

**U.S. Highway 97 Corridor Plan
Volume 1
Corridor Strategy
(Biggs Junction - Madras)**

**Oregon Department of Transportation
Region 4
63034 O.B. Riley Road
Bend, Oregon 97701**

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**US Highway 97 Corridor Plan
Volume 1
Corridor Strategy
(Biggs Junction - Madras)**

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Executive Summary

1. Introduction

A. Purpose

Development of the United States (US) Highway 97 Corridor Strategy is the first step in the corridor planning process for the Biggs Junction to Madras section of this multimodal transportation corridor. The purpose of this document is to set forth objectives for the operation, preservation and improvement of transportation facilities within the corridor. This document describes the role the corridor plays within the region, identifies significant issues, and helps to distinguish this corridor from other corridors within the state of Oregon.

This document is intended to apply the general transportation policies and requirements established by the federal Intermodal Surface Transportation Efficiency Act (ISTEA) legislation, Oregon Transportation Plan (OTP) and other state policies to the Highway 97 Corridor. Attention is placed on determining relevant policies and applying them to the unique corridor conditions. Corridor objectives attempt to balance various modes of transportation with the needs, issues and unique features of the corridor.

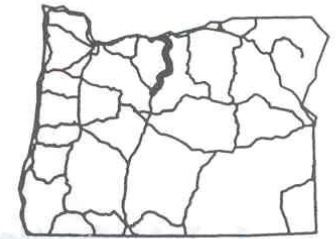
The Corridor Objectives identified in the Strategy represent the course of action for corridor planning and management as recommended by corridor stakeholders. The objectives provide direction for future transportation system planning, general planning, refinement planning, and project programming and development.

B. Background

This document proposes a plan for the operation, preservation and enhancement of transportation facilities within the US Highway 97 (Biggs Junction - Madras) Corridor, Figure 1. The Corridor Plan covers a 20-year planning period and builds upon federal, state, and local transportation and land use policies and plans. These include the Oregon Transportation Plan, the Oregon Department of Transportation (ODOT) modal plans, and the comprehensive plans of Jefferson, Sherman and Wasco Counties, and the cities of Grass Valley, Madras, Moro, Shaniko and Wasco.

The Corridor Plan has been developed in cooperation with representatives of the cities and counties along the corridor, federal and state agencies with jurisdiction in the corridor, and the Confederated Tribes of the Warm Springs Reservation, which have ceded lands in the corridor. As part of developing an interim corridor strategy, surveys

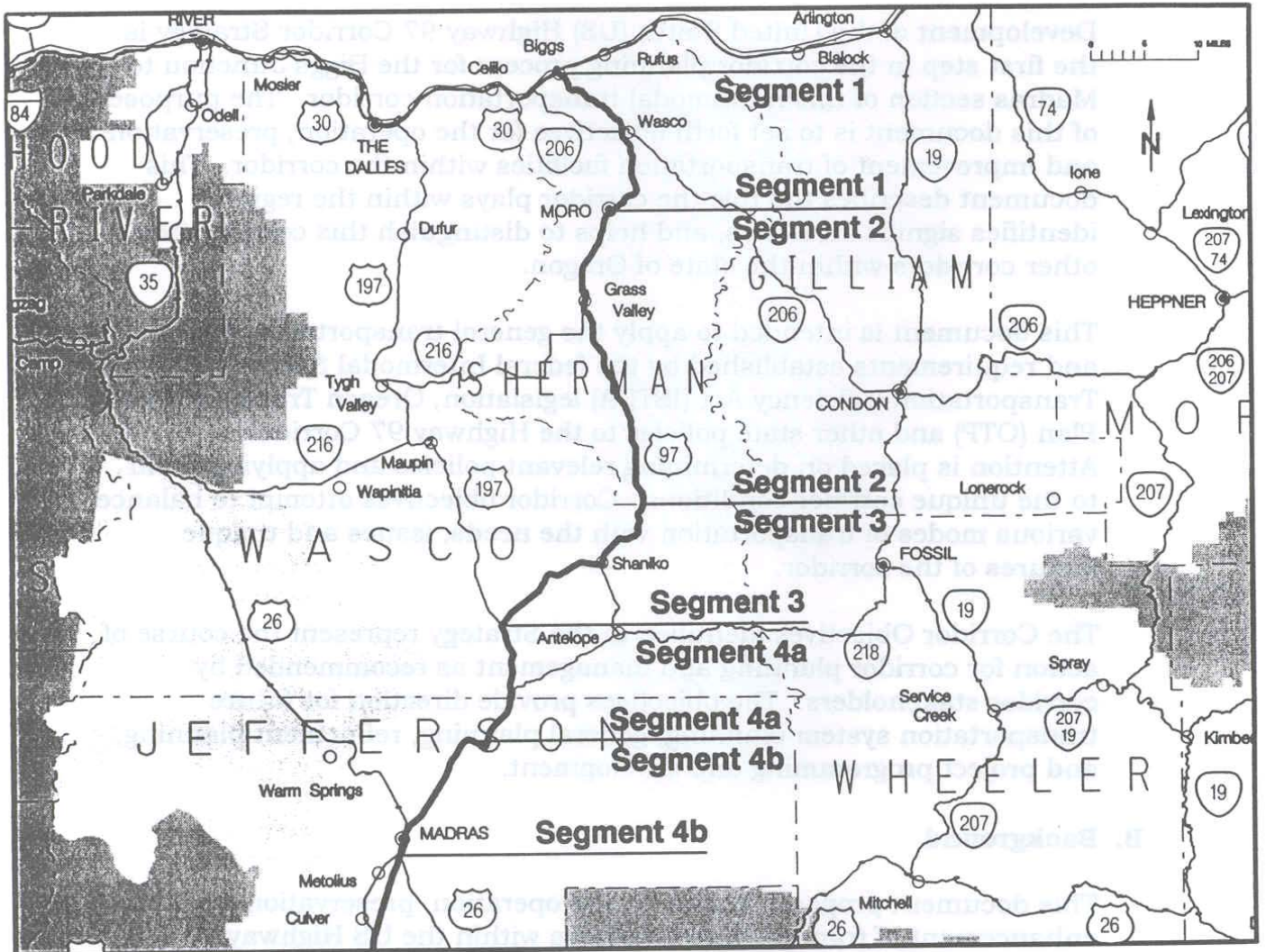
Figure 1
US 97 Corridor Plan



CORRIDOR LOCATION

Biggs Jct. - Madras

Segments 1 - 4



Segment Number	Segment Milepoints	Segment Miles	Begin Segment	End Segment
1	0.00 - 18.43	18.43	Jct. US 97 & I-84	Bidwell St. (Moro)
2	18.43 - 48.81	30.38	Bidwell St. (Moro)	Sherman/Wasco Co. Line
3	48.81 - 67.17	18.36	Sherman/Wasco Co. Line	Jct. US 97 & US 197
4a	67.17 - 80.26	13.09	Jct. US 97 & US 197	Lyle Gap Summit
4b	80.26 - 91.94	11.68	Lyle Gap Summit	Jct. US 97 & US 26

were distributed to identified stakeholders in the corridor to inform them of the corridor planning process and solicit their input. These stakeholders included local residents, business owners, development advocates, trucking interests, environmentalist, public transportation advocates/providers, law enforcement and public safety agency representatives, and social service providers. A series of open houses were also held during the planning process to solicit additional public input.

The Oregon Transportation Commission (OTC) on August 22, 1997 endorsed the Interim Corridor Strategy Report. However, the OTC recommended that the Corridor Plan be amended to include as part of the corridor goal and objectives:

- The concept of “compact community”;
- Amend Objective C2 - TDM/Rideshare to focus the objective more on providing a mobility option;
- Need to include a discussion about the need for improvement at, and
- Current refinement effort for the Hwy 97/26 intersection in Madras.

The OTC recommendations have been incorporated into the Corridor Plan document.

The Interim Corridor Strategy Report guided development of the plan for the corridor and refinement plans for specific areas and issues in the corridor. These plans will be used by ODOT as a guide for the operation, preservation and improvement of transportation facilities in the corridor, including the update of the State transportation Improvement Program (STIP). It is the intent that cities and counties within the corridor will incorporate relevant sections of the plan into their comprehensive plans during periodic review.

2. Corridor Description

The US Highway 97 Corridor between Biggs Junction and Madras stretches 91.94 miles from the Highway 26 intersection in north Madras to the Columbia River. US Highway 97 provides important interstate, regional and local transportation linkages. In addition to serving local needs, the highway is used as a major truck route for the western United States, providing relatively shorter, more direct access for goods moving between California, the Willamette Valley, Central Oregon, east central Washington, northern Idaho and points east. US Highway 97 also serves as an “alternative” to I-5 for people and goods moving between California and Washington.

US Highway 97 is the primary transportation facility in the corridor, serving automobile, truck, public transportation, bicycle and pedestrian modes. As indicated in Figure 1, there are four corridor segments that serve diverse areas ranging from the rapidly growing community of Madras to the smaller rural development centers such as Biggs Junction, Grass Valley, Moro, Shaniko, and Wasco.

The corridor is served by a variety of transportation modes. The rail freight system in the corridor is comprised of the Burlington Northern Bend Branch, and the Union Pacific (UP) Main Line, which crosses the corridor near Biggs. Greyhound provides one daily northbound and southbound bus along the corridor with stops in Biggs and Madras. A state general aviation airport is located in the City of Wasco. The closest commercial airport is the Redmond Municipal Airport, which is approximately 26 miles south of the corridor. Pacific Gas Transmission Company’s gas line also generally follows the corridor.

3. Findings and Conclusions

Key findings and conclusions that were identified during Phase 1 were:

- The grain terminal in Biggs provides multimodal truck/rail/barge shipping interface;
- The Corridor's economy is based primarily on agriculture and tourism/visitation;
- The mix of through and local traffic along Highway 97 has created vehicular, bike, pedestrian and truck/RV conflicts and safety concerns; and
- The population and employment in the area served by the corridor is projected to grow moderately resulting in negligible levels of congestion over the next 20 years.

These findings and conclusions form the basis for the goal, policies and objectives contained in the US Highway 97 Corridor Plan.

4. Issues:

In preparing the Corridor Plan, the following key issues were identified during Phase 1:

- **Highway safety**, characterized by inadequate roadway/shoulder widths and geometry,
- Lack of **slow moving vehicle**, passing, and turning lanes in a few key sections,
- **Auto/truck conflicts** as they relate to the above safety issues,
- **Pavement conditions** considered below average in certain segments,
- **Lack of public transit** service,
- Excessive "**speeding**" and the need for additional traffic patrolling and enforcement,
- **Economic development** linkages to US 97, and
- **Underutilization of rail/truck/port facilities in Biggs.**

5. Corridor Goal and Themes

The overall goal of the US Highway 97 Corridor Plan is:

To accommodate the efficient movement of through travel, while maintaining the livability of existing communities within the corridor by encouraging compact, pedestrian-oriented development within communities and rural service centers, protecting the integrity of the environment, enhancing travel safety and supporting economic development within the region and the state.

Six underlying corridor **themes** have been identified:

Enhancing Livability — by encouraging compact, pedestrian-oriented development which is characterized by a mixture of uses, a highly connected local street system, and pedestrian and bicycle facilities which provide safe and convenient access to local destinations such as shops, parks, schools, and other governmental facilities.

Enhancing Safety — by addressing a wide range of safety issues, including truck and vehicular accidents, vehicle-wildlife collisions, mud slides, rockfalls, and maintenance-related concerns.

Maintaining Travel Times — by providing additional passing lanes in rural sections along with improved facilities management in small communities.

Intermodal Connections — including improving intermodal access and multimodal connectivity between truck, rail and barge connections.

Economic Development — including assisting local jurisdictions with special economic development-related improvements that embody corridor goals and objectives, and optimize the integration of transportation, land use and the natural environment.

Partnering — including identifying opportunities for partnerships between ODOT, local jurisdictions, state and federal agencies and the private sector to implement corridor strategy goals and objectives, and to provide the transportation facilities and services that meet the needs of the corridor.

6. Transportation Improvement and Management Decisions

The Transportation Improvement and Management Element (TIME) component of the Corridor Plan was developed during Phase 2 of the Corridor Planning Process. Phase 2 built upon the corridor strategy, and the corridor goal, policies and objectives to identify, refine, and facilitate the acceptance of specific decisions related to corridor transportation management, capital improvements, and service improvements. The Corridor plan provides for the identification and discussion of decisions considered meeting each objective, technical analysis of alternatives, and recommendations for action. Decisions are described in terms of scope, need, timing, cost, and agency responsibility for implementation, Table ES-1.

The US Highway 97 Corridor Plan details management, capital improvement, and service improvement decisions to guide management of the corridor over the next 20 years. The decision refinement process included data collection, interviews of agency staff and other stakeholders, and field reconnaissance. The products provided in this document are maps, decision detail sheets, and a matrix relating decisions to corridor objectives. A technical appendix including technical memoranda and cost estimates is also available for review through the ODOT Region 4 offices.

Decisions made in the US Highway 97 Corridor Plan will be implemented through the State Transportation Improvement Program (STIP) and the ODOT Region 4 work program, subject to the availability of funding and staff resources. In many cases, decisions may be implemented in cooperation with other agencies, subject to the development of interagency agreements.

Introduction

1. Overview of Corridor Planning

In response to federal and state directives, the Oregon Department of Transportation (ODOT) has adopted a new comprehensive approach to transportation planning. While many modes of transportation and specific transportation facilities are not owned or operated by the state (railroads, bus systems, port facilities), the state has a special interest in the performance of these facilities given their interaction with ODOT facilities and their collective importance to the entire transportation system.

This new approach to transportation planning seeks to integrate statewide planning for all transportation modes with long-term planning for specific communities within Oregon. ODOT is developing statewide management systems and modal plans for modes including automobile, truck, passenger and freight rail, aviation, bicycle and pedestrian, and intermodal facilities. Concurrently, ODOT is conducting corridor planning to focus on the multimodal performance and impacts of specific transportation corridors, facilities and systems of statewide significance.

Together, modal and corridor plans will be the basis for update of the State Transportation Improvement Program (STIP) and the development of specific transportation improvement projects. Additional benefits of corridor planning include:

Resolution of Major Planning Issues Prior to the Initiation of Project Programming and Development — Early agreement on project purpose, need, and general parameters is essential to successful, timely, and cost-effective project development.

Preservation of Transportation Rights-of-Way — Preservation of existing and future transportation rights-of-way requires proactive planning. In high growth areas, transportation facility requirements increase while at the same time property values escalate and new development occupies needed rights-of-way. As available and environmentally suitable land diminishes, transportation improvements are often forced into stream corridors or wetland areas. Under these circumstances, development costs and environmental impacts can be reduced by preserving transportation corridors.

Protection of Transportation Investments — To avoid premature obsolescence of highways and other transportation facilities, corridor planning focuses on means to accommodate transportation needs with and without capital-intensive improvements. Advantages of access management, utilization of parallel local streets, reconfigured land use patterns, and demand management programs (rideshare, public transportation, flex-time) should be considered in lieu of, and/or in addition to, major capital improvements.

In the context of corridor planning, corridors are defined as broad geographic areas through which various transportation systems provide important connections between regions of the state for passengers, goods and services. Facilities are defined as individual modal or multimodal terminals that are considered to be of a statewide level of importance. Systems are defined as a

network of transportation links, services and facilities that collectively have a statewide level of importance, even though individual corridors, facilities or services that make up the system may not be of statewide significance.

A corridor plan is a long-range (20-year) plan for managing and improving transportation facilities and systems to meet needs for transporting people, goods and services within a specified corridor. Corridor plans are currently being developed for 31 corridors of statewide significance identified in the OTP. The corridor planning area includes statewide transportation facilities, systems, and land area that affect transportation performance.

2. Planning Requirements

Corridor plans will be developed to implement the general policies and planning directions of new federal and state planning directives and guidance documents, including:

Federal Intermodal Surface Transportation Efficiency Act (ISTEA) — ISTEA sets new standards and guidelines for transportation planning nationwide. To qualify for federal funding, states must show state and local plans that balance automobiles with other transportation modes, show cooperation among various units of government, and provide meaningful public input.

Oregon Transportation Plan (OTP) — The OTP provides a general context for transportation planning in Oregon with a philosophy, vision and broad policies.

Oregon Transportation Planning Rule (TPR) — The TPR requires stronger ties between transportation and land use planning.

State Agency Coordination Program (SAC) — The SAC Agreement between ODOT and the Department of Land Conservation and Development defines how these agencies will coordinate their efforts.

Modal Plans — These plans include the Oregon Highway Plan, Oregon Rail Freight Plan, Oregon Rail Passenger Policy and Plan, Transportation Safety Action Plan, Intermodal Facilities and Connections Plan, Oregon Bicycle/Pedestrian Plan, Oregon Public Transportation Plan (in process), and the Oregon Aviation Systems Plan.

In addition to meeting statewide planning directives, the corridor planning process is intended to help local governments fulfill their planning obligations under the TPR. The TPR requires that regional and local transportation systems plans be consistent with adopted ODOT plans. Corridor planning provides a mechanism for ODOT and local governments to cooperatively determine how the OTP and other ODOT plans impact their jurisdiction.

Corridor planning will build upon and balance the policies identified in the previously mentioned documents. General policies will be translated into more specific plans for future improvements and management actions within each corridor. As such, corridor planning will guide the development of the Statewide Transportation Improvement Program (STIP) and the prioritization of project development. Corridor planning will become the means to implement the broad policies of the OTP and the individual modal plans.

3. Corridor Planning Process, Products and Participants

Corridor planning is being carried out in three phases that progress from general to specific recommendations as shown in Figure 2.

Phase 1 involves the development of a corridor strategy that identifies a set of general transportation goal, policies and objectives for each corridor. Phase 2 involves development of a corridor transportation improvement and management element (TIME) to test corridor strategy objectives, analyze alternatives, provide general cost estimates, establish priorities and set the stage for refinement plans and project development. Transportation Systems Plans (TSPs) will also be developed for cities within each corridor. The TSPs and the TIME will link corridor strategy objectives to city and county comprehensive plans.

The bulk of the corridor planning effort will be allotted to the formulation of the TIME and the TSPs during Phase 2. Some decisions identified in Phase 2 will require refinement plans to be developed during Phase 3 of corridor planning. Refinement plans will be used to resolve particular environmental, land use or access management issues that require more detailed information and analysis.

Corridor planning entails significant public and agency involvement. A Corridor Planning Management Team (CPMT) consisting of ODOT, county, city and service district representatives manages most corridor plans. The CPMT reviews and approves the corridor planning work scope, reviews interim products, and recommends the acceptance of final planning documents by the Oregon Transportation Commission (OTC), tribal councils, and city and county leadership.

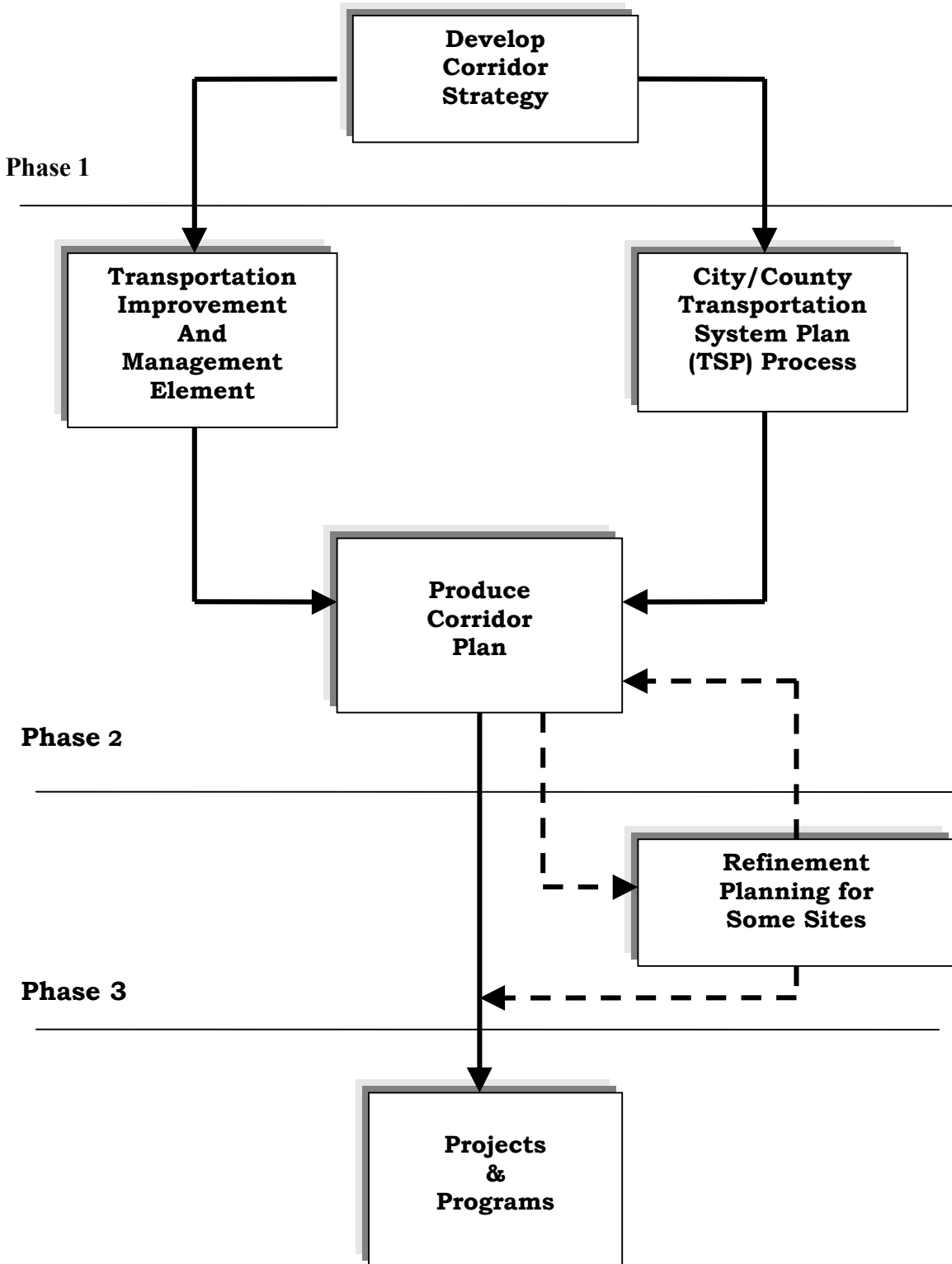
Federal and state agencies, tribal representatives, and transportation service providers have been invited to participate in a statewide agency coordinating committee overseeing corridor planning; those interested in a specific corridor will participate in corridor planning through involvement on the CPMT and/or through meeting and corresponding with the corridor planning team.

Public involvement in corridor planning is being managed statewide by a public involvement team and includes input from a statewide stakeholders group. The stakeholders group includes representatives of many statewide special interest groups in the transportation, land use, environmental and social service areas. Stakeholders in specific corridors receive notification of planning activities in the corridor and interviews and/or surveys to solicit input. Public open houses and/or workshops are held in corridors at the outset of planning activities and prior to the completion of corridor strategy, TIME and TSP documents.

When appropriate, some corridor planning teams have set up Corridor Advisory Groups (CAGs) or informal local Stakeholder networks to provide additional input. The public also has the opportunity to provide formal testimony regarding plan documents to the OTC and city and county officials during plan acceptance.

Figure 2

Corridor Planning Process



4. Corridor Planning in the US Highway 97 Corridor

A. Historic Background

Growth and development within the Highway 97 corridor has historically been constrained by distance from major population centers such as Portland, Salem, and Eugene, and transportation access encumbered by topography, distance and steep grades.

Historically, Highway 97 is composed of three pioneer roads including the Dalles Military Road between Biggs and Shaniko; the Shaniko-Prineville Road, between Shaniko and Redmond; and the Huntington Road, between Redmond and Klamath Falls. Until Highway 97 became a “paved” road in the mid 1930s, auto travel between Shaniko and Bend took two to three days. Hence, passengers and freight moving to and from the region traveled primarily by rail until the late 1930s.

B. Access Oregon Highway Program

Corridor planning in the Highway 97 Corridor began with the adoption of the Access Oregon Highway (AOH) program in 1988. This program focused on highway facilities which link major tourist destinations, deep-water ports, and urban areas with the interstate system. At that time, Highway 97 was the first route in Oregon classified as having statewide importance. ODOT released the “Access Oregon Corridor Study” for Highway 97 in 1988.

C. Oregon Transportation Plan

With the adoption of the Oregon Transportation Plan came a multimodal approach to corridor planning, focusing first on transportation corridors deemed to be of statewide significance. ODOT Region 4 selected Highway 97 as the first of several corridors to be studied in the central portion of the state. Data collection began in 1993 with corridor inventory, land use and transportation facilities analyses.

D. Development of a Corridor Strategy

Corridor Strategy development, the first phase of corridor planning, was initiated in the fall of 1994. It began with:

- Initial meetings of the CPMT;
- A survey of corridor stakeholders; and
- An open house in the city of Moro to provide early input on corridor issues and objectives.

The membership of the North CPMT is provided in the Technical Appendix.

An internal review draft Corridor Strategy was distributed to ODOT modal planners and Region 4 Corridor Management Team members in January 1995. Based on the comments received, a Public Review Draft Corridor Strategy was distributed in February 1995. A round of CPMT

meetings, workshops and open houses was held in April 1995 at Biggs Junction. Input provided from these meetings and open houses was incorporated into an August 1995 draft final Interim Corridor Strategy document. Review and comment on that document led to the development of a revised draft final Interim Corridor Strategy.

E. Adoption of the Interim Corridor Strategy

On August 22, 1997 the Oregon Transportation Commission endorsed the Interim Corridor Strategy Report with the following qualifications, that the Corridor Plan be amended to include as part of the corridor goal and objectives:

- The concept of "compact community";
- Amend Objective C2 - TDM/Rideshare to focus the objective more on providing a mobility option; and
- Need to include a discussion about the need for improvement at, and
- Current refinement effort for the Hwy 97/26 intersection in Madras.

The corridor objectives that follow take into account recommendations of the OTC, the statewide plan requirements described in the OTP, the Oregon Highway Plan, and the modal plans, along with the issues identified by CPMT members and other state and local stakeholders. Supporting technical analysis includes an analysis of the ODOT's Highway Performance Monitoring System (HPMS) and the Safety Priority Index System (SPIS) databases. Also, the Oregon Department of Fish and Wildlife (ODF&W) provided an environmental audit for segments along the corridor.

F. The Transportation Improvement and Management Element

Under development. Scheduled for completion fall of 1998

G. Concluding Comments

The Corridor Plan assumes implementation of near-term projects within the Corridor that have been previously approved for construction. These capital projects are expected to be made in accordance with federal, state and local standards for roadway design and construction. In addition to capital construction projects, standard levels of roadway maintenance and repair are assumed.

Corridor Overview

1. Role Corridor Plays in the Region

US Highway 97 extends approximately 93 miles from Biggs Junction to Madras. Within the corridor, US Highway 97 provides important interstate, regional and local transportation linkages. The highway is used as a major truck route for the Western United States, and provides relatively shorter, more direct access for goods moving between California, the Willamette Valley, Central Oregon, eastern Washington, northern Idaho and points east. It also serves as an alternative to I-5 for goods moving between California and Washington.

US Highway 97 provides the major economic link for Central Oregon communities and serves as the primary facility for moving people, goods and services in the region. It supports the region's economic base, which primarily consists of timber, tourism and agriculture. The northern region plays an important role in the production and distribution of wheat, oats and livestock.

According to demographic forecasts prepared by Portland State University and adjusted by ODOT, population in Sherman, Wasco and Jefferson counties is projected to increase by only 4.5 percent between 1990 and 2012. This is significantly below the projected statewide population growth rate of 33.8 percent for the same time period. Throughout the corridor, employment is projected to increase faster than population as the existing work force adjusts to a changing service-oriented economy. This work force expansion will be accommodated by new workers relocating to the area and the entrance of new wage earners within existing households. Population and employment projections for selected counties within the corridor are provided in the Technical Appendix.

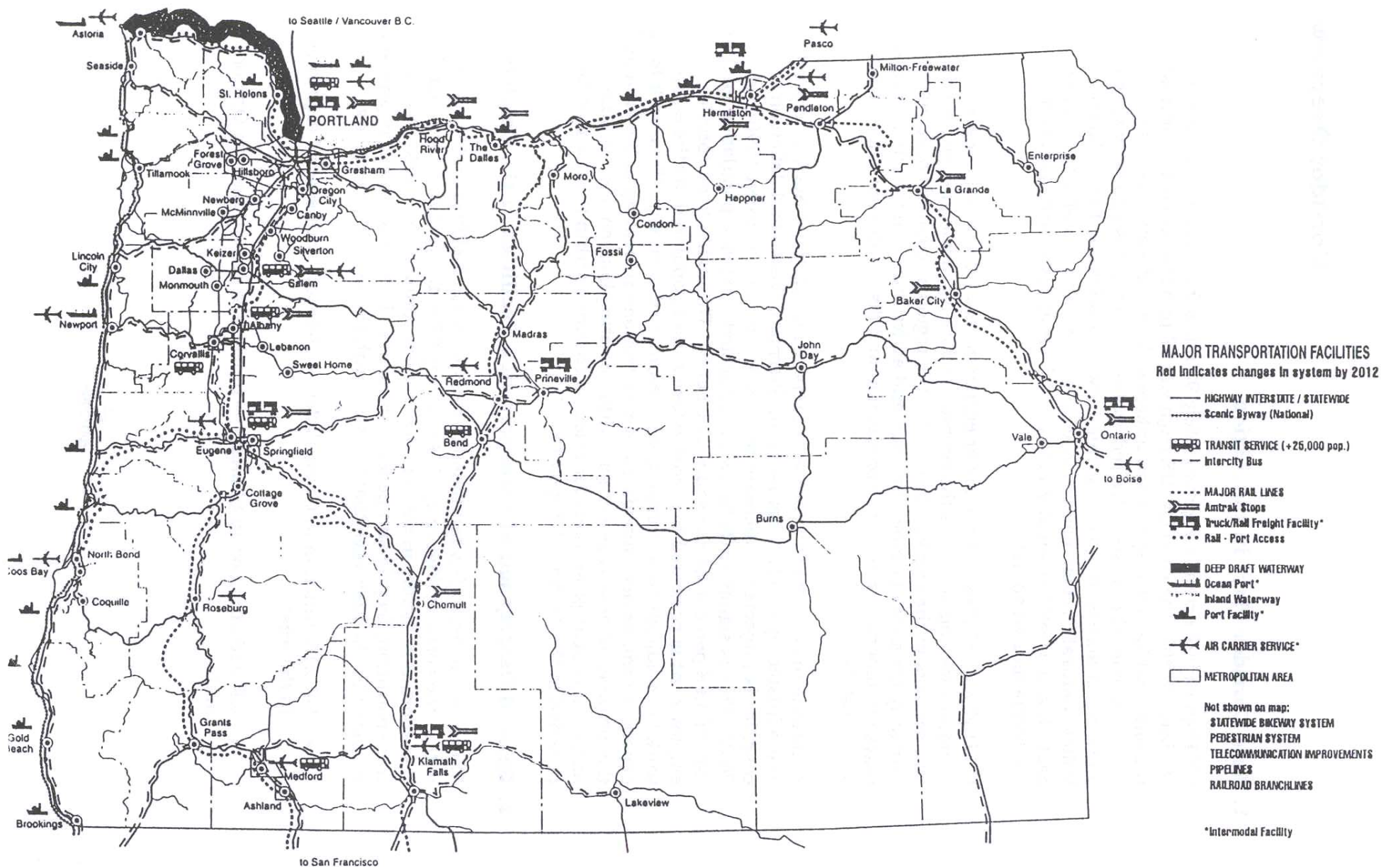
2. General Description of Transportation Facilities in the Corridor

There are currently few multimodal transportation facilities and services within the corridor (Figure 3). US Highway 97 is the primary north-south transportation facility in the corridor, serving automobile, truck, public transportation, bicycle and pedestrian modes. East-west access is primarily provided by the highways that intersect with Highway 97, including:

- OR 216 Junction in Grass Valley — connects with several highways to the west;
- OR 218 Junction in Shaniko — provides access to Eastern Oregon; and
- OR 197 Junction — provides links to Maupin and The Dalles

In addition to these US and Oregon routes, there are a number of local arterials that provide linkages to communities to the east and west of US Highway 97.

FIGURE 3
EXISTING TRANSPORTATION SYSTEM



The corridor is served by a variety of other transportation modes:

- The rail freight system is comprised of the Burlington Northern Bend Branch and the Union Pacific Mainline.
- The grain terminal in Biggs provides multimodal truck/rail/barge shipping interface.
- Greyhound provides daily northbound and southbound bus service between Biggs and Madras.
- There are also numerous local private and community paratransit providers.
- The general aviation airport in the corridor is Wasco State Airport in Wasco off US 97.
- Pacific Gas Transmission Company owns and maintains a gas transmission line that generally follows the corridor.

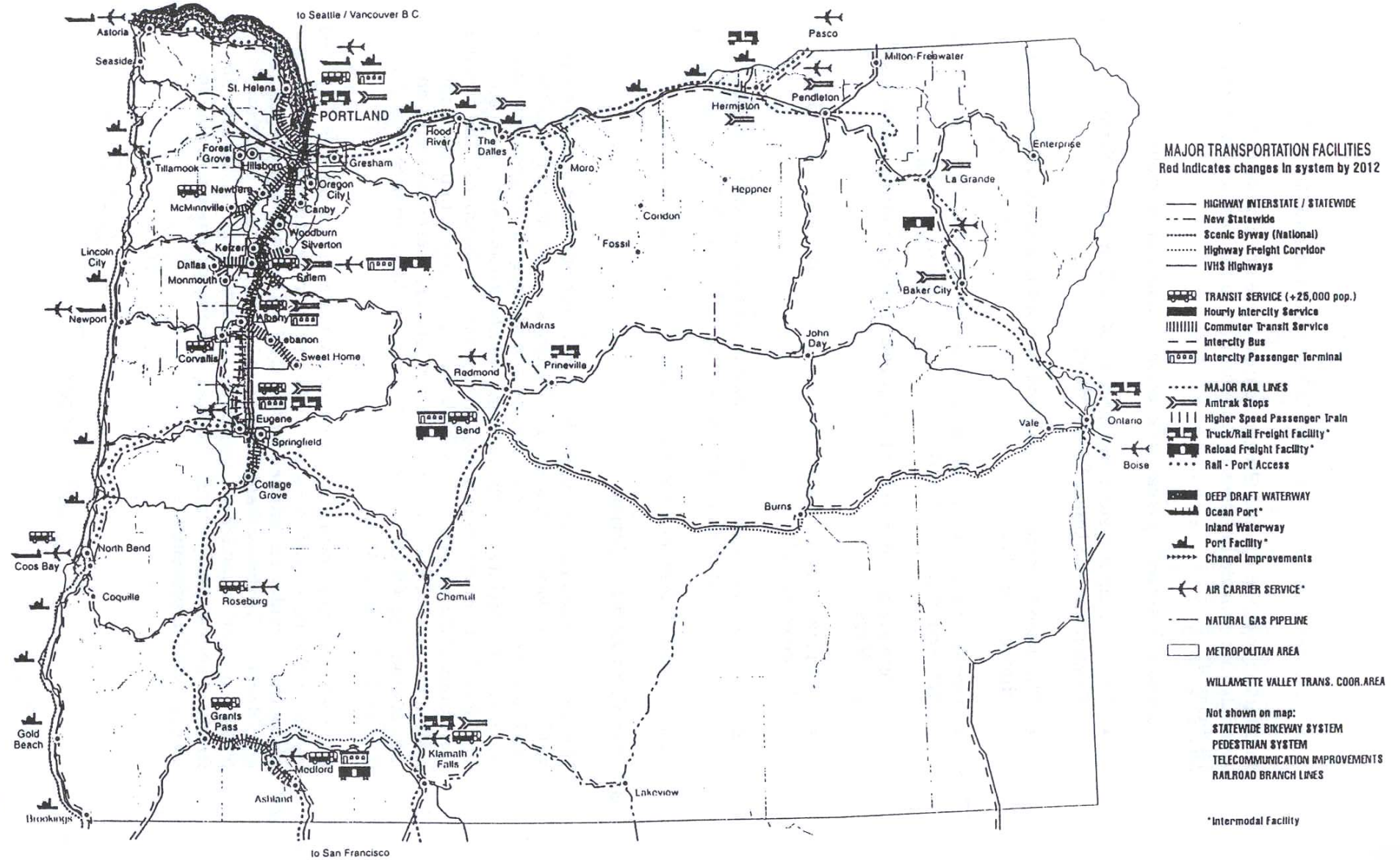
A more detailed description of these modes is provided below.

3. Corridor Characteristics

The transportation modes within the corridor provide diverse multimodal facilities and services. While each mode plays an important role in moving goods and people through the corridor, the highway is the predominant transportation facility and the network or linkages among modes can be significantly improved as indicated in the corridor objectives. The existing conditions of the system and its facilities were analyzed to understand system dynamics. Potential future conditions are presented based on information from ODOT's Highway Performance Monitoring System (HPMS) data and other sources.

The preferred transportation system for the state and corridor as described by the OTP is portrayed in Figure 4. **The primary transportation change along the Corridor envisioned by the OTP includes designation of the corridor as a “highway freight corridor.”** Designation as a “highway freight corridor” establishes a higher design and operating standard for freight-oriented transportation facilities and may enhance potential for state-funded improvements.

FIGURE 4
PREFERRED TRANSPORTATION SYSTEM



A. Highway System

The Oregon Department of Transportation (ODOT) maintains and regularly updates the HPMS database for all highways of statewide significance. HPMS information helps in understanding existing and projected transportation performance, and is useful in comparing state highway corridors and segments within corridors.

As mentioned previously, Highway 97 provides major north-south linkages within the corridor. More detailed descriptions of the HPMS database, methodology and analyses of the corridor are provided in the Technical Appendix. An analysis of traffic volumes, congestion, travel time, safety and cost effectiveness is summarized below. For purposes of this analysis, the Highway 97 Corridor has been divided into four segments as indicated earlier in Figure 1.

1. Volumes

In comparison to all highways of statewide significance, the corridor experiences very low traffic volumes. As indicated in Figure 5, ADT was approximately 2,300 vehicles at mile point 17.36 (north of the city of Moro). Truck traffic accounts for approximately one-third of total weekly traffic.

Traffic within the corridor has generally increased at a faster pace than the statewide average. Table 1 compares traffic growth in the corridor to statewide growth rates. More detailed HPMS analysis results and ADT projections are provided in the Technical Appendix.

Table 1
 Highway Traffic in the US Highway 97 Corridor
 Distribution of Corridor Miles

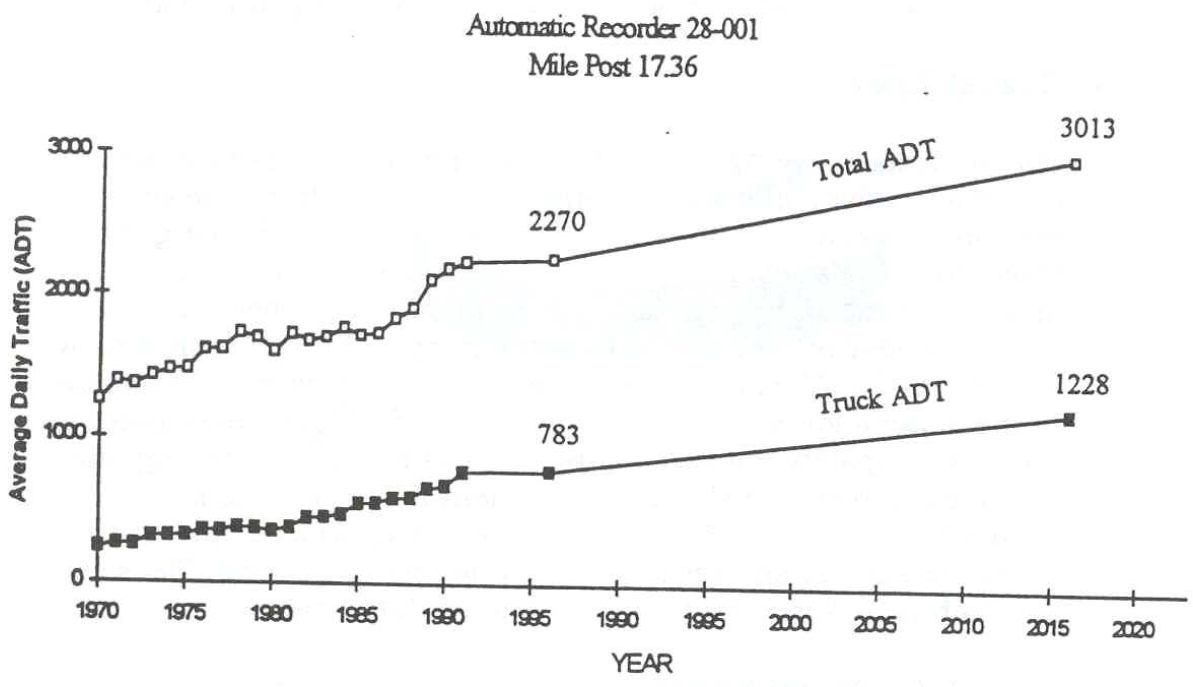
1992 Traffic Volumes*	Corridor Total	Statewide Average
0-1,999	38%	37%
2,000-4,999	58%	36%
5,000-9,999	4%	16%
10,000-19,999	--	6%
20,000-29,999	--	3%
30,000-49,999	--	2%
>50,000	--	--
1992 Truck Traffic		
0-499	--	52%
500-1,499	100%	41%
1,500-2,999	--	6%
>3,000	--	1%
1972-1992 Annual Traffic Growth Rates (%)		
1-1.99	19%	38%
2.00-2.99	36%	46%
3.00-4.00	45%	16%

Source: Oregon Department of Transportation

*Average daily traffic for all motorized vehicles

Figure 5
Traffic Volume Trends
Highway 97 Corridor

Biggs Junction - Madras



2. Congestion

The HPMS analytical process measures relative congestion in terms of level of service (LOS), which is derived from a composite analysis of volume/service flow (V/SF) ratios. The lowest congestion is indicated by LOS A, B and C. LOS D indicates moderate congestion. LOS E and F indicate high congestion.

Figures 6 and 7 indicate congestion by percent distribution of highway miles. Currently, 98 percent of the corridor is classified as low congestion and two percent is moderately congested. According to HPMS projections, areas of congestion are not expected to increase by the year 2016, even if no roadway improvements are made.

3. Travel Time

The analysis of average travel time is intended to measure the efficiency of vehicular through-traffic movement from one end of a section to another. Figure 8 illustrates the projected change in total travel time from beginning to end of the corridor. Without improvements to the highway, travel time from the beginning to end of the corridor is expected to increase from 129 to 133 minutes by the year 2016. This increase in travel time was generally acceptable to the stakeholders interviewed during the Strategy Development process. Capacity improvements, such as roadway widening, are projected to result in slight improvement for travel time in comparison to the 2016 No Improvement scenario. Actual travel times are slightly shorter for cars and longer for trucks. Please see the Technical Appendix for more detailed data analysis.

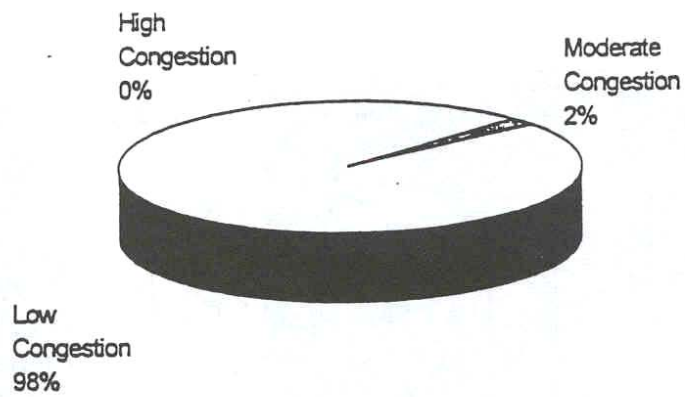
Under the 1996 existing condition scenario, average travel time ranges from 1.3 to 1.5 minutes per mile (mpm) as indicated in Figure 9. This corresponds to average speeds of 40 to 46 miles per hour (mph). Improvements to the roadway are projected to have a negligible impact on travel time.

The analysis of travel time also illustrates the potential benefit of facilities management such as signal timing, driveway consolidation and optimization of parallel local streets. The analysis summarized in Figure 9 indicates that facilities management, if implemented, would have negligible benefits for the section south of Biggs Junction. However, given the truck/auto commercial service orientation at the I-84 Junction, the travel time savings attributed to high facilities management is on the order of 10 seconds per mile in the Biggs segment only.

Figure 6
Present and Future Highway Congestion
Highway 97 Corridor

Biggs to Madras

1996 - Existing Condition



2016 - No Improvements

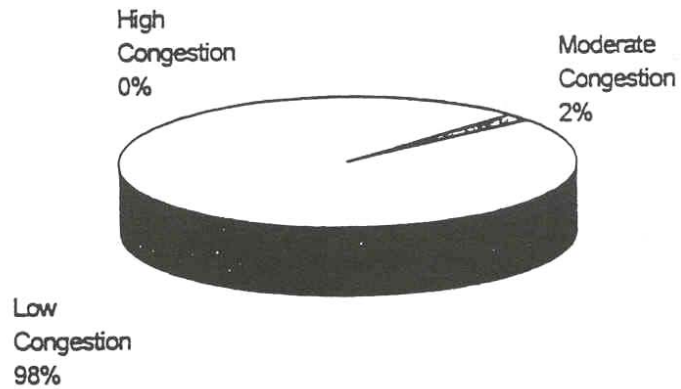


Figure 7
Analysis of Highway Congestion by Segment
Highway 97 Corridor Segments

Biggs to Madras

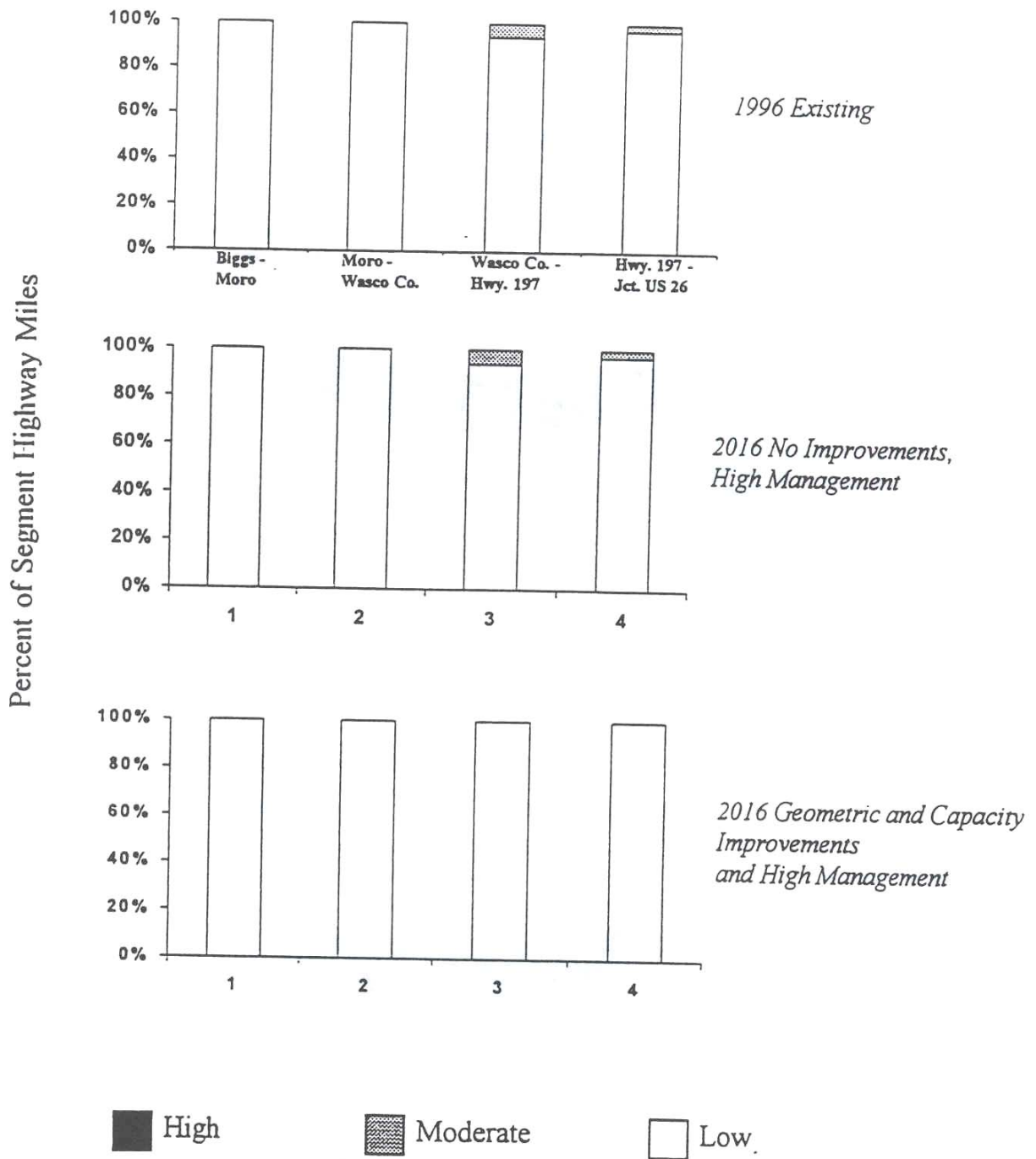


Figure 8
Effects of Improvements and Facilities
Management on Travel Time
Highway 97 Corridor

Biggs to Madras

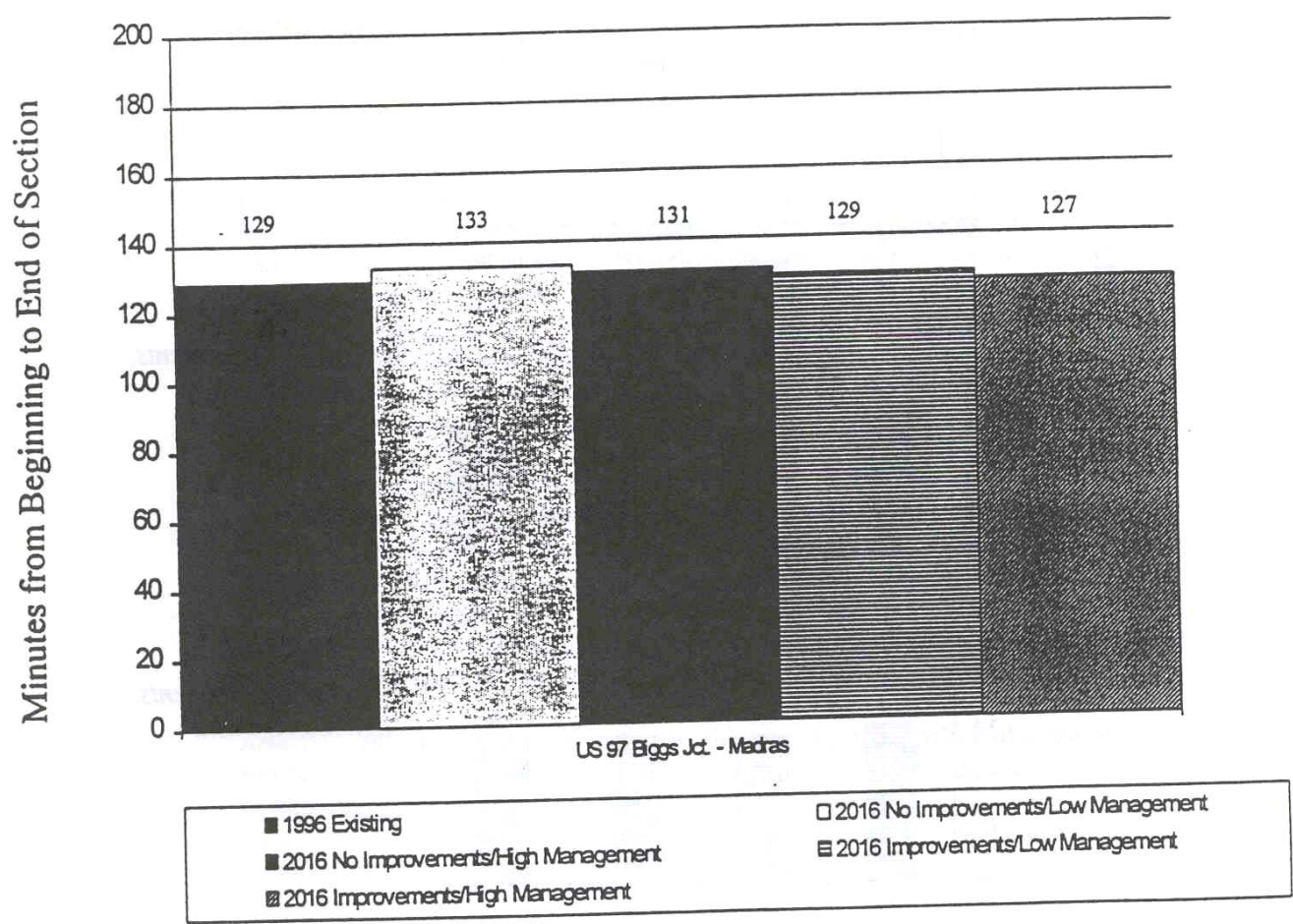
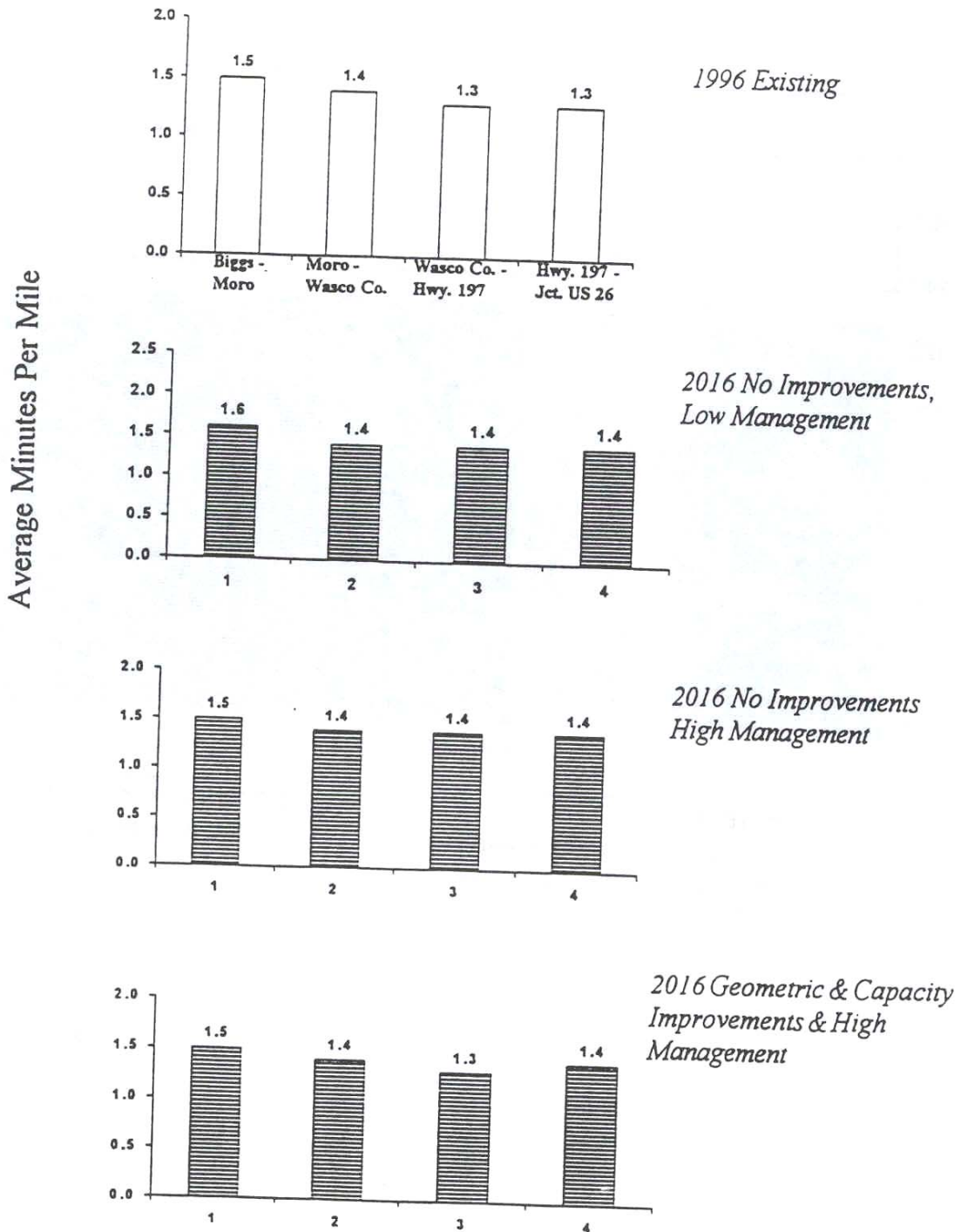


Figure 9
 Analysis of Highway Travel Time
 Highway 97 Corridor

Biggs to Madras



4. Safety

Safety is perhaps the greatest concern among the corridor stakeholders that participated in strategy development. The Safety Priority Index System (SPIS) is a method used by ODOT for identifying and prioritizing locations in need of safety improvements. The SPIS index has three parameters:

- accident frequency;
- accident rate; and
- accident severity.

For corridor planning, a location with a SPIS number in the top 10 percent of statewide SPIS values is considered to be a “High Accident” location. In the recording period of 1991-1993, SPIS data indicated that there is seven “High Accident” locations in the corridor. All were given a “High Accident” rating based upon the severity of the accident. All seven accidents at these sites resulted in one or more fatalities. All seven accidents involved only one vehicle and were the result of operator error. Upon further investigation, no improvements were recommended to the highway system.

For the reporting period of 1994-1996, SPIS data indicated that there was only one “High Accident” location within the corridor. This site at one of the reported “High Accident” locations identified in the 1991-1993 SPIS data. One additional accident occurred at this location which involved one vehicle and resulted in a fatality. Again, operator error was identified as the contributing cause. At this time, no improvements are recommended to the highway system.

Another measure of safety is the accident rate or number of accidents per million vehicle miles of travel. The corridor’s rural accident rate is **significantly** below the statewide rural average (0.39 for the corridor, compared to 0.87 statewide). Table 2 summarizes selected safety data.

Table 2
Safety Analysis of the Corridor
Rural Accident Rates*

Biggs Junction to Madras	0.39
Statewide Rural Average	0.87

*Accidents per million vehicle miles of travel for period 1991-1993

Source: 1991-1993 Safety Priority Index System database, Oregon Department of Transportation

High Accident Locations by Segment
(Total for Corridor = 7)

Segment Number	High Accident Locations
1	2
2	3
3	1
4	1

Based on 1991-1993 accident data.

Source: Accident Summary Database
Investigative Report.

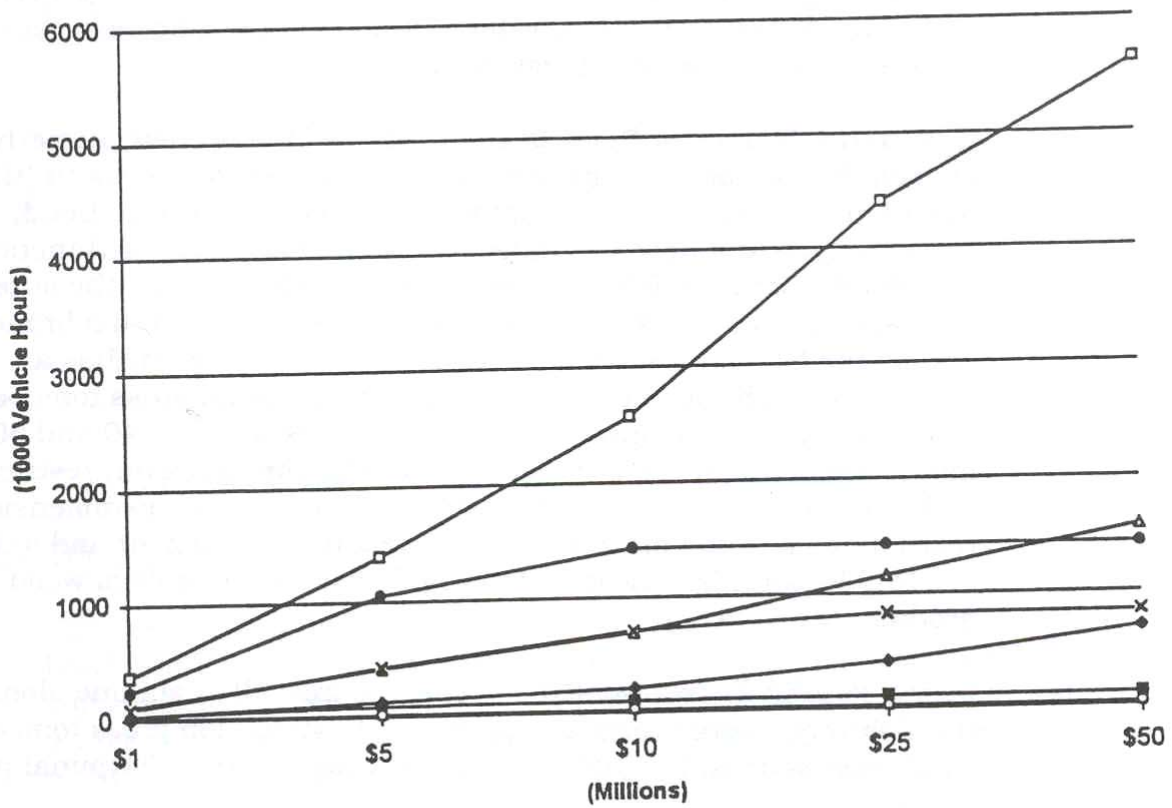
5. Cost Effectiveness Analysis

There are many ways to compare the costs and benefits of major transportation improvements, such as the construction of a new highway or a widened roadway. The cost effectiveness methodology being applied here focuses on the amount of timesavings generated per investment in geometric and capacity improvements to the highway. Timesavings are measured in vehicle hours and investment is measured in dollars. The analysis assumes that vehicle hour savings are positive since it would tend to reduce congestion and vehicle emissions, and enhance air quality.

This type of cost effectiveness analysis is useful in comparing the relative benefit of investing in one corridor versus another. The analysis also provides a ready comparison of the average benefit/cost of all statewide corridors combined. As indicated by Figure 10, of the seven statewide corridors in Region 4, only US 97 (Madras to California) and US 20 (Bend to Vale) exceed the average cost/benefit relationship for all statewide corridors. In the case of US Highway 97 from Biggs to Madras, a \$10 million investment in transportation improvements is expected to result in no measurable travel timesavings. This compares to a statewide average of 500,000 vehicle hour savings per \$10 million investment.

Other benefits such as safety and quality of life factors are not included in this cost analysis. It is also difficult to apply this type of analysis to other transportation modes (e.g., bikeways, passenger rail) since there may not be a direct comparison of all-true costs and benefits for individual modes. However, the specific corridor objectives attempt to take into account all potential benefits, whether they have been quantified or not.

Figure 10
Annual Time Saved Per Investment on Selected Corridors



□ US 97 - Madras to CA	■ Hwy 140 - K. Falls to Lakeview	▲ Statewide Avg.
● US 20 Bend to Vale	× Hwy. 126 Sisters to Ontario	○ US 97 Madras - Biggs Jct.
◆ US 26 Gresham - Madras		

B. Rail Service

1. Freight

The Burlington Northern (BN) Bend Branch Line provides rail service within the US Highway 97 Corridor. The Union Pacific main line bisects the Corridor near Biggs Junction.

Burlington Northern Bend Branch (BN) — This branch, formerly the Oregon Trunk Railway, diverges from the Burlington Northern (BN) main line in Wishram, Washington and proceeds south to Bend, Oregon, approximately 152 miles, between Oregon Trunk Junction and Bend. Both the BN and Union Pacific Railroad (UP), the latter via trackage rights serve shippers along the line. Considered a branch line by the UP and a secondary main line by BN, the line has a combined freight density approaching seven million gross tons per year. The maximum speed of operation varies between 40 and 60 mph. Segments in the Deschutes River Canyon, however, restricted to 25 mph due to curvature limitations. The line has no dimensional restrictions and the maximum gross weight of equipment and lading is 315,000 pounds. Local on-line traffic consists mainly of wood products.

Union Pacific Main Line (UP) — The 185 mile UP main line along the Columbia Gorge carries approximately 40 million gross tons of freight per year and includes a spur serving the Grain Terminal port in Biggs.

2. Passenger Rail

The closest Amtrak service was provided by the Pioneer line, which ran between Seattle and Chicago with a stop in The Dalles. However, in 1997, Amtrak service on the Pioneer line was terminated leaving the corridor with no passenger rail service.

C. Air Service

The general aviation airport in the corridor is Wasco State Airport in Wasco, off US 97.

D. Water

The grain terminal in Biggs provides intermodal truck/rail/water shipments of grain destined for the Port of Portland.

E. Public Transportation

Intercity bus stops are located in Biggs and Madras. Greyhound provides one daily northbound and southbound bus between Biggs Junction and Madras and points south.

In addition to intercity and regional transit providers, several private and community-based transit entities serve the corridor, including:

- Sherman County Bus Service
- Mid-Columbia Council of Governments Transportation Network
- Displaced Senior Citizen Bus Service
- Leo's Taxi (White Lion Cab)
- Wamic Bus Company
- Madras Senior Center

F. Bicycle

The Oregon Bicycle Guide rates the corridor as “most suitable” between Kent and Shaniko and “moderately suitable” along the north and south ends of the corridor. Despite a “most suitable” bicycle rating, several issues and concerns were identified during strategy development regarding bicycle access in the corridor. These issues centered on:

- Inadequate bikeways along Highway 97;
- The need for wider shoulders in many locations; and
- Conflicts between bicyclists and truck traffic.

G. Pedestrians

Pedestrian activity is concentrated in the small urban areas and rural development centers such as Biggs, Moro and Shaniko. These small communities have low amounts of pedestrian activity, but present important safety issues to mitigate impacts of speeding motorists. Sidewalks and related pedestrian facilities are provided in the larger urban areas but not in smaller urbanizing areas and Rural Development centers along US Highway 97.

H. Oil and Gas Pipelines

The Pacific Gas Transmission Company owns and maintains a natural gas transmission line that generally follows the southern portion of the Corridor.

4. Affected Environment

For purposes of this Corridor Plan, Highway 97 Corridor has been divided into segments. Additional details regarding the physical and environmental features, land use patterns, and cultural features along each section are provided in the Technical Appendix.

A. Segment 1 — (Milepost 0.0 to 18.4)

Beginning north and heading south, Segment 1 is approximately 18.4 miles in length and runs from the US 97/ I-84 junction (Exit 104, at Biggs) to the northern urban growth boundary of Moro, Bidwell Street. This segment is distinct because of its Deschutes-Umatilla plateau ascent. The communities of Biggs and Wasco represent the only towns within this segment.

The Wasco State Airport, which provides limited service, is located 1.0 mile to the east at milepost 8.9 (see attached Transportation map). Important linkages to this route include OR 206 to Condon, Wasco or I-84/Celilo and the Wasco-Rufus Highway north to Rufus. The road in this segment is principally a two-lane road, but does include a number of passing lanes. Greyhound bus service is provided throughout this segment with terminals at both Biggs and Moro. The Burlington Northern and Union Pacific railways parallel the Columbia River.

B. Segment 2 — (Milepost 18.4 to 48.8)

Segment 2 covers approximately 30.4 miles and runs from the northern urban growth boundary of Moro to the Sherman-Wasco County Line. This segment is distinct because it passes through the Deschutes-Umatilla plateau region and is similar in vegetation and development. The communities along this segment include Moro, Grass Valley, and Kent.

The highway within this segment is principally a two-lane road, with occasional passing lanes. An important linkage to this segment is OR 216, which provides access south to Tygh Valley and the Deschutes River.

Three separate airstrips (Decker Ranch, Davis and an unnamed private one) are located one to two miles to the east at mileposts 45.5-47.8.

A major power transmission line cross the route at milepost 33.2 and two major (>24" diameter) natural gas pipelines run underneath the route at milepost 48.1.

While no railways run in proximity to the route, a 3-mile section of abandoned railway is situated to the right of the highway between mileposts 24.8-27.9.

Greyhound provides bus service through this segment, however there are currently no scheduled stops.

C. Segment 3 — (Milepost 48.8 to 67.2)

Segment 3 is approximately 18.4 miles long and runs from the Sherman-Wasco County Line to the US 97/US 197 junction. The dissected plateau character, high-desert vegetation and sparse development make this a distinct segment. The only rural community in this segment is Shaniko.

The character of the highway in this segment is principally a two-lane road, with some passing lanes provided. Two major (>24" diameter) natural gas pipelines run adjacent and parallel to the route throughout this segment, and cross under the highway at milepost 58.1. Important links to this route are US 197 north to Maupin and The Dalles, and OR 218 south to Antelope.

Greyhound provides bus service through this segment; however, there are no scheduled stops.

D. Segment 4 — (Milepost 67.2 to 91.9)

Segment 4 is approximately 24.7 miles long and runs from the US 97/US 197 junction to the route's junction with US Highway 26 (north of Madras). This segment is distinct because of extensive agricultural land use and a relative increase in development. This portion of US 97 is principally a two-lane road, with occasional passing lanes provided. Other than the northern portions of Madras, there are no communities within this segment.

The Antelope Highway (junction at milepost 74.9) provides access to Antelope. An old portion of US 97 runs parallel to the existing route and intersects at milepost 77.8.

A Union Pacific Rail Line runs to the right of the highway between mileposts 89.6 and 91.9.

The Madras City-County Airport (to the right at milepost 91.9) is of more importance to US 26, but still a noteworthy feature within this segment.

Greyhound provides service through this segment, with a scheduled stop and terminal at Madras.

5. Summary of Findings and Conclusions

ODOT, consultant staff, and Corridor Planning Management Team (CPMT) members reviewed existing transportation facilities and services, HPMS data regarding travel in the corridor, safety, cost effectiveness of capital investment and facilities management, and environmental features. Meetings and interviews were conducted with local residents, business people, public officials, regional and state agency representatives, railroad representatives, and other interested stakeholders to identify transportation issues within the corridor. The public involvement process is summarized in the Technical Appendix.

While many of the issues that were identified varied considerably, some common themes emerged for the US 97 Corridor. Issues that received the most attention or were mentioned most frequently included:

- Highway safety, characterized by inadequate roadway/shoulder widths and geometry;
- Lack of slow moving vehicle, passing, and turning lanes in a few key sections;
- Auto/truck conflicts as they relate to the above safety issues;
- Pavement conditions considered below average in certain segments;
- The lack of public transit service;
- Excessive “speeding” and the need for additional traffic patrolling and enforcement;
- Economic development linkages to US 97; and
- Underutilization of rail/truck/port facilities in Biggs.

Corridor Objectives

1. Corridor Strategy Objectives

The strategy development process for US Highway 97 included public and tribal meetings and workshops where corridor issues, concerns and opportunities were discussed. Based on the input received from these meetings and relevant technical information on transportation trends, projections and safety issues, an overall goal, as well as key themes and objectives for the US Highway 97 Corridor were developed.

The overall goal of the US Highway 97 Corridor Plan is:

To accommodate the efficient movement of through travel, while maintaining the livability of existing communities within the corridor by encouraging compact, pedestrian-oriented development within communities and rural service centers, protecting the integrity of the environment, enhancing travel safety and supporting economic development within the region and the state.

The detailed strategy objectives are intended to embody this overall goal for the Corridor, and to set direction and provide guidance for corridor-wide transportation plans and improvements.

2. Strategy Themes

The six underlying themes of the Corridor Strategy identified during the strategy development process include:

Enhancing Livability — by encouraging compact, pedestrian-oriented development which is characterized by a mixture of uses, a highly connected local street system, and pedestrian and bicycle facilities which provide safe and convenient access to local destinations such as shops, parks, schools, and other governmental facilities.

Enhancing safety — by addressing a wide range of safety issues, including truck, vehicular and pedestrian conflicts, rockfalls, accidents and maintenance-related concerns.

Maintaining travel times — by providing a few additional passing lanes in key rural sections along with improved facilities management in small communities.

Intermodal Connections — including improving intermodal access and connectivity between truck, rail, and barge modes.

Economic Development — including assisting local jurisdictions with special economic development-related improvements that embody corridor goals and objectives, and optimize the integration of transportation and land use.

Partnering — including identifying opportunities for partnerships between ODOT, local jurisdictions, state and federal agencies, and the private sector to achieve the Corridor Strategy

goals and objectives, and to implement the level and quality of transportation facilities and services that meet the needs of the corridor.

The detailed Corridor Strategy is comprised of a series of transportation performance and impact objectives. Transportation performance objectives relate to transportation balance/intermodal connectivity, regional connectivity, highway congestion, facility management, roadway conditions, and safety. Transportation impact objectives include environmental, social, land use, energy, and economic.

3. Transportation Performance Measures

A. Transportation Balance/Intermodal Connectivity:

It is the policy of the State of Oregon to provide a balanced transportation system. A balanced transportation system is one that provides transportation options at appropriate minimum service standards, reduces reliance on the single-occupant automobile where other modes or choices can be made available, particularly in urban areas, and takes advantage of inherent efficiencies of each mode.

The policy for the US Highway 97 Corridor is:

To maintain and improve the corridor to serve auto and truck travel needs as the primary modes in this corridor, while maintaining and encouraging the use of alternative modes, especially intercity bus service throughout the corridor.

The objectives described for each travel mode are intended to create a more balanced transportation system over time.

Objective A1 — Automobiles and Trucks

In concert with improving systems and facilities that accommodate alternative modes of travel (e.g., rail, bike, pedestrian), the Highway Plan indicates that Oregon must commit to protecting and improving its highway system or risk losing its economic base and potential economic expansion. As a statewide highway, the management objective for US Highway 97, as stated in the Highway Plan, is to:

- a. Provide for safe and efficient high-speed continuous flow operation in rural areas and moderate-speed operations of flow in urban and urbanizing areas and rural development centers.**

Objective A2 — Freight Rail Service

The OTP calls for rail lines, including the Burlington Northern Bend Branch to be operated at not less than a minimum speed of 25 mph.

- a. Partner with the Burlington Northern railroad to maintain average operating speeds of 40 to 60 mph with the exception of 25-mph maximum speeds in the Deschutes River Canyon of the Bend Branch line.**

Objective A3 — Highway / Rail Freight Connectivity

In addition to minimum level of service standards for highway freight, the OTP calls for intermodal rail/truck reload facilities on rail mainlines with service areas of 150 miles.

- a. Partner with carriers and receivers to facilitate transfer of highway freight to rail where economically feasible.**
- b. Support long-term improvements in connections to major agricultural distribution facilities in Biggs and Moro.**

Objective A4 — Public Transportation Service and Connectivity

The policy of the OTP is to provide intercity passenger transit service to/from cities or groups of cities with a population more than 2,500 and located 20 miles or more from the nearest Oregon city with a larger population. Greyhound Bus lines currently provides the targeted minimum of one round trip per day.

- a. Support OTP policies to develop a “seamless” public transportation system over time with multimodal alternatives and proper facilities.**
- b. Work with existing intercity bus districts and special needs transportation operations to maintain or increase bus service frequency.**
- c. Explore potential for a new passenger collector depot station, where local service providers from the surrounding counties (Sherman, Gilliam and Wheeler) could meet and transfer passengers to larger busses bound for The Dalles and other destinations.**

Objective A5 — Bicycle/Pedestrian Facilities

Developing safe and convenient pedestrian crossings and bicycle pathways are some goals of the OTP. In addition, the Transportation Planning Rule advocates the provision of pedestrian facilities that allows direct, hazard-free travel, such as sidewalks in urban areas.

- a. Provide sidewalks and bike lanes on both sides of Highway 97 and safe and convenient pedestrian crossings through the communities of Moro, Grass Valley and Shaniko. Improvements should occur primarily in conjunction with traffic calming measures (curb extensions, raised medians, landscape treatments), new highway projects or major reconstruction. Retrofit projects will be programmed based on need.**
- b. All pedestrian facilities and crossings should be accessible to people with disabilities to meet the standards of the Americans with Disabilities Act.**
- c. Sidewalks should be buffered from the Highway with adequate landscaping, shoulders, and/or parking in areas with design speeds of 45 mph or above.**

Objective A6 — Pipelines

In order to make alternative fuel widely available and to support regional economic development opportunities, the OTP calls for adequate natural gas to be available every 100 to 150 miles on major transportation corridors, when economically feasible.

- a. Encourage the Public Utilities Commission (PUC) and Pacific Gas Transmission Company (PGTC) to maintain or improve the natural gas transmission line and the service provided to communities within the corridor.**

Objective A7 — Water/Ports

While the movement of goods within the corridor will be primarily by rail and truck, the function of the intermodal grain terminal in Biggs and the connection it provides between water, highway and rail freight facilities is consistent with OTP policy. This level of service should be maintained or enhanced as market conditions warrant.

B. Regional Connectivity:

It is the policy of the state of Oregon to identify and develop a statewide transportation system of corridors and facilities that ensures appropriate access to all areas of the state, nation and the world (OTP Policy 1E). The stated overall goal for the corridor includes promoting commerce through the efficient distribution of goods and services. This will involve coordinating interstate transportation linkages and intra-state services, particularly for the transportation disadvantaged.

Objective B1 — Interstate Transportation Connections

Highway 97 provides direct access to Washington and California. In addition, the Burlington Northern, Southern Pacific and Amtrak Pioneer lines all provide freight or passenger service through the corridor for goods and people moving throughout Oregon and the nation.

- a. Work with the Washington Department of Transportation and California Department of Transportation to coordinate policies and enhance the connection between the corridor and Interstate 82 in South Central Washington and Interstate 5 in Northern California for all appropriate modes of travel.**
- b. Partner with Burlington Northern and Union Pacific railroads to identify rail freight transportation issues and to facilitate transfer of highway freight to rail.**

Objective B2 — Transportation Disadvantaged Services

Transportation disadvantaged populations in the corridor have their transportation needs met by a variety of service agencies. Coordination of these services could save money and allow for more efficient levels of transit service and reduced reliance on the automobile.

- a. Work with local jurisdictions, public transportation providers, and community-based social service agencies to identify and respond to the needs of the**

transportation disadvantaged population. Coordinate the services of existing providers to serve all population segments more effectively.

C. Highway Congestion, Facility Management and Roadway Conditions:

It is the policy of the State of Oregon to define minimum levels of service and assure balanced, multimodal accessibility to existing and new development within urban areas to achieve the state goal of compact, highly livable urban areas. It is also the policy of the State of Oregon to provide interurban mobility through and near urban areas in a manner that minimizes adverse effects on land use and urban travel patterns (OTP Policies 2B and 2C).

Objective C1 — Highway Level of Service and Travel Time

Establishing minimum level of service (LOS) standards are important for maintaining the quality of life of residents in the corridor and effectively moving commerce throughout the state.

- a. Maintain existing average overall travel times.**
- b. Provide highway design-hour LOS B in rural areas and C or better in Biggs and Moro. Lower levels of service in selected urbanized segments may be acceptable as determined during the County General planning process.**

Objective C2 — Transportation General Planning Coordination

This objective acknowledges the current statewide requirement set forth by the Transportation Planning Rule (TPR) for cities and counties that do not qualify for an exemption to the TPR to complete a Transportation Plan by May 1997.

- a. In cooperation with the counties of Sherman, Gilliam and Wasco, develop integrated transportation plans for communities and counties that are consistent with the statewide role of the Highway 97 Corridor that is set forth by this Corridor Strategy and other state planning policies and goals.**

Objective C3 — Geometric and Capacity Improvements

Given the low average traffic volumes and moderate projected growth; the need for capacity improvements will be limited to a few key areas.

- a. Cooperate with general planning effort to evaluate the need and feasibility of passing lane sections, left turn refuges, widened shoulders, and curve realignment at key intersections. Partner with local jurisdictions to plan, design and construct highway improvements along Highway 97 in accordance with volume/capacity, safety, environmental and needs analyses.**
- b. Within rural highway segments (between communities), focus capital improvements on providing high-speed, safe and continuous flow operation. Rural capacity improvements, particularly those near rural development**

centers areas, should be designed to limit unplanned development, changes in rural land use and negative level of service impacts.

- c. **During the strategy development process, local support was expressed in favor of:**
- **Climbing lanes on Walker Hill;**
 - **Left turn refuge southbound on Highway 97 south of Moro at the High School Loop Road intersection;**
 - **Passing lanes or slow moving vehicle turnouts in sections between Biggs Junction and MP10 and between Sherman County line and Lyle Gap Summit (MP 68.7-91.9); and**
 - **As funding becomes available, proceed with developing construction projects identified in the statewide Transportation Improvement Program.**

Objective C4 — Access Management

Access management improves safety and helps avoid premature obsolescence of highways and related transportation facilities by safely accommodating growth and increased traffic. Examples include regulating the number, type and location of driveways and intersections, and enhancing the utilization of parallel local streets. The OTP calls for adopting specific access management classifications, ranging from full access control (freeways) to partial control (regional or district highways).

- a. **In partnership with local jurisdictions, improve the level of access management to achieve optimum use of Highway 97 and obtain/preserve adequate rights-of-way to allow for needed facility improvements/additions.**
- b. **Work with local jurisdictions to adopt and implement consistent access management policies along the entire corridor. (Limited control access management classifications should be adopted along Highway 97 during the general planning process.)**
- c. **ODOT and local jurisdictions should adopt and implement consistent design standards regarding left turn lanes, raised medians, driveway spacing, acceleration/deceleration lanes, turn refuges and means to enhance the local street network (e.g., better use of parallel local streets and service roads) to handle local traffic and relieve congestion.**
- d. **During the strategy development process, local support was expressed for access improvements in vicinity of the Biggs Junction, (i.e., right turn lanes, accel/decel lanes) and at the Biggs grain terminal/I-84 westbound approach.**

Objective C5 — Roadway Conditions

Highway 97 should be designed to meet the Highway Plan's definition of minimum tolerable conditions (MTCs) for statewide highways. This includes upgrading the highway over time to meet geometric and pavement MTCs.

- a. **Focus improvements on segments with above average accident rates, high congestion and a favorable cost/benefit ratio.**
- b. **Evaluate the need, feasibility, cost and priority of geometric improvements, left turn lanes, and improved stormwater facilities during the County general planning process.**
- c. **During the Sherman/Gilliam County General Plan, evaluate need, alternatives, and cost associated with reconstructing sections to provide adequate roadway pavement base as well as adequate shoulder width.**
- d. **Provide minimum paved shoulder of six to eight feet, in accordance with design standards, as roadway segments are modernized.**
- e. **Develop an aggressive surface preservation program that achieves 88 percent fair or better conditions and reduces the “winter breakup” pavement problem.**
- f. **Consider new regional partnerships between ODOT and counties to share roadway maintenance funding and facilities.**

D. Safety:

It is the policy of the State of Oregon to continually improve the safety of all facets of statewide transportation for system users including operators, passengers, pedestrians, and recipients of goods and services and property owners. (OTP Policy 1G.) According to the Safety Priority Index System, based on 1991-1993 data, there were seven high accident locations within the corridor. Both the accident rate and the number of high accident locations are far below the statewide average.

The Corridor policy is to:

Identify and give priority to improving safety conditions along the Highway 97 Corridor through necessary improvements while addressing problems associated with speeding through rural development centers.

Objective D1 — Traffic Calming

In small communities along Highway 97, there is a concern over the existing and projected mix of through traffic, especially trucks, and its impact on local vehicular and non-vehicular (bicycle and pedestrian) traffic.

- a. **In selected small communities (e.g., Moro, Grass Valley) consider traffic calming measures (e.g., curb extensions, signage, raised medians), electronic monitoring and other measures to help slow traffic to posted speed limits and to improve safety. These measures will be planned and developed in cooperation with the local community.**

Objective D2 — High-Accident Locations

Safety was a concern that was expressed by many citizens and stakeholders along the corridor. There were seven high accident location was identified by the 1991-1992 and one in the 1994-1996 Safety Priority Index System data.

- a. In cooperation with local officials, identify and develop signing and marking and/or other strategies where warranted to address accident locations including intersections, sharp curves, areas prone to icing, mud slides/rock falls, game crossings and areas with pedestrian activity.**
- b. Implement temperature sensitive (freezing conditions) hazard signing at critical locations in the corridor, with reduced speed limits and warnings, particularly for vehicles transporting hazardous materials.**
- c. Evaluate and implement means to reduce mudslides and rock fall onto Highway, particularly in Biggs Canyon.**

Objective D3 — Enhanced Traffic Enforcement and Safety Education

In regard to the concern expressed by citizens and stakeholders over speeding, through traffic, and community safety, an objective addressing traffic enforcement and motorist education was requested.

- a. Provide automated signage and advisory radio service to inform motorists about travel conditions (e.g., delays from congestion/accidents, inclement weather, forest fires, rock falls, etc.).**
- b. In cooperation with local officials, identify strategies, where necessary, to mitigate roadway impacts on wildlife species (i.e., black-backed woodpeckers, bald eagles, mule deer, Swainson’s hawk and antelope) within significant wildlife crossing areas.**

Objective D4 — Rest Stops and Driving Experience

ODOT has difficulty in funding the maintenance for existing rest areas in the state and does not foresee constructing new public rest stops. ODOT is looking for opportunities to “partner” with commercial establishments, (e.g., gas stations and truck stops), local jurisdictions and state or federal agencies will be considered to provide new or enhanced facilities.

- a. Ensure some type of a “rest area,” with access to public or private commercial restroom facilities, is provided at a spacing consistent with state standards through partnerships with local, state and private participants and meets federal Americans with Disabilities Act (ADA) standards for motorists. Local support was expressed for a new rest stop/recreation facility between Moro and Shaniko, and a private full-service truck stop at Biggs Junction.**

4. Transportation Impacts

E. Environmental Impacts:

It is the policy of the State of Oregon to provide a transportation system that is environmentally responsible and encourages conservation of natural resources. Protecting and enhancing the aesthetic value of transportation corridors in order to support economic development and preserve quality of life are also policies of the OTP. (OTP Policies, 1D and 2H).

The Corridor policy is to:

Promote the efficient and effective movement of goods, services and passengers and to avoid, whenever possible impacts to areas/locations of environmental and cultural significance and to assure consistency with local and state agency policies.

Objective E1 — Scenic Resources

- a. In cooperation with federal and state resource agencies, local governments and the public at large, avoid impacting identified scenic, environmental wetlands or riparian areas, and cultural resources along the corridor that are to be protected and/or enhanced.**
- b. Aesthetic improvements should attempt to display the environmental scenic, geological and recreational values of the area.**

Objective E2 — Emergency Response, Hazardous Materials Accident and Spill Management

Concerns regarding emergency vehicle access (i.e., police and ambulance and remediation of accidents involving hazardous materials) were raised during meetings with federal and state/local agency staff. Specific objectives regarding facilities and programs to address accidents, fires, hazardous spills and related issues were requested.

- a. Participate in regional emergency response and hazardous materials accident and spill management programs for the corridor in cooperation with local governments and federal/state agencies, Burlington Northern and Union Pacific railroads.**

Objective E3 — Maintenance Plans for Environmentally and Culturally Sensitive Areas

The corridor contains several significant cultural and environmental sites, some of which are not readily apparent. Highway and railroad maintenance activities can negatively impact these resources.

- a. In cooperation with state and federal agencies, develop maintenance plans, including special signing and crew training to avoid, minimize, or mitigate adverse effects of highway maintenance operations on environmentally sensitive**

portions of Highway 97 Corridor (e.g., scenic resources, wild and scenic waterways, wetland and riparian habitats).

- b. Whenever practical, highway geometric and capacity improvements (e.g., roadway widening and passing lanes) should not impact wetlands or riparian areas.**

Objective E4 — Wildlife Crossings Areas

Consistent with Oregon statewide policies and planning goals, and Oregon Department of Fish and Wildlife mission statements “to protect and enhance Oregon’s fish and wildlife and their habitats for use and enjoyment by present and future generations,” specific objectives were requested to address this issue.

- a. In cooperation with federal and state resource agencies, local governments, Native American Tribes, and the public at large, develop strategies to allow the safe movement of wildlife across highways and the maintenance of their forage base and habitats, thus ensuring healthy fish and wildlife communities.**
- b. In cooperation with local officials, Oregon Department of Fish and Wildlife (ODFW), and the Oregon State Police (OSP), identify and implement strategies to address high wildlife crossing and accident locations.**
- c. In cooperation with ODFW, identify and reduce “attractive nuisance” aspects of highway developments that might attract and hold wildlife near roadways.**

Objective E5 — Wildlife Impact Mitigation

- a. In cooperation with the Oregon Department of Fish and Wildlife, identify acceptable mitigation for engineering designs that increase wildlife impacts, such as population loss or habitat loss. Mitigation measures could include wildlife water developments or habitat improvements (i.e., forage or cover).**

F. Social and Land Use:

It is the policy of the State of Oregon to develop transportation plans and policies that implement Oregon’s Statewide Planning Goals, as adopted by the Land Conservation and Development Commission. Most recently this includes linking transportation improvements to land use decisions to promote compact communities which are pedestrian and bicycle friendly, reducing reliance on the automobile to make local trips. It is also the policy of the State of Oregon to provide a transportation system consistent with, yet recognizing differences in, local and regional land use and an economic development plan. (OTP Policies 2A and 2E).

Objective F1 — Transportation and Land Use Integration

Planning within the corridor must attempt to balance the expansion of transportation facilities and enhanced management of local roadway systems with new development to promote

compact communities which are pedestrian and bicycle friendly, and the protection of social, cultural and environmental resources.

- a. **Work with local jurisdictions to optimize the use of local streets to meet local travel needs.**
- b. **Utilize access management of the highway to encourage compact, pedestrian and bicyclist oriented land use development patterns.**
- c. **Rural capacity improvements, particularly those near rural development centers, should be designed to limit unplanned development, changes in rural land use, and mitigate negative level of service impacts.**
- d. **Work with local jurisdictions to develop and adopt local street requirements that will create a pattern of streets that will foster compact communities that are pedestrian in scale and design.**
- e. **Assist local communities in developing local street standards that are compatible with adjacent land uses and will promote pedestrian and bicyclist modes of travel.**

Objective F2 — Social, Cultural and Recreational Resources

- a. **The existing parks, historic resources and cemeteries that exist within the corridor should be preserved and protected whenever possible.**

G. Energy — It is the policy of the State of Oregon to assure provision of an efficient transportation system. (OTP Policy 1B.) The Highway 26 Corridor policy is to:

Minimize transportation-related energy consumption through the use of fuel-efficient modes of travel, enhanced vehicle efficiencies, and improved design, construction and operation of transportation facilities.

- a. *Implementation of the other corridor objectives regarding transportation balance, highway congestion, safety, and transportation and land use integration is expected to improve energy efficiency through the reduction in highway congestion and an increase in alternative mode usage.*

H. Economic Development — OTP Goal 4 is to promote the expansion and diversity of Oregon's economy through the efficient and effective management of goods, services and passengers in a safe, energy efficient and environmentally sound manner. (OTP Goal 4).

As population within the Highway 97 Corridor increases and the economic base shifts from timber and agriculture to high-tech manufacturing, trades and services, the corridor will become increasingly utilized for recreational trips and local trip distribution. Truck freight through-traffic on Highway 97 is also projected to increase as international trade opportunities emerge. Hence, the national, state and Central Oregon economy will become increasingly dependent on the Highway 97 Corridor for the efficient movement of people, goods and services over the 20-year planning period.

Objective H1 — Strengthen Business and Industrial Base

Local stakeholders are very interested in enhancing economic development, particularly in the areas of tourism and warehousing/distribution.

- a. Continue to work with existing business and industry to identify issues and concerns regarding US 97.**
- b. Expand tourism by combining traffic calming measures in selected rural development centers with signs marking amenities and attractions in partnership with local jurisdictions.**

Objective H2 — Intermodal Facilities

Large volumes of rail and highway freight pass through the corridor. The existing grain terminal facilities in Biggs and Moro, if enhanced, could provide an opportunity for the local economy to further tap into this stream of commerce.

- a. Work with the Burlington Northern and Union Pacific railroads and Sherman County staff, key businesses, and other interested parties to explore redevelopment of a rail/truck distribution facility in Biggs.**