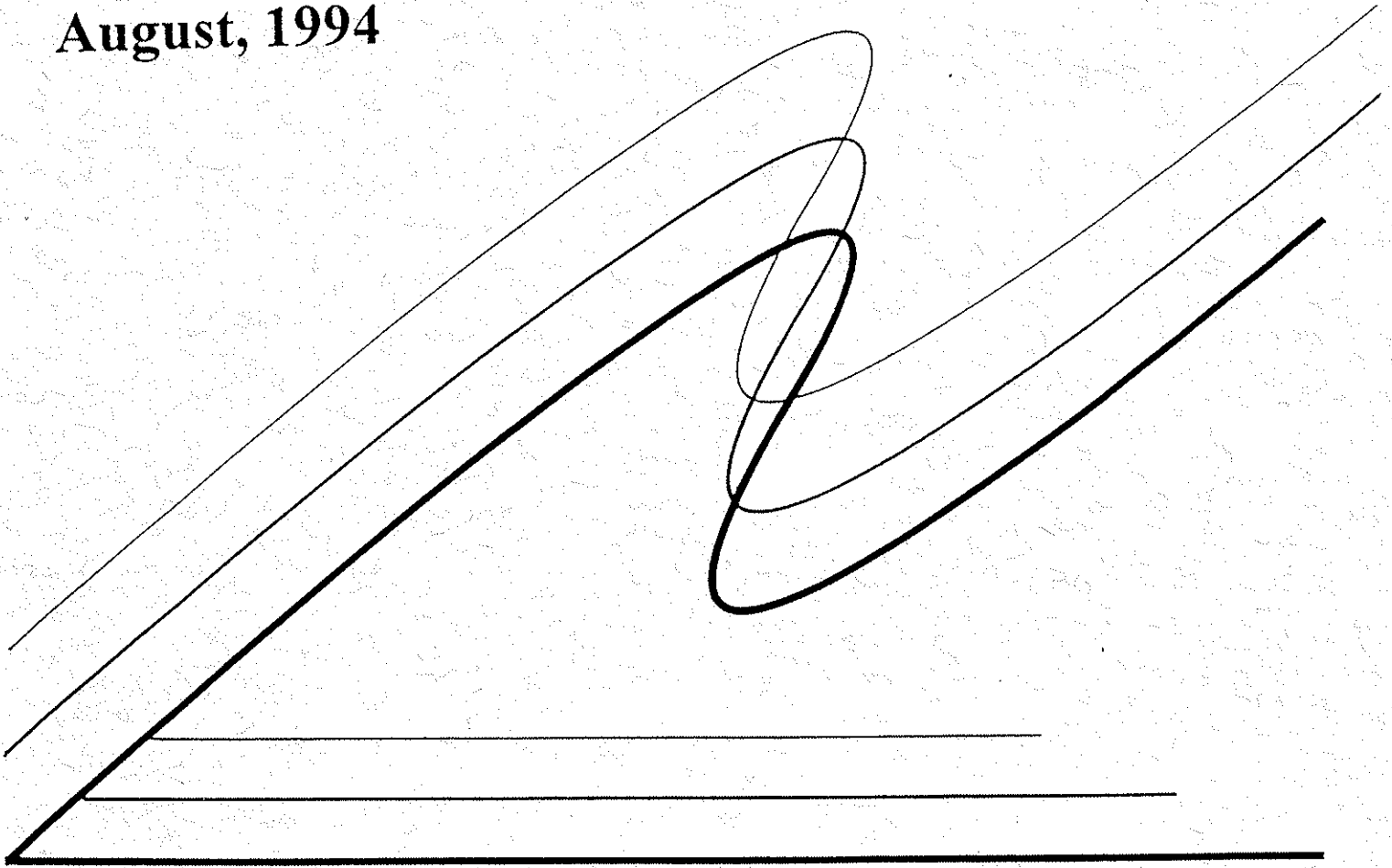


**Appendix F**  
**Oregon High Speed Rail Business Plan, 1994**

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# OREGON HIGH SPEED RAIL BUSINESS PLAN

August, 1994



Oregon Department of Transportation

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# OREGON HIGH SPEED RAIL PROJECT BUSINESS PLAN

## 1. Overview

Given the inherent advantages associated with high speed rail including enhanced mobility, improved air quality, greater energy efficiency, and consistency with land development goals, the Oregon Department of Transportation proposes to begin a multi-year program to establish a vastly improved passenger rail system in the Pacific Northwest High Speed Rail Corridor. The system will connect Willamette Valley cities to Portland, Western Washington cities, Seattle, and Vancouver, B.C. The ultimate goal for system development is to permit passenger train speeds of up to 125 miles per hour for rural segments, and improved reliability and higher average speeds overall. The long-range goal, for service development, is to eventually provide up to eight round-trip trains daily from Portland to Eugene, seventeen round-trip trains between Portland and Seattle, and four round-trip trains between Seattle and Vancouver, B.C.

The improvements outlined in this Business Plan would complete the first two stages of a three-stage development program in a period of three bienniums. The initial improvements would start as early as October 1994, with funds already appropriated or anticipated. Stage 1 improvements would be completed by June 30, 1997, provided funds are available. Stage 2 improvements would be completed during the 1997-99 biennium. The improvements proposed in this Business Plan represent an incremental staging of system development as recommended in a prior planning study undertaken by ODOT at the direction of the 1991 Oregon Legislature. Recommendations include both track improvements and service improvements in building-block fashion, leading to the ultimate goal of high speed rail operation.

## 2. Introduction

The Oregon Transportation Commission established the goal of developing a High Speed Rail System by designating it as one of five strategic initiatives thought to be critically important to the state's future and to the future of Oregon's transportation system. Establishment of the goal came at the completion of both the *Oregon Transportation Plan* and the *Oregon Rail Passenger and Policy Plan*, which were adopted by the commission in late 1992.

Recommendations regarding implementation and funding of High Speed Rail (HSR) were presented to the 1993 Oregon Legislature. At the completion of the session in July 1993, the Legislature appropriated \$500,000 for necessary planning and up to \$10 million for implementation. State funds were appropriated from proceeds of the Video Lottery. In a budget note, the Joint Ways And Means Committee directed ODOT to prepare an overall financial plan for spending the available state and federal funds needed for the effort. This Business Plan is designed to meet the requirement for the financial plan specified in the budget note.

### Guiding the Project

The Oregon Transportation Commission established the Oregon High Speed Rail Task Force in September 1993 to advise the commission about the project.

#### Oregon High Speed Rail Task Force

Susan Brody, Chairperson  
Member, Oregon Transportation Commission

Bob Stacey, Policy Advisor  
Governor's Office

Roger Hamilton, Commissioner  
Oregon Public Utility Commission

Earl Blumenhour, Commissioner  
City of Portland

Ed Lindquist, Commissioner  
Clackamas County

Shawn Boles, Council Member  
City of Eugene

Kent Daniels, Commissioner  
Benton County Board of Commissioners

Senator Bill McCoy  
Oregon Legislature

Michael Ongerth  
Vice-President for Strategic Development  
Southern Pacific Lines

Ron Scolaro  
Chief Administrative Officer  
Amtrak (Los Angeles Office)

#### Ex-Officio Members of the Task Force

Gil Mallery,  
HSR Corridor Manager For Oregon and Washington  
Washington State Department of Transportation

Jim Slakey,  
Washington State  
Department of Transportation

The High Speed Rail Task Force and the Department of Transportation are supported by both staff and consultants working on planning and implementation issues.

In addition to the Task Force, the commission appointed the Willamette Valley Policy Advisory Committee on Transportation (V-PACT) to advise on the future development of the entire transportation system in the valley, and to identify and elevate related issues of significance to local governments.

The Oregon Transportation Commission is the chief decision-making body, for the high speed rail development effort. Recommendations regarding project financial needs are provided to the Governor, Legislature, and federal government in the form of budgetary and grant requests. Action by the Oregon Legislature are crucial to the project and the ultimate achievement of the goal. It is the Legislature that will decide to appropriate state funds in order for the project to move forward on the timeline suggested by this plan.

### **Business Plan**

The purpose of the Business Plan is to lay out the basic program for implementation. The Business Plan will define what is to be accomplished, how it is to be accomplished, when it would be accomplished, and what it would require in the way of financial resources. It also establishes a schedule and mileposts for measuring progress. This plan is targeted to accomplish an intermediate stage of development of the system that was recommended in the *Oregon Rail Passenger Plan*. Assumptions and statements in the Business Plan may need to be modified and updated from time to time as more information becomes available and implementation goes forward.

### 3. Planning for High Speed Rail

#### The Oregon Transportation Plan

Several important planning efforts have helped define the need for improved intercity passenger transportation in Oregon. The completion and adoption of the *Oregon Transportation Plan*(OTP) in late 1992 marked the first multimodal transportation plan in the state's history. The OTP defined the extent of transportation needs across the state and the considerable challenge of undertaking needed improvements. It also recognized the high cost of not meeting that challenge.

The OTP predicts that increasing population and vehicle use in the state will likely result in deteriorating service levels on the state's largely auto-oriented transportation system. The plan recognizes the adverse effects that this will have on the quality of life that Oregonians have come to enjoy, and value highly. The plan recommends special attention be paid to transportation needs in the Willamette Valley, where over two-thirds of the state's growth is expected to take place. The OTP predicts that of the additional 1 million in population growth projected for the state as a whole over the next 20 years, 70 per cent will be located in the Willamette Valley. The addition of 700,000 new residents in the Willamette Valley will be equivalent to more than five new cities the size of Salem. This can be expected to put a severe strain on the existing transportation system if nothing is done to accommodate the growth.

The plan recognizes the predominance of the auto mode and recommends further development of streets and highways to handle current demands and much of the increased demand generated by new growth. Coupled with this however, are recommendations regarding new investments in alternatives such as public transit, high speed rail, and programs for demand management and system management that allow the existing highway infrastructure to accommodate growth without the major expense incurred in expanding vehicular capacity.

The Plan recommended the development of an intercity public transportation system, using bus and rail linking the major cities in the Valley. This would allow some of the growth in travel demand in the valley to use an alternative to the automobile.

#### The Oregon Rail Passenger Plan

The concept of developing a central passenger rail artery in the valley was further shaped and refined by the *Oregon Rail Passenger Policy and Plan*, which was adopted by the Transportation Commission in 1992. This study established the original vision for the High Speed Rail System. ODOT implementation efforts generally follow the outline set in that plan.

The plan concludes that:<sup>1</sup>

1. An improved passenger rail service in the Willamette Valley will be viable, particularly as part of a regional rail system linking Eugene, Portland, Tacoma, Seattle, and Vancouver, B.C.
2. Use of such a system will be significantly greater than that experienced in 1980 and 81.
3. An upgraded mainline rail system with advanced rolling stock capable of interstate operation should be the focus of state rail plan efforts. Capacity improvements needed to support a viable intercity service could also support commuter rail service on the same tracks.
4. Extending the existing Seattle-to-Portland Mount Rainier train south to Eugene will be a cost-effective first step in creating a Seattle-Portland-Eugene passenger rail corridor capable of being accomplished at a minimal capital cost.
5. Expanded intercity bus service to complement the Mount Rainier extension. The bus services will be replaced by trains as market conditions and funding warrant.
6. The study recommends incremental improvements to the Southern Pacific and Burlington Northern mainlines, establishing upgraded speeds, and buying high-performance train equipment capable of 100-125 mph operation.
7. Four stops are recommended for the valley: Eugene, Albany, Salem, and Union Station in Portland.

The plan recommends the goal be accomplished in four service development stages as follows:

**Stage 1** ---- Initial upgrade of existing track and signals in order to achieve a 79 mph railroad speed over an optimum amount of the line; added frequencies in the Willamette Valley; added feeder bus routes.

**Stage 2** ---- Upgrade of Willamette Valley mainline to higher maximum speeds (90-110 mph, plus elimination of speed restrictions in selected locations); extension of service to Roseburg;<sup>2</sup> increased service frequencies; added feeder buses.

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<sup>1</sup> *Oregon Rail Passenger Policy and Plan*, page iii and iv.

<sup>2</sup> Rail service extensions to Roseburg, and other outlying communities are not being implemented at this time

- Stage 3**---- Continued upgrading of Willamette Valley/Roseburg service to 110 mph standards; added frequencies in Valley; possible extension of conventional service to Rogue River Valley.
- Stage 4**---- Full high-speed trunk between Portland and Medford; connections to California; branch railcar connections to Coos Bay, Newport, and Astoria; rearrangement of bus feeder services.<sup>3</sup>

Due to funding considerations, ODOT is actively pursuing the first two stages and only a portion of stage three at the present time. Before rail service to outlying communities can be evaluated, a major demand analysis will be required to determine the economic viability of expansion.

### **Washington State Rail Planning**

The Washington State Department of Transportation (WSDOT) completed high speed rail studies similar to Oregon's. The WSDOT studies first considered an even higher speed system to connect Portland with Vancouver, B.C., and Spokane with Seattle. Planning for the system was subsequently scaled back, for reasons of economy, to an incremental approach to building a single HSR line connecting corridor cities from Portland to Vancouver, B.C. Improvements in the Washington portion of the corridor are presently underway and additional train service has been added. Washington has committed over \$40 million in state funds to the project.

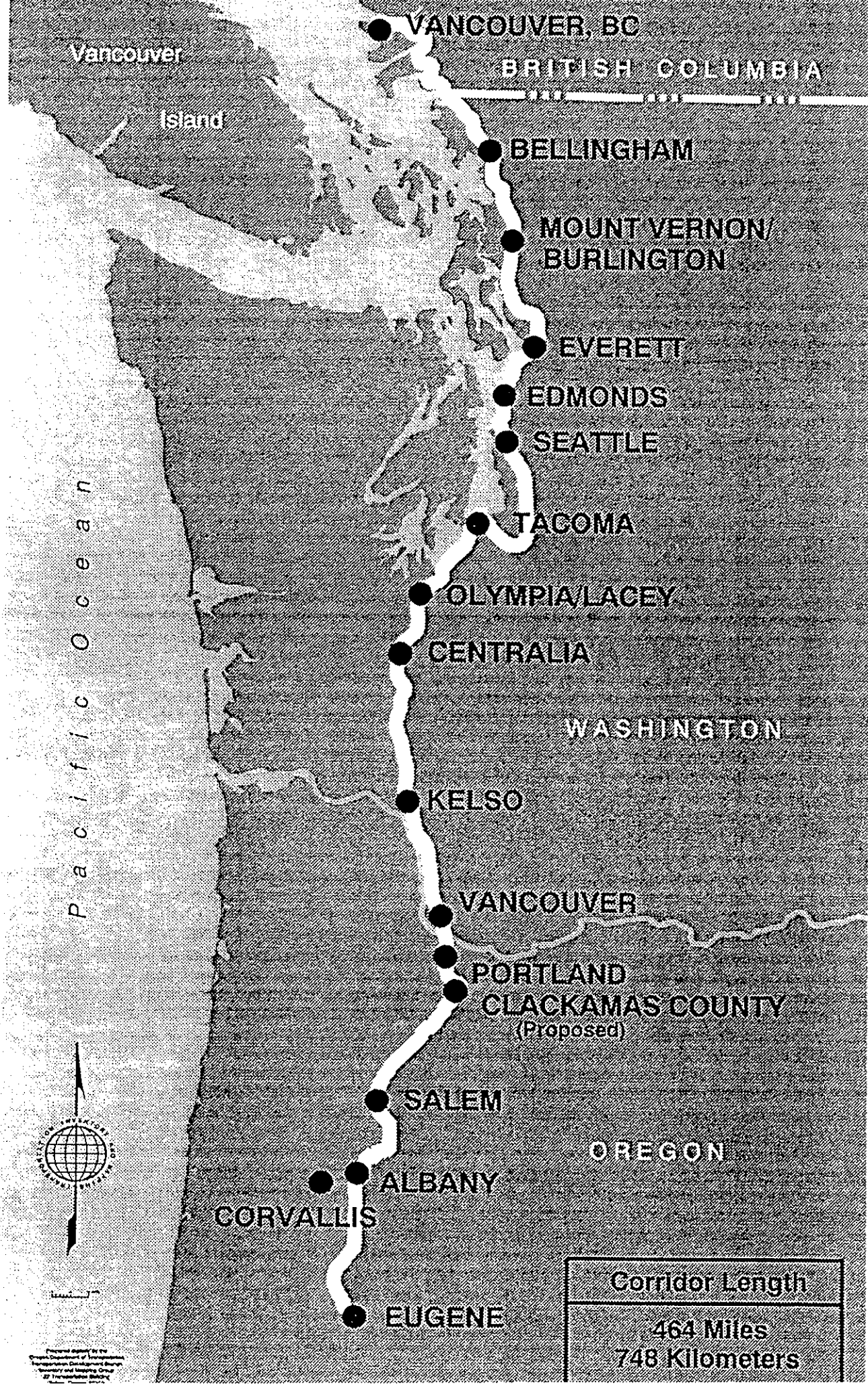
Oregon and Washington are coordinating high speed rail planning and implementation efforts as the program continues through designation of a Corridor Manager and through combining service, marketing, and procurement strategies.

### **Federal Rail Corridor Designation**

In 1993, the two states combined efforts to receive a federal designation as one of only five high speed rail corridors nationwide. The designation qualified the corridor from Eugene, Ore., to Vancouver, B.C., (see fig. 1) for funding to be provided under the proposed Federal High Speed Rail Program. The corridor was designated as the Pacific Northwest High Speed Rail Corridor. More recently it has been referred to as the Pacific Northwest Rail Corridor in deference to the substantial amount of work needed before true high speed operation at 110-125 mph can become a reality.

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<sup>3</sup> *Oregon Rail Passenger Policy and Plan*, page vi.



Corridor Length
464 Miles
748 Kilometers

Prepared under the  
Project Development of Transportation  
Infrastructure Development Program  
Transportation and Mapping Group  
of Transportation Services

## **Livability Benchmarks**

Additional related planning efforts involving population, resource preservation, economic growth, and livability issues in Oregon helped focus public attention on transportation and land use planning issues. The Oregon Benchmarks approved by the 1991 Legislature established a comprehensive set of goals for the state and a means of measuring progress towards the goals.<sup>4</sup> Several of the goals dealt with the transportation system and increased mobility. They reflected a desire on the part of state leaders to develop a balanced transportation system and reduce the heavy reliance on single-occupant vehicle travel for urban and intercity trips.

## **Transportation Planning Rule**

The state Transportation Planning Rule was jointly adopted by the Transportation Commission and the Land Conservation and Development Commission in 1991. The rule directs that transportation and land use planning efforts at the state and local levels be closely coordinated. The rule requires Oregon's metropolitan areas and local governments to place additional emphasis on alternative modes, and slow the rate of growth in vehicle-miles traveled.

## **National Transportation Priorities**

Oregon's decision to pursue high speed rail was reached as many other growth corridors in the country were contemplating similar systems. Experts agree that national transportation priorities are reaching a pivotal point. The final pieces of the interstate highway system are being completed, concluding a 35 year effort. Public leaders and transportation officials are turning their attention to new national transportation objectives to be addressed over the next several decades. The country will continue to grow even as the major element of the transportation system--interstate highways--is virtually complete and would be extremely difficult and expensive to expand further. Also, serious local opposition to such a policy can be anticipated. It is these issues that have helped generate great interest in passenger rail development.

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<sup>4</sup> *Oregon Benchmarks*, Oregon Progress Board, 1991.

#### **4. Advantages of High Speed Rail**

It is well known that high speed rail services, in Europe, Japan, and New York/Washington, D.C., offer especially attractive travel time advantages. Comfort, safety, and on-board amenities and services make it an effective and attractive alternative to automobiles for intercity trips. This is especially true for medium-length trips from 50-300 miles long.

The market for rail travel is small but growing, having been hampered by years of neglect and underinvestment in the system. Improvements in reliability, travel time, schedule frequencies and equipment--when combined with reasonable fares, aggressive marketing and a high quality of service-- will help generate enough public interest and use of the rail system to warrant public investment. In fact, the Talgo demonstration between Portland and Seattle has produced a 45 per cent increase in ridership.

This outstanding performance was achieved without any improvement in schedule or marketing over the service before the demonstration.

##### **Increased Mobility**

Oregon's urban and regional transit systems today are not effectively connected to allow intercity trips from origin to destination entirely by public transportation. While local transportation system development has been a priority, a strong intercity link is needed to handle increasing travel demand throughout the entire Pacific Northwest Rail Corridor for business, personal, and tourist use. Such a link would help support local transit operations and attract new users to the combined system.

##### **Improved Air Quality and Energy Efficiency**

A competitive, fully developed high speed rail system can contribute to a reduction in air pollution factors in the Willamette Valley countering trends that may worsen as a result of increased congestion on the highway system. Rail travel is significantly less polluting than auto travel in terms of nitrogen oxide and nearly eliminates completely any carbon monoxide and particle emissions.

Effective rail services are very energy efficient. An intercity train uses one third of the energy of a commercial airplane and one sixth of the energy of an automobile with a sole occupant. This is particularly important for Oregon as an energy importing state where over 80 per cent of petroleum products are used for transportation purposes.

## **Capacity**

Growing congestion on Interstate 5 during the next decade and beyond is another factor in increased demand for train service. Over the next twenty years demand for Intercity travel within the corridor is expected to increase by 75 per cent. Train service will provide a time advantage over using a congested freeway. Also a factor in deciding to pursue HSR is that the capacity is available on the existing rail system. It connects the major cities, is in relatively good condition but is currently underutilized. Incremental investments in the existing rail system are expected to be less expensive than equivalent highway investments. In a mature rail system, two railroad tracks can carry as many people per hour as 16 lanes of highway. Studies show that investing in HSR will lead to a cost-effective system operating at up to 125 miles per hour at a lower cost than highway improvements, or super high-speed rail or Mag-Lev rail systems.<sup>5</sup>

## **Cost Effectiveness**

Improved rail services have been shown to have the lowest cost per passenger mile (2 cents per mile) than any of the transportation modes. Improvements contemplated at build-out of the entire rail corridor represent a capital investment of only \$3-\$5 million per mile versus highway improvements at more than \$20 million per mile.

Studies also show that auto drivers do not pay their own way through user fees. User fees such as gasoline taxes and vehicle taxes and license fees typically cover less than two-thirds of the total capital and operating cost of the highways. A large portion of the costs are supported by local property taxes, general fund appropriation and other sources. In addition, the external social cost of driving including air pollution, carbon emissions, noise pollution, accidents, and delays caused by congestion are far higher than for rail travel.

Although an improved intercity bus system would cost less than HSR, buses are much less attractive to the public and less able to effectively serve as an alternative to the automobile. In addition, buses would be operating at relatively slower speed, and in traffic conditions that are not expected to improve in the future.

## **Land Use Development Goals**

Rail Improvements support the development of a centralized growth pattern and reduced urban sprawl. The existing trend toward dispersed growth patterns threaten the long term livability of the Willamette Valley and need to be countered. Concentrated-development patterns have been shown to cost less to serve in terms of other public and private infrastructures.

## **Economic Development**

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<sup>5</sup> *Oregon Rail Passenger Policy and Plan*, Wilbur Smith Associates. 1992.

High speed rail development is expected to benefit Oregon's economy. The project would link the state more closely with the vigorous economies of Western Washington and British Columbia, thus helping create greater economic unity throughout the entire region. Oregon ties with British Columbia will be even more important as the North American Free Trade Agreement (NAFTA) stimulates business activity with Canada.

## 5. Implementation Strategy

Two studies have been undertaken by consultants under contract to ODOT in preparing the Business Plan. A demand analysis was completed to forecast ridership on the rail system in the near-term (the year 2000). The results of that analysis are described later.

A second study analyzed the capacity of the rail network to absorb the new passenger trains along with forecasted increases in freight train operations. The capacity analysis identified current constraints in the system and recommended a prioritized list of capital improvements to handle the increased traffic in order to avoid any degradation in freight train performance.

The recommended priorities defined by the capacity analysis were as follows:

<b>Line Improvements Summary</b>		
<b>Project Package</b>	<b>Potential Portland-Eugene Service Schedule (Round Trips)</b>	<b>Cost (1994 Dollars)</b>
Phase 1: Portland area speed and reliability improvements	2 hours 20 minutes (2)	\$ 7,336,562
Phase 2: Selected speed increases: Eugene-Portland	2 hours 15 minutes (2)	3,624,651
Phase 3: Bridge Improvements: Eugene-Portland	2 hours 13 minutes (2)	3,862,500
Phase 4: Eugene-Portland-Vancouver capacity improvements	2 hours 13 minutes(4)	5,642,274
Phase 5: 79 mph upgrade: Eugene-Portland	2 hours 3 minutes(4)	21,634,207
Phase 6: Speed and capacity increases: Vancouver-Portland and Portland-Eugene	2 hours 1 minute (5)	8,407,236
<b>Total</b>		<b>\$50,507,430</b>

The High Speed Rail Task Force and ODOT developed the implementation strategy using the results and recommendations of both the demand and capacity studies. The implementation strategy consists of the following five points:

1. Fix two bottlenecks in the existing rail system that cause substantial delays and severe reliability problems (Phase 1).
2. Address the general lack of useable service today for intercity passengers in the corridor south of Portland beginning with the Mount Rainier extension.
3. Enhance train schedules with complementary buses to provide greater service frequency.
4. Add additional train service when warranted, replacing some buses. In turn, shift bus services to serve other schedules or routes as the system matures.
5. Proceed with line improvements and lease or purchase rail equipment.

An effective balance between investments in services and investments in infrastructure and train equipment is desirable in order to provide useful and visible benefits to the public as soon as possible.

Rail improvements allowing faster travel times and higher speeds will be handled in a series of stages and phases over several bienniums. These will be addressed in priority order to obtain the best return for each dollar invested. The priorities for rail improvements are identified in the *Oregon High Speed Rail Capacity Analysis: Recommended Investment Program*.<sup>6</sup> The report organizes line improvements so that early improvements will bring low-speed track up to optimum speeds, thus increasing the extent of the line that can be operated at the 79 mph limit. This improved system is referred to as Stage 1.

In addition to time savings, reducing travel times is expected to make rail service increasingly competitive. Lower fares, marketing, onboard amenities, and improved facilities and services are important to the success of the project. Because the implementation strategy is in increments, the actual schedule for improvements can be timed according to available funding.

Significant federal funding has not yet materialized but is expected as early as October 1994. The federal high speed rail program likely will retroactively match eligible state investments made after April, 1993. Financial participation from Amtrak is also anticipated, sharing the cost of new services. Operating revenues will not support more than a portion of the cost of service in the early years. The extent of operating deficits are described in Part 6, Demand for High Speed Rail.

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<sup>6</sup> *Oregon High Speed Rail Capacity Analysis: Recommended Investment Program*, Wilbur Smith Associates. July 1994.

## **Federal Funds**

The High Speed Rail Act proposed by both the House and Senate provides \$181 million for FFY 1995-96-97 for Planning, Engineering, and Right of Way on a 50% cost sharing basis. In addition, the FY 1995 transportation appropriations bill under consideration by Congress includes federal cost sharing funds for operating trains under Section 403 plus \$5 million for actual development of the Pacific Northwest High Speed Rail Corridor.

## **Implementation Schedule**

Assuming full funding, the implementation scenario that follows describes the most rapid build-out of the program possible. Completion of Stage 1 and Stage 2 would occur in a three-biennium period. Each increment can, if necessary, be broken out for implementation over a longer period if funding proves not to be available.

## **Implementation Overview**

1993-95	Begin Stage 1 improvements and add Amtrak Mount Rainier train service to Eugene and augmenting bus service to build market.
1995-97	Complete Stage 1 improvements to achieve an optimum 79 mph system; add a third train and additional corridor bus service.
1997-99	Complete Stage 2 improvements from Eugene to Portland to achieve 110 mph service in rural segments and add a fourth train in the corridor.

The following pages describe in greater detail what is to be accomplished for each of the three bienniums and the corresponding funds required. The 1993-95 program is based on known and anticipated state and federal funds. Additional federal funding is anticipated as the Federal High Speed Rail Program is implemented.

## 6. Implementation Plan

### 1993-1995 Program Objectives:

*Begin Stage 1 improvements as defined in the Oregon Rail Passenger Policy and Plan, including improvements in service and investments in the rail line.*

1. Implement the Amtrak Mount Rainier train extension in October 1994., and upgrade equipment in Spring 1995.
2. Begin bus services linking Eugene, Albany/Corvallis, Salem, and Portland beginning October 1994 incorporating input from Regional workshop. (See Appendix A, ODOT Service Plan to extend Amtrak Mount Rainier train to Eugene.)
3. Obligate state and/or federal funds to complete Phase 1 line improvements and a portion of Phase 2 line improvements by October 1994. Begin construction of initial improvements to the rail line by Spring 1994, to correct bottlenecks in the system. Complete line improvements by Sept. 30, 1995.
4. Complete project development activities including:
  - a. Station planning studies and option to acquire station.
  - b. Service enhancements.
  - c. Demand analysis.
  - d. Origin/destination surveys.
  - e. Rail capacity analysis.
  - f. Corridor master planning.
  - g. Community outreach planning.
  - h. Procurement strategy for rail equipment.

## 1993-1995 Budget Requirements

- |    |  |                      |
|----|--|----------------------|
| 1. | Service improvements   | \$2.0 million        |
|    | <ul style="list-style-type: none"><li>• Rail</li><li>• Bus</li></ul>   |                      |
| 2. | Capital improvements(line)   | \$7.5-10.0 million   |
|    | <ul style="list-style-type: none"><li>• Track</li><li>• Signals</li><li>• Grade Crossings</li></ul>  |                      |
| 3. | Stations   | \$0.3 million        |
|    | <ul style="list-style-type: none"><li>• Location and design study</li><li>• Aquisition</li></ul>   |                      |
| 4. | Project development activities   | <u>\$0.5 million</u> |
|    | <ul style="list-style-type: none"><li>• Planning</li><li>• Engineering</li><li>• Environmental</li><li>• Public involvement</li><li>• Location and design study</li><li>• Aquisition</li><li>• Marketing</li></ul> |                      |

Total \$10.3-12.8 million

(See Appendix B, September 1994 Emergency Board Request for details.)

## 1995-97 Program Objectives

*Complete Stage 1 improvements as defined in the Oregon Rail Passenger and Policy Plan concentrating efforts on line improvements to reduce travel time and provide modest improvements in service.*

1. Add a third Eugene-Portland train beginning operation by April 1, 1996 for a total of three daily round trips.
2. Improve bus services on trunk route and add additional feeder buses by April 1, 1996.
3. Complete construction of Stage 1 line improvements consisting of Phases 1 thru 7 of those recommended by the *Oregon High Speed Rail Capacity Analysis*. This would, when completed by June 30, 1997, increase train speed to 79 mph on over 80 percent of the line. This program would result in reducing Eugene-Portland schedule times to approximately two hours.
4. Remodel train stations in Eugene, Albany, and Salem. Complete location study and final design for Clackamas County station.
5. Complete additional project, planning, and development activities as may be required for HSR operations.
6. Lease or purchase HSR equipment to supplement conventional equipment between 1996 and 1999.

**1995-97 Budget Requirements (all sources)**

1. Service continuations and improvements \$ 4.8  
million

- Rail
- Bus

2. Capital Improvements (line) \$40.7 million

- Track
- Signals
- Grade Crossings

3. Stations \$ 5.0 million

- Acquisition
- Improvements

4. Project Development \$ 2.0 million

- Planning
- Engineering
- Environmental
- Public Involvement
- Marketing

5. Train equipment lease/purchase \$4.0-10.0 million

Total \$56.5-62.5 million

## **1997-99 Program Objectives:**

*Complete Stage 2 improvements permitting rural segments of the line to support 110 mph train speeds.*

1. Implement a fourth round trip train during the biennium as new high speed train equipment is leased or purchased.
2. Complete construction of Stage 2 improvements to continue reducing travel times. Stage 2 line improvements will require longer lead times and community involvement to eliminate grade crossings on high speed sections of the line.
3. Complete station improvements at Eugene, Albany, and Salem as necessary. Initiate and complete new Clackamas County station and improvements to Portland's Union Station.
4. Complete additional project development activities as required for maintenance and upgraded speeds on the line.

**1997-99 Budget Requirements (all sources)**

1.	Service Continuation and Improvements	\$ 7.2 million
	• Rail	
	• Bus	
2.	Capital Improvements	\$136.5 million
	• Track	
	• Signals	
	• Grade Crossings	
3.	Stations	\$ 10.0 million
	• Complete improvements	
	• Develop Clackamas County Station	
4.	Project Development	\$ 2.0 million
	• Planning	
	• Engineering	
	• Environmental	
	• Public Involvement	
	• Marketing	
5.	Train Purchase	<u>\$ 10.0 million</u>
		<u>Total \$ 165.7 million</u>

## 7. Demand for High Speed Rail

ODOT contracted with a consultant team led by Parsons Brinckerhoff to analyze market demand for high speed rail. The consultant was asked to prepare a near-term forecast to support early decisions regarding investments in the line. The results of that analysis are documented in *Findings on Near-Term Passenger Demand in the Willamette Valley*.<sup>9</sup> The demand analysis looked at the performance of Amtrak's Coast Starlight and the public response to services offered in 1980 and 1981 as a part of the Willamette Valley Express and at ridership on the California Intercity Rail system in order to define a base case for ridership. Ridership projections were prepared for two levels of service using updated population figures and three factors that affect ridership:

- a. Frequency (more frequent service attracts ridership).
- b. Travel time (reduced travel time attracts ridership).
- c. Fares (lower fares attract ridership).

### Estimates of Rider Demand

Ridership projections are valuable because they predict the expected public response to the service and the required capacities of system elements, including the size of trains, buses, stations, and numbers of interchanging passengers connecting to other modes. They also can help predict the expected cost of the service, the revenues collected, and the net operating deficit or surplus produced. Thus the projections can help provide a comprehensive picture of system performance and financial performance for management purposes.

The first level of service, to be offered in 1994-95, includes the Coast Starlight and one additional round trip train daily between Eugene and Portland. The study estimates ridership for the one additional round trip operated on an optimum schedule will be 57,000 rides annually. This figure is higher than ODOT's estimate for the Mount Rainier schedule being implemented in October 1994, but is generally consistent considering that the Mount Rainier schedule southbound is somewhat less than optimum, and that bus service is required to serve southbound passengers from Portland in the late afternoon.

Ridership was projected for the year 2000 with a higher level of service incorporating two additional round trips in the valley. The service level projected for the year 2000 included the Coast Starlight, Mount Rainier and the two additional round trip trains, for a total of four round trips daily. The report finds that the four daily round trips will generate between 274,000 and 332,000 riders annually. These projections are consistent with previous forecasts developed for the *Oregon Rail Passenger Policy and Plan* by Wilbur Smith Associates.

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<sup>9</sup> *Findings on Near-Term Passenger Demand in the Willamette Valley*, Parsons Brinckerhoff, August, 1994.

## Fares

The benefits of conventional rail and high speed rail will be realized as the public utilizes the expanded rail system. Lower fares attract riders and serve to expose the benefits of the service to a public that is largely unfamiliar with rail travel. Low fares are a necessary part of the implementation strategy, and marketing program.

The proposed fare policies are designed to encourage ridership. One-way fares are planned at the rates shown below:

- Eugene-Portland     \$18.00
- Albany-Portland    \$13.00
- Salem-Portland    \$ 9.00

These fares are lower than those for the Coast Starlight today, but higher than typical intercity bus fares between the same city pairs. Fares for the thruway bus services will be the same as train fares. ODOT will also work with Amtrak to implement thru ticketing to ease connections between bus and rail services. Discounts for round-trip and multiple-ride tickets will be offered.

## Revenue

The consultant estimated revenue by converting estimates of ridership at each station to an estimate of annual total passenger miles. A standard rate of revenue per passenger mile was applied based on typical fares in the rail industry of 15 cents per passenger mile. A factor was used to adjust the revenue downward by twenty per cent reflecting the low basic fare structure proposed (at approximately 12 cents per passenger mile) and the effect of discounts. This resulted in a revenue estimate of between \$2.9 million to \$3.5 million annually by the year 2000.

## 8. System Performance and Cost Recovery

The system will be managed to assure that its performance meets expectations. Each service and capital investment project will have performance goals identified in advance. Adjustments will be made during the development program to meet the targets.

The Parsons Brinckerhoff demand analysis examined the proposed fares, estimated operating costs, and other key assumptions to determine the short-range financial performance of HSR. By 2000, the projected number of annual HSR passenger miles is between 24.1 million and 29.2 million. The projected passenger miles per train mile will be between 66 and 80. This suggests that demand will develop at a rate paralleling the proposed addition of new train services outlined in the implementation strategy.

System performance will be continuously monitored to ensure effective management of operating costs. Introduction of new services can be delayed if ridership growth does not materialize as rapidly as projected.

The consultant predicts significant improvement over the forecast period in the cost-recovery ratio. The demand analysis projects that the four trains will reach an effective cost-recovery ratio of 42 per cent to 51 per cent by the year 2000 (operating revenue over operating cost). In 1994, the cost recovery ratio is expected to start at 29 per cent of the service cost.

Even the initial year ratio compares very favorably to cost recovery ratios for public transit systems in general. As the system develops and services mature, fares can be expected to recover an increasing portion of the cost of service.

Oregon would need to support only the three new trains that are not part of Amtrak's national system. The Coast Starlight, being part of the national system is entirely federally supported.

By the year 2000, using cost figures from Amtrak, ODOT estimates that the three state supported trains would cost \$1.2 million per year per train assuming Amtrak participation at 30 per cent of the cost of service. In the year 2000 with the three state supported trains running, the operating cost to the state is estimated at \$3.6 million annually, a figure that compares favorably to other transportation investments.

The state's share could be reduced even further if the current language in the federal transportation appropriations bill is approved. To the extent that Amtrak is mandated to provide as much as half of the costs, the state investment may be as much as 20 per cent lower and therefore, even more cost effective.

Further study and ongoing discussions with Amtrak are expected to result in more refined service cost estimates. Because the early cost estimates use conservative assumptions, refinements in the estimates can be expected to produce additional savings as the project moves forward.

In summary, the demand analysis shows that expanded rail service is feasible and that the financial performance of train service would improve as frequency is increased and the program goes forward. The annual investment required per train will be reduced gradually as the cost recovery improves due to ridership growth.

## **9. Marketing**

Marketing is a key component of the implementation strategy and is critical to the short-term and long-term success of the High Speed Rail Program. In order for the rail passenger system to attract the level of ridership projected, efforts must be made to inform the public of its availability and promote its use.

### **The Marketing Program**

The public information and marketing program will implement a multi-faceted approach to promote the Mount Rainier extension and supporting Thruway Bus service as well as future service improvements. It will be an ongoing process which will be continually modified as necessary to meet the current situation. The development of the comprehensive marketing program is being undertaken on a corridor wide basis to ensure effectiveness of the program. Marketing will be targeted at the communities that will benefit from the improvements in service.

Marketing for the Mount Rainier train will begin with a series of news releases issued frequently from late August until start of service in October continuing on a periodic basis. Paid advertising will begin in late October and early November to create awareness of the new service. The ad program will include print media, radio, and television. In addition, the Department will rely on a heavy emphasis of press releases and cooperative efforts with local governments. A speakers bureau will be established for a community outreach effort. Cooperative marketing projects with local governments and service operators will be developed to take advantage of focused, locally oriented messages. The marketing program will be closely coordinated with Amtrak marketing to ensure maximum benefit from the corridor marketing effort.

### **Special Events**

Special events are being planned to provide opportunities for public participation in exciting rail passenger advancements. Events to mark the Mount Rainier train service sendoff. Later activities may include the visit of the Danish IC3 train or other high technology train to the corridor for a three month demonstration run.

### **Coordination with Travel Industry**

The travel and hospitality industry will play an important role in marketing rides on the new system. As sales agents for Amtrak, accredited travel agents are expected to sell a significant number of tickets. Sales seminars for travel agents in Salem, Albany/Corvallis, and Eugene, in cooperation with Amtrak and other vendors, will be used to inform travel professionals about the expanded program. In addition, familiarization tours will be offered to introduce Oregon destinations to travel agents and travel writers by providing first hand experiences. Development of travel packages in cooperation with the tourism industry will feature the train route and create easy products for travel agents to sell.

## Promotions

To maximize the return on the marketing budget for this project, promotional activities will be a cooperative effort with other organizations. Chambers of Commerce and Convention & Visitors Bureaus will become ODOT's partners for local promotions, which might include such items as printed information about their community, hosting travel industry functions, and involving their members. Other transportation providers will be able to benefit from participation in promotion programs by connecting with the system, having their schedules distributed and participating in joint promotions. Collaboration with Washington state and British Columbia provincial agencies will provide greater coverage from Oregon's marketing efforts.

Government agencies also can produce potential riders for the new trains. A voucher program is being developed to allow use of the route by ODOT and other state agencies as a supplement to an existing van shuttle. In addition, social service agencies will be encouraged to use the system for their clients, where possible.

Schedules for the new rail/bus service and connecting routes will be listed nationally in reservation computers and published in professional transportation guides, including *Russell's Official National Motor Coach Guide*, to broadly distribute information.

Special promotions will be created taking advantage of local special events to stimulate increased ridership. These will include events such as the Portland Rose Festival, Albany Timber Carnival, Oregon State Fair, and the Eugene Celebration. Off-season discounts and bargain travel packages will also be made available. Shopping centers and large retailers will be encouraged to participate in the program by offering incentive packages. Oregon's lack of a sales tax is expected to encourage out of state shoppers to discover Oregon.

# References

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- *Findings on Near-Term Passenger Demand in the Willamette Valley*, Parsons Brinckerhoff Quade and Douglas, Inc., August, 1994
- *ODOT Service Plan to Extend Amtrak's Mount Rainier train to Eugene*, ODOT, June, 1994
- *Oregon Benchmarks*, Oregon Progress Board, 1991
- *Oregon High Speed Rail Capacity Analysis*, Wilbur Smith Associates with Morrison Knudson Corporation, July 11, 1994.
- *Oregon Rail Passenger Policy and Plan*, ODOT, 1992.
- *Oregon Transportation Plan*, ODOT, 1992.
- *Back on Track: The Global Rail Revival*; Marcia D. Lowe; World Watch Paper 118, April 1994.
- *High Speed Ground Transportation Study*, Gannett Fleming, October, 1992.

# Appendix A

Marketing is an essential element of the service plan. It would focus on informing the public of the availability of the new options for inter-city travel, and building the market for the service and any future improvements. This would be accomplished through the combined efforts of ODOT and other state agencies, Amtrak, local governments, the media and the travel industry. While promotions and paid media advertising are anticipated, the majority of the effort would involve press releases, printed informational materials and public service announcements.

### **Eugene Rail Improvements**

Minor improvements are required in Eugene to accommodate the train overnight. This would involve installing a power supply, track improvements and improved bus access to the station.

### **System Performance**

Performance standards would be established by ODOT working in cooperation with the carriers before the service is initiated. At a minimum, standards would include ones for service quality, schedule reliability and ridership. ODOT would not go forward with implementation in October if, in its opinion, a satisfactory level of performance cannot be achieved during the year, or if Amtrak is unable to commit its share the costs.

Independent ridership forecasts by ODOT based on ridership levels achieved in the early 1980's are for 37,210 to 43,800 annual one way rides equating to 102 to 120 per day during the year. Ridership at maturation of the service in five years is forecast at 58,400 annual rides or 160 rides per day.

### **Fares**

One way fares are planned at the rates shown below. These are subject to further negotiation with the Amtrak:



The average fare is actually expected to be above \$18.00 per ride due to trips beyond Portland (nearly 40%) which result in additional revenue to Amtrak. In the cost estimates and its negotiations with Amtrak, ODOT anticipates capturing revenues generated beyond the state that result from the new service.

Discounts and multiple ride passes would be proposed for frequent system users and bus passengers within the overall revenue parameters of the project.

## Revenue and Cost Sharing

For better understanding, the following revenue and cost recovery information is presented in annual figures, as the length of the Amtrak operating agreement would run one year. Operating revenues, largely from fares, would flow back into the project reducing the operating deficit.

For purposes of financial planning, Amtrak cost sharing is anticipated to be set at the historical rate of 30 per cent of the operating deficit with the state paying the remaining 70 per cent. A higher rate has been proposed in Congress, for first year services like the Mount Rainier extension during federal fiscal year 1995 with Amtrak paying of 55 per cent of the deficit. The higher figure cannot be assumed as a given until Congress finishes its deliberations. Amtrak is working with ODOT and the Oregon Congressional Delegation to secure federal funding. The two federal funding levels are presented below:

### Cost Sharing Options

<u>Revenue Sources:</u> <u>cost</u>	<u>Amtrak at 30%</u>	<u>Share of cost</u>	<u>Amtrak at 55%</u>	<u>Share of cost</u>
• Operating Revenues	\$680,000	29%	\$680,000	29%
• Amtrak cost share	\$412,800	18%	\$756,800	33%
• ODOT (Video Lottery)	<u>\$1,213,200</u>	<u>52%</u>	<u>\$869,200</u>	<u>38%</u>
Total cost of service	<u>\$2,306,000</u>	100%	<u>\$2,306,000</u>	100%

### Cost Recovery and Financial Performance

During the initial year of the service, the more conservative estimate of ridership of 37,210 annual rides is expected to generate \$680,000 in operating revenue, or 29 per cent of the total cost of service. Assuming that Amtrak's contribution is based on the least favorable percentage rate, the required State of Oregon contribution of \$1,213,000 would support 52 per cent of the total cost and represent an initial \$32.60 contribution per ride. The higher estimate of ridership of 43,800 annual rides would bring the figure down to a \$27.69 contribution per ride.

Assuming that Amtrak's contribution is based on the higher percentage rate, the state's contribution would drop to \$869,200, thereby reducing state support to a more favorable 38 per cent of the total cost of service and resulting in an initial \$23.35 contribution per ride. The higher estimate of ridership would result in a \$19.84 contribution per ride.

Ridership above the initial estimates for the first year due to a high quality service and better than anticipated public acceptance could result in greater operating revenue and reduced operating deficits and thus lower the cost to the State of Oregon and Amtrak. The same is true for growth in the market over time. At maturation, the projected 58,400 annual riders can be expected to generate \$1 million in revenues or nearly 50 per cent of the cost of the service and cut the states contribution to about \$650,000 per year or about \$11 per ride.

### Value

The service can be expected to produce valuable external benefits to the state's economy. These would exceed the initial dollar investment by bringing Oregon's communities closer together and more effectively accommodating growth. Considering the average length of trip (expected to be about 125 miles), the service at maturation can be expected to help the state meet it's goals to slow the growth rate in vehicle miles of travel (VMT) and serve travel demand with alternative modes.

At maturation, the service can be expected to carry some 7.3 million passenger miles annually at a cost to the state of 8.9 cents per passenger mile.

Considering the levels of investment underway in other modes, and the need to get the most out of the existing transportation infrastructure, investments in passenger rail service at the levels described above are warranted and would return good value to Oregonians.

# Appendix B

**High Speed Rail Improvements  
September 1994  
Legislative Emergency Board Request Details**

		HSR Funds
1.	Line Improvements:	
	a. Phase 1 Improvements	\$7,473,778
	b. Federally Funded Phase 2 (authority to receive and spend \$2.5 mil)	---
2.	Stations:	
	a. Location studies and conceptual design and estimates	\$ 200,000
	b. Station acquisition/option to buy	\$ 100,000
3.	Service:	
	a. Additional bus service	\$ 323,000
	b. Upgrade of Mount Rainier	\$ 800,000
4.	Project Management:	
	Mallery @ 20% for 9 months	\$ 20,000
	East @ 9 months	\$ 67,428
	Clerical	\$ 32,562
	Other	\$ 55,010
	Total	<u>\$9,071,778</u>

**High Speed Rail Improvements**  
**June 1994**  
**Legislative Emergency Board Request Details**  
**(Approved June 15, 1994)**

1.	Mount Rainier Service Extension to Eugene:	
	a. Amtrak Contract @ 9 months	\$ 722,400
	b. Bus Service @ 9 months	\$ 75,000
	c. Marketing @ 9 months	\$ 56,250
	d. Eugene station improvements	<u>\$ 75,000</u>
	Total	<u>\$ 928,650</u>