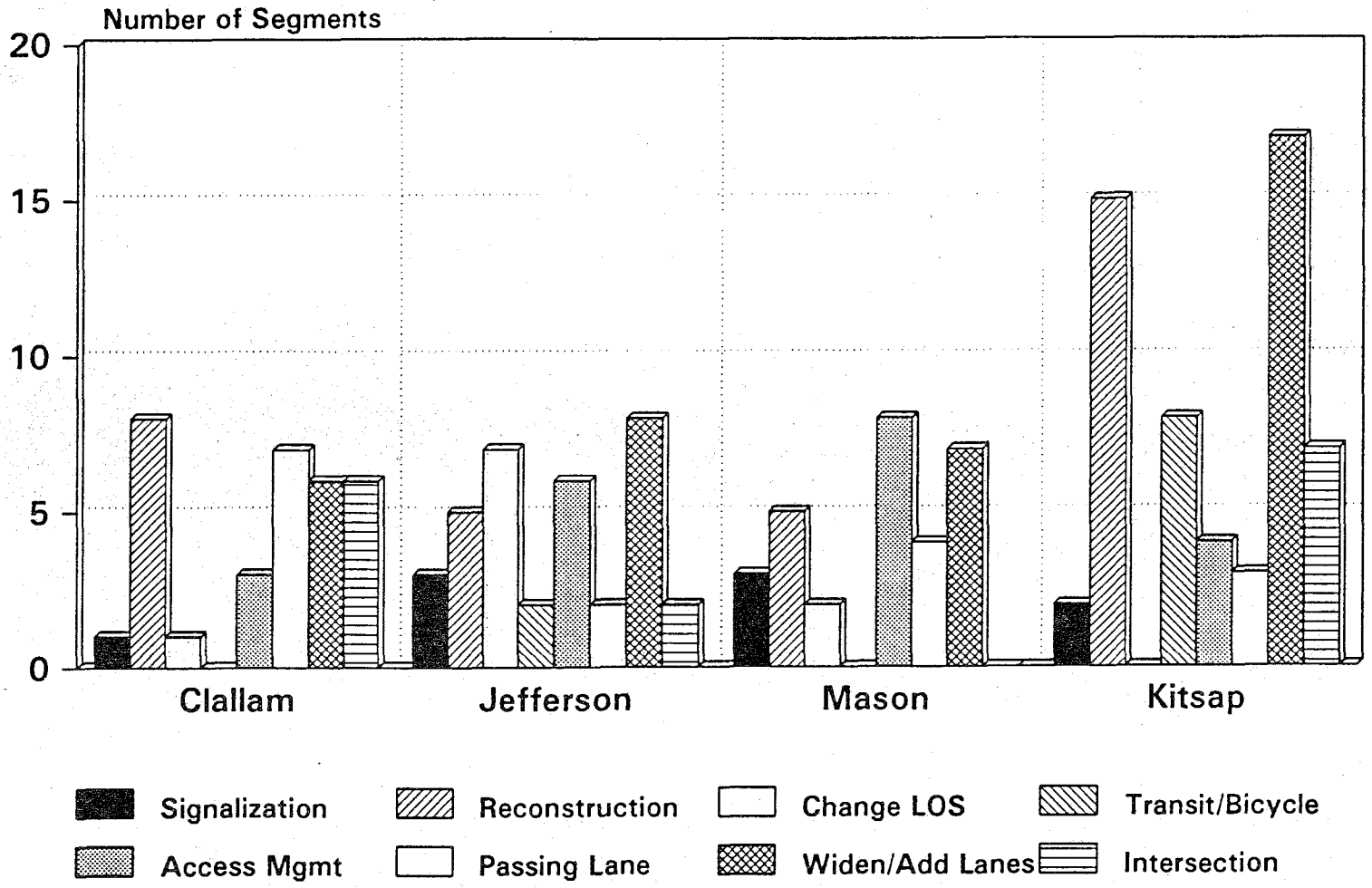
- The PRTPO should examine the potential for developing a consolidated or multimodal LOS measure and standard for segments of the regional transportation network. This LOS measure and standard should integrate measures of roadway capacity, transit supply and demand, and non-motorized forms of transportation. The analysis of feasibility should consider whether this type of measure is an appropriate response for a relatively rural area.

- The PRTPO should develop goals and policies to facilitate transit movement through congested roadways. The PRTPO should also recommend the types of improvements which would allow transit to move quickly and smoothly through these congested areas.

- Some areas of the PRTPO region do not currently have transit service. Additional studies should be undertaken to determine whether travel patterns to these areas warrant transit service, as well as the economic feasibility of providing services.

PENINSULA REGIONAL TRANSPORTATION PLANNING COUNCIL

4.5% @ 10 YEARS, 3.0% @ 15 & 20 YEARS



SEGMENT DEFICIENCY TYPE ANALYSIS

FIGURE 15.1

- In the future, the PRTPO should consider incorporating the following measures into the transit LOS evaluation. Under concurrency, these measures may help define the types of new transit-oriented services or improvements needed as development occurs within the PRTPO:

    1. Percent of population within a specified number of miles of a transit route.
    2. Inter-county connectivity

- The PRTPO should measure LOS for carpool, vanpool, and dial-a-ride services in future updates of the regional transportation plan.

- The Tourism Chapter recommends additional traffic studies to assist in developing an understanding of tourist traffic within the PRTPO region. Using the results of this analysis, recommendations for additional transit services to popular tourist destinations could be made.
- The transit agencies' buses cannot reach all of the PRTPO residents. The PRTPO should research the feasibility of siting of an extended system of park and ride lots throughout the PRTPO. The PRTPO should also investigate how to increase the utilization of existing park and ride lots.

- The PRTPO should work with local transit agencies in considering the need for other types of transit-oriented improvements within the region which would enhance or facilitate transit use. For example, providing bus shelters along rural transit routes with long headways between service.

- Disincentives could be used to increase transit ridership. The PRTPO should consider recommending implementation of more restrictive parking policies in severely congested areas, such as in city downtowns and at ferry terminals.

- Connections between other forms of multimodal transportation is important in facilitating regional and inter-regional travel. The transit agencies should examine the opportunity for increasing and enhancing existing regional coordination, especially for commuters during peak hours, with Washington State Ferries, private ferry operations, and adjacent operators outside of the PRTPO. These may include those located in Grays Harbor and Thurston Counties, METRO, and Community Transit. Of critical importance is ensuring coordination between the planning efforts and LOS standards of the PRTPO and the PSRC, so that similar transit/ferry connections are provided at ferry terminals. Working together with WSDOT these agencies can develop mutually compatible schedules and enhance existing marketing programs.

- The PRTPO should research peak hour travel patterns throughout the PRTPO region. The PRTPO should consider incorporating origin/destination studies into this analysis.

- The PRTPO should research the transportation needs of the rural transit dependent populations on the peninsulas. Efforts should focus on data collection and analysis, and recommendation for service alternatives and options.

The PRTPO Multimodal Sub-Committee identified ferry service issues from a regional, multimodal transportation planning perspective. These issues are recommended for further study and integration into future updates of the RTP. The issues are briefly outlined below.

- How can the ferry LOS standards be coordinated with the LOS standards for connecting transit services & roadways?

- What are the implications of the adopted LOS standard for ferry service on private ferry operators in the PRTPO region?

- How will ferry system LOS standards and improvements affect the PRTPO's overall transportation system?

- What are the implications of establishing a very high LOS for weekend service? Current measures of LOS for weekend service may be lower than proposed standards. Hence, it may be financially difficult to provide a better LOS in the future. But to help reduce the amount of weekend traffic, and thus make it easier to maintain higher ferry LOS standards, the PRTPO may want to consider encouraging alternative transportation systems. Effective alternative transportation systems, such as transit or bicycling, would enable people to enjoy recreational opportunities on the Olympic and Kitsap Peninsulas without using their automobile.

- Similarly, what are the implications of the ferry LOS on concurrency? If the ferry LOS falls below recommended standards because it cannot keep pace with the impacts of future land use development and traffic growth on the peninsulas, what are the implications?

Tourism

Understanding recreational travel on the Olympic Peninsula is an important component for developing an assessment of transportation needs. It influences roadway capacity and design and the identification of future transportation corridors. In order to determine the impact of recreational travel, a more sufficient database is required. Recommendations include traffic

studies which would provide information on the mode, travel route, variations in season, day, and time of day for recreational traffic.

In addition to the recommendations for further studies, there is also a need to upgrade the physical characteristics of a number of segments of the designated "Tourist Corridors." The Highways/LOS/Tourism Subcommittee recommended that all tourist corridors have a geometric section that conforms to WSDOT's design standards for principal arterials, minor arterials and major collectors; and, have minimum 8-foot width shoulders.

Freight

Trucking activity influences roadway capacity and design as well as the identification of future transportation corridors. A more sufficient database is necessary to determine the impact of trucks on the roadways and identify where specific improvements may be necessary. Recommendations include traffic studies which would provide information on the mode, travel route, variations in season, day, and time of truck traffic.

These studies should be carried out in conjunction with any recreational travel studies in order to increase efficiency and reduce costs. The studies should consist primarily of collecting and analyzing additional traffic counts. Ideally, these counts should be taken at regular intervals over a period of time in order to establish trends and changes in mode and pattern.

Transportation Demand Management

The establishment of city and county regulations aimed at managing increased traffic volumes through design principles can give jurisdictions better control of traffic. Requiring acceleration and deceleration lanes, limiting the number and locations of driveways and the addition of traffic signals are some examples.

TDM is easily confused with Transportation Control Measures and with Transportation System Management. TDM is essentially a subset of Transportation Control Measures (TCM) and the opposite of Transportation System Management (TSM). TDM measures focus on transportation demand, while TSM measures focus on transportation supply. Related to TDM is Washington State's Commute Trip Reduction (CTR) law. CTR is essentially a form of TDM that is focused on the commute trip.

The intent of the CTR legislation is to "improve air quality, reduce traffic congestion, and reduce the consumption of petroleum fuels through employer based programs that encourage the use of alternatives to the single-occupant vehicle for the commute trip". CTR is only applicable to employers located in Counties with over 150,000 population who have 100 or more full-time employees at a work site scheduled to begin their work day between 6:00 a.m. and 9:00 a.m.

Kitsap County is currently the only county in the PRTPO that has a population greater than 150,000.

Through a 1992 Interlocal Agreement with Kitsap County and the cities of Bainbridge Island, Bremerton, Port Orchard, and Poulsbo, Kitsap Transit was given the "lead agency role" in developing, implementing, and administering the CTR Plans/ordinances for all five jurisdictions. Kitsap Transit is now administering all of the CTR Plans/Ordinances within the County. In administering the CTR Plans/Ordinances in Kitsap County, Kitsap Transit will work closely with and report to the Washington State Energy Office.

During the next seven years, Kitsap Transit will monitor each employer's CTR program and its progress toward reducing the number of commute trips made in SOV's and will assist these employers in meeting the goals of CTR. All of the CTR Plans/Ordinances require a 15 percent reduction in the number of SOV's by 1995, a 25 percent reduction by 1997, and a 35 percent reduction by 1999.

At the regional level, implementing TDM also occurs in the form of goals and policies. These goals and policies provide the framework for county and city jurisdictions and for transit agencies to develop implementing measures, such as well placed transit stops or adequate pedestrian facilities. Local jurisdictions and transit agencies would also work with the Washington State Department of Transportation to implement TDM measures on state routes. The full Goals and Policies are can be found in Chapter 2, but the individual goals relevant to TDM are presented below.

Goal A) Develop multimodal transportation service connections and transfers at transfer sites such as ferry terminals, airport facilities, and bus depots.

Goal B) Encourage adoption of land-use development regulations that implement transit-oriented development within Urban Growth Areas.

Goal C) Encourage reducing reliance on the single-occupant vehicle by reducing the need for vehicle trips and by providing and coordinating other modes of transportation. Also support increasing the cost and time savings of alternative modes so they are effective competitors to the single-occupant vehicle.

Goal D) All transportation modes and facilities should be accessible to all persons.

Policy 4) Support transit, alternative, and multimodal travel with land use policies for low-income housing, affordable housing, higher density housing, and major employment centers.

Goal E) The geographic region of he PRTPO is uniquely situated to use marine transportation corridors. These marine corridors will be consistently and regularly considered in transportation issues.

Policy 1) Consider ferry routes and vessels as a form of mass transit.

Policy 4) Promote high occupancy vehicle priorities on ferry vessels.

Educating the public about traffic problems and their solutions can also influence the perception of the problem and their reaction. By discussing issues such as driving habits, transit, alternative routes, notification of roadway construction, etc., the public will have a better understanding of the problems and discover how they can make a favorable impact to the congestion problem.

Coordination and cooperation of agencies can result in time savings as well as cost savings of proposed improvements. Many of the roadways in the regional transportation system provide interconnections between counties, cities and countries. Because of this, conflicting ideas and assumptions can lead to unforeseen problems. The knowledge and understanding of issues affecting others can provide for a better solution to all.

Non-motorized Transportation

The RTP recognizes the importance of non-motorized forms of travel in the region. The Olympic and Kitsap Peninsulas are popular tourist destinations. As a result, a significant portion of the traffic is recreational. People travel to the area to tour by auto or RV, or to park their vehicle in order to hike or bicycle. Some cyclists also make the entire trip by bike and do not bring a vehicle to the area at all.

The following non-motorized goals and policies have been recommended by the PRTPO Non-Motorized Subcommittee as key elements to a successful non-motorized transportation program. They are intended to build upon the Regional Goals and Policies outlined in Chapter 2, and represent goals and policies of "model" non-motorized transportation plans.

It should be recognized, again, that some jurisdictions within the PRTPO area have already begun exemplary efforts at developing and implementing local non-motorized plans. However,

these recommended goals and policies can still be useful as comparisons for evaluating local and regional comprehensiveness and effectiveness.

Goal 1: Increase the Current Percentage of Walking and Bicycling Trips While Reducing the Number of Pedestrians and Bicyclists Injured or Killed in Traffic Crashes

The primary objective of this first goal is to provide, overall, a more pedestrian- and bicycle- friendly transportation network. To achieve this goal will require that future plans and policies set performance goals and strategies to meet them. For example, to increase the percentage of walking and bicycling trips could require the adoption of local road standards incorporating bicycle/pedestrian lanes. Or, for example, to decrease the number of pedestrians and bicyclists injured or killed in traffic crashes could require the identification of, and improvement to, road hazard areas.

Another objective of this goal is the encouragement and integration of development patterns compatible with non-motorized transportation. Linking land use and transportation development can provide equal, or better access, by foot or bicycle to recreation, education, retail, commercial office and other appropriate types of development.

A final objective of this goal is to target and eliminate key behaviors that lead to accidents, injuries and deaths. This goal places significant emphasis upon the development of a comprehensive database of information addressing existing level-of-use and accident-related information. The issues of accident reporting, enforcement and education will be addressed when meeting this goal.

Goal 2: Institutionalize Pedestrians and Bicyclists into the Regional and Local Transportation System.

In order to provide a transportation system which offers real choices and reduces traffic congestion, jurisdictions can adopt a mind-set and transportation paradigm which includes bicycle and pedestrian in all transportation issues. Local/regional bicycle and pedestrian coordinators and citizen advisory committees can also further institutionalization in the areas of education, encouragement, engineering, enforcement, training, plan and policy development, and project review.

The PRTPO, and member jurisdictions, are beginning the institutionalization process by recognizing and incorporating alternative modes of transportation into the Regional Transportation Plan, local transportation and local transit plans. Adoption of recommended goals and policies, and ultimate implementation of local, regional and State

improvement programs, will further institutionalize pedestrians and bicyclists into the regional transportation system.

Each of these goals is supported by more detailed policy recommendations. Full text of the policies can be found in Chapter 10. The non-motorized recommendations lay the foundation so that the next steps, such as identifying projects, can be taken.

Airports

The PRTPO area has 11 airports, three of which are privately owned: Apex Airport and Port Orchard in Kitsap County and Diamond Point Airport in Clallam County.

The largest airport is the Fairchild (Port Angeles) International Airport with 382 acres used for aeronautics and two active runways (6,350 and 3,250 feet long). The Fairchild International Airport is the principal air carrier and general aviation facility for the northern Olympic Peninsula. Scheduled passenger service connects Port Angeles with Seattle-Tacoma and with Victoria, British Columbia. The Fairchild Airport Master Plan recommends a wide variety of improvements to be implemented in stages. These improvements include runway lighting, redesigning the circulation system for the airport, providing a new access road, hangars, expanded aprons, additional airline and cargo facilities.

The Bremerton National Airport is the second largest airport with one active runway 6,200 feet long. Recommendations for improvements in the Airport Master Plan focus on extending the runway length to 7,400 feet. This extended runway is capable of handling the U.S. Navy's C-9 aircraft, which is the military's version of the McDonnel Douglas DC-9. Operation of these craft is expected to increase in the future.

Both of these airports have potential conflicts with the surrounding areas. FIA airport has a park on the east side of the airport, and the trees from the park present a potential hazard to aircraft. Bremerton National Airport has three adjacent land uses which may adversely affect airport activity: the Bremerton Trap and Skeet, the Aero Mobile Court, and the Rodeo Drive In Theater.

Sanderson Field in Mason County is the third largest airport. This airport has one active runway and one runway closed because of tree obstructions to the runway approach path. Sanderson Field is the only airport within a 45 mile radius that can handle corporate aircraft. Because U.S. 101 is located adjacent to the airfield, recommendations are for a Runway Protection Zone (RPZ). Other master plan recommendations for Sanderson field include extending the length of the runway from 5000 feet to 7500 feet, the addition of a new hangar, installing a new instrument landing system, and developing a southside entrance road.

The Jefferson County International Airport Master Plan (adopted August 1994) recommends many improvements to be implemented in stages through the year 2012. These improvements include installation of aircraft tie-downs, improvements to the airport storm drainage system, construction of a terminal building and restaurant, terminal area parking, construction of an additional aircraft apron for a corporate/FBO Expansion Area, construction of T-Hangar taxilanes, and infrastructure to support commercial/industrial development on the south side of the runway.

The remaining airports (Apex, Port Orchard, Diamond Point, Jefferson, Forks, and Quillayute) are smaller more local airports with runways of varying length. The Apex, Port Orchard, and Diamond Point airports are privately owned. The Jefferson County International Airport is located in the Four Corners area and has a 3,000 feet long by 60 feet wide runway. The Forks and Quillayute airports are relatively close together, and of the two, the Quillayute Airport has the longer runways. The Quillayute Airport has runways of 5,000 and 4,700 feet long, while the Forks runway is 2,175 feet long.

Four airports are likely to directly impact the regional road system: Bremerton National Airport, Fairchild International Airport, the Jefferson County International Airport, and the Forks Airport. The Bremerton National Airport has considered a potential realignment SR 3 in order to extend a runway. Fairchild International Airport is also likely to influence the regional road system, both because of the airport's proximity to US 101 and because of changes to the airport access road. Jefferson County International Airport development will require traffic lane and intersection improvements on SR 19 and SR 20. The Forks Airport is planning to alter its access road so that access from US 101 is limited to a single road, rather than the many individual driveways now used to reach the airport and its airplane hangars.

SUMMARY AND CONCLUSIONS

The PRTPO developed a multi-year work plan to accomplish its goal of preparing the RTP in accordance with Growth Management Act (GMA) legislation. The work of the PRTPO has achieved this goal and several others goals, ranging from establishing a comprehensive public involvement program, to forecasting future traffic volumes, and to identifying necessary future transportation projects and programs. Additional goals the RTP has met include:

- Identification of regional transportation goals;
- Establishing a regional concept for land use and transportation linkages;
- Develop a multimodal transportation plan that addresses the regional road system and tourism, freight, non-motorized, transit, and ferry travel;

- Carrying out a funding analysis to determine the feasibility and priority of project recommendations.

The PRTPO has developed a multimodal transportation plan that addresses the regional road system, tourism, freight, non-motorized, transit, and ferry travel. Each of these modes has been addressed in individual chapters, though the inter-relationship of the modes is recognized.

One of the primary elements of the analysis of the regional transportation system is the study of the Regional Road System. This system consists of State Routes, county roads and city streets which have been determined to have "regional significance" by the PRTPO member agencies. Throughout the analysis, the regional road system is described in terms of functional classification, vehicle capacity, traffic volumes, and level of service.

The main role of the RTP was defined as identifying mobility and capacity improvements and the analysis successfully achieves that goal. However, because of the rural and suburban nature of the PRTPO area, the focus of many jurisdictions in the PRTPO is on safety and maintenance issues, a fact kept in mind throughout the development of the RTP.

The RTP also recognizes the importance of other forms of travel in the region. The Olympic and Kitsap Peninsulas are popular tourist destinations. As a result, a significant portion of the traffic is recreational. People travel to the area to tour by auto or RV, or to park their vehicle in order to hike or bicycle. Some cyclists also make the entire trip by bike and do not bring a vehicle to the area at all.

In addition, access to many parts of the PRTPO region is by ferry. The Washington State Ferry system provides service to five locations within the PRTPO, including four in Kitsap County and one in Port Townsend. Additional ferry service exists between Port Angeles in Clallam County to Victoria, British Columbia in Canada. Effective links between the ferry systems and transit service is one of the issues addressed in this RTP.

The PRTPO area also has a notable amount of freight activity. This activity, while sometimes conflicting with the recreational travel, is an important component of the regional economy. Both freight trucking and shipping activity link the natural resources of the area with national and international markets.

The inter-relationships of all of the modes results in a complex and dynamic transportation system. Some modal aspects, such as freight and tourist travel, need further study before specific project recommendations can be made. For other aspects, such as non-motorized, the foundation is laid in this plan so that the next steps, such as identifying projects, can be taken. And for some modes, particularly roadways, sufficient data and background research already existed to recommend projects.

Nearly all roadways on the regional system are currently operating at or above the designated level of service standard threshold. However, travel forecasts to the year 2010 revealed a number of roadways which would experience capacity deficiencies.

Several different types of capacity improvements were identified: signalization and channelization; reconstruction, paving, and shoulder improvements, transit, bicycle and pedestrian facilities; access management; passing lanes or climbing lanes; widening or adding lanes; intersection improvements; and changing the roadway designation or LOS. These capacity improvements are discussed and presented in Chapter 5, Regional Road System.

The suggested roadway improvements are concentrated in the eastern and northern portions of the PRTPO. This can be attributed to the fact that this is where the majority of the growth and development has and is occurring. There are several areas where traffic congestion has developed due to the rapid growth and development. For example, the areas around Port Angeles and Sequim have several projects identified, such as reconstruction and shoulders along US 101 as well as adding passing lanes. Improvements are recommended in most of the urban areas, which are predominately on the eastern side of the PRTPO area, but recommendations are also made for the Forks urban area, the westernmost city.

The various recommendations made for the PRTPO area have been coordinated with the funding analysis and prioritization process. This coordination, in conjunction with the interim Regional Land Use Concept and the multimodal aspects of the plan have resulted in a plan that works to meet requirements of GMA and the needs of a diverse community.

Chapter 16
Implementation

CHAPTER 16

IMPLEMENTATION

INTRODUCTION

Chapter 16 addresses implementation of the Regional Transportation Plan, or RTP, and specifically addresses performance monitoring of the Regional Transportation System (RTS) and updating of the RTP.

PERFORMANCE MONITORING

This section of the chapter addresses the requirements for performance monitoring as established by Washington state legislation, presents the overall concepts and approaches to performance monitoring, and discusses the applicability in the PRTPO region.

Background

Washington State has established planning and guidelines for Regional Transportation Planning Organizations. Initially passed as Substitute House Bill 1928, this legislation has been converted to regulations in RCW 47.80. These regulations require regional transportation planning organizations such as the PRTPO to "...monitor the performance of the Regional Transportation System over time" (468-86-010-WAC).

The Washington State legislation has specified minimum data requirements for performance monitoring systems. The performance monitoring system "...shall include traffic volumes and vehicle miles of travel (VMT) at a minimum..." (Draft 468-86-WAC).

Performance Monitoring

Performance monitoring is the periodic measurement of progress toward short and long term goals. The purpose of performance monitoring is to provide relevant information to decisionmakers to enable them to take appropriate action to improve program performance.[1] Feedback from performance monitoring can lead to program and goal modification, more intensive evaluation of specific factors, or changes in the types of data collected.

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[1] Poister, Theodore. "Performance Monitoring in the Evaluation Process," *Evaluation Review,* Vol. 6, No. 5, October 1982.

Monitoring the performance of the regional transportation system would typically incorporate the methodical measurement of changes in specific factors or indicators over time. In most instances, indicators are quantitative, such as the total number of transit riders per year. However, qualitative measures such as a traveller's perspective of the scenic quality of the transportation corridor can also be used.

Finally, an important component to the performance monitoring program is reporting the results to the participating PRTPO agencies, local governments, tribes, and the public on a regular basis. The report should be organized in a manner that is useful and informative to a wide variety of viewers in order to elicit feedback and reactions.

Applicability to the PRTPO

Prior to determining the extent to which the goals, policies and programs for the RTS are being achieved, the PRTPO needs to develop a baseline of data from which to measure change.

The PRTPO is a fairly rural area where, until recently, traffic and congestion has not been a significant issue. Consequently, a historical data set on roadway conditions, traffic, and travel patterns is not readily available. While some transportation data has been regularly collected over time, the data is geographically limited to specific roadways and to more urban areas of the PRTPO region. WSDOT has collected most of the data in the PRTPO region and has focused on state highways. The counties have also developed a transportation data set. However, there may not be a consistent set of data (for example, in terms of types or frequency) which is collected by the local jurisdictions and four transit agencies operating within the RTPO. Hence, a survey of state, regional and local data collection programs plays a critical role in developing a baseline set of data for the region.

Once the PRTPO has assembled an accurate and comprehensive snapshot of existing conditions, the organization can apply the knowledge and insight gained from the analysis of base data to refine the goals and policies for the RTS and to move towards developing a more detailed program to monitor the progress towards or away from these goals.

Minimum Requirements for Performance Monitoring

The monitoring process requires regular data collection over time to properly assess performance. The regulations require the PRTPO to collect two data sets: traffic volumes and vehicle miles traveled (VMT). In addition the PRTPO is also collecting data on transit ridership. The PRTPO felt that the required data was focused on automobile travel and that including a transit performance measure important. The available data for these traffic counts, VMT and transit ridership are discussed below. The discussion also identifies which data may not be available but should be collected and suggests procedures to establish in order to collect this needed data.

Roadway Performance Measures

WSDOT has been collecting traffic counts on state routes throughout the PRTPO area. This data is collected in several ways. One is through use of Permanent Traffic Recorders. In the PRTPO area, permanent traffic recorders are continuously collecting data at several locations, such as along US 101 east of Port Angeles and near Sappho. The information gathered is summarized in the *Annual Traffic Report.*

The information presented in the *Annual Traffic Report* is useful and is frequently used as a reference. This data can be used as part of the PRTPO performance monitoring system, but the data should be supplemented. As stated in the Introduction to the *Annual Traffic Report*, the data is not collected through a consistent methodology and not all of the data is based on permanent traffic recorders. The variations in methodology may impact the usefulness of the data.

Traffic counts for local roads may be more difficult to obtain than data for state routes. Local or county traffic count information that is obtained should be closely reviewed to assure internal consistency.

WSDOT also regularly collects and compiles information on vehicle miles traveled (VMT). This data can also be used in the PRTPO performance monitoring program, though the PRTPO should plan to supplement this information over time. The VMT information for state routes can be obtained from the Highway Performance Monitoring System (HPMS) report.

VMT information is not usually collected and compiled by local jurisdictions, and thus may not be available. A process for determining VMT for all roads within the regional system should be established.

Initially, both the traffic counts and the VMT information produce by WSDOT can provide the PRTPO with a picture of travel as it exists throughout the PRTPO area. But over time the PRTPO should establish a program for annual traffic counts for all roads on the Regional Transportation System. The state route information from the Annual Traffic Reports is useful but varies in collection methods and in relevance to regional planning. Traffic counts should be gathered at consistent time periods every month. Monthly information is particularly relevant to the PRTPO because the area experiences significant seasonal volume changes. More accurate data on the seasonal variation will provide the PRTPO with a more realistic assessment of changing travel patterns.

In regards to VMT, the PRTPO may find it most appropriate to develop a local database and data collection process that complements the existing state HPMS database, rather than establish a new process. VMT data can be derived from ADT and lanes miles. Over time the PRTPO may choose to establish a data collection process for determining lane miles. Locally derived

data is likely to produce more accurate VMT information. Initially, however, the VMT performance monitoring should be based on the existing state database.

Transit Performance Measures

Currently, the transit agencies are required to report a variety of data, including ridership data, to the federal government on a yearly basis. This information must be reported in a consistent and standard format by all agencies. Hence, this information could be included in the performance monitoring program for the PRTPO to determine ridership trends and changes in ridership from year to year.

In addition, each of the transit agencies operating in the PRTPO keep track of other types of service data, such as the number of service hours per resident. However, the information may not be recorded consistently and in a similar format by all the transit agencies. A survey of the transit agencies is recommended to determine the type, format and frequency of data collection. This would facilitate an analysis of other types of existing data which could be incorporated into the performance monitoring program. Such a survey and analysis would also lend itself to recommendations on future data collection methodologies and formats.

Other Data

In the past, the minimum requirements called for by the legislature have been sufficient for evaluating automobile travel demand or use and assessing roadway capacity needs. However, the goals and policies contained in the regional transportation plan also address other types of travel, such as transit, freight, non-motorized, and tourism activity. Additional data beyond the minimum requirements established by the legislature is necessary if other transportation modes are to be assessed.

Some of this data may already exist. Local governments may already be collecting data as part of a routine, ongoing program. Hence, surveys of local governments should be conducted to determine: 1) what types of data are currently available; 2) if that data can be consistently collected over a long period of time; and 3) if the data is useful within the context of performance monitoring.

As identified earlier, there may not be a complete database coverage for the PRTPO region in terms of geographic areas or types of data. These "holes" in the database can be seen as potential priority areas for future data gathering or generation efforts by the PRTPO or local jurisdictions. Filling in the holes may require scheduling primary data collection efforts.

The development of additional data sets has already been recommended in many of the RTP chapters since a comprehensive set of transportation-oriented information for the PRTPO region is not currently available. In addition to developing a baseline of information for the region,

much of this data, if consistently collected on a regular basis, would facilitate regional performance monitoring of transportation modes other than the automobile.

To accommodate the recommendations for additional data and to enhance the functionality of the performance monitoring program, the PRTPO should consider phasing into upcoming work programs the implementation of an origin-destination (O-D) survey. The O-D survey should specifically address the following:

Freight	Data on amount, mode, travel route, variations in season, day and time of day for truck traffic. The intent would be to provide a picture of freight activity in the PRTPO area, identify deficiencies and strategies for improving freight mobility.
Tourism	Data on origins and destinations, amount, mode, travel route, variations in season, day and time of day for recreational traffic. The intent would be to provide a picture of recreational travel patterns in the PRTPO area, define tourist corridors, and develop transit and transportation demand management strategies for this type of trip.
Non-Motorized	Data on pedestrian and bicycle counts, travel patterns, and accident or collisions counts. Again, the intent would be to establish level-of-use data, and to identify needs and deficiencies in services and facilities.
Multimodal (Transit & Ferry)	Much of the data collected as part of tourism, as well as the non-motorized data will assist in determining transit service demands/needs in the PRTPO region. In addition, the following types of data would be useful: fixed transit service, carpool, vanpool and dial-a-ride data on amount, travel route, variations in season, day and time of day. Also, data on length in time of trip, and the number of inter-county and intermodal connections and waiting periods. O-D surveys taken at park and ride lots would also be useful. The intent would be to provide a picture of multimodal travel patterns in the PRTPO area and identify needs and deficiencies.

Performance Monitoring as a Potential Geographic Information System (GIS) Application

A GIS is considered a useful information management tool for analyzing the spatial interrelationships and characteristics of land based information. GIS has the capability to analyze the relationships between environmental, physical, and social data associated with monitoring the performance of the RTS. GIS also allows the depiction of information in a format which is readily understandable to the lay audience through the use of simple graphics or maps.

Many of the PRTPO county public works and planning departments have been developing GISs for their own planning purposes. Information which is already in a GIS or locationally referenced to a polygon, line, or point increases the functionality of the data by providing the opportunity to view its geographic distribution, as well as the associated database. Much of the information that is of interest to the PRTPO for performance monitoring is appropriate for inclusion in a GIS, and in fact, may already be resident on the state or county systems.

Brief Inventory of Local GIS Programs and Analysis of Relevant Data

Clallam, Jefferson, Kitsap and Mason Counties are in various stages of developing GIS databases. One commonality between the four counties is the use ESRI's ArcInfo GIS on a PC or workstation platform. This is beneficial to the PRTPO because working on a common format facilitates data exchange, analysis, and map production at a regional level.

Many of the counties' GISs have been primarily used for growth management planning purposes, and incorporate land use, zoning and parcel data. Each county does have a basic transportation network layer on a GIS. However, the accuracy of the layer varies, ranging from a graphic representation of roads digitized off of an assessor's map, to a more detailed transportation network digitized from USGS quad maps by WSDOT. Very few of the counties have attributes or characteristics, such as road names, width, length, bridges, associated with the road graphic. Discussions with county staff indicated that transportation database development is anticipated in the near future.

Of critical concern is developing a set of common database elements for the region which facilitates performance monitoring of the PRTPO's regional transportation plan which should include traffic volumes and vehicle miles travelled. Identifying the type and extent of data development is important early in the process. This allows those jurisdictions beginning to develop their county-level transportation databases to incorporate identified data elements of regional interest into their data collection procedures, GIS databases, and budgeting processes. This performance monitoring database should be developed in stages, initially collecting and monitoring data that already exists, and adding new data to the effort in subsequent stages.

As an initial step, the counties could consider linking the County Road Information System (CRIS) to their road graphic. The CRIS contains annually updated road design and road conditions information. While the CRIS does not necessarily contain the two attributes that are required to be monitored by the legislature -- traffic volumes and vehicle miles travelled -- the system may contain some of the building blocks of data which are necessary to calculate these variables. A module may be able to be added to CRIS which would automatically calculate these variables every time the database was updated. Using CRIS would also allow the PRTPO to obtain basic common roadway attributes using information the Counties already collect and maintain, some of which could be incorporated into a latter phase of the performance monitoring

program. Clallam and Kitsap Counties have already accomplished this step, linking CRIS to their roadway databases.

To begin to identify the opportunities for developing a performance monitoring application using GIS, an inventory of the County GIS capabilities and transportation related data was conducted. The results of the inventory are summarized in Table 16.1.

Summary

Washington state legislature requires the PRTPO to initiate and develop a program to monitor the performance of the RTS over time. However, the PRTPO must develop a comprehensive set of baseline data on existing conditions in order to understand changes in the RTS from this point forward.

The legislature requires the monitoring of traffic volumes and vehicle miles travelled. While these are appropriate measures for monitoring roadway capacity and automobile demand, the PRTPO is also interested in monitoring other modes of travel in the region. Consequently, additional measures and data must be collected. To accommodate the recommendations for additional data and to enhance the functionality of the performance monitoring program, the PRTPO should consider phasing into upcoming work programs the implementation of an origin-destination (O-D) survey which would address freight, tourism, non-motorized, and multimodal activities.

UPDATING

Each annual update of the RTP should include a list of recommended and prioritized projects. These projects are identified as potential improvements to correct deficiencies, based on an assumption of regional traffic growth and analysis of congestion (falling below LOS standards). Any projects or improvements recommended by the local jurisdictions that conflict with the PRTPO's recommendations should be identified for more detailed study at the site level. As part of this process, the PRTPO should be notified so that they may comment on the content of the studies. The studies should be reviewed for consistency with RTP goals and policies and developed in coordination with the PRTPO and adjacent jurisdictions. Study conclusions should be incorporated in a summary fashion into the RTP as an addendum.

TABLE 16.1

GIS DATA INVENTORY SUMMARY BY COUNTY

March, 1995

County	GIS Platform	ADT &/or Vehicle Miles Travelled on System?	Transportation Related Data	Other Data	Other Comments
Clallam	• PC-based ArcInfo • Located in Planning Department	• ADT - Yes • VMT - No	• Use DNR road database - contains public roads only. • Modified to link to CRIS. Accuracy of CRIS database dependent on updating. • CRIS includes traffic counts, ADT, LOS.	• Resource data • Environmentally sensitive lands • Zoning • Parcels (taken from assessor's maps) • Land use & land cover • watersheds	• Primarily used in comprehensive planning process to determine ADT & LOS in future scenarios. • Pilot project to improve mapping by 1/4 township level - new mapping at engineering standards
Jefferson	• ArcInfo on 2 Unix Sunspark workstations - Located in assessor's office • 3 AutoCad workstations - located in Public Works	• ADT - on Autocad • VMT - no	• ArcInfo: transportation network digitized from assessor's parcel maps • 911 Road System • Autocad: LOS & ADT, SRs, major roads, access roads, road inventory map developed by WSDOT.	• Land use data • Environmentally sensitive lands	• Also has ArcCad & ArcView software

TABLE 16.1

GIS DATA INVENTORY SUMMARY BY COUNTY

March, 1995

County	GIS Platform	ADT &/or Vehicle Miles Travelled on System?	Transportation Related	Other Data	Other Comments
	• ArcInfo on Sunspark workstations - located in Dept. of Community Development • Autocad - Public Works	• ADT - Yes • VMT - No	• ArcInfo: road names, TAZs, Journey to work data, park & ride lots, arterials & collectors, city & county roads, transit routes, worker/driver routes • Street centerline file, linked to CRIS database	• Census data • Elections data • Environmental data, including fish & shellfish • Growth management data • Utilities • Boundaries	
	• AutoCad - located in Public Works • PC-based ArcInfo - located in Planning	• ADT - No • VMT - No	• ArcInfo: TIGER file road data • AutoCad: USGS quads with 60-70 attributes such as bridges, lane width, number of lanes, digitized by WSDOT.		• Also has ArcView • Official County Road Map is on mylar, dated 1982.

SEPA Checklist

Washington State Department of Transportation
Sid Morrison
Secretary of Transportation

District 3 Headquarters
5720 Capitol Boulevard, Tumwater
P.O. Box 47440
Olympia, WA 98504-7440

(206) 357-2600
Fax (206) 357-2601

March 6, 1995

Washington State Department of Ecology
Environmental Review Section
P.O. Box 47600
Olympia, WA 98504-7600

Subject: SEPA Register

Dear Sir or Madam:

Enclosed please find a copy of a Determination of Non-Significance (DNS) for the below-listed project, for your information and publication in the SEPA Register. This DNS is being submitted to your office in accordance with WAC 197-11-340(2).

Project: Peninsula Regional Transportation Plan
Clallam, Jefferson, Kitsap and Mason counties

If you have any questions or require further information, please contact this office at (206) 357-2660.

Sincerely,

KENNETH M. STONE
Regional Environmental Manager
Olympic Region

KMS/pas
Enclosure

cc: Clallam, Jefferson, Kitsap and Mason Counties
Cities of Bainbridge Isle, Bremerton, Forks, Pt Angeles, Pt Townsend, Pt Orchard, Poulsbo, Sequim, Shelton
HOH Tribe/Business Cmnty., Jamestown S'Klallam Indian Tribe, Makah Tribal Cncl, Pt Gamble S'Klallam Tribe, Quileute Tribal Cncl, Quinault Indian Nat, Skokomish Tribal Cncl, Squaxin Isle. Tribal Cncl, The Lower Elwha S'Klallam Tribal Cmnty, and The Suquamish Tribe
Clallam, Jefferson, Kitsap and Mason Transits
Ports of Mason, Kitsap, Clallam and Jefferson Counties
Puget Sound Transfer & Storage
Port Townsend Paper Co.
Engineering Field Activities NW
Clipper Navigation, Inc.
Berryman & Henigar
Port Orchard & Port Angeles PEO
WSDOT-Marine Division
Olympia Service Center
File

DETERMINATION OF NONSIGNIFICANCE (DNS)

Description of proposal: The Peninsula Regional Transportation Plan (RTP) is being developed for the purpose of coordinating transportation planning activities of the Olympic and Kitsap Penisulas. This will ensure that all local plans are coordinated and consistent with the regional plan. This is accomplished through the participation of all jurisdictions and members of the private sector in the technical analysis and policy approvals for the plan. The Peninsula Regional Transportation Planning Organization (PRTPO) consists of representation from four counties, nine cities, four transit agencies, eighteen port districts, ten Tribal Nations, the Washington State Department of Transportation, and the private sector.

Proponent: Peninsula Regional Transportation Planning Organization

Location of proposal: Clallam, Jefferson, Kitsap and Mason counties

Lead Agency: Washington State Department of Transportation
Olympic Region

The lead agency for this proposal has determined that it does not have a probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21C.030(2)(c). This decision was made after review of a completed environmental checklist and other information on file with the lead agency. This information is available to the public on request.

_X__ There is no comment period for this DNS.

__ This DNS is issued under WAC 197-11-340(2); The lead agency will not act on this proposal for 15 days from the date of signature below. Comments must be submitted by:

Responsible Official: KENNETH M. STONE

Position/Title: OLYMPIC REGION ENVIRONMENTAL MANAGER
Phone: (206)357-2660

Address: P.O. Box 4 7440
Olympia, WA 98504-7440

Date: 3/06/95 **Signature**: Ken Stone

ENVIRONMENTAL CHECKLIST

The State Environmental Policy Act (SEPA), chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. The purpose of this checklist is to provide information to help you and the agency identify impacts for your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decide whether an EIS is required. The checklist questions apply to all parts of the proposal, even if they are planned over a period of time. Attach any additional information that will help describe the proposal or its environmental effects. Be prepared to explain answers or provide additional information reasonably related to determining if there may be significant adverse impact.

A. BACKGROUND

1. Name of proposed project, if applicable:

   Peninsula Regional Transportation Plan (RTP)

2. Name of applicant:

   Washington State Department of Transportation -
   Olympic Region as lead agency for the Peninsula Regional Transportation Planning Organization (PRTPO)

3. Address and phone number of applicant and contact person:

   Region Environmental Manager
   P.O. Box 47440
   Olympia, WA. 98504-7440
   Telephone:(206)357-2660

4. Date checklist prepared:

   December 20, 1994

5. Agency requesting checklist:

   Washington State Department of Transportation -
   Olympic Region

6. Proposed timing or schedule (including phasing, if applicable):

   The Regional Transportation Plan will be implemented over a period of 15 years. The implementation well be reflected in the Transportation Improvement Program that is adopted annually by the PRTPO.

7. Are there any plans for future additions, expansions, or further activity related to or connected with this proposal? If yes, explain.

   It is anticipated for the RTP to be updated every two years.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

n/a

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by the proposal? If yes, explain.

n/a

10. List any government approvals or permits that will be needed for the proposal, if known.

The PRTPO is a membership organization that includes Mason, Jefferson, Clallam, and Kitsap counties, the cities within those counties, and the Tribal Nations with land in those counties. These jurisdictions are involved in the review of the Regional Transportation Plan and their representatives on the PRTPO are included in the approval process for the plan. There are no other approvals required for the regional plan, however, the projects included in the plan do go through their own separate project approval process. Permit approvals are addressed at the project level.

11. Give brief, complete description of the project including (but not limited to) its size, general design elements, and other factors that will give an accurate understanding of its scope and nature. There are several questions in this checklist that ask you to describe certain aspects of the proposal. You do not need to repeat those answers on this page.

The Regional Transportation Plan identifies roadways with regional significance over the next 20 years. Additional studies and recommendations will address impacts and improvements to Roadways, Freight, Tourism, Transportation Demand Management, Non-motorized, Land Use Strategies, Airports, and Scenic Highways. Goals and Policies will coordinate with local goals and policies, while providing a regional framework, regional guidance, and regional support. Regional Level of Service (LOS) standards provides guidance for local jurisdictions and WSDOT, fundamental planning decisions will be made at the local level. The RTP is prepared in accordance with RCW Chapter 47.80 Regional Transportation Planning.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of the proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available.

Clallam, Jefferson, Kitsap and Mason Counties.

B. ENVIRONMENTAL ELEMENTS

This is a nonproject action. See D. Supplemental Sheet for nonproject actions.

1. Earth

a. General description of the site (circle one): Flat, rolling, hilly, steep slopes, mountainous, other:_____.

b. What is the steepest slope on the site (approximate percent slope)?

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.

d. Are there surface indications of history of unstable soils in the immediate vicinity? If so, describe.

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

2. Air

a. What types of emissions to the air would result from the proposal (for example: dust, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

3. Water

a. Surface:

1) Is there any surface water body on, or in, the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

b. Ground:

1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

c. Water Runoff (including storm water):

1) Describe the source of runoff (including stormwater) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

2) Could waste materials enter ground or surface waters? If so, generally describe.

d. Proposed measures to reduce or control surface, ground and runoff water impacts, if any:

4. Plants

a. Check or circle types of vegetation found on the site.

___ deciduous tree: alder, maple, aspen, other.
___ Vine maple, cottonwood, willow
___ evergreen tree: fir, cedar, pine, other. Hemlock
___ shrubs (Elderberry, Serviceberry, Scotch Broom, Red Huckleberry,
Mahonia, Salal, and Spirea).
___ grass
___ pasture
___ crop or grain
___ wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other:_____
___ water plants: water lily, eelgrass, milfoil, other
___ other types of vegetation

b. What kind and amount of vegetation will be removed or altered?

c. List threatened or endangered species known to be on or near the site.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

5. Animals

a. Circle any birds and animals which have been observed on or near the site or are known to be on or near the site:

BIRDS: hawk, heron, eagle, songbirds, other:
_____

MAMMALS: deer, bear, elk, beaver, other:
_____

FISH: bass, salmon, trout, herring, shellfish,
other:_____

b. List any threatened or endangered species known to be on or near the site.

c. Is the site part of a migration route? If so, explain.

d. Proposed measures to preserve or enhance wildlife, if any:

6. Energy and Natural Resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

b. Would the project affect the potential use of solar energy by adjacent properties? If so, generally describe.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

7. Environmental Health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste that would occur as a result of this proposal? If so, describe:

1) Describe special emergency services that might be required.

2) Proposed measures to reduce or control environmental health hazards, if any:

b. Noise

1) What types of noise exist in the area which may affect the project (for example: traffic, equipment, operation, other)?

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

3) Proposed measures to reduce or control noise impacts, if any:

8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties?

b. Has the site been used for agriculture? If so, describe.

c. Describe any structures on the site.

d. Will any structures be demolished? If so, what?

e. What is the current zoning classification of the site?

f. What is the current comprehensive plan designation of the site?

g. If applicable, what is the current shoreline master program designation of the site?

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

i. Approximately how many people would reside or work in the completed project?

j. Approximately how many people would the completed project displace?

k. Proposed measures to avoid or reduce displacement impacts, if any:

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

c. Proposed measures to reduce or control housing impacts, if any:

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

b. What views in the immediate vicinity would be altered or obstructed?

c. Proposed measures to reduce or control aesthetic impacts, if any:

11. Light and Glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

b. Could light or glare from the finished project be a safety hazard or interfere with views?

c. What existing off-site sources of light or glare may affect your proposal?

d. Proposed measures to reduce or control light and glare impacts, if any:

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

b. Would the proposed project displace any existing recreational uses? If so, describe.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project, if any:

13. Historic and Cultural Preservation

a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

c. Proposed measures to reduce or control impacts, if any:

14. Transportation

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any:

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

c. How many parking spaces would the completed project have? How many would the project eliminate?

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

g. Proposed measures to reduce or control transportation impacts, if any:

15. Public Service

a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

b. Proposed measures to reduce or control direct impacts on public services, if any.

16. Utilities

a. Circle utilities currently available at the site: electricity, water, natural gas, refuse service, telephone, sanitary sewer, septic system, other.

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

C. SIGNATURE

The above answers are ~~true~~ and complete to the best of my knowledge.

Signature: /Tom Stone
REGION ENVIRONMENTAL MANAGER

Date Submitted: 3/06/95

D. SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS

(do not use this sheet for project actions)

Because these questions are very general, it may be helpful to read them in conjunction with the list of the elements of the environment.

When answering these questions, be aware of the extent the proposal, or the types of activities likely to result from the proposal, would affect the item at a greater intensity or at a faster rate than if the proposal were not implemented. Respond briefly and in general terms.

1. How would the proposal be likely to increase discharge to water; emissions to air; production, storage, or release of toxic or hazardous substances; or production of noise?

Highway and transit projects have the potential to impact storm water runoff, air emissions, or increase noise levels. The four counties are not in a nonattainment air quality area.

Proposed measures to avoid or reduce such increases are:

Procedures and policies at the project level would address specific impacts. Project level design can:

- Protect the quality of surface waters and aquifer recharge areas from highway stormwater through implementation of WSDOT's Highway Runoff Manual for design, construction and operations.
- provide for noise abatement in accordance with FHWA and WSDOT policies
- minimize the increase in air emissions from increased traffic through improved traffic flow and improved regional transit service

2. How would the proposal be likely to affect plants, animals, fish, or marine life?

Highway and transit improvements have the potential to effect natural habitats. WSDOT's policy is to first avoid, then minimize adverse impacts to plants, animals & fish. Mitigation is then provided for unavoidable adverse impacts. Impacts would be addressed at the project level. During project level planning and design, critical or significant wildlife habitats can be preserved and mitigation can restore and enhance wildlife habitat that is disturbed.

3. How would the proposal be likely to deplete energy or natural resources?

Increased consumption may deplete energy or natural resources. The Regional Transportation Plan (RTP) is not the cause of this increase.

Proposed measures to protect or conserve energy or natural resources?

4. How would the proposal be likely to use or affect environmentally sensitive areas or areas designated (or eligible or under study) for governmental protection; such as parks, wilderness, wild and scenic rivers, threatened or endangered species habitat, historic or cultural sites, wetlands, floodplains, or prime farmlands?

Working in coordination with city, county, and tribal planning staffs, the RTP strives to recognize environmentally sensitive areas in the development of its recommendations.

Proposed measures to protect such resources or to avoid or reduce impacts are:

Specific impacts would be addressed at the local level. During development of project level plans and design, the sponsoring agencies will coordinate with governmental bodies and organizations with jurisdiction over identified environmentally sensitive areas. These organizations include: cities and counties, Indian tribal governments, state and national parks, national forests, the Department of Ecology, the Department of Natural Resources, the State Historic Preservation Office and the Department of Wildlife and Fisheries.

5. How would the proposal be likely to affect land and shoreline use, including whether it would allow or encourage land or shoreline uses incompatible with existing plans?

To assure that the proposal is consistent with local land and shoreline uses, the Regional Transportation Plan developed an interim regional land use concept that serves as the basis for the RTP. This regional land use concept is based on the comprehensive planning being done under the Growth Management Act, however this land use concept precedes many local land use plan decisions. Every attempt is being made to develop a plan that would not allow or encourage land or shoreline uses that are incompatible with existing plans. However, as county and city comprehensive plans are completed, the regional land use concept and transportation plan should be accordingly be reviewed and revised to reflect major changes.

Proposed measures to avoid or reduce shoreline and land use impacts are:

Specific land use impacts will be addressed at the local level during development of project level plans and design.

6. How would the proposal be likely to increase demands on transportation or public services and utilities?

The RTP was developed to meet demands on the transportation system and identify possible improvements or solutions to meet those demands. These demands are the result of both local land use decisions and the overall growth of the State's economy, particularly with respect to the recreational and tourism industry. This may include improvements to the regional road system, public transportation services and other alternate modes of travel. (motorized and nonmotorized) Relocation and/or upgrades to utility services may be required as specific projects are developed. As improvements for different travel modes are made accessibility to various services, such as hospitals and other emergency services can be improved. Improvements made to the transportation network help connect the public with intermodal opportunities.

Proposed measures to reduce or respond to such demand(s) are:

Site specific impacts will be addressed during project level planning and design.

7. Identify, if possible, whether the proposal may conflict with local, state, or federal laws or requirements for the protection of the environment.

There is no known conflict with local, state, or federal laws or requirements for the protection of the environment. The purpose of the RTP is to bring the four counties together to work toward a coordinated effort to identify and meet transportation demands and minimize impacts to the natural environment. Representatives of cities, counties, national parks, and tribal nations have been involved in the development of the plan.