

## FEASIBILITY STUDY FOR DEVELOPMENT OF AN IMPROVED YAMHILL COUNTY RAIL SYSTEM FOR PASSENGERS AND FREIGHT

### EXECUTIVE SUMMARY

#### Overview

This study offers a feasibility assessment for passenger commuter rail and other select rail system improvements for Yamhill County, Oregon. This study was undertaken in light of continued growth and a desire to expand and maintain the County's multimodal transportation options, economic competitiveness, and quality of life.

Ten years have elapsed since a 1998 study that evaluated the feasibility of a new commuter rail service between Yamhill County and the Portland metropolitan area utilizing an existing freight rail alignment. The 1998 study evaluated passenger demand, developed operating plans, and included a physical evaluation of the existing rail infrastructure. Much of this infrastructure was found to be substantially deteriorated.

#### Project Objectives

To build upon previously completed work in the study corridor, and to maximize the effectiveness of the available resources, this study focus on two central issues:

- **Develop a Ridership Estimate for a Yamhill County Commuter Rail Service:** By focusing on the central question of ridership demand, the study team is able to assess whether there has been enough growth in the target travel market segments to offset the high capital costs identified in the 1998 evaluation, and whether future the cost-effectiveness balance between capital costs and projected ridership is changing.
- **Strategically Evaluate the County's Rail Assets:** To provide context to the proposed commuter rail concept, this study provides a high-level strategic assessment of the County's rail infrastructure based on feedback from study stakeholders. The County's rail assets are recognized as strategic assets for

*The Study Team Thanks the Following  
Project Participants:*

- Yamhill County Commissioners
- Yamhill County Transit Area
- Yamhill County Special Transportation Fund Committee
- Confederated Tribes of Grand Ronde
- Rail Link Corporation
- Portland Metro
- Oregon Department of Transportation
- City of McMinnville
- City of Newberg
- City of Dundee
- City of Sherwood
- McMinnville Economic Development Partnership
- McMinnville Area Chamber of Commerce
- Dundee Civic Association
- Chehalem Valley Chamber of Commerce
- Schnitzer Steel Industries, Inc./ Cascade Steel Rolling Mills
- Ken Wright Cellars
- Austin Industries
- Argyle Winery
- Doran Automotive Sales
- Oregon Mutual Insurance

passenger and freight mobility as well as future economic development in the corridor. A number of key industries in the County, including lumber, steel, paper, nursery stock, and other agricultural products, are either dependent upon or are more economically competitive by access to quality rail services.

The report discusses study background and methodology, presents technical analysis of rail alternatives, and proposes recommendations and next steps to preserve and enhance mobility options in Yamhill County.

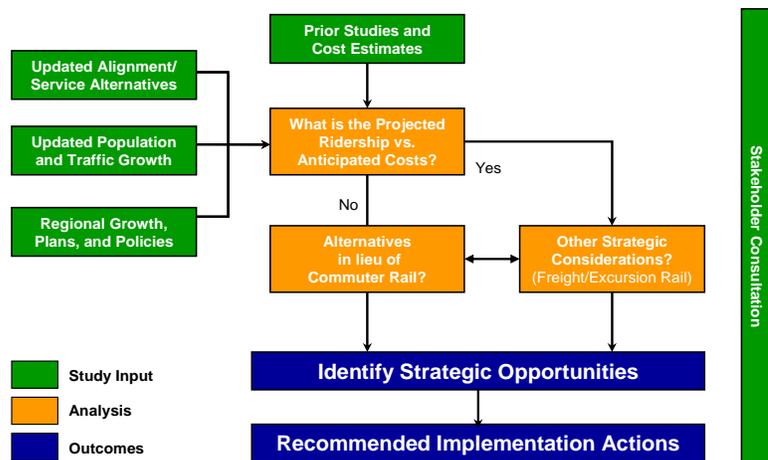
In addition to interested citizens, study participants included representation from diverse government, industrial, and economic development interests, as well as numerous private citizens, within the study region.

## Study Area

For purposes of this evaluation, the study examined a commuter shed consisting of Yamhill County, as well as the nearest connections to the regional transit systems of the Portland Metropolitan area to the north and east. The City of Sherwood, a fast-growing community in southern Washington County, is included in the study area as a potential commuter rail market. Sherwood is not currently by high capacity transit, but is located along the rail corridor from Yamhill County into the Portland metro area, and therefore is a logical market for a future service.

## Methodology

The 1998 evaluation of commuter rail concluded that projected ridership was insufficient, at that time, in light of the anticipated capital costs to rehabilitate the rail line. In light of this finding, *only a significant increase in projected ridership over time would suggest that the cost effectiveness of the proposed service has improved enough to justify further project development.*



Two strategies used to develop the most viable, cost-effective rail alternatives were:

1. Selecting alignments with the highest ridership potential for the target Yamhill-to-Portland commuter market; and
2. Minimizing required infrastructure and capital costs by avoiding expensive infrastructure requirements where possible, and selecting efficient emerging propulsion technologies.

This study focuses primarily on the commuter rail market between communities in eastern Yamhill County into the Portland metropolitan region, because it is the travel market segment most likely to generate a sufficient volume of point-to-point transit trips to justify a high-capital cost, high capacity transit mode like commuter rail. The primary destination markets for these

Yamhill County commuters are the commercial and employment centers of the Portland metropolitan area (namely, downtown Portland and the Beaverton/Tigard/Tualatin corridor).

## Evaluation of Preferred Alternatives

After an initial screening of rail corridors and alignments servicing the target markets, two preferred alternatives were selected for ridership analysis: A Newberg to Beaverton service (estimated capital cost of \$72 million<sup>1</sup>), and a Newberg to Portland service (estimated cost of \$98 million).

ALTERNATIVE 1 – Newberg to Beaverton



ALTERNATIVE 2 – Newberg to Portland



<sup>1</sup> Capital costs were estimated based upon 1998 field survey data, and were escalated to 2008 dollars. An updated field assessment, necessary to develop an engineering cost assessment for these alternatives, was not conducted as part of this conceptual planning study.

Both alternatives offer weekday peak-hour service using a lightweight, 2-car self-propelled diesel trainset similar to the TriMet WES vehicle. A time-synchronized transfer to an express bus service connects the rail terminus at Newberg with Dundee, Lafayette, and McMinnville.

## Ridership Estimation and Analysis of Preferred Alternatives

The following table summarizes the ridership estimates for the two alternatives, and also compares them against 2015 ridership estimates from the 1998 study.

**Alternatives 1 and 2: Ridership Estimation Summary (Low/Medium/High Range<sup>2</sup>)**

	<i>2008 Inbound Boardings</i>	<i>2015 Boardings - 1998 Study</i>	<i>2028 Inbound Boardings</i>
<i>Alternative 1 Newberg to Beaverton</i>			
<b>Total Estimated Boardings</b>	<b>325 / 430 / 540</b>	---	<b>750 / 1000 / 1250</b>
Study Corridor Boardings (Sherwood-Yamhill Segment)	325 / 430 / 540	---	750 / 1000 / 1250
Boardings within Yamhill County	100 / 130 / 160	---	180 / 240 / 300
<i>Alternative 2 Newberg to Portland</i>			
<b>Total Estimated Ridership</b>	<b>750 / 1000 / 1250</b>	<b>1660</b>	<b>1800 / 2400 / 3000</b>
Study Corridor Boardings (Sherwood-Yamhill Segment)	279 / 372 / 465	600	630 / 855 / 1080
Boardings within Yamhill County	85 / 112 / 140	480	150 / 200 / 250

The estimated 2028 ridership figures compare favorably with average daily boardings of other new commuter rail services offering services in relative low-density travel corridors using a similar service plan and vehicle type. However, the total capital costs of implementing either of the Yamhill County alternatives compares unfavorably, largely due to the need to rehabilitate trackwork and structures to accommodate modern passenger rail quality and safety standards.

A number of alternative, interim, service concepts emerged from this analysis. A WES spur to Sherwood would alleviate many of the capital cost issues while serving the portion of the system with the highest rider density and productivity. Additionally, an express commuter bus service, modeled on the 99W Link but providing increased frequency and timed transfers to WES, could service the target commuter market in the short term with less intensive capital investment.

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<sup>2</sup> "Medium' Range Estimates represent model forecasts; "High' and 'Low' Range forecasts are +/- 25% of the model forecasts. Ridership estimates were derived using existing 200 US census data and PSU regional population forecasts. These ridership forecasts are subject to the limitations of these data and the ridership model to predicting future conditions in the Study Area.

**Peer System Capital Cost Comparison**

<i>Rail Service</i>	<i>Total Capital Cost (2008 dollars)</i>	<i>Average Daily Boardings</i>	<i>Ratio of Capital Cost to Daily Boardings<sup>3</sup></i>	<i>Capital Cost per Daily Boarding (30-year amortization<sup>4</sup>)</i>
Shore Line East (CT)	\$20,700,000	1,200	\$17,500	\$2.30
Music City Star (TN)	\$40,000,000	1,400	\$28,500	\$3.81
<i>Alternative 1 – Newberg to Beaverton</i>	<i>\$72,000,000</i>	<i>880</i>	<i>\$81,800</i>	<i>\$10.91</i>
<i>Alternative 2 – Newberg to Portland</i>	<i>\$98,000,000</i>	<i>1,540</i>	<i>\$63,600</i>	<i>\$8.48</i>

**Key Findings**

- **Key Finding #1:** Ridership and service productivity for the proposed commuter rail is comparable to certain small-scale, operational commuter rail systems in the United States, particularly in the eastern portion of the proposed alignment.
- **Key Finding #2:** Anticipated ridership is offset by the large anticipated capital costs of implementing the system.
- **Key Finding #3:** The commuter travel market between Yamhill County and the Portland metropolitan area is a significant, but not predominant, aspect of the diverse travel patterns in Yamhill County.
- **Key Finding #4:** There are viable transportation improvement steps that can be taken in the short term to address the needs of the target commuter market, including non-rail (bus transit) alternatives.
- **Key Finding #5:** Actions should be taken to preserve and enhance opportunities to improve service in the rail corridor, including right-of-way preservation. Furthermore, regionally-significant benefits that extend beyond Yamhill County should be taken into consideration in planning and evaluating rail enhancements.

**Recommendations**

Based upon the findings of this study, the following actions are recommended as next steps to advance the strategic rail system and transit mobility objectives explored in this study.

<sup>3</sup> Total Capital Cost divided by Daily Boardings. This ratio should not be confused with capital cost per passenger over the life of the project.

<sup>4</sup> Capital Costs per Daily Boarding assumes that total project capital costs spread over a 30-year useful life for infrastructure, and service on 250 weekdays per year.

- **Recommendation #1:** Pursue implementation of interim transit opportunities that can begin to provide benefits to the Portland commuter market in the near term.
- **Recommendation #2:** Pursue a multimodal transit service planning approach that considers the incremental costs and benefits of various transit modes.
- **Recommendation #3:** Coordinate with state and regional agencies to ensure that the County's needs and concerns are reflected in appropriate planning processes.
- **Recommendation #4:** Maintain a strong commitment to other County transit needs, in addition to the needs of the Portland area commuter market.
- **Recommendation #5:** Take actions to preserve the integrity of existing rights-of-way, most notably the St. Joseph-Seghers segment, to preserve options for rail transportation options in the future.

## Conclusion

The rail system in Yamhill County is a strategic transportation and economic asset that is important to its long-term vitality and quality of life. At the present time, estimates of potential commuter rail ridership over the next twenty years are comparable to certain smaller commuter rail systems that have recently entered operation in the United States. However, the projected capital costs necessary to upgrade aging rail infrastructure to modern passenger rail performance and safety standards is likely to be prohibitive, based on the estimates developed for this conceptual planning study.

Nonetheless, there are actions that should be taken in the near term in order to protect the future vitality of the rail system, most notably acquisition and preservation of right-of way to ensure that rail corridors remain intact for future uses. This is particularly true for the St. Joseph-Seghers right-of-way currently owned by the UP but mostly abandoned. This corridor provides an alternative to the operationally-difficult and deteriorating Rex Hill rail alignment and could offer benefits to freight rail customers in Yamhill County as well as other Westside line customers of the Portland & Western Railroad.

Coordination with state and regional agencies for rail system and high capacity transit planning will also ensure that other stakeholders and potential funding partners recognize the strategic importance of these assets to the County and the broader region, as potential commuter corridors and links in the regional short-line rail system of the upper Willamette Valley. Stakeholders in the study corridor should also actively monitor and participate in the further development passenger and freight rail components that could impact the strategic objectives of the County.