CAMBRIDGE SYSTEMATICS

Oregon State Rail Plan

Investment Program Technical Report

draft

report

prepared for

Oregon Department of Transportation

prepared by

Cambridge Systematics, Inc.

with

HDR, Inc.

March 31, 2014

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1.0 Introduction

The previous documents for this State Rail Plan present a complete picture of the passenger and freight rail system infrastructure in the state. Through detailed analysis, needs for both of these components of the rail system were identified. In addition, socio-economic and demographics trends were taken into consideration, as was the changing industry composition of the State – all factors which feed into how and how much the freight and passenger rail systems could be used in the future.

This Technical Report of the State Rail Plan takes that information and recommends a path forward for rail stakeholders in Oregon. This document is organized as follows:

- **Section 2.0 – Vision for Rail in Oregon.** This section establishes the vision and goals for the rail system in Oregon and describes how, as a modal plan of Oregon's long-range transportation plan, this State Rail Plan is consistent and builds upon recommendations of related documents.
- **Section 3.0 – Funding.** This section provides an overview of the current state of rail funding for projects, programs and operations in Oregon, and the steps the State has taken to work toward a dedicated, sustainable funding source for the system.
- **Section 4.0 – Framework for Determining Oregon's Rail System Investments.** This section highlights how Oregon makes investment decisions today and provides a recommendation for how Oregon should make investment decisions related to the rail system in the future via a recommended rail system investment framework and evaluation factors.
- **Section 5.0 - Investment Program.** This section outlines the "action plan" component of this State Rail Plan, and describes how Oregon will proceed in planning and programming decision-making so that the vision can be achieved in a coordinated and integrated way. This is accomplished through policies and strategies linked to State Rail Plan goals, as well as through identification opportunities for Oregon to invest in rail project types in the future.

2.0 Vision for Rail in Oregon

2.1 RAIL IS IMPORTANT TO OREGON

The rail system in Oregon is predominantly owned by private railroads, yet freight and passenger rail services are critical components of the State's multimodal transportation network. Oregon recognizes the unique opportunities public- and private-sector collaboration presents and has a vested interest in proactively planning for the rail system's future so that Oregon's residents and businesses can capitalize on the many benefits freight and passenger rail services provide:

- **The rail system is a significant conduit for economic and job activity.** The 2011 Oregon State Freight Plan estimates that 31 percent of Oregon's economy is based on goods movement dependent industries, including those served by rail such as timber, wood products, and paper; agriculture and food; manufacturing; construction; and wholesale and retail trade. Efficient and accessible intercity passenger rail connects job markets, recreation and tourism centers throughout the state to support local economies.
- **The rail system improves connections for people and goods.** Passenger and freight rail systems in Oregon connect people and goods within the state, across the U.S. and to Canada. The freight rail system connects to ports in Oregon which import and export goods between international markets.
- **The rail system provides mode choice and relieves congestion.** Both freight and passenger rail systems provide modal options for users. By offering travel options, transportation costs of residents and businesses will be lowered. Likewise, removing vehicles from the road brings positive impacts including congestion mitigation, address many safety concerns, and decreased pavement wear and tear.
- **Use of rail contributes positively to the environment.** In general, rail is a more efficient mode in terms of fuel consumption, as compared to passenger vehicles and trucks, for moving both people and goods. This reduction in fuel consumption also leads to a reduction in emissions.
- **When coordinated, rail enhances community quality of life.** Through integration of rail systems and land use planning, community quality of life is enhanced. Passenger and commuter rail supports the development of livable communities, provides travel options and spurs economic opportunities at station locations. Preservation of rail corridors ensures that economic development opportunities can be realized in the future.

In order to realize the full spectrum of benefits a transportation system that integrates passenger and freight rail provides, the State of Oregon will take an active role and partner with regional and local governments and private rail companies to proactively plan and explore investments to make the rail system in Oregon better by working together.

2.2 OREGON STATE RAIL PLAN VISION STATEMENT

The Oregon State Rail Plan Vision Statement is a forward looking statement that will shape the future of the rail system and ensure the beneficial outcomes of rail are realized. The Vision is carried out through the State Rail Plan's goals, policies, strategies and implementation framework.

Oregon will have a safe, efficient, and commercially viable rail system that serves its businesses, travelers and communities through private resources leveraged, as needed, by strategic public investments.

2.3 OREGON STATE RAIL PLAN GOALS

The State Rail Plan Vision is carried out through the Plan's goals, policies and strategies. Seven goals and goal statements have been developed. Supporting goal text, policies and strategies are articulated in Section 5.0. The goals for the Oregon State Rail Plan include:

Goal 1 - Partnership, Collaboration and Communication

Goal statement: Partner, collaborate and communicate with rail system operators and other stakeholders to maximize benefits, align interests, remove barriers and bring innovative solutions to the rail system; and foster public understanding of rail's importance.

Goal 2 - Connected System

Goal statement: Promote, preserve and enhance an efficient rail system that is accessible and integrated with Oregon's overall multimodal transportation system.

Goal 3 – System Investments and Preservation

Goal statement: Enhance transportation system reliability, frequency and travel times through investments that preserve and improve freight and passenger rail assets and infrastructure.

Goal 4 - Funding, Finance and Investment Principles

Goal statement: Establish funding that meets the critical needs of the rail system in Oregon and achieve the objectives of this State Rail Plan.

Goal 5 - System Safety

Goal statement: Plan, construct, operate, maintain, and coordinate the rail system in Oregon with safety and security for all users and communities as a top priority.

Goal 6 - Preserving and Enhancing Quality of Life

Goal statement: Increase use and investment in freight and passenger rail systems to conserve and improve Oregon's environment and community cohesion.

Goal 7 - Economic Development

Goal statement: Increase opportunity and investment in freight and passenger rail assets to grow Oregon's economy.

The next section describes how this State Rail Plan, and these seven goals, are consistent with Oregon's long-range transportation planning program and guidance.

2.4 INTEGRATION WITH OREGON'S LONG-RANGE TRANSPORTATION PLANNING PROGRAM

The Oregon Transportation Plan (OTP), a document required by Oregon and Federal statutes, is a primary component of the State of Oregon's long-range transportation plan. The current OTP was established in 2006 and has a 25-year horizon. The OTP provides multimodal goals and policies, and a framework for prioritizing transportation improvements and funding, but it does not identify specific projects for development. Specifically, for the multimodal transportation system, the OTP establishes:

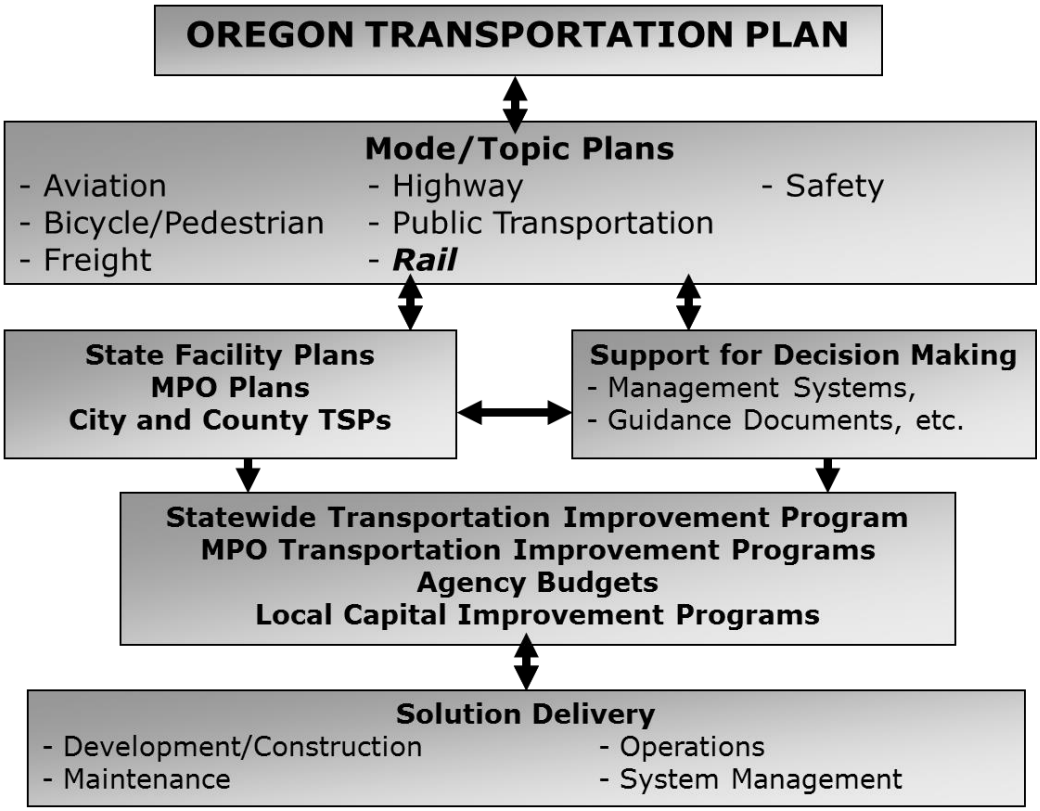
- A vision;
- Goals, policies and strategies to address core challenges and opportunities for transportation;
- A decision framework; and
- Investment scenarios and priorities.

In establishing these elements, the OTP provides guidance for modal and topic plans, as shown in Figure 2.1. Modal plans, such as this State Rail Plan provide more detail specific to their respective parts of system. In general, the OTP recommends that modal plans:

- Refine broad policy;
- Refine/define state role;
- Inventory the modal system; and
- Outline implementation/priorities.

The State Rail Plan has been developed to address the applicable elements of the OTP guidance.

Figure 2.1 Oregon's Integrated Transportation Planning Process



Source: Oregon Transportation Plan, 2006.

This Technical Report of the State Rail Plan sets forth vision, goals, policies and strategies and expands upon the OTP guidance. While the State Rail Plan was developed with thoughtful feedback from an independent Steering Committee, the goals determined for this Plan closely match those found in the OTP, as shown in Table 2.1. This figure illustrate that the State Rail Plan is aligned with the intent of the OTP.

Table 2.1 State Rail Plan Link to OTP Goal Areas

OTP Goal	State Rail Plan Goal
Goal 1 - Mobility & Accessibility	Goal 2 - Connected System
Goal 2 - Management of the System	Goal 3 - System Investments and Preservation
Goal 3 - Economic Vitality	Goal 7 - Economic Development
Goal 4 - Sustainability	Goal 6 - Preserving and Enhancing Quality of Life
Goal 5 - Safety & Security	Goal 5 - System Safety
Goal 6 - Funding the Transportation System	Goal 4 - Funding, Finance and Investment Principles

OTP Goal	State Rail Plan Goal
Goal 7 - Coordination, Communication & Cooperation	Goal 1 - Partnership, Collaboration and Communication

As a modal plan, the State Rail Plan, has been developed in a manner consistent with Oregon Transportation Commission's public involvement policy and procedures "that meaningfully involve the public in important decisions by providing for early, open, continuous, and effective public participation in and access to key planning and project decision-making processes." This step has been taken to ensure the Plan fulfills statutory requirements specified in Oregon Revised Statue (ORS) 184.618(1). This Plan will be approved by the Oregon Transportation Commission, as the state-designated approval authority, and will become a part of the State's long range transportation system plan.

3.0 Funding

3.1 FEDERAL AND STATE RAIL FUNDING

The section of the Technical Report focuses on rail funding needs and a brief description of what Oregon has done to improve rail funding in the past. Appendix A of this Report provides a detailed summary of current, available freight and passenger funding resources for planning, operations and maintenance, and places them in two global categories: federal and state funding.

The two primary federal funders are the Federal Railroad Administration (FRA) for the freight rail system, and the Federal Transit Administration (FTA) for the passenger rail system; the sources they each provide are described in the Appendix. Other federal sources, such as the Transportation Investment Generating Economic Recovery (TIGER) discretionary grant program and the Transportation Infrastructure Finance and Innovation Act (TIFIA), which have provided significant dollars towards rail projects are also described.

The State of Oregon has used legislative opportunities to provide funds for rail improvements. These include sources such as *Connect*Oregon, the Industrial Rail Spur Fund, the State Rail Rehabilitation Fund, and Custom Vehicle License Plate Fees. Programs established by prior legislation, as well as other state sources, are also described in Appendix A.

3.2 RAIL FUNDING SHORTFALL AND CHALLENGES

While Appendix A presents a number of funding sources that may be used to fund different types of rail projects, the State of Oregon currently lacks a *dedicated*, *sustainable* funding source for passenger and freight rail investments in the state. Without funding, Oregon does not have revenue available, nor does it have the required federal match, to improve, maintain and operate passenger rail services. Significant funds are also needed to maintain and improve the freight rail systems.

Table 3.1 highlights recent Oregon rail program funding, and notes that a $10 million shortfall is expected in the current biennium. It is anticipated that the 2015-17 Passenger Operations and Planning shortfall may increase to more than $25 million, due to lack of permanent funds and potentially the Transportation Operating Fund may not be available in the next biennium.

Table 3.1 Recent Oregon Rail Program Funding and FY 12-14 Shortfall

Program	Funding	Source	Notes
Rail Safety Section	$2.7M	Gross Revenue Fee (GRF) paid by the railroads and a Transit Oversight Fee	ODOT program aligned with available funds
Crossing Safety & Employee Safety Section	$5.1M	GRF paid by the railroads, Grade Crossing Protection Account of ODOT Highway Fund.	ODOT program aligned with available funds
Passenger Operations and Planning	$19.3M	DMV Custom Plates - $7M, Transportation Operating Fund (TOF) - $3M when available, FTA 5307 - $9.3M (current biennium only).	Amtrak expenses - $16M Trainsets Maintenance - $6M Other operations expenses - $8M **$10M Shortfall**
Other Projects	$35M	ARRA funds and TIGER grants, when available.	ODOT program aligned with available funds

Source: Adapted from Rail Division Update, Presented to Oregon Transportation Commission, February 20, 2013.

In addition to the shortfall, there are other concerns on the state of ODOT's rail program funding. For example, the Transit Oversight Fee pays for the Transit Safety Oversight Program which oversees safety programs for Portland Streetcar, TriMet's MAX service, Astoria Trolley and Willamette Shore Trolley. Currently, ODOT assesses operators based on ODOT's costs to oversee the program, however the ODOT Rail Division expects that FTA's MAP-21 guidance on this program will require a significantly increased level of effort and more staff dedicated to the program. Additionally, due to the implementation of MAP-21, funding for this program will change sometime between December 1, 2013 and September 30, 2014, depending on the Federal implementation schedule which is not yet determined. The ODOT Rail Division will no longer be allowed to assess light rail operators. The Federal government will reimburse 80 percent of the expenses incurred for Rail's Transit Safety Oversight program, and ODOT must fund the remaining 20 percent. The 20 percent must be non-federal sources, and contributions from regulated transit providers are not allowed to be used for match. At this time, no funding source has been identified.

Another challenge to ODOT's rail funding picture came from the Passenger Rail Investment and Improvement Act's (PRIIA) Section 209. In this section, Amtrak routes of not more than 750 miles between endpoints (intercity passenger rail) become state-supported services and states must pay proportional costs associated with their respective corridor routes. Implementation began in October 2013. ODOT is currently working Washington State and British Columbia to leverage resources to achieve the best results for the least cost, as well as be more competitive through the partnership, for scarce grant funding, and other funding opportunities. The *Cascades* Corridor is 467 miles: 300 miles in Washington, 134 miles in Oregon, 33 in British Columbia.

While the shortfall for the current biennium is significant, and is expected to grow, Table 3.2 highlights the annual anticipated funding needs presented during Oregon Rail Funding Task Force work (described in next section). The annual needs in the table do not include upgrades needed to establish a higher speed passenger rail system - the capital investments or operating expenses - yet show a funding needs well in excess of what is currently available.

Table 3.2 Oregon Rail Funding Task Force Identified Rail Funding Needs

Category	Annual Needs, Next 20 Years (Millions $)
Freight Rail Capital Funding Needs	$32 - $120
Passenger Rail Capital Funding Needs*	$23 - $58
Passenger Rail Operations Funding Needs**	$2 - $4
Total	**$57 - $182**

Source: Oregon Rail Funding Task Force.

* Does not include upgrades to higher speed system.

** Additional factors today include increased costs for Amtrak operations due to PRIIA, costs of maintenance for the two new passenger rail Talgo Series 8 trainsets and indirect costs of the ODOT Rail Division.

The State and the ODOT Rail Division have been diligently looking for solutions to address this shortfall until permanent funding can be secured. Much of this work has been coordinated through the Governor's Office and work groups considering multimodal funding solutions, described in the following section. Legislative conversations are expected to continue.

3.3 OREGON'S EFFORTS TO SECURE FUTURE RAIL FUNDING

The State of Oregon and ODOT have undertaken two significant efforts to establish a permanent funding source for rail projects, programs and operations in the State. This section, and more detailed information in Appendix A, summarizes those efforts.

Oregon Rail Funding Task Force

In 2011, ODOT's Director asked a group of 14 stakeholders representing industries, passenger rail advocates, local governments and community leaders to serve on the Oregon Rail Funding Task Force (ORFTF) for the purpose of developing long-term, sustainable funding programs to support rail investments in the State. Using information from the 2010 *Oregon Rail Study* to determine the scope of the 30 year funding needs for rail in Oregon, the ORFTF examined a series of options for raising necessary revenues to fund rail investments. The

revenue packages that were investigated by the ORFTF were designed to address the following categories of need:

Freight Rail

- Maintaining and upgrading deteriorating rail infrastructure, especially for short line railroads;
- Investments in new rail facilities, especially for rail traffic consolidation;
- Investments in new rail equipment to ensure access by Oregon shippers and/or to provide incentives for "greening" the locomotive fleet; and
- Capacity enhancements, especially the removal of bottlenecks in cooperation with the Class I railroads.

Passenger Rail

- Funding gaps for operating the existing Amtrak *Cascades* service; and
- Capital improvements to the Amtrak *Cascades* service to improve reliability, frequency, and trip time between Eugene and Portland.

In the evaluation of potential revenue options, the ORFTF examined the nexus between the revenue source and expenditure needs as a major criterion for selecting revenue options.

Recommended Rail Funding Mechanisms from ORFTF

Based on the analysis conducted for the ORFTF, there was no single funding source that was sufficient to address the full range of rail needs that had been identified. Therefore, the Task Force recommended that the legislature consider a funding package that would include a mixture of the following options:

- **Special Property Tax District for Passenger Rail.** Oregon Revised Statutes 267 authorizes the creation of special transportation districts that can levy taxes to support transportation services. A number of districts have been created to support local bus transit services. The ORFTF recommended that the legislature create a district consisting of the counties between Eugene and Portland to generate a revenue stream for supporting capital projects and increased operating costs for new, higher performance, intercity passenger rail service in this corridor.
- **Lottery proceeds set aside for *Connect*Oregon.** The Oregon Legislature has periodically allocated lottery proceeds to support revenue bonds or direct spending for the *Connect*Oregon program. The ORFTF recommended that $20 million be annually allocated as an on-going legislative provision. All or a portion of these revenues could support a bond issue for capital or used on a pay-as-you-go basis.
- **Railroad property tax reallocation/Telephone Access Fee.** Freight railroads pay property taxes to Oregon counties in which their rail lines are located. If these property taxes were legally reallocated to a statewide fund for rail

purposes (even including current funds described previously such as the State Railroad Rehabilitation Fund), then railroads could receive a direct benefit from these property taxes paid. The ORFTF also recommended that a new Telephone Access Fee be collected by telecommunications companies for landlines and wireless phones in the state, and allocated to counties to replace revenues lost from the redirection of freight railroad property taxes to the state.

- **Railroad Tax Credits**. Offering a rail investment tax credit might attract more railroad capital spending in Oregon. Freight railroads, large and small, have to consider the return on investment for limited capital resources, and Oregon's relative rail volumes to other states might make capital spending in Oregon less attractive. A rail investment tax credit, offered as an offset to state income taxes, either on a refundable (offered even if the freight railroad did not pay state taxes) or non-refundable (offered only for railroads with tax liabilities), could increase the overall rate of return for Oregon rail investments.

Oregon Non-Highway Transportation Funding Working Group

At about the same time that the ORFTF was completing its work, Governor Kitzhaber convened the Oregon Non-Highway Transportation Funding Working Group to look more broadly at non-highway transportation funding needs in the state. The Working Group considered many of the same funding options that were reviewed by the ORFTF. In their May 2012 report to the Governor, the Working Group recommended Priority Funding and Financing Options for Further Consideration. Some of these options were only applicable to modes other than rail, but of those that are applicable to rail, the following options were similar to those recommended by the ORFTF:

- **Expanded Lottery Revenue**. The Working Group recommended expanding the State lottery program to generate more revenue, but otherwise, this option was similar to the ORFTF recommendation to permanently designate a portion of the State lottery proceeds for rail investment.
- **Sequester Funding.** The Working Group recommended dedicating a portion of the revenues raised through transportation-related taxes or fees without specifying which of these should be sequestered whereas the ORFTF recommended sequestering railroad employee income taxes.
- **Expanded/Dedicated Utility or Franchise Fee (e.g., Telecom)**. The Working Group more broadly defined the type of utility of franchise fee that could be created or expanded whereas the ORFTF was more specific in its recommendation to focus on telephone access charges. Further, the Working Group did not necessarily see this approach as a way to backstop cities and counties that could lose revenue from a railroad property tax reallocation.
- **Railroad Property Tax Reallocation**. This option was identical to that considered by the ORFTF.

- **Rail Tax Credit**. This option was also identical to that considered by the ORFTF.

The Working Group also prioritized several funding options that would be applicable to rail that were not recommended by the ORFTF. These included the following:

- **Expanded Cigarette Tax**. Consistent with current taxes, the idea embraced by the Working Group was to apply this to special transportation for senior citizens and people with disabilities. This could potentially include some passenger rail services.
- **Reallocation of Senior Medical Tax Deductions**. This option would eliminate senior medical tax deductions and allocate revenues to senior and disabled transit, which could also include passenger rail services.
- **Hotel/Motel Tax (Transient Occupancy or TOT)**. While the ORFTF focused on rental car taxes, this measure would create a new surcharge on hotel rooms or would expand the allowable use of existing TOT revenues.
- **Urban Growth Boundary (UGB) Expansion Windfall Tax**. This would create a tax to capture the increases in property values that occur when land is added to the regional UGB in metro areas.
- **Financing or Debt Based Measures**. The Working Group recommended several financing or debt measures including issuing new General Obligation bonds, using funds from the Oregon Growth Account, expanded use of infrastructure banks, and expanded use of the Transportation Infrastructure Finance and Innovation Act (TIFIA) Federal credit assistance programs.

The work of the ORFTF and the Oregon Non-Highway Transportation Funding Working Group represent significant steps to identify workable proposals for raising funds needed to support the state's rail investment needs. The next step would likely be for state agencies and/or the governor's office to work with the legislature to develop a specific funding package program and then to create the legislative authority to establish this funding program as a permanent and sustainable long-term program to support rail investment in Oregon and contribute to achieving objectives in the State Rail Plan.

4.0 Framework for Determining Oregon's Rail System Investments

This section recommends an investment framework and evaluation factors for Oregon to use in weighing rail system investments. This section is organized as follows:

- **Oregon Decision-making Process** – this section describes how Oregon makes investment decisions today, primarily based on the Oregon Transportation Plan guidance and the *Connect*Oregon program.
- **Framework for Rail Decision-making** – this section describes a best practice framework for making rail investment decisions taken from Washington State, including evaluation factors.
- **Recommended Framework and Evaluation Factors** - this section takes best practice examples from Washington State and blends them with methods Oregon currently uses, recommending a rail system investment framework and evaluation factors.

4.1 OREGON DECISION-MAKING PROCESS

This section describes how Oregon and ODOT make decisions today (regardless of what resources are available), including guidance on when the State invests, what project types (if any) are priorities, and evaluation factors that are used to weigh priorities.

Two documents provide substantial guidance to answer these questions; the Oregon Transportation Plan and the *Connect*Oregon program. Both guidance documents are used for making multimodal decisions. As part of developing this State Rail Pan, this section presents a framework for making rail-specific decisions that blends with existing policy and guidance.

Oregon Transportation Plan Guidance

Key Initiatives

As previously presented, the Oregon Transportation Plan (OTP) establishes goals to guide state, regional and local transportation plans. In providing overall policy direction and a framework for prioritizing transportation improvements, the OTP also defines key initiatives (priorities) needed to implement the plan.

The OTP does not identify specific projects for development. The key initiatives include many of the themes raised as priorities in State Rail Planning discussions, some of which are highlighted below:[1]

A. Maintain the existing transportation system to maximize the value of the assets. If funds are not available to maintain the system, develop a triage method for investing available funds.

- As the state's top priority for highway investments, preserve access to the state highway system and intermodal freight and passenger facilities (ports, airports and rail terminals).
- Preserve existing rail infrastructure where freight services are economically viable. Preserve passenger rail services within the Willamette Valley and from California to Washington.
- Work to maintain and improve access to port facilities.

B. Optimize system capacity and safety through information technology and other methods.

- Remove bottlenecks in the system where possible.
- Enhance incident response including emergency response to maintain safety and system capacity.
- Improve safety through emergency response, education, enforcement and infrastructure improvements to reduce crashes and transportation-related fatalities.

C. Integrate transportation, land use, economic development and the environment.

- Encourage and support land use plans and policies to enhance overall transportation system efficiency and transportation choices, including planning for compact and mixed use development in appropriate locations.
- Coordinate tribal, federal, state, local and regional planning to protect transportation facilities, corridors and sites for their identified functions and to facilitate community and economic development.

D. Integrate the transportation system across jurisdictions, ownerships and modes.

- Work with transportation providers, including federal and state agencies, cities, counties, transit districts and the private sector, to create plans to more efficiently and effectively manage and develop the transportation system.

E. Create a sustainable funding plan for Oregon transportation.

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[1] Full OTP key initiative text, are available in the adopted OTP: September 20, 2006.

- Engage the public to create a sustainable funding plan for transportation that includes clear choices on investment levels and addresses all modes and all parts of the state.

F. Invest strategically in capacity enhancements. Use the following considerations in making strategic investments:

- Balance maintenance and preservation needs with critical capacity enhancements and operations.
- Address key bottlenecks where feasible. This encompasses driver behavior and places where constricted movements are creating delay for passenger or goods movements including interchanges, tunnels, bridges, rail yards, transit malls and other hubs where existing capacity is overwhelmed by transportation movements.
- Support investments where congestion obstructs or impedes movement on key segments of the system.
- Balance intermodal investment considering return on investment and advancement of modal choice.
- Enhance intermodal areas which foster the integration of service delivery or provide for more efficient service delivery.
- Assist in the promotion of job development and retention in areas such as industrial/employment centers.
- Support the optimal use of technology to resolve issues or improve the effectiveness or integration of transportation elements.
- Make investments that further the long-term functioning of the system as a whole.
- Promote appropriate allocation and coordination of jurisdictional responsibility.
- Support regional and local land use plans.

OTP Scenarios and Evaluation Factors

The OTP notes that how the transportation system is optimized and invested in determines future transportation system conditions. Three funding scenarios were established to consider specific results and priorities:[2]

- **Response to Flat Funding.** In a flat funding situation, the system will deteriorate, providing neither livable communities nor a base for economic development.

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[2] Scenario descriptions, as taken from the *Oregon Transportation Plan, Executive Summary*, Adopted September 20, 2006.

- **Maintaining and Improving Existing Infrastructure and Services (Funding Increases with Inflation).** If current funding levels increase to keep up with inflation, the system can be better maintained and major bottlenecks can be addressed, but capacity is not substantially expanded.
- **Expanding Facilities and Services.** If new funding is judiciously applied to the most serious maintenance and capacity problems, while looking for innovative technologies, alternative funding and organizational solutions, the system can be well maintained for the long run.

Eight criteria were used to evaluate the OTP scenarios that reflect the OTP vision statement:[3]

- **Mobility and Accessibility** were defined as reaching desired destinations with relative ease, within a reasonable time, at a reasonable cost, with reasonable choices, including access to regional, national and international markets, as well as within a community. Mobility means an ability to move people and goods to their destinations quickly.
- **Economic Vitality** meant having a diversified and competitive regional economy with healthy and efficient markets and potential for long-term economic growth, including efficient and competitive movement of people, goods and ideas.
- **Effectiveness and Efficiency** were defined as maximizing the current and future public and private transportation investments over time; reaching the right target; use of lower cost alternatives; optimal utilization and system integration.
- **Equity** was defined as distributing benefits and burdens fairly; consideration of the benefits afforded to and costs borne by all social, economic and geographic groups of people.
- **Public Support for the System and Financial Feasibility** were defined as Oregonians agreeing with the policy direction; providing for the planning, development, operation and maintenance of the transportation system; and/or supporting adequate funding.
- **Reliable and Responsive** were defined as providing dependable levels of service by mode within established expectations; having flexibility or ability to react appropriately.
- **Safety** was defined as reducing the risk of death, injury or property loss.

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[3] Performance criteria descriptions, as taken from the *Oregon Transportation Plan, Technical Appendices – Volume 2*, Adopted September 20, 2006. Note, specific criterion used was not provided in the technical document.

- **Sustainability** was defined as a transportation system that meets present needs without compromising the ability of future generations to meet their needs. The system is operated, maintained and improved on the basis of positively affecting both the natural and built environments.

Each criterion was further defined through performance measures that were used to analyze scenarios.

*Connect*Oregon Guidance

Unlike the Oregon Transportation Plan, the *Connect*Oregon program is designed to select and prioritize projects for funding. For *Connect*Oregon the Oregon Transportation Commission (OTC) approves projects for funding with the assistance of input from 11 review committees that represent each of the five *Connect*Oregon Regions and six modal committees (aviation, marine, rail, transit, freight, and bicycle/pedestrian). In selecting projects, the OTC considers the five following considerations as put forth by the legislature:

- Whether a proposed transportation project **reduces transportation costs** for Oregon businesses or **improves access to jobs and sources of labor**;
- Whether a proposed transportation project results in an **economic benefit** to this state;
- Whether a proposed transportation project is a **critical link** connecting elements of Oregon's transportation system that will measurably **improve utilization and efficiency** of the system;
- How much of the **cost** of a proposed transportation project can be **borne by the applicant** for the grant or loan from any source other than the Multimodal Transportation Fund; and
- Whether a proposed transportation project is **ready for construction**.

In addition to these considerations, the current *Connect*Oregon program provides for investment to occur across the state by guaranteeing at least 10 percent of the total fund be invested in each of the *Connect*Oregon Regions.

To support the review committees' prioritization process, *Connect*Oregon staff sort projects into "Tiers" that indicate how many of the project Statutory Considerations identified in OAR 731-035-0060 are thoroughly met by the project. Tiers are assigned based on scores achieved from a combination of the Statutory Considerations Review and Economic Benefit Review.

Evaluation Criteria

Evaluation criteria to answer "Whether a proposed transportation project results in an economic benefit to this state" is found in the **Economic Benefit Review** section of the *Connect*Oregon application:

- Long-term jobs multiplied by projects useful life = long-term job-years – OR - Private investment ($) divided by [*Connect*Oregon V request/1 million] = Private investment per $ million requested from *Connect*Oregon
- Does this project serve one or more of Oregon's Statewide Business Clusters?
- Short-run construction-related jobs divided by [ConnectOregon IV request/1 million] = construction related jobs per $ million requested from *Connect*Oregon
- Project area unemployment rate compared to state unemployment rate
- Does this project improve Oregon's transportation system efficiency and/or utilization in specifically identified ways?
- Does the project improve safety?

Other general criteria found in the **Statutory Considerations Review** includes criteria responding to the questions "Whether a proposed transportation project reduces transportation costs for Oregon businesses or improves access to jobs and sources of labor" and "Whether a proposed transportation project is a critical link connecting elements of Oregon's transportation system that will measurably improve utilization and efficiency of the system," specifically, the benefits and impacts of the project to:

- Industrial or employments connections
- Linking workers to jobs
- Measurement of Success (Improved use and efficiency)
- Safety
- Transportation Connections
- Serving Business Clusters

Regarding "How much of the cost of a proposed transportation project can be borne by the applicant for the grant or loan from any source other than the Multimodal Transportation Fund" *Connect*Oregon provides a higher evaluation score for applicants that provide a larger match to *Connect*Oregon funds.

Regarding "Whether a proposed transportation project is ready for construction" *Connect*Oregon provides a higher evaluation score for projects that are ready to construct soon after grant execution. A project is awarded negative points if the project involves property that is not owned by applicant and negotiations are not underway.

As shown, both the OTP and *Connect*Oregon program employ a combination of quantitative and qualitative evaluation criteria.

4.2 CONSIDERATIONS FOR RAIL DECISION-MAKING FRAMEWORK AND EVALUATION FACTORS

Basis for the Framework and Evaluation Factors

Consistent with the way ODOT treats decision-making in all of its other long range transportation plans, this State Rail Plan does not specify individual projects for the long-range plan. However, future investment decisions about specific projects need to be informed by a clearly defined framework with evaluation factors that are consistent with the vision, goals, and objectives laid out in the plan. The framework that is proposed for future decision-making starts by establishing a compelling public interest in the investments and then proceeds to evaluate costs and benefits of state participation.

The recommended framework, presented in Section 4.3, is based to a large extent on a policy recommendation that was made in the *Statewide Rail Capacity and System Needs Study* prepared for the Washington State Transportation Commission (WSTC) in 2006.[4] The framework was adapted by the Washington Department of Transportation for use in selecting grant recipients for the state's Freight Rail Assistance program. The benefit categories and evaluation criteria that are incorporated into the framework for use in Oregon also rely on a variety of existing decision-making processes, such as *Connect*Oregon.

An investment framework should have the following features:

- The framework should be able to prioritize investments (projects) based on an evaluation of benefits.
- Benefits should correspond to the goals and objectives laid out in this States Rail Plan. Categories of benefits that are consistent with established goals and objectives include 1) mobility benefits, 2) economic benefits, 3) environmental benefits, and 4) community/safety benefits.
- Benefit factors and the framework in which they are evaluated must be consistent with any statutory requirements or regulations that are specified for the sources of funding that will be used to pay for the investments. For example, the statute that created *Connect*Oregon (ORS 367.084) cites five considerations in determining eligibility of projects for this funding source and these should be incorporated into benefit/evaluation factors.
- Benefit factors should be evaluated by using a mix of quantitative, qualitative, and non-monetary metrics. The use of a mix of different types of metrics will provide maximum flexibility to decision-makers and can account

[4] *Statewide Rail Capacity and System Needs Study* prepared by Cambridge Systematics with Berk & Associates, Global Insight, HDR, Starboard Alliance, and Transit Safety Management for the Washington State Transportation Commission, December 2006.

for different approaches to "weighting" different factors in the evaluation process while still providing a structured analytical approach to decision-making. The metrics may, out of necessity, be different for different types of projects. Nonetheless, it will be necessary to reduce the metrics to a common "scoring" system so that projects of different types can be compared to each other (for example scoring all projects based on whether they have "high", "medium", or "low" mobility benefits regardless of the specific metric used to determine this scoring for a particular project). The approach that has been used to select and rank projects for *Connect*Oregon, may provide a useful model for this type of scoring process.

- The framework recognizes that most investments that the state makes will be made in partnership with other parties. This is because a) most of the rail system is owned by private parties or public parties other than the state; b) many of the projects will involve improved access or services to rail-served ports or industries and these beneficiaries should share in the costs; and c) many of the projects will have specific local benefits (such as providing passenger services to local residents or resolving local impacts of rail movements in communities). Therefore, the investment decision-making framework needs to evaluate the benefits to each partner and the funding mechanisms should, to the maximum extent possible, allocate funding responsibility amongst the partners in proportion to the benefits that they receive.
- The participation of individual partners in funding or delivering a project, solving a problem, or promoting an opportunity may include funding but could also involve other types of support including in-kind contributions, providing guidance and technical expertise, or providing supporting regulations. The framework should provide guidance to the state to determine whether the project provides a compelling public interest (necessary to justify the state's participation) and what level of participation from the state is appropriate (and the nature of that participation).

Assessing Benefits and Costs from Stakeholder Perspectives

The recommended framework is designed to determine the degree and types of benefits that different users of the investment or affected stakeholders experience from the project. This information about stakeholder/partner interests is incorporated into the decision framework in order to determine what role these partners should be expected to play in paying for the project or providing other types of support. The goal is to ultimately describe a set of metrics for evaluation factors in each of the four major benefit categories/objectives mentioned previously 1) mobility benefits, 2) economic benefits, 3) environmental benefits, and 4) community/safety benefits) that are relevant to groups of stakeholders. An example of how this might be approached is summarized below.

- **State.** Benefit/evaluation factors should consider broad benefits to residents and businesses throughout the state as well as the potential to reduce costs

(or increase revenues) for state agencies. The evaluation of state benefits should be conducted broadly and not just from the perspective of ODOT. Potential factors from the state perspective could include:

- **Mobility** – improved system efficiency (measured in terms of reduced travel times and delays), improved system connectivity and access, increased system redundancy/resiliency, system preservation.
- **Economic** – statewide jobs impacts, benefit-cost ratio (including impacts on system maintenance costs), tax revenue impacts (through new or retained businesses).
- **Environment** – air quality impacts, statewide energy use impacts, greenhouse gas emissions impacts, other environmental impacts, public health impacts, environmental justice impacts.
- **Safety** – reduced incidents (property, injury, fatality).

- **Shippers.** This category could include industrial rail shippers who could benefit from rail system improvements. Ports are not direct users of the rail system but are very dependent on rail system performance. Therefore they are listed as a separate category of stakeholders.
  - **Mobility** – modal alternatives and improved access to markets and supplies, service reliability, travel times and delays.
  - **Economic** – business cost impacts (primarily through reduced costs of service).
- **Ports**
  - **Mobility** – improved system throughput, operational efficiency at terminals.
  - **Economic** – access to markets and expanded hinterlands.
  - **Environment** – reduced air quality and GHG impacts from port-related operations.
- **Railroads.** This category of stakeholders should include passenger service providers, Class I railroads, and short lines.
  - **Mobility** – improved system velocity and throughput, access to new and existing markets, reliability, reduced yard dwell times.
  - **Economic** – reduced costs of service, increase access to revenue traffic, system maintenance costs.
  - **Safety** – reduced incidents.
- **Passengers.** This category would include people who ride passenger rail and who could benefit from rail system improvements.

  - **Mobility** – improved travel times, increased frequency of service, improved access, modal alternatives (especially for underserved populations or other special needs groups).
  - **Economic** – costs of travel.
  - **Safety** – reduced involvement in incidents.
- **Communities**. Communities will be concerned with public benefits similar to those affecting the state but the focus will be on more localized public benefits.
  - **Mobility** – improved access especially for underserved populations, improved system efficiency for local users.
  - **Economic** – local jobs (primarily from rail-served industries of economic development around passenger station areas).
  - **Environment** – environmental justice impacts, localized public health impacts.
  - **Safety and community** – reduced incidents, reduced local land use conflicts.

If investments are expected to have significant multi-state or national impacts, the evaluation could include an economic impact analysis that demonstrates the economic impacts at local, state, multi-state, regional, or national level in order to determine if the investment should seek funding outside of Oregon. A framework for conducting this type of economic impact analysis is described in more detail in *Guide to Quantifying the Economic Impacts of Federal Investments in Large-Scale Freight Transportation Projects*.[5]

Quantitative Benefit-Cost Approaches

A quantitative benefit-cost analysis is useful as part of a framework for making investment decisions. However, there may also be a range of non-monetary and qualitative factors that should be considered when making investment decisions. Thus, the benefit-cost ratio for a project is suggested as one of many factors that are used to make investment decisions.

Benefit-cost analysis methodologies have been proposed or adopted by FRA and a number of other states and are used to make a variety of investment decisions. FRA developed it's methodology in the early 1990s for the Local Rail Freight Assistance Program, and it is directed primarily at job retention on short line railroads formed from Class I spin-offs. The methodology differentiates between

[5] *Guide to Quantifying the Economic Impacts of Federal Investments in Large-Scale Freight Transportation Projects*, Cambridge Systematics, Economic Development Research Group, and Boston Logistics Group, Office of the Secretary, U.S. Department of Transportation, 2006.

two types of benefits: efficiency benefits and secondary benefits. Table 4.1 lists the metrics used in the FRA benefits evaluation.

Table 4.1 FRA Measurement of Benefits

Benefits Description	Benefit Calculation
Efficiency Benefits	
Reduced transportation costs to shippers on base traffic	Difference between rates charged by alternate mode and rail on base traffic (traffic that occurs independently of the project).
Profits earned by the shipper in producing, shipping and selling incremental traffic	Profits provided by the shipper derived from incremental traffic.
Secondary Benefits	
Prevention of relocation costs of shippers/businesses.	Data provided by the shippers/businesses. These include costs of moving equipment and inventory, employees, and breaking the lease.
Avoidance of jobs loss	Value of the wages earned for the length time that workers would have been unemployed if the project was not undertaken.
Reduction in highway maintenance costs	No measure provided
Reduction in pollution emissions	No measure provided
Salvage value	No measure provided

Source: Federal Rail Administration, Benefit-Cost Methodology for Local Rail Freight Assistance

Some good examples of how states have built on this approach include Florida Department of Transportation and Tennessee Department of Transportation.

The WSTC investment framework referenced previously also recommends measures typically included in formal benefit-cost analysis of rail projects. These are presented in Table 4.2 and could form the basis for establishing the benefit-cost component of Oregon's rail investment decision-making framework.

Table 4.2 Recommended Measures to Include in Estimating a Benefit-Cost Ratio

Measure	Explanation
Transportation and Economic Benefits	
Avoided maintenance costs	If the project preserves rail service, the no-action alternative may put more trucks on the highway. This may produce a net positive or negative benefit to be evaluated based on the type of road affected and the cost of maintaining the rail line.
Reduction in shipper costs (for shipments originating in State) – freight only	Benefits derived from lower logistic costs to the shippers, which ultimately can lead to lower consumer prices.
Reduction in automobile delays at grade crossings	Benefits resulting from improving grade crossing and decreasing automobile delays.

Measure	Explanation
Economic Impacts	
New or retained jobs	Jobs that a particular project/action may keep from moving out of the State (e.g., by construction of a rail spur serving a factory or warehouse, etc.), or new jobs that are created within the State. Also to be considered are changes in job quality and pay levels (e.g., adding, losing, or changing union jobs).This measure accounts for both retained and new jobs.
Tax increases from industrial development	A rail action/project may foster industrial development that results ultimately in increased industrial property taxes to the State.
External Impacts	
Safety improvements	By diverting truck freight to rail, savings on highway safety improvements can occur.
Environmental benefits	Railroads are on average three or more times more fuel efficient than trucks. The State can benefit from savings due to environmental improvements.

Source: Cambridge Systematics

Assessing Benefits Across Stakeholders

A final step in evaluating rail investments involves taking the assessment of impacts by evaluation category for each of the affected stakeholder groups in order to determine if an investment is worth making and if so, what role should the state and other stakeholders play in funding and delivering the project.

A simplified approach is presented in which the metrics for each benefit category is reduced to a "high", "medium", or "low" rating and these are then combined to provide an overall rating of the project from the perspective of each stakeholder group. The assignment of an overall assessment of benefits and costs as "high", "medium", or "low" is a process of value judgment by the decision-maker, informed by the structured analysis. The process can include the scoring of individual factors on quantitative scale that allows for ease in combining benefit scores and standardizes the value and weight placed on each factor.

An example of how this type of evaluation could be used to determine how to decide whether a project should be done and, if so, whether the state should participate (and in what capacity) is presented in Table 4.3 taken from the WSTC study.

The next section of this report presents the recommended investment framework and evaluation factors for Oregon.

Table 4.3 Example Benefit Evaluation Cross-User Group Comparison

Proposed Action	State	Shippers	Passengers	Railroads	Port	Community	Likely Recommendation	Level of Action	Example
A	H	H	H	H	H	H	State should participate, but only if other beneficiaries contribute appropriate share	Consider direct investment and supporting legal and institutional mechanisms	Consider sources such as additional dedicated state freight rail funds, Federal funding sources through MAP-21, TIGER, and other state matching sources
B	H	L	L	L	L	H	State should participate and be prepared to contribute more than other groups	Consider direct investment and supporting legal and institutional mechanisms	Consider sources such as additional dedicated state freight rail funds, Federal funding sources through MAP-21, TIGER, and other state matching sources
C	M	M	M	M	M	M	State should participate with caution and only if costs to do so are low	Consider tax exempt financing loans or other methods that have limited costs to State, but benefit private industry	Consider public-private partnerships, tax credits, and other non-financing incentives
D	L	H	H	H	H	L	State should probably not participate	State should probably not participate with financial, institutional, or legal mechanisms	No state role is anticipated
E	L	L	L	L	L	L	State should probably not participate	State should probably not participate with financial, institutional, or legal mechanisms	No state role is anticipated

Source: Cambridge Systematics

H = High; M = Medium; and L = Low.

4.3 RECOMMENDED FRAMEWORK AND EVALUATION FACTORS

Recommended Framework

As previously described, Oregon has established evaluation guidance in the OTP and detailed implementation processes in the *Connect*Oregon program. Oregon also uses other methods to make decisions, not presented in this document, such as criteria and processes used during development of the State Transportation Improvement Program (STIP) and considered by Area Commissions on Transportation (ACTs). The framework and evaluation factors recommended in this Plan must be consistent with these other methods and processes Oregon uses for making investment decisions, and must take into consideration and be consistent with any statutory requirements or regulations that are specified for the sources of funding that will be used to pay for the investments. For example, the statute that created *Connect*Oregon (ORS 367.084) cites five considerations in determining eligibility of projects for this funding source and these should be incorporated into any evaluation that intends to use those funds.

The Washington State framework reviewed in Section 4.2 provides a best practice approach that is specific to rail investments, and this State Rail Plan recommends that Oregon mirrors that framework (shown in Table 4.3) for several reasons:

- The framework recognizes that Oregon will make investments in partnership with other parties.
- The framework provides Oregon guidance on when projects have a compelling public interest.
- The framework provides Oregon guidance on what level of participation from the state and other stakeholders is appropriate (and the nature of that participation).
- The framework enables Oregon to prioritize investments based on an evaluation of benefits.
- The framework provides flexibility for Oregon to customize evaluation factors based on the project, funding program and involved stakeholders.
- This framework utilizes a common "scoring" system so that projects of different types can be compared to each other as much as possible. For example, scoring projects based on whether they have "high", "medium", or "low" benefits regardless of the specific metric.

The recommended rail investment framework will enable Oregon to identify projects that benefit the public interest, prioritize those projects, and determine

funding responsibility of other rail stakeholders in consideration to the benefits that they receive.

Recommended Evaluation Factors

While the framework for rail investment decision-making has been adapted from other processes (e.g. Washington State rail investments), the recommended evaluation factors have been customized for Oregon. There are numerous evaluation factors that can be considered when making rail investment decisions; the focus of factors in this Plan are those that articulate the various rail stakeholder perspectives, but most importantly best represent public benefit so that a determination of level of program or project partnership (whether financial or non-financial) can be made. The recommended evaluation factors have been selected for several reasons:

- The evaluation factors are aligned with key objectives identified in this Plan, including achieving 1) mobility benefits, 2) economic benefits, 3) environmental benefits, and 4) community/safety benefits.
- The evaluation factors reflect those aspects of system performance most critical to each of the public- and private-sector rail stakeholders, including the State of Oregon, shippers, ports, railroads, passengers, and communities.
- The evaluation factors are both quantitative and qualitative:
  - The quantitative variables are provided so that public benefit can be evaluated in a simple manner and input into benefit-cost type consideration.
  - The qualitative factors are meant to help with "fatal flaw" analysis, such as a review to ensure that proposed projects are practical and fit within Oregon's goals.

The recommended factors for quantitative evaluation are presented in Table 4.4. This Plan recommends that a mix of different types of factors be used to provide maximum flexibility. The factors used during evaluations may, out of necessity, be different for different types of projects. However, each stakeholder should just have a "few good measures" that represent their perspective during evaluation. It is recognized that in some cases (particularly for private parties), these evaluations may need to be qualitative. In the case of the State, to conduct a benefit-cost evaluation, effort should be made to quantify each of the factors; however it is recognized that the state has environmental and livable objectives that factor into decisions and are not easily quantifiable.

The *Connect*Oregon program also uses qualitative factors that this Plan recommends be applied when considering rail project investments. The *Connect*Oregon criteria include:

1. How much of the cost of a proposed transportation project can be borne by the applicant for the grant or loan from any source other than the Multimodal Transportation Fund?, and

2. Is the transportation project ready for construction?

As this Plan recommends the framework presented in Table 4.3, which assigns cost commensurate to benefits received, "Question 1" should be modified to reflect this, for example:

1. Do rail partners have funding available for the project, commensurate with the benefits they receive?

Currently the *Connect*Oregon program has an 80 percent State share and a 20 percent local or other match. It is expected that when partner benefits are evaluated, the State share may be reduced and there will be an opportunity for Oregon to better leverage scare resources with additional private sector contribution. This thinking is in line with the *Connect*Oregon program, as that program provides a higher score to projects that contribute over the 20 percent match. In fact, several projects where Class I railroads were partners the railroads contributed well over 20 percent and in an example shown in Appendix B, UP contributed 75 percent of the project cost.

Additional Evaluation Factors

One of the unique aspects of the recommended framework is that it is flexible; the framework and evaluation factors can be customized based on project type and stakeholders involved. As developed by the State Rail Plan Steering Committee, two investment areas were identified with customized evaluation factors through the Plan's policy and strategy work – rail preservation and investments in new passenger rail service.

Preservation Evaluation Factors

The history of rail line abandonment in the State of Oregon, whether due to economic events or natural disasters, has prompted Oregon to consider how and when the State should participate in the purchase of and/or invest in rail lines. Most states approach public ownership of railroads as an option of last resort, recognizing that the economic benefits of a given property simply will not support costs associated with purchase and operation by a new entity. However, the threat of losing rail lines poses a cost to the transportation network that states are not willing to ignore. Several factors were identified to help the State determine the potential future viability of a rail line, if service were to continue. These include:

- Existing industry base using the line;
- Potential industrial customers not presently using the line but can be accessed by it;
- How the line is connected to the national railroad system;
- Geography of the line and its potential service territory;
- Unique circumstances affecting operating costs and revenue potential; and

- Regional vision for the future (what is expected to happen in the area served over the next 50 years?).

These factors have been formally incorporated into this Plan's preservation policy and are identified in Strategy 3f.

Passenger Rail Evaluation Factors

The State is currently studying the feasibility of improving/expanding passenger service in the *Cascades* Corridor between Eugene, Oregon and Vancouver, Washington. This Plan also reviewed, at high-level, other corridors in the State that may be candidates for passenger rail service in the long-term future and may warrant further evaluation. For each of these passenger corridors, prior to the State making significant investments, basic factors relating to overall viability of the operation should be weighed including:

- Will the service attract sufficient ridership and revenues to justify the service?
- What are the potential costs of the service?
- What are the economic and social benefits to the state, to local communities and to potential passengers who may have different needs and requirements?
- What are the alternatives to providing the service?
- How does the service satisfy state and local transportation goals?

These factors have been formally incorporated into this Plan's passenger rail policy and are identified in Strategy 2f.

Table 4.4 Recommended Quantitative Evaluation Factors

Rail Partner	Recommended Evaluation Factors			
	Mobility	**Economic**	**Environment**	**Safety**
State	• Improved system efficiency (measured in terms of reduced travel times and delays) • Improved system connectivity and access • Increased system preservation (See preservation factors under "Additional Evaluation Factors") • Improved passenger rail service (See passenger rail factors under "Additional Evaluation Factors")	• Increased statewide jobs created/retained (public sector, private sector, and including long-term vs. construction jobs) • Positive tax revenue impacts (through new or retained businesses) • Benefit-cost ratio (including impacts on avoided system maintenance costs)	• Improved air quality • Reduced statewide energy use • Reduced greenhouse gas emissions impacts • Improved public health • Reduced environmental justice impacts	• Reduced incidents (property, injury, fatality)
Shippers	• Increased modal alternatives and access to service (does project increase rail/transportation service options?) • Improved service reliability (on-time performance) • Reduced travel time and delays	• Positive business cost impact (primarily through reduced costs of service) • Improved access to markets and supplies		• Reduced incidents (property, injury, fatality)
Ports	• Improved system throughput • Increased operational efficiency at terminals	• Improved access to markets and expanded hinterlands	• Improved air quality and reduced greenhouse gas impacts from port-related operations	• Reduced incidents (property, injury, fatality)
Railroads	• Increased system velocity and throughput • Increased reliability • Reduced hours of train delay • Reduced yard dwell time	• Improved access to new and existing markets • Increased revenue traffic • Reduced system maintenance costs • Improved equipment utilization	• Reduced fuel consumption	• Reduced incidents (property, injury, fatality)
Passengers	• Increased modal choice/access (especially for underserved populations or other special needs groups) • Improved travel time • Increased frequency of service	• Reduced cost of travel		• Reduced involvement in incidents
Communities (similar to State)	• Reduced roadway delays and truck/auto delay at grade crossings • Improved access especially for underserved populations	• Increased local Jobs (primarily from rail-served industries of economic development around passenger station areas)	• Improved air quality • Improved public health • Reduced environmental justice impacts	• Reduced incidents (property, injury, fatality) • Reduced local land use conflicts

5.0 Investment Program

The objective of the investment program is to establish the "action plan" component of this State Rail Plan. While Section 2.0 provides the State's long-range, 20+-year vision for the passenger and freight rail system, this section describes how the State will proceed in planning and programming decision-making so that the vision can be achieved in a coordinated and integrated way. A substantial part of this section establishes policy and supporting strategies. A second part of this section identifies opportunities for Oregon to invest in rail project types in the future.

5.1 GOALS, POLICIES AND STRATEGIES

For each of the goals introduced in Section 2.3, additional background, supporting policies and strategies have been defined to assist the state and Oregon's rail stakeholders achieve the Oregon State Rail Plan Vision.

Goal 1 - Partnership, Collaboration and Communication

***Goal statement:* Partner, collaborate and communicate with rail system operators and other stakeholders to maximize benefits, align interests, remove barriers and bring innovative solutions to the rail system; and foster public understanding of rail's importance.**

Background

Nearly all of the rail system in Oregon is privately owned and decisions about investments by these companies are based on business considerations. However, rail is a vital part of the State's multimodal transportation network and part of a national network that requires planning, partnership, collaboration and open communication between the public and private sector. The State has a responsibility to include in public discourse about the transportation system the benefits of rail and the importance of partnerships with private rail carriers.

Collaboration means public-private and public-public partnerships to identify system "needs" and conduct planning, as demonstrated by this State Rail Plan. It relates to infrastructure investment, as the State has successfully shown with the *Connect*Oregon program. It also means collaboration with local jurisdictions on how to best plan for and integrate rail facilities and systems into communities, and on local land use decisions that protect and preserve rail corridors. Collaboration on multi-state and multi-national corridor projects, which involves a wide variety of public and private partners, is an important part of Oregon's State Rail Plan Vision.

Policies

1.1 Coordinate among system owners, operators, jurisdictions and other partners to ensure the rail system is integrated as a component of the broader multimodal transportation network in Oregon.

1.2 Work with local jurisdictions and railroads to coordinate land use plans and policies to preserve and protect rail corridors, and take into account community needs in relation to the rail system.

1.3 Communicate the benefits of the rail system in Oregon.

Strategies

1a. Work collaboratively with private railroads, jurisdictions and agencies, both within Oregon and in other states, to pursue system improvements and operations that mutually benefit stakeholders over the long term.

1b. Participate in working groups with rail service providers to plan and review operations in shared-use (e.g. freight and passenger) corridors.

1c. Participate in multi-state and bi-national freight and passenger planning efforts to identify mutually beneficial improvements and compatible operations in multi-state and bi-national rail corridors.

1d. Coordinate and participate in rail-related projects and advisory groups that include shippers, carriers, and railroads, including enhanced rail perspectives in Area Commissions on Transportation, Metropolitan Planning Organizations and local advisory boards, and state advisory committees.

1e. Work with local jurisdictions and private industries to coordinate local planning activities and interactions with Class I and short line railroads and service providers.

1f. Provide planning guidance (e.g., transportation system planning guidance, model zoning ordinances, design standards and best practices) to regional and local jurisdictions to minimize conflicts from incompatible land uses in rail corridors and better integrate rail into communities.

1g. Integrate rail system considerations in state, regional and local system and facility plans. Provide guidance documents that promote best practices for multimodal transportation planning and rail integration.

1h. Provide guidance and contact information to local jurisdictions and other partners seeking to plan for, make investments in or conduct work near railroad facilities.

1i. Provide public information on rail benefits (including system congestion, economic, environmental and sustainability benefits), objectives and

opportunities as part of a multimodal transportation system, and information on the benefits and opportunities for public-private partnerships in rail.

Goal 2 - Connected System

***Goal statement:* Promote, preserve and enhance an efficient rail system that is accessible and integrated with Oregon's overall multimodal transportation system.**

Background

For rail to effectively play its critical role in Oregon's transportation system, it must be integrated with and connected to other modes and to other rail systems. Rail corridors and services ensure connectivity within and across the state and nation, linking major population and employment centers, and linking industrial users to their suppliers and markets. Passenger stations and platforms, freight rail yards, transload and port facilities provide the connection points at which modal transfers are made whether by people or goods.

From the first-mile to the last-mile, each element of a connected system has a distinct role and the effectiveness and efficiency of the system is only good as the performance of the weakest link. Promoting, preserving and enhancing rail services and connections ensure modal options are available to enhance mobility and overall transportation system resiliency for residents and businesses.[6]

Policies

2.1 Make investments that enhance the integration, efficiency and reliability of rail connections with intermodal freight facilities and access by industries and businesses that could benefit from rail services in urban and rural areas of the state.

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[6] ODOT is conducting an Environmental Impact Statement (EIS) and Corridor Investment Plan for the Willamette Valley portion of the Cascades corridor. With eight of the ten largest cities in Oregon along the corridor, including the state's three largest metropolitan areas of Portland, Salem-Keizer, and Eugene-Springfield, the State is positioning itself to accommodate expected population growth in the Willamette Valley of 35 percent, with an overall regional population reaching approximately 3.6 million by the year 2035. The project strives to improve the frequency, convenience, speed and reliability of passenger rail service along the corridor.. Results from the corridor work may warrant future amendments and additions to this State Rail Plan. Future evaluation and consideration of other corridors may also lead to future revisions to this Plan.

2.2 Enhance and promote an intercity passenger rail system that is easy to use, frequent, reliable, cost-effective, affordable, has competitive travel times, and promotes access and transportation connectivity for all potential users, including the transportation disadvantaged.

2.3 Enhance and promote a commuter rail system for intra-regional mobility that is easy to use, frequent, reliable, cost-effective, affordable, has competitive travel times, and promotes access and transportation connectivity for all potential users, including the transportation disadvantaged.

2.4 Explore the feasibility and practicality of high speed passenger rail service in the *Cascades* corridor through corridor assessment, visioning work and planning for improvement projects.

Strategies

2a. Increase rail use by Oregon industries and businesses through programs, investments, and facilities that help aggregate freight rail traffic and Cargo-Oriented Development (COD) consistent with private railroads' business models; work with communities to develop land use plans that encourage and provide incentives for industrial land uses and COD near rail lines.

2b. Emphasize intermodal, multimodal and first- and last-mile connectivity to key multimodal facilities, including ports.

2c. Work toward rail system connectivity, resiliency and redundancy within the overall transportation system to help Oregon mitigate and recover quickly from natural disasters or human caused disruptions.

2d. Support and make investments to improve accessibility within and to various regions of the state, including east-west connectivity and connectivity across state lines consistent with strategies on passenger and commuter rail service and stops.

2e. Enhance and promote intercity and commuter passenger rail services as a viable/cost-effective choice for travelers, taking into consideration travel market characteristics (size of market, frequency and time of day characteristics of travel, cost and convenience of competing alternatives).

2f. Evaluation of new intercity and commuter passenger rail services across Oregon must consider and balance a number of policy questions including at a minimum:

- Will the service attract sufficient ridership and revenues to justify the service?
- What are the potential costs of the service?

- What are the economic and social benefits to the state, to local communities and to potential passengers who may have different needs and requirements?
- What are the alternatives to providing the service?
- How does the service satisfy state and local transportation goals?

2g. Continue to work with the Federal Railroad Administration on a Corridor Investment Plan, to facilitate decisions on future rail service in the Cascades corridor, including general rail alignment, communities where stations could be located, number of daily trips, travel time objectives and the rail technology to be used.

2h. Participate in a high speed rail vision group to develop a conceptual corridor assessment and high-level costs for high speed rail between the Eugene-Springfield area and Vancouver, Washington, with implementation beyond 2035. Actions needed by local, state, and federal governments to advance development and funding of the concept should be identified.

2i. Work with Washington State to initiate a public process and formalize a new stop policy for the Cascades corridor. In the interim, evaluate new proposals to add station stops based on benefits and disadvantages for the entire service. The addition of a station stop should not degrade service or add uncompensated costs for partners of intercity passenger rail service without a full evaluation and balance of established criteria in a final decision. Evaluation criteria should include at a minimum:

- Consistency with the State Rail Plan,
- Operational feasibility,
- Customer demand and population served,
- Station suitability,
- Interconnectivity benefits, and
- Fiscal viability.

2j. Support and make investments in intercity bus transportation and transit services that enhance, supplement, and expand access and connectivity of the intercity and commuter passenger rail networks in Oregon.

2k. Work with local jurisdictions to plan for integrated multimodal station areas with connectivity to the local street network, intercity bus and local transit systems, and bicycle and pedestrian facilities.

Goal 3 – System Investments and Preservation

***Goal statement:* Enhance transportation system reliability, frequency and travel times through investments that preserve and improve freight and passenger rail assets and infrastructure.**

Background

Bottlenecks, capacity needs and other system deficiencies degrade the performance, safety, and attractiveness of the rail system. In particular, deficiencies that impact system travel time and reliability influence how, and how frequently, rail service is used. Maintaining passenger and freight rail system condition at a state of good repair, closely aligned with system demand and economic development potential, ensures the system can serve residents and businesses in the most efficient manner possible while providing modal options. Making improvements on rail lines with shared passenger and freight operations can provide more reliable trains, more frequent trains and shorter travel times.

The loss of any rail service in Oregon is an economic loss.[7] The further loss of rail corridors/right-of-way signifies the end of development opportunities that could be rail served in the future. The State will work with local agencies to consider factors and choices for preserving or projecting rail services and corridors so that rail services continue to function and that future system expansion is possible. Rail abandonment will only be used as a last resort if there are no justifiable reasons to save the line or right-of–way.

Policies

3.1 Make investments in rail corridors in partnership with private railroads and other jurisdictions to eliminate choke points, improve network fluidity, and maintain the rail system in a state of good repair. Public investments should be made in projects that address needs identified in the State Rail Plan, consistent with the investment principles and policies of the State Rail Plan.

3.2 Preserve the rail system service, infrastructure and assets in Oregon to meet existing objectives and capitalize on future opportunities.

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[7] In the wake of the Staggers Act, railroads sold many of their lines which had low traffic density in order to improve financial performance. While the most marginal lines were abandoned, many were sold or leased to non-Class I line operators. Subsequently, these shortline operators either succeeded in improving the lines' financial performance through lower operating costs and improved service, or were eventually forced to cease operations. Thus, where abandonment applications were once primarily a Class I phenomenon, in recent years, a growing portion of line abandonments have been filed by non-Class I lines.

Strategies

3a. Evaluate the benefits of designating strategic rail facilities and corridors and its role in informing public investment and planning decisions.

3b. Leverage and support Class I railroad investments to eliminate critical bottlenecks and choke points.

3c. Leverage investments and support short line railroads to upgrade track and maintain the system in a state of good repair where there is a demonstrated rail system, economic, and public benefit for the state and/or region, and when a viable long term business plan has been demonstrated.

3d. As required by statute (ORS 824.202), eliminate at-grade crossings wherever possible. Give priority for closing crossings with the greatest potential for train conflicts with other modes, and redundant crossings. Where rail grade crossings provide an important route for local pedestrian, bicycle or vehicle circulation, the needs of these local movements must be considered in decisions for closing or modifying existing crossings or adding new crossings.

3e. Make and facilitate investments that address intermodal terminal and rail yard capacity needs consistent with the State Rail Plan (e.g., identification or provision of suitable sites and assistance with permitting requirements), where there is market support for such facilities.

3f. Factors for decision making on preservation actions should include, at a minimum:

- Existing industry base using the line.
- Potential industrial customers not presently using the line but can be accessed by it.
- How the line is connected to the national railroad system.
- Geography of the line and its potential service territory.
- Unique circumstances affecting operating costs and revenue potential.
- Regional vision for the future (what is expected to happen in the area served over the next 50 years?)

3g. Preserve the rail system through a hierarchy of investment and action:

- **1) Preserve Service –** Continue rail service on an endangered line through partial subsidization of the railroad operator, acquisition of the line by the public, or some combination of methods to keep service on the line.
- **2) Preserve Infrastructure –** Preserve the right-of-way and improvements (e.g. track structure) that occupy the right-of-way through means such as

acquiring the corridor or otherwise preserving the infrastructure in place for some indeterminate period. The corridor could be brought back to operation at any time, although more resources will likely be required to resume service the longer the corridor is out of operation.

- **3) Rail Banking –** Invoke rails-to-trails legislation to preserve the right-of-way for interim trail use and the potential for the future return of railroad use. The railroad can salvage track but should leave the bridges, tunnels, embankments, etc., for trail and future rail use.
- **4) Rail line abandonment -** Rail line abandonment will be used only as a last resort if there are no justifiable reasons to save the rail line or the right-of-way. Even in this instance, right-of-way preservation may have a continued public benefit for other modes.

Goal 4 - Funding, Finance and Investment Principles

Goal statement: Establish a funding structure that meets the critical needs of the rail system in Oregon and achieve the objectives of this State Rail Plan.

Background

Oregon's lack of dedicated, sustainable funding for rail investments is one of the top challenges facing both the passenger and freight rail systems in the state. Without funding, Oregon does not have revenue available, nor the required federal match, to improve, maintain and operate passenger rail services. Significant funds are also needed to maintain and improve the freight rail systems that are vital to Oregon's businesses and economy. Establishing a publicly accepted funding and financing structure/mechanisms to address the short- and longer-term rail needs identified in this Plan is paramount.[8]

Policies

4.1 Preserve and improve the freight, passenger and commuter rail transportation system where there are public benefits to Oregon, its businesses and its communities.

4.2 Preserve and improve the rail system in ways that: 1) emphasize operations and non-financial participation before capital investment; 2) preserve and encourage competition between freight railroads; 3) encourage private

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[8] The *Connect*Oregon program has made significant contributions to the rail system by successfully leveraging resources. However, these funds are multimodal in nature, and passenger and freight rail projects must compete with air, water and other transit projects for their share.

investment that advances State economic development goals; 4) leverage State participation by allocating cost responsibility among beneficiaries; and 5) require projects to have viable business plans and proposals.

4.3 Develop a permanent rail funding and finance structure that addresses the public funding and critical needs aspects of rail investments.

Strategies

4a. Develop and maintain a short-/long-range rail investment needs inventory in partnership with railroad owners and operators that is consistent with needs identified in the State Rail Plan.

4b. Enhance or develop performance measures and benefit/cost-type tools that inform evaluation of rail investments based on benefits to Oregon's economy, improved freight and passenger mobility, improved safety, and improved environmental conditions of the transportation system in Oregon.

4c. Make investments that benefit system operations for freight, intercity passenger and commuter rail service (or do not degrade one service type in favor of another), that eliminate conflicts in shared-use corridors, and that allow for future service improvements.

4d. Maximize and leverage railroad investments through *Connect*Oregon and other multimodal funding programs.

4e. Work towards securing a sustainable funding source to address critical freight, passenger and commuter rail system needs for both capital improvements and operations.

4f. Use funding and financing mechanisms that are understandable to transportation system users and the public, and minimize undesirable long-term impacts.

4g. Use Public-Private and Public-Public Partnerships for system investment that benefits both private and public objectives.

Goal 5 - System Safety

Goal statement: ***Plan, construct, operate, maintain, and coordinate the rail system in Oregon with safety and security for all users and communities as a top priority.***

Background

Oregon will continue to approach all aspects of the rail system operation, whether related to planning, construction, operation or maintenance, with

system safety and security as a top priority. Shared freight and passenger corridor operations, street running, at-grade rail crossings, and trespassing on private rail property, and shipment of commodities are specific areas where rail safety is a concern and solutions will be coordinated with private-sector and local community partners, including emergency service response providers.

At-grade rail crossings are a point of conflict between freight and passenger rail operations and the traveling public using the crossing roadway. While Oregon has a statute to eliminate crossings wherever possible, project cost, weighed against the available resources, expected benefits and consideration of local conditions, may result in application of alternate mitigation approaches, such as lower cost improvements and use of technology.[9]

Safety education and awareness programs are key components to improving rail system safety.[10]

Policy

5.1 Improve the safety and security of the rail transportation system for users including operators and employees, passengers, recipients of goods and services, users of other transportation modes, communities and property owners.

Strategies

5a. Support safety and security awareness programs, operational improvements, including new technology and equipment, enforcement activities, and response plans that promote overall system safety and security.

5b. Make every effort to further the safety and security of employees working on the rail system, passengers of the rail system, communities near the rail lines and the commodities being transported by rail.

5c. Work in partnership with railroad operators, state and federal agencies, local communities, and emergency service providers to provide for the safe transport of commodities throughout the state.[11]

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[9] Crossing strategies are also discussed under *Goal 3 – System Investments and Preservation* since they are recognized as a strategic investment that improves operations as well as system safety

[10] Trespassing on railroad private property and along railroad right-of-way is the leading cause of rail-related fatalities in the U.S.; more people have been fatally injured each year by trespassing than in motor vehicle collisions with trains at highway-rail grade crossings.

[11] In response to the increase in domestic rail shipments of crude oil, Governor Kitzhaber has organized an interagency review of the state's role and responsibility

Footnote continued

5d. Increase safety through reduction, prevention or management of potential conflicts between rail and other users of the transportation system, including the consideration of Quiet Zones when federal requirements are met and safety is fully considered.

5e. Design transportation projects to avoid, reduce or address potential safety concerns with at-grade or grade separated crossings in coordination with the ODOT Rail Division.

Goal 6 - Preserving and Enhancing Quality of Life

Goal statement: ***Increase use and investment in freight and passenger rail systems to conserve and improve Oregon's environment and community cohesion.***

Background

Both passenger and freight rail system benefits can help to meet Oregon's quality of life objectives. Rail links residents to jobs contributing to community livability through mode choice, increased mobility and lower transportation costs. Quality of life is enhanced and passenger and commuter rail spurs economic opportunities at station locations through better integration of rail systems, land use planning and Transit-Oriented Development. Rail systems also provide critical links to underserved areas in the state by providing key connections to urban areas, multimodal facilities and national or international markets.

Increasing the use of both passenger and freight rail provides benefits beyond the rail system, such as reducing emissions, fuel consumption, roadway congestion, and pavement maintenance costs.

Policy

6.1 In setting priorities for system investments, explicitly take into account rail's role in providing a transportation system that is environmentally responsible and that encourages conservation and protection of natural resources.

6.2 Consider environmental and community impacts and resources in rail transportation decisions.

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in rail safety and hazardous material response. Rail safety relies on partnerships between railroads, federal and state agencies, local communities and emergency service providers. The ODOT Rail and Public Transit Division ensures compliance with state and federal regulations related to track, locomotives and rail cars, hazardous material transport, and railroad operating practices.

Strategies

6a. Provide information about the role the rail system plays in reducing emissions and reducing traffic on highways.

6b. Advance fuel-efficient rail operations, vehicle design and the use of cleaner fuels as part of Oregon's goal to move toward a cleaner and more diverse energy supply that protects people's health and the environment while making the system more resilient to oil price uncertainty and shocks.

6c. Make passenger and commuter rail improvements that enhance existing compact communities and neighborhoods and support the continued integration of residential, commercial and employment land uses.

6d. Work with railroads to provide efficient intercity mobility through and near urban areas in a manner which minimizes adverse effects on urban land use and travel patterns, including noise mitigation where appropriate and rail crossing considerations.

6e. Provide planning guidance and work with railroads to better integrate passenger and commuter rail systems into land use plans (e.g., multimodal connectivity, station area planning, and new or relocated stops policy).

Goal 7 - Economic Development

***Goal statement:* Increase opportunity and investment in freight and passenger rail assets to grow Oregon's economy.**

Background

The 2011 Oregon State Freight Plan (OFP) estimates that freight demand will grow by nearly 90-percent between 2002 and 2035, comprising a substantial part of Oregon's overall economy. The OFP estimated 31 percent of Oregon's economy is based on goods movement dependent industries, including a substantial portion served by rail such as timber, wood products, and paper; agriculture and food; manufacturing; construction; and wholesale and retail trade. At the same time, Oregon is expected to add about 1.3 million residents through 2040. Without preservation and strategic investments in the rail system, other modes will have to shoulder the load and Oregon's highway system will experience increased congestion. Both degenerative highway and rail systems will negatively impact Oregon industries and cause them to be less competitive in an increasingly challenging global economy. Rail system investments are critical to retaining Oregon's existing jobs and businesses, and provide an opportunity to leverage private sector funds.

Rail also plays a key role in growing existing Oregon industries and attracting new ones to the state. In particular, maintaining and growing rail connections to

ports and identifying opportunities to spur Cargo-Oriented Development are two examples of investments communities can spearhead, in partnership with private sector partners, to contribute to state and local economic development efforts.

Policy

7.1 Leverage the rail system in Oregon to promote and grow jobs throughout the state.

Strategies

7a. Coordinate private and public resources to provide rail system improvements and services that contribute to, or help develop, active and vital economic centers and jobs throughout Oregon.

7b. Promote and support the co-location of economic activities and appropriate transportation facilities with convenient and reliable access to freight and passenger rail options.

7c. Leverage investments in the freight rail system to provide Oregon a competitive advantage by moving goods faster and more reliably to regional, national and international markets.

7d. Make investments in the passenger rail system to so that intrastate, interstate and international travelers can travel easily for business and recreation.

5.2 RAIL SYSTEM INVESTMENTS

The State Rail Plan conducted needs assessments for both freight and passenger rail systems in Oregon. A variety of needs were identified, ranging from the need to reduce passenger rail travel time and increase service frequency in existing service, to improving short line bridge and track weight limits and providing improvements at at-grade rail crossings. Each of these needs have been translated into projects that mitigate the condition. These projects have been collapsed into general "project types." As with other statewide plans in Oregon, this State Rail Plan does not recommend specific projects. The project types are divided into passenger- and freight-related.

Passenger Rail-related Project Types

- Passenger Rail Operations and Maintenance for Existing Services
- Passenger Rail Capital Improvements for Service Upgrades (station additions, increased frequency, etc.)
- Passenger Rail New Services

Freight Rail-related Project Types

- Class I Chokepoints
- Short Line State of Good Repair
- Grade Separations
- Crossing Safety Improvements
- Railroad Corridor Preservation (Right-Of-Way)
- Railroad Corridor Preservation (Infrastructure)
- Port-related Rail Projects (intermodal connectivity)
- Yard Improvements
- Industrial Access Improvements
- Traffic Consolidation Facilities/Logistics Centers/Inland Ports
- Low Emission Locomotive Technology

To better understand how different project types can provide benefits to rail stakeholders, and warrant investment by those stakeholders, five project case studies have been developed and are provided in Appendix B. These case studies highlight how the recommended evaluation factors in Section 4.3 can be applied to stakeholder perspectives. The case studies provide insight into the level of benefits for various project types and this qualitative information has been reviewed for consideration in determining rail system investments in this Plan. For each of the project types, examples of potential projects that may be funded by the state and partner agencies are identified in Appendix C.

Steering Committee Input

The State Rail Plan Steering Committee provided input throughout Plan development and provided feedback on the types of projects they felt should be brought forth and emphasized during investment decision-making. The following theme organization provides further insight into why project types were selected for the investment plan and shows how project types and investments can be linked to State Rail Plan goals.

For any/all projects that are considered for funding, the Steering Committee agreed that benefit-cost type evaluations should be used when possible, as well as consideration for the full life-cycle costs of projects and their impact not only on the rail system, but also their impact on other modes. The Committee also noted that priority should be given to those projects that are shovel ready and have the potential to capture and leverage state, federal or other funding opportunities as they arise. Their feedback is categorized in the following themes, and is not in priority order.

Projects that Benefit Multiple Modes and Services

In the interest of making efficient use of scarce financial resources, it was recommended that projects benefitting more than one transportation mode or service be emphasized. This includes projects on shared freight-passenger rail corridors that improve both types of service (and degrade neither service), as well as those rail projects that provide additional benefits to adjacent roadways (such as access or safety improvements). Project types that could accomplish this include:

- Passenger Rail Operations and Maintaining Existing Services
- Passenger Rail Capital Improvements for Service Upgrades
- Class I Chokepoints
- Grade Separations
- Crossing Safety Improvements

Projects that Maintain and Improve/Expand Passenger Rail Service

Projects that maintain and improve passenger service on existing corridors and introduce passenger service in new corridors, where there is market demand and that consider established factors, should be emphasized. These projects are important due to several factors in the State, and largely demographic shifts that show the retiree population increasing and the younger population choosing not drive as much. Project types that could accomplish this include:

- Passenger Rail Operations and Maintenance for Existing Services
- Passenger Rail Capital Improvements for Service Upgrades
- Passenger Rail New Services

Projects that Ensure Rail System State of Good Repair

Ensuring system state of good repair also relates to ensuring the rail system is safe. Historically short line rail operators have had a difficult time making their cost of capital, yet provide essential rail service to businesses throughout Oregon. Projects that maintain the short line system in a state of good repair, as well as those projects that improve overall system safety, should be emphasized. Project types that could accomplish this include:

- Short Line State of Good Repair
- Grade Separations
- Crossing Safety Improvements

Projects that Benefit the Environment and Communities

Projects that reduce vehicle emissions in Oregon and lead to improved air quality, reduce statewide energy use and greenhouse gas emissions, improve public health, reduce noise pollution and provide safety benefits to communities should be emphasized. Project types that could accomplish this include:

- Passenger Rail Operations and Maintenance for Existing Services
- Passenger Rail Capital Improvements for Service Upgrades
- Passenger Rail New Services
- Grade Separations
- Low Emission Locomotive Technology

Projects that Derive Economic Benefits

The rail system is a conduit for commerce and should be used to increase economic benefits to the state and local communities where they operate. These benefits could include an increase in jobs and tax revenue, reduced travel and service costs, improve access to existing and new markets, and an increase in revenue. Project types that could accomplish this include:

- Passenger Rail Capital Improvements for Service Upgrades
- Port-related Rail Projects (e.g. intermodal connectivity projects)
- Yard Improvements
- Industrial Access Improvements
- Traffic Consolidation Facilities/Logistics Centers/Inland Ports

Projects that Preserve and are Scalable

A message the Steering Committee consistently put forth was that the State should be forward looking and seize opportunities to take a scaled approach to project development and investment. This comment primarily related to preservation of rail infrastructure and rights-of-way, and other projects where a small investment today may have large returns in the future as population increases and freight or passenger rail service may need to be brought back into service. Project types that could accomplish this include:

- Railroad Corridor Preservation (Right-Of-Way)
- Railroad Corridor Preservation (Infrastructure)

Rail Investment Scenarios

This chapter of the State Rail Plan has shown that rail is viewed as critical to Oregon, to its residents and businesses, and that numerous rail system stakeholders can benefit through investments in freight and passenger rail

systems. The rail system investment framework provides a means for Oregon to determine when and how much they should partner with other rail stakeholders on rail investments that implement the vision and goals of this Plan.

However, also presented is the current backlog of rail system needs versus available dollars. And, unfortunately, there is quite a bit of uncertainly to the level of funding that may be available in the future – whether 5 years, or 25 years. This situation requires a creative approach to rail system investment, and a plan that provides flexibility as the funding picture changes. A good method for incorporating this flexibility is provided in the scenarios developed as part of the Oregon Transportation Plan.

As previously described, the OTP outlined three scenarios that correspond to different investment levels, i.e. flat funding, funding increases to keep up with inflation, and new and expanded revenue sources are available. These scenarios make specific recommendations for types of projects that should be pursued, given level of funding, and provides insight into the anticipated the outcomes of those investments. Based on the information produced in this Plan, and Steering Committee feedback, refinements to the OTP scenarios have been made.

Response to Flat Funding Scenario

The OTP Response to Flat Funding Scenario represents no additional transportation funds available, with transportation costs held at 2004 spending. In this scenario it is anticipated that purchasing power will decline 40 to 50 percent over the OTP plan period due to inflation. In this situation there are minimal investments that ODOT can make, however, basic assumptions of how to invest in the system will remain. These include: [12]

- Emphasize system preservation and operational improvements to maximize system capacity with a triage approach.
- Continue maintaining the system but lower maintenance and preservation standards.
- Capacity additions at minimum mandated levels.

The OTP describes the potential impacts this level of investment will have on the system, including:[13]

- The system will deteriorate, providing neither livable communities nor a base for economic development.
- Service does not keep pace with population growth. Passenger rail and bus services to rural areas decline. Only major metropolitan areas retain intercity bus service and only with reduced schedules.

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[12] *Oregon Transportation Plan, Volume 1*, Adopted September 20, 2006.

[13] *Oregon Transportation Plan, Volume 1*, Adopted September 20, 2006.

- More short line companies fail to adequately maintain track and companies fail.

This State Rail Plan agrees with the goals of focusing on operating, maintaining, and preserving the system at the highest level possible in this scenario. As funds are scare, this State Rail Plan recommends that Oregon should collaborate with rail system stakeholders to identify areas of mutual benefit and select those projects that could be an opportunity for leveraging private and public sector funds. Additionally, no matter what the funding picture, rail service and corridor preservation should also be included as an option for the State. This could include prioritizing project types such as:

- Railroad Corridor Preservation (Right-Of-Way);
- Railroad Corridor Preservation (Infrastructure);
- Passenger Rail Operations and Maintaining Existing Services (which could also provide benefit to freight system operations on shared corridors);
- Crossing Safety Improvements; and
- Short Line State of Good Repair (in cases to ensure businesses remain in Oregon).

In this scenario, with flat funding, only portions of the following State Rail Plan goals are expected to be met:

- Goal 1 - Partnership, Collaboration and Communication
- Goal 3 - System Investments and Preservation
- Goal 4 - Funding, Finance and Investment Principles
- Goal 5 - System Safety

Funding Increases to Keep up with Inflation Scenario

The Funding Increases to Keep up with Inflation Scenario represents no new transportation dollars to keep up with inflation. In this scenario, Oregon preserves existing facilities and services and keeps up with inflation. This scenario: [14]

- Holds existing facilities and services at their current performance levels to the extent possible.
- Addresses some bottlenecks and puts additional funding into operations to preserve capacity.
- Does not focus on major capacity-enhancing improvements.

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[14] *Oregon Transportation Plan, Volume 1*, Adopted September 20, 2006.

While this scenario may avoid severe economic consequences, it does not create a competitive advantage for Oregon businesses. In the OTP, ODOT describes the potential impacts this level of investment will have on the system, including:[15]

- Intercity rail service is limited but would offer an alternative to highway travel.
- Rail freight shipping costs would be reduced by elimination of some bottlenecks.
- Preservation of rail services would assist job retention in rural areas and outside the Willamette Valley.
- Funding would prevent further cutbacks of short line rail service and maintain rural access to freight and passenger services.
- Freight accessibility would be lessened by lack of capacity-adding projects.

This State Rail Plan agrees with the scenario's goals of continuing to operate, maintain, and preserve the system at the highest level possible, while gradually expanding the system. However, this State Rail Plan recommends emphasizing projects that benefit shared corridor operations, including capital projects, as well as those projects that promote modal options and efficiencies, providing congestion relief and lower pavement maintenance need. This could include prioritizing project types such as:

From Flat Funding Scenario:

- Railroad Corridor Preservation (Right-Of-Way);
- Railroad Corridor Preservation (Infrastructure);
- Passenger Rail Operations and Maintaining Existing Services (which could also provide benefit to freight system operations on shared corridors);
- Crossing Safety Improvements; and
- Short Line State of Good Repair (in cases to ensure businesses remain in Oregon).

New Project Types:

- Class I Chokepoints (in shared passenger corridors);
- Port-related Rail Projects (such as intermodal connectivity projects);
- Industrial Access Improvements (to allow shippers to use rail);
- Yard Improvements; and
- Low Emission Locomotive Technology.

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15 *Oregon Transportation Plan, Volume 1*, Adopted September 20, 2006.

In this scenario, with funding keeping up with inflation, only portions of the following State Rail Plan goals are expected to be met:

- Goal 1 - Partnership, Collaboration and Communication
- Goal 2 – Connected System
- Goal 3 - System Investments and Preservation
- Goal 4 - Funding, Finance and Investment Principles
- Goal 5 - System Safety
- Goal 6 - Preserving and Enhancing Quality of Life

Expanding Facilities and Services Scenario

The Expanded Facilities and Services Scenario allows modes to take care of their feasible needs over the next 25 years. In this scenario Oregon makes major investments in new infrastructure, and as such, has a very positive impact on Oregon's economy. In the OTP, Oregon describes the potential impacts this level of investment will have on the system, including:[16]

- Public transit and rail improvements would make greater contributions to congestion relief.
- Rural areas would be better able to retain rail services and related jobs.
- Rural areas would be better connected via public transportation to communities with full services, ensuring better quality of life, retention of population and improved economies.
- Improved rail freight, marine port facilities and airports would enhance the economy in urban and rural areas.

This State Rail Plan agrees with the scenario's goal of expanding the system. However, this State Rail Plan notes that in recent years since the OTP was developed the need for system expansion has increased substantially. On the passenger side, significant investments are being discussed in the *Cascades* Corridor. Also, this plan reviewed that in the long-term there may be need to further evaluate passenger rail service in other corridors in Oregon.

Related to freight rail, the strategies recommended by this State Rail Plan refine those in the OTP, primarily due to the fact that the investment framework established in this chapter notes that Oregon should primarily provide financial support commensurate with the benefits the state receives. This could alter the investments made in various parts of the system. For example, removing mainline system bottlenecks should be pursued by the State when the benefit-

[16] *Oregon Transportation Plan, Volume 1*, Adopted September 20, 2006.

cost ratio deems it a worthy investment of State funds. This scenario could include prioritizing project types such as:

From Flat Funding and Funding Increases with Inflation Scenarios:

- Railroad Corridor Preservation (Right-Of-Way);
- Railroad Corridor Preservation (Infrastructure);
- Passenger Rail Operations and Maintaining Existing Services (which could also provide benefit to freight system operations on shared corridors);
- Crossing Safety Improvements;
- Short Line State of Good Repair (in cases to ensure businesses remain in Oregon);
- Class I Chokepoints (in shared passenger corridors);
- Port-related Rail Projects (such as intermodal connectivity projects);
- Industrial Access Improvements (to allow shippers to capitalize on modal options);
- Yard Improvements; and
- Low Emission Locomotive Technology

New Project Types:

- Passenger Rail Capital Improvements for Service Upgrades (station additions, increased frequency, etc.);
- Passenger Rail New Services;
- Grade Separations; and
- Traffic Consolidation Facilities/Logistics Centers/Inland Ports.

It is anticipated that in this scenario, with funding expand facilities and services, that each of the State Rail Plan goals will be met:

- Goal 1 - Partnership, Collaboration and Communication
- Goal 2 - Connected System
- Goal 3 - System Investments and Preservation
- Goal 4 - Funding, Finance and Investment Principles
- Goal 5 - System Safety
- Goal 6 - Preserving and Enhancing Quality of Life
- Goal 7 - Economic Development

Conclusion

The OTP notes that investing in the transportation system at levels described in the "Flat Funding" and "Funding Increases with Inflation" scenarios is inadequate to meet Oregonians' needs, with the "Flat Funding" scenario not even maintaining existing infrastructure. While the "Expanded Funding" scenario allows the State to be competitive and provides businesses and residents the transportation infrastructure and services that allow them to operate efficiently, that scenario is not a probable future in the short run.

This State Rail Plan and the investment framework described in this chapter presents an opportunity for Oregon to take a refined approach to its long term transportation future. This Plan provides the guidance to enable the State to collaborate with the private sector on rail projects and helps provides guidance on how much contribution is fair for each rail stakeholder given general circumstances. This presents a great opportunity for Oregon to better leverage private dollars, and move forward with those projects that are most critical to Oregon.

A. Funding – Supporting Information

A.1 CURRENT OREGON RAIL FUNDING

ODOT has published[17] a number of documents that address freight and passenger rail funding issues:

- October 2009 Technical Memorandum: Federal, State and Local Freight Regulations, Chapter 7 (2011 Oregon Freight Plan support document);
- 2011 Oregon Freight Plan, Chapter 6;
- 2011 Oregon Rail Funding Task Force Final Recommendation; and
- 2011 Oregon Potential Rail Funding Sources Technical Analysis (Oregon Rail Funding Task Force support document).

These publications cover the subjects of freight and passenger rail funding in more detail and are referenced to provide additional information.

A.2 FEDERAL RAIL FUNDING

Federal transportation funding is typically executed in these steps (simplified for discussion purposes): authorization, appropriation, apportionment/grant award, obligation/outlays. This process is described below, followed by federal Railroad Administration (FRA), Federal Transit Administration (FTA) and other federal funding programs.

- **Authorization.** Congress will provide the legal authority for a funding program in an authorization bill, which describes what a program will accomplish, set limits on how much funding is available, define eligible recipients for funding, and establish procedures for how funding will be made available. Congress can set formulas by which funding can be made available to recipients (states, authorities, cities) or establish a process for submitting grant applications. This legislation is considered by authorizing committees in Congress with applicable jurisdiction.

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[17] Oregon Freight Plan documents are found at https://www.oregon.gov/ODOT/Planning/Pages/Plans.aspx#OFP. Documents for Rail Funding Task Force at found at https://www.oregon.gov/ODOT/RPTD/Pages/Rail-Forms.aspx.

- **Appropriation**. Once a program is authorized, separate committees are responsible for assigning or appropriating funding for the programs. Appropriations Committees have subcommittees which consider appropriations for different agencies and programs under their jurisdiction.[18] These appropriations bills are to be enacted prior to the beginning of each federal fiscal year to set the actual funding levels for authorized programs (or Congress will enact a Continuing Resolution to extend the previous year's appropriations), and these appropriations can also include further instructions to Executive Branch agencies in executing spending as appropriated. Appropriations can be made for programs even after the expiration of an authorization bill if revenues are still available.[19]
- **Apportionment/Grant awards**. Once funds are appropriated, Executive Branch agencies make decisions to allocate the funds as established in authorization and appropriation bills. The Department of Transportation modal administrations may apportion funds established by formula, such as highway and transit funding. Other, discretionary grant programs, allow U.S. DOT agencies discretion to select grant recipients after an application process. This includes high-speed and intercity passenger rail grants from the Federal Railroad Administration, transit grants such as New Starts from the Federal Transit Administration, or the Transportation Investments Generating Economic Recovery program (TIGER) from the U.S. DOT Office of the Secretary. Eligible applicants submit grant applications as instructed, and the U.S. DOT agencies make grant award decisions.
- **Obligations/Outlays**. Once formula funds are apportioned and grants awarded, funding recipients need to take steps to formally obligate funding either through the execution of a grant or project agreement. This formal and contractual obligation prevents appropriated funds from being rescinded or withdrawn. Once an agreement in place, the process by which federal funds are reimbursed is calculated as outlays, the actual rate of program expenditure for any given program.

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[18] Officially, appropriations are subject to limitations set in Budget Resolutions that are adopted in an annual budget process set in the Congressional Budget and Impoundment Control Act of 1974. More information on this process is available in a report from the Congressional Research Service, "The Congressional Budget Process: A Brief Overview," August 2011, Report no. RS20095. The legislative budget process also includes a Budget Submission from the President's Office of Management and Budget, which is considered by Congressional appropriators.

[19] Federal highway and transit programs are funded through taxes allocated to the federal Highway Trust Fund, and often, surface transportation authorization legislation also includes authorization for the collection of transportation taxes. Unless these taxes are extended by Congress, no funds are available for appropriations.

Federal Railroad Administration

FRA supports passenger and freight railroading through a variety of competitive grant, dedicated grant, and loan programs to develop safety improvements, relieve congestion, and encourage the expansion and upgrade of passenger and freight rail infrastructure and services. Several key programs for both freight and passenger rail system are described below.[20]

Federal High-Speed Rail Grants

In October, 2008, Congress enacted the Passenger Rail Investment and Improvement Act of 2008 (PRIIA), authorizing capital grants for high-speed rail and intercity passenger rail projects. Later, in February 2009, Congress enacted the federal American Recovery and Reinvestment Act (ARRA) of 2009, which allocated $8 billion to jumpstart the development of improved high-speed intercity passenger rail service in the United States[21]. To date, Oregon has received a total of $19.7 million in federal funds from the High-Speed Intercity Passenger Rail program.

In 2010, the Pacific Northwest Rail Corridor received $598 million from the first project award cycle. Of that amount, Oregon was awarded $9.3 million ($8 million was announced in February and another $1.3 million in December) for three projects:

- Replace the roof on Portland's historic Union Station, built in 1896.
- Conduct preliminary engineering for two rail projects to improve mobility and reduce congestion in north Portland, one at Willbridge and the other at North Portland Jct.

On October 28, 2010, ODOT received another $8.9 million in federal grants to continue planning efforts aimed at improving passenger rail service between Eugene and Portland. The grant, from the FY 2010 appropriation, will fund three projects:

- A statewide freight and passenger rail plan.
- "Tier 1"[22] Environmental Impact Statement, a process required for Oregon to compete for future construction funding for the high-speed rail corridor

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[20] https://www.fra.dot.gov/Page/P0001

[21] This $8 billion ARRA appropriation was for programs authorized in PRIIA, but exceeded the amounts for capital funding authorized in the earlier legislation.

[22] Given the scope and complexity of the project, a "tiered" approach to the environmental review process was chosen. A Tier 1 EIS assesses broad, corridor-wide impacts of the project, and will identify project purpose and need, alternatives considered, affected environment and environmental consequences, and strategies to

Footnote continued

between Eugene and Vancouver, Washington. The "Tier 1" will include an Alternatives Analysis to determine the preferred rail route.

- Preliminary engineering to renovate Portland's historic Union Station.

On May 9, 2011, ODOT received $1.5 million of the American Recovery and Reinvestment Act (ARRA) funds rejected by Florida. The grant will fund the preliminary engineering to construct overnight parking track at the downtown Eugene passenger station to improve operations.

No high-speed and intercity passenger rail funding has been appropriated since the 2010 fiscal year.

Rail Line Relocation Capital Grants

Section 9002 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) added Section 20154 of Title 49 United States Code, which authorized up to $350 million annually for a grant program to provide financial assistance for local rail line relocation and improvement projects. Congress has appropriated a total of only $90.1 million for these projects from FFY 2006 through FFY 2011, some earmarked directly to projects and others selected in a competitive process. This program was not reauthorized by MAP-21 (which did not include a separate rail title). Only one project in Oregon has been selected for this program, a $250,000 earmark for rail safety improvements in Tualatin, Oregon, funding one of eight grade crossing improvements to permit a quiet zone in Tualatin and Washington counties.

RRIF

The Railroad Rehabilitation and Improvement Financing (RRIF) program, authorized and extended in the Transportation Equity Act for the 21st Century (TEA-21) and SAFETEA-LU, is a loan and credit enhancement program administered by the FRA. The FRA has up to $35 billion in financing authority, and to date has issued $1.64 billion in loans. According to the FRA, RRIF loans can be used for:

- Acquisition, improvement, or rehabilitation of intermodal or rail equipment or facilities, including track, components of track, bridges, yards buildings, and shops;
- Refinancing outstanding debt incurred for these listed purposes; and
- Development or establishment of new intermodal or railroad facilities.

In 2002, the inaugural RRIF loan ($2.07 million) was awarded to the Mount Hood Railroad in Oregon, used for track rehabilitation, equipment purchases and debt

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minimize or mitigating unavoidable impacts. A more detailed, "Tier 2" EIS may be conducted after the "Tier 1" alternative is selected.

refinancing. Loan applicants must pay the credit risk premiums for each loan, unlike the TIFIA program, and also pay for loan analysis and review by FRA contractors.

Railroad Rehabilitation & Repair

The Consolidated Security, Disaster Assistance, and Continuing Appropriations Act, 2009 allows U.S.DOT $20,000,000 for necessary expenses to make grants to repair and rehabilitate Class II and Class III railroad infrastructure damaged by hurricanes, floods, and other natural disasters in areas for which the President declared a major disaster. Under this program, a State may apply for a grant from the FRA to cover up to 80 percent of the cost of projects such as repair and rehabilitation of railroad rights-of-way, bridges, signals and other infrastructure that are part of the general railroad system. At least 20 percent of the project cost must be covered by non-Federal sources. Grantees must exhaust all other Federal and State resources prior to seeking assistance under this program.

Federal Transit Administration

The Moving Ahead for Progress in the 21st Century (MAP-21) transportation legislation, adopted in July 2012, outlines Federal Transit Administration (FTA) programs and authorizes $10.6 billion in FY 2013 and $10.7 billion in FY 2014 for public transportation. Several key programs for rail transit are descried below.[23]

Urbanized Area Formula Grants (5307)

This is the largest of FTA's grant programs, and provides grants to urbanized areas (greater than 50,000 population) to support public transportation. This program includes the Growing States and High Density States formula (5340). A 0.5 percent set-aside must be distributed as grants to State safety oversight agencies with rail fixed guideway systems not regulated by the FRA.

Rural Area Formula Grants (5311)

This program provides capital, planning, and operating assistance to support public transportation in rural areas (fewer than 50,000 residents). Funding is based on a formula that uses land area, population, and transit service. This program includes a set-aside for States for administration, planning, and technical assistance, but has been reduced from 15 to 10 percent from previous legislation.

State of Good Repair Grants (5337)

MAP-21 established a new grant program to maintain public transportation systems in a state of good repair. This program replaced the fixed guideway

[23] https://www.transit.dot.gov/regulations-and-guidance/legislation/map-21/map-21

modernization program (Section 5309). Funding is limited to fixed guideway systems (including rail, bus rapid transit, and passenger ferries) and high intensity bus (high intensity bus refers to buses operating in high occupancy vehicle (HOV) lanes.) Projects are limited to replacement and rehabilitation, or capital projects required to maintain public transportation systems in a state of good repair.

Fixed Guideway Capital Investment Grants (5309)

Also known as "New Starts / Small Starts," this program awards grants on a competitive basis for major investments in new and expanded rail, bus rapid transit (BRT), and ferry systems. The program is funded at $1.9 billion dollars for FY 2013 and FY 2014, subject to appropriations by Congress.

Other Federal Programs

A variety of other U.S. DOT and governmental funding sources have been available in recent years to help states and railroads invest in system infrastructure. Several of these key programs are described below.

TIGER

The Transportation Investment Generating Economic Recovery (TIGER) Discretionary Grant program, administered by the U.S. DOT, solicits applications for road, rail, transit and port projects that promise to achieve critical national objectives such as repairing existing infrastructure, connecting people to jobs, and contributing to economic growth. Since Fiscal Year 2009, Congress has dedicated over $3.6 billion to fund projects that have a significant impact on the Nation, a region or a metropolitan area.

Projects of National Significance

In 2005, Section 1301 of the ''Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users'' or ''SAFETEA–LU'' established funding for projects that have "national and regional benefits, including improving economic productivity by facilitating international trade, relieving congestion, and improving transportation safety by facilitating passenger and freight movement." Although Congress authorized a competitive grant process for allocating these funds, Congress also directly earmarked all the funding for the project to 26 projects. Projects included rail yard relocation, multi-state rail corridor improvements, and urban rail congestion relief projects in California and Illinois. The most recent authorization bill, Moving Ahead for Progress in the 21st Century, or "MAP-21" authorized $500 million in 2013 for these projects, but did not directly earmark the projects.

- **MAP-21 National Freight Network**. While not a funding program, MAP-21 authorizes the designation of a National Freight Network of up to 27,000 miles of highways that will strategically direct resources to highways to

move freight. The designation of this network will also include strategies to improve intermodal connectivity, which can include access and connections to rail facilities.

TIFIA

The Transportation Infrastructure Finance and Innovation Act (TIFIA) of 1998 provides credit assistance in the form of direct loans, loan guarantees and credit assistance to major surface transportation projects with dedicated revenue streams. In 2005, SAFETEA-LU opened the TIFIA program to freight projects, and projects like the Reno Rail Corridor in Nevada have been funded.

Rather than providing grant funding, TIFIA provides projects with supplemental or subordinate debt in order to leverage available federal resources. As of December 2012, the TIFIA program had provided $10.5 billion in credit assistance, leveraging projects with a total project value of $42.1 billion nationally. MAP-21 authorized $1.75 billion for FFY 2013 and another $1 billion for FFY 2014, and is administered by the U.S. DOT TIFIA Joint Programs Office. Credit risk premiums for TIFIA debt (the cost to the Treasury for issuing the tax-exempt debt and adjusted for the risk profile of the loan) are directly appropriated by Congress.

Private Activity Bonds

Private Activity Bonds (PABs) have been used by state and local governments to issue tax-exempt public debt for projects with substantial private involvement, including housing, ports, and water projects. With the 2005 passage of SAFETEA-LU, PABs were also extended to highway and freight transfer projects. A total of $15 billion in this particular transportation authority was allowed, and is subject to the approval of U.S. DOT. As of 2012, over $8 billion of the $15 billion cap had been issued or allocated to highway and freight facilities. Freight transfer facilities using PABs include: CenterPoint Intermodal Center in Joliet, IL; CenterPoint Intermodal Center in Kansas City, MO; RidgePort Logistics Center, Will County, IL; and I-80 RailPort, Seneca, IL.

Build America Bonds

Build America Bonds (BABs), authorized in ARRA, were taxable bonds in which the U.S. Treasury provided a direct 35 percent subsidy to issuers to reduce issuance costs. Between April 2009 and the expiration of the program in December 2010, 2,275 separate BABs were issued totaling over $181 billion, representing an overall 23 percent of the total municipal bond market[24]. The program opened the taxable bond market to public issuers, and served also to

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[24] Data reported by the U.S. Department of the Treasury at https://home.treasury.gov/

reduce tax-exempt yields, reducing tax-exempt borrowing costs. ODOT issued $545 million in BABs in March 2010, including $300 million for bridge replacements. The BAB program expired at the end of 2010 and has not been extended.

Short Line Tax Credits

In 2004, Congress enacted Section 45G of the Tax Code to provide a tax incentive for short line railroad improvements. Under this program, which had been extended through December 2013, short line railroads are allowed a 50 percent federal tax credit for every dollar invested in track rehabilitation, subject to a total cap based on total track miles. The program may provide up to $160 million in annual benefits for the short line railroad industry nationally.[25]

A.3 STATE RAIL FUNDING

The State of Oregon has used legislative opportunities to provide funds for rail improvements. Programs established by this legislation, as well as other state sources are described below.

Grade Crossing Protection Account

This account is funded through the Federal Highway Administration (FHWA) Federal Section 130 Program. Re-authorized in MAP-21 with a $220M annual set-aside, Section 130 program funds may be used on projects at all public rail crossings including roadways, bike trails and pedestrian paths. Fifty percent of a State's apportionment is dedicated for the installation of protective devices at crossings. The remainder of the funds apportionment can be used for any hazard elimination project, including protective devices. The funds may also be used as incentive payments for local agencies to close public crossings provided there are matching funds from the railroad.

Oregon Jobs and Transportation Act of 2009 (JTA)

This long-term transportation funding legislation included:

- More than $800 million in bond proceeds to relieve congestion, add capacity and improve safety;
- $300 million annually from increased transportation fees and taxes that will be applied to maintenance, modernization, preservation and safety;

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[25] According to Congressional budget "scoring" of previous 45G extension legislation, as reported by the American Short Line and Regional Railroad Association at https://www.aslrra.org/.

- $100 million in lottery-backed bonds for *Connect*Oregon funding for aviation, marine, rail and transit projects (more on this program below); and
- $55 million annually for cities and $82 million annually for counties to invest in local transportation projects.

*Connect*Oregon

*Connect*Oregon is a competitive grant program created by the Oregon Legislature in 2005, designed to improve connections between the highway system and other modes of transportation. The program was initially funded by $100 million in bonds backed by lottery proceeds, and 39 projects were selected by the Oregon Transportation Commission (OTC) for funding. Public and private sector entities are eligible to apply for grants or loans, and must match at least 20 percent of the project cost if applying for grants. In 2007, another $100 million in funding was authorized and the OTC approved 30 projects. Another $100 million was authorized in the JTA described above, and $40 million more in 2011. ODOT is currently evaluating applications for the fifth round of *Connect*Oregon, *Connect*Oregon V, and anticipates a project list will be announced in August 2014.

Rail projects received $148 million of $335 million awarded under *Connect*Oregon, 44 percent of the total, as shown in Table A.1. Example rail projects included:

- $3.7 million improvements in Union Pacific Railroads Hinkle Yard, reducing average terminal dwell time for Oregon shippers from 4.2 hours in 2007 to 2.7 hours in 2011.
- $7.7 million for City of Prineville Rail Depot transloading and warehousing facility.
- Other improvement projects for Class I and short line railroads[26].

While significant funds have been received for rail projects through *Connect*Oregon, substantial requests and overall needs are still not being met, as shown in the table.

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[26] *Connect*Oregon Report, ODOT, February 2013, as required by a budget note to Senate Bill 5701, found at https://www.oregon.gov/ODOT/Programs/Pages/ConnectOregon.aspx.

Table A.1 *Connect*Oregon Rail Funding History

	Total CO Available Funding	Submitted Rail Applications	Submitted Rail Requests	Rail Projects Awarded	Rail Amount Funded	Percent of CO Funding Awarded to Rail
*Connect*Oregon I	$100,000,000	45	$148,722,167	17	$39,115,790	39%
*Connect*Oregon II	$100,000,000	38	$77,356,689	13	$56,625,094	57%
*Connect*Oregon III	$95,000,000	21	$87,921,145	16	$40,421,535	43%
*Connect*Oregon IV	$40,000,000	20	$28,292,727	10	$12,671,158	32%
Total	**$335,000,000**	**124**	**$342,292,728**	**56**	**$148,833,577**	**44%**

Source: Rail Division Update, Presented to Oregon Transportation Commission, February 20, 2013.

Industrial Rail Spur Fund

In 2003, the Oregon Legislature authorized $4 million for the issuance of lottery bonds for the purpose of financing grants and loans to fund industrial rail spurs. No further funding has been authorized for the program. Funding may become available as loans are repaid. This authorized program could be a mechanism for future rail funding, should the Oregon Legislature recapitalize the fund.[27]

State Rail Rehabilitation Fund

In 1985, the Oregon Legislature authorized the state rail rehabilitation fund for the purposes of rail line acquisition, rehabilitation, or improvement of rail properties, planning, or other methods of reducing the costs of lost rail service. The Oregon Legislature has not appropriated funding for this program or identified a revenue stream to capitalize the fund.

Short Line Credit Premium Account Program

This is a program established as an account in the Oregon Transportation Infrastructure Fund. Funds in the Short Line Credit Premium Account are continuously appropriated to ODOT to provide funding in the form of grants for short line operators to enable them to receive a loan under RRIF.[28]

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[27] https://www.oregonlaws.org/ors/367.070

[28] https://www.oregonlaws.org/ors/367.067

Transportation Operating Funds

The ODOT Rail Division currently receives approximately $3M, annually, from Transportation Operating Funds (TOF). This funding may not be available in future bienniums.

Custom Vehicle License Plate Fees

The ODOT Rail Division currently receives approximately $7M, annually, from Department of Motor Vehicle (DMV) Custom Vehicle License Plate Fees. These funds are used by the Rail Division of operations and planning.

A.4 OREGON RAIL FUNDING TASK FORCE

In 2011, ODOT's Director asked a group of 14 stakeholders representing industries, passenger rail advocates, local governments and community leaders to serve on the Oregon Rail Funding Task Force (ORFTF) for the purpose of developing long-term, sustainable funding programs to support rail investments in the State. Using information from the 2010 *Oregon Rail Study* to determine the scope of the 30 year funding needs for rail in Oregon, the ORFTF examined a series of options for raising necessary revenues to fund rail investments. The revenue packages that were investigated by the ORFTF were designed to address the following categories of need:

Freight Rail

- Maintaining and upgrading deteriorating rail infrastructure, especially for short line railroads;
- Investments in new rail facilities, especially for rail traffic consolidation;
- Investments in new rail equipment to ensure access by Oregon shippers and/or to provide incentives for "greening" the locomotive fleet; and
- Capacity enhancements, especially the removal of bottlenecks in cooperation with the Class I railroads.

Passenger Rail

- Funding gaps for operating the existing Amtrak *Cascades* service; and
- Capital improvements to the Amtrak *Cascades* service to improve reliability, frequency, and trip time between Eugene and Portland.

In the evaluation of potential revenue options, the ORFTF examined the nexus between the revenue source and expenditure needs as a major criterion for selecting revenue options.

Process for Developing Funding Recommendations

After reviewing Oregon's rail funding needs, the ORFTF started by identifying 20 potential funding options that were in use in other states, that have been used

or examined in other contexts within Oregon, or that were ideas generated by Task Force members. This list included the following options

3. **Motor home weight fees.** For this option, a flat fee would be added to the annual license fee of a motor home in Oregon.
4. **Sales tax on motor fuels.** Unlike the gas tax, which is determined based on the volume of fuel purchased, this tax would be assessed on the *price* of the fuel purchased.
5. **Motor fuels tax.** Similar to the sales tax on motor fuels, this tax would be based on the *volume* of fuel purchased.
6. **Motor vehicle title tax.** This option levies a tax upon registration of a vehicle. In addition, a fee would be assessed for transactions that require a copy of a title or title replacement.
7. **Motor vehicle sales and use tax.** This tax would apply to retail sales, leases, and transfers of motor vehicles.
8. **Passenger vehicle weight fee.** This is a fee that would be charged annually in addition to licensing fees, and would vary based on the weight of the vehicle.
9. **Rental car taxes.** This option would add taxes or fees on car rentals in the state.
10. **General sales tax.** A sales tax would be added to the sale of goods or services throughout the state.
11. **Auto insurance fee.** This option would add a fee to auto insurance payments that would be used to fund rail needs.
12. **Industry harvest tax.** For this option, a tax would be levied on the value of harvested goods such as timber, agricultural products, or others (which also tend to be major rail commodities).
13. **Freight railroad fees (volume based).** This option requires fees to be assessed on the volume of railroad cargo, usually by specific corridor or facility.
14. **Freight railroad fees (revenue based).** This option requires fees to be assessed on railroad revenue.
15. **Lottery proceeds.** Lottery proceeds would be dedicated to rail needs. This is essentially the same model used for *Connect*Oregon but would make the allocation of funds permanent instead of a decision that is made on a biennium-by-biennium basis.
16. **Passenger rail charges.** This would be a fee similar to the airport passenger facility fee and would be charged to users of the passenger rail system.
17. **Fee on bulk cargo moving through the Port of Portland.** This fee would be charged to bulk cargo shipments through the Port of Portland.

18. **Fee on container/automobile cargo moving through Port of Portland.** This option would require shippers to pay a fee on containers and automobiles that use the Port of Portland to pay for rail improvements.
19. **Railroad property tax reallocation.** For this option, all railroad property would be assessed and the property tax proceeds would be reallocated to a new State fund for railroad improvements.
20. **General funds.** These are non-dedicated revenue sources combined for general governmental purposes.
21. **Telephone access fee.** This option would assess a monthly tax on land and/or cellular phone lines in the state to fund transportation or rail needs.
22. **Special district.** A special district, with taxing authority, could be formed to fund and operate passenger rail.

Prior to conducting detailed analysis, the ORFTF eliminated a number of these potential funding mechanisms from further consideration for the following reasons:

- **Constitutional issues.** Article IX, Section 3a of the Constitution of Oregon requires that fees or taxes collected from activities related to driving a motor vehicle be dedicated to roadway expenditures. While a number of states use motor vehicle fees and taxes to fund a portion of their rail expenditures, the ORFTF decided that they did not want to recommend amending the state constitution at this time.
- **General taxes**. Mechanisms such as the general sales tax were viewed as being too politically sensitive and not providing sufficient nexus with the use of the funds for rail investments.
- **Fees on rail-served industries/activities**. Fees on cargo movements through the Port of Portland and industry harvest taxes were viewed as having potential negative impacts of the competitiveness of the port and the related industries and would counteract the positive benefits that were being sought through rail investments.

Two additional funding mechanisms were added to the list of options that were evaluated by the ORFTF:

1. **Sequestered railroad employee income tax.** This option would take income taxes paid by railroad employees in Oregon and hold these in a special account for use in rail investments.
2. **Rail tax credit.** This would be a tax expenditure to leverage private railroad investments.

This left 10 potential funding options that were evaluated against the following factors:

- **Potential revenue yield.** This factor differentiated funding options by providing an estimated annual revenue yield for each potential funding source.
- **Ease of collection.** This factor evaluated the ease with which it is possible to collect the funds, taking into account existing collection mechanisms for existing receipts and the estimated complexity of collection for a particular funding option.
- **Ease of administration.** This factor evaluated the degree of difficulty in administering a particular funding option. Factors that can impact the ease of administration include the effort and general cost associated with management, labor, administrative reorganization, collection, enforcement, and other areas.
- **Enforcement capability.** This factor was used to evaluate whether a funding option can be easily and universally enforced.
- **Support for competitiveness.** This factor was used to evaluate how Oregon's economic competitiveness will be impacted by a potential funding option.
- **Cost equity issues.** This factor highlighted instances where a particular funding source may require an entity or region to pay a disproportionate share of the cost to achieve statewide benefits.
- **Applicability to rail needs.** This factor highlighted the most appropriate use of revenues from this funding source, whether it is for freight rail capital needs, passenger rail capital needs, passenger rail operations needs, or a combination of the three.

Table A.2 presents the results of the evaluation in terms of the key benefits and drawbacks of the different funding options.

Recommended Rail Funding Mechanisms from ORFTF

Based on the analysis conducted for the ORFTF, there was no single funding source that was sufficient to address the full range of rail needs that had been identified. Therefore, the Task Force recommended that the legislature consider a funding package that would include a mixture of the following options:

Special Property Tax District for Passenger Rail. Oregon Revised Statutes 267 authorizes the creation of special transportation districts that can levy taxes to support transportation services. A number of districts have been created to support local bus transit services. The ORFTF recommended that the legislature create a district consisting of the counties between Eugene and Portland to generate a revenue stream for supporting capital projects and increased operating costs for new, higher performance, intercity passenger rail service in this corridor.

Table A.2 Key Benefits and Drawbacks of Rail Funding Options Evaluated by ORFTF

Rail Funding Source	Key Benefits	Key Drawbacks
Special district	• Potential for high revenue yield. • Enforcement and collection mechanism already in place.	• Politically challenging to create a large, new taxing district. • High relative administrative burden.
Railroad property tax reallocation	• Railroad property taxes would be used only for railroad improvements.	• Concerns that some rural counties, which rely heavily on the property tax, will lose a disproportionate share of their property tax revenues as a result of this option. • Large, long-haul railroads may oppose utilization of their property taxes to support infrastructure improvements to short line or competitor railroads.
Telephone access fee	• Potential for high revenue yield.	• No major drawbacks, except that it could be a tough political discussion to link telephone fees with rail improvements.
Lottery proceeds	• Proven allocation of funds for intermodal improvements through *Connect*Oregon.	• Many programs rely on funding from lottery proceeds, therefore will be a challenge to secure dedicated funding for rail improvements.
Passenger rail charges	• Users of the rail pay for improvements to the track that they are using.	• Very limited revenue stream. • Potential negative impact on passenger rail ridership due to cost increase. • Would require congressional action to allow fees on Amtrak tickets.
General funds	• Large pot of money that is used to fund a variety of transportation-related items, including ODOT • Several other states rely on this funding source to help fund passenger rail.	• Many groups and programs are interested in general fund appropriations. • Difficult to secure a steady stream of funding. In addition, this funding source would be relatively vulnerable to changes in politics.
Rental car taxes	• No statewide rental car tax currently in place.	• High rental car taxes already exist in Multnomah County.
Freight railroad fees	• Railroads would pay for improvements that may eventually benefit them and the general public.	• Large, long-haul railroads may subsidize competitors or short lines. • Relatively low revenue stream.
Sequestered RR Employee Income Tax	• Income taxes collected from railroad employees would be used only for railroad improvements.	• Would reduce the tax dollars available for general purposes and would funnel railroad income tax to a specific rail use.
Rail tax credit	• Incentivizes private investment from the railroads in Oregon, which can bring in jobs and regional economic growth.	• Not a stand-alone rail revenue strategy. This should be used in conjunction with other options above.

This district would include Multnomah, Clackamas, Washington, Marion, Linn and Lane counties. An incremental increase in property taxes in this new special district would be subject to Measure 5 and Measure 50 property tax limits. A modest increase of property taxes in these counties, an average increase of 1.38% could generate up to $45 million annually. While this kind of special district can be created among the individual counties, the ORFTF recommended that this district be created legislatively with a district tax vote to take place in the counties on a date established by the Oregon Legislature.

- **Lottery proceeds set aside for *Connect*Oregon.** As explained in the previous section, the Oregon Legislature has periodically allocated lottery proceeds to support revenue bonds or direct spending for the *Connect*Oregon program. The ORFTF recommended that $20 million be annually allocated as an on-going legislative provision. All or a portion of these revenues could support a bond issue for capital or used on a pay-as-you-go basis.
- **Railroad property tax reallocation/Telephone Access Fee.** Freight railroads pay property taxes to Oregon counties in which their rail lines are located. If these property taxes were legally reallocated to a statewide fund for rail purposes (even including current funds described previously such as the State Railroad Rehabilitation Fund), then railroads could receive a direct benefit from these property taxes paid. The ORFTF also recommended that a new Telephone Access Fee be collected by telecommunications companies for landlines and wireless phones in the state, and allocated to counties to replace revenues lost from the redirection of freight railroad property taxes to the state.
- **Railroad Tax Credits**. Offering a rail investment tax credit might attract more railroad capital spending in Oregon. Freight railroads, large and small, have to consider the return on investment for limited capital resources, and Oregon's relative rail volumes to other states might make capital spending in Oregon less attractive. A rail investment tax credit, offered as an offset to state income taxes, either on a refundable (offered even if the freight railroad did not pay state taxes) or non-refundable (offered only for railroads with tax liabilities), could increase the overall rate of return for Oregon rail investments.

A.5 OREGON NON-HIGHWAY TRANSPORTATION FUNDING WORKING GROUP

At about the same time that the ORFTF was completing its work, Governor Kitzhaber convened the Oregon Non-Highway Transportation Funding Working Group to look more broadly at non-highway transportation funding needs in the state. The Working Group considered many of the same funding options that were reviewed by the ORFTF. In their May 2012 report to the Governor, the Working Group recommended Priority Funding and Financing Options for

Further Consideration. Some of these options were only applicable to modes other than rail, but of those that are applicable to rail, the following options were similar to those recommended by the ORFTF:

- **Expanded Lottery Revenue**. The Working Group recommended expanding the State lottery program to generate more revenue, but otherwise, this option was similar to the ORFTF recommendation to permanently designate a portion of the State lottery proceeds for rail investment.
- **Sequester Funding.** The Working Group recommended dedicating a portion of the revenues raised through transportation-related taxes or fees without specifying which of these should be sequestered whereas the ORFTF recommended sequestering railroad employee income taxes.
- **Expanded/Dedicated Utility or Franchise Fee (e.g., Telecom)**. The Working Group more broadly defined the type of utility of franchise fee that could be created or expanded whereas the ORFTF was more specific in its recommendation to focus on telephone access charges. Further, the Working Group did not necessarily see this approach as a way to backstop cities and counties that could lose revenue from a railroad property tax reallocation.
- **Railroad Property Tax Reallocation**. This option was identical to that considered by the ORFTF.
- **Rail Tax Credit**. This option was also identical to that considered by the ORFTF.

The Working Group also prioritized several funding options that would be applicable to rail that were not recommended by the ORFTF. These included the following:

- **Expanded Cigarette Tax**. Consistent with current taxes, the idea embraced by the Working Group was to apply this to special transportation for senior citizens and people with disabilities. This could potentially include some passenger rail services.
- **Reallocation of Senior Medical Tax Deductions**. This option would eliminate senior medical tax deductions and allocate revenues to senior and disabled transit, which could also include passenger rail services.
- **Hotel/Motel Tax (Transient Occupancy or TOT)**. While the ORFTF focused on rental car taxes, this measure would create a new surcharge on hotel rooms or would expand the allowable use of existing TOT revenues.
- **Urban Growth Boundary (UGB) Expansion Windfall Tax**. This would create a tax to capture the increases in property values that occur when land is added to the regional UGB in metro areas.

Financing or Debt Based Measures. The Working Group recommended several financing or debt measures including issuing new General Obligation bonds, using funds from the Oregon Growth Account, expanded use of infrastructure

banks, and expanded use of the Transportation Infrastructure Finance and Innovation Act (TIFIA) Federal credit assistance programs.

B. Project Type Case Studies

The State of Oregon has a history of investing in the rail system, primarily through the *Connect*Oregon program. Although the details of each project differ, it is worth reviewing a sample of these past investments to establish the perspective of state participation in the rail system. Each of the projects highlighted were funded through *Connect*Oregon, and represent a variety of project types identified in this plan.

Table B.1 Previous State Participation in the Rail System – 5 Case Studies

Project	Project Type (s)	State Participation
Rail Infrastructure Improvements - Central Oregon & Pacific Railroad (CORP)	Short Line State of Good Repair	*Connect*Oregon IV - $4.56 million; Total Project Cost - $5.7 million
Winchester Rail Yard – Central Oregon & Pacific Railroad (CORP)	Yard Improvements, Crossing Safety Improvements	*Connect*Oregon I - $6.9 million; Local match - $1.9 million
Oregon International Port of Coos Bay - Rail Link	Rail Corridor Preservation	*Connect*Oregon I - $4 million; *Connect*Oregon III - $7.8 million
Willamette River Bridge at Harrisburg – Union Pacific (UP)	Class I Chokepoints, Passenger Rail Capital Improvements for Service Upgrades	*Connect*Oregon I - $4 million (25% of project); UP - $12.4 million
Hinkle Yard Improvements (UP)	Class I Chokepoints (Main Line Capacity), Yard Improvements	*Connect*Oregon I - $3.7 million

The use of the case examples is not intended to question the rationale for the State's participation in these projects. The intent is only to review what the State has done in the past when faced with decisions about investing the rail system and how those decisions may align with the framework proposed in this Plan. Each case provides an overview of the project and a sketch description of the associated benefits by rail partner.

B.1 Rail Infrastructure Improvements - Central Oregon & Pacific Railroad (CORP)

This preservation project, awarded under *Connect*Oregon IV, dealt with the rehabilitation of 12 miles of CORP between MP 505 and MP 517, as well as increasing clearances on four tunnels to allow for the operation of larger, higher capacity freight cars. This project improves the clearances of tunnels and other rail infrastructure between Douglas and Jackson Counties, opening access to the

Rouge Valley with the most modern high capacity rail car equipment. With these improvements, CORP has been able to operate at track speeds to ensure they can meet service reliability commitment they have made with area shippers, as well as deliver higher capacity freight cars to their customers. Once products have been loaded onto CORP railcars, these products can be shipped with greater safety to their destination thereby reducing loss and damage claims. The tunnel improvements allow shippers to use higher capacity rail equipment, which translates into lower overall shipping costs in getting their products to market.

When reliability commitments are kept, shippers benefit by (1) lowering their operating costs as product delivery schedules are consistently met and (2) maintaining a more efficient inventory (which translates into lower overall operating costs) when products are reliably delivered and by improving overall transit times. Shippers can pass on these savings to customers when their supply chain costs are minimized. Downstream customers benefit by receiving products in a timely manner and they too can maintain minimal inventory if the supply chain remains consistent. Rehabilitation of the track structure ensures that customers are provided with a choice of reliable transportation modes, letting them decide which is the optimal method to move their products to market. CORP benefits by reducing their hours of train operation and delays, which translate into more efficient equipment utilization. By decreasing the hours a train is operated, the environment benefits as less pollutants are emitted into the atmosphere.

Evaluation Factors by Rail Partner

State.

- **Mobility**
  - **Improved system mobility –** High customer using high capacity rail cars can improve efficiency and reduce burden on others parts of the system.
  - **Improved system connectivity and access** - This project benefits the state and region as it reduces dependence on I-5 for freight traffic and lowers highway maintenance costs over time.
- **Economic**
  - **Statewide jobs created** - This project targeted a key Oregon industry. The CORP handles mostly forest products that make up 88 percent of the total volume of traffic. Logs, veneer, dimensional lumber, EWP, plywood, wood chips. Other projects include sand, propane, liquid asphalt, plastic resins, feed grains, organic feed products, industrial glue, fertilizers, scrap metal, food grade flour, fresh produce (pears).
- **Environmental**
  - **Improved air quality** - This project improves air quality through the use of more efficient modes.

- **Safety**
  - **Reduced incidents** - This project improves safety through reduction of roadway incidents on I-5 and Route 42.

Shippers.

- **Mobility**
  - **Modal alternatives -** The clearance restrictions limited the economic viability of rail, limiting modal options. This project benefits multimodal freight transportation movement because it improves connectivity to ports and the national rail network.
  - **Access to service** - Existing customers now have access to new types of rail equipment (high capacity rail cars) and allows shippers to upgrade to more modernized equipment to compete with other markets.
- **Economic**
  - **Reduced cost of service -** By giving shippers transportation options, the project make transportation costs more competitive

Railroads.

- **Mobility**
  - **Increased throughput** - The project improves the efficiency of train operations, through increasing the volume of cargo that can be transported by rail which will maximize the amount of cargo moved per train.
  - **Reduced hours of train delay** - Improved efficiency will reduce train delay and yard dwell time increasing revenue and equipment utilization.
  - **Increased reliability** - This project improves reliability of the freight system and improves connectivity to the freight system.
- **Economic**
  - **Increased revenue traffic** - More efficient train operations enable railroads to handle more traffic.

Communities. (also see State)

- **Economic**
  - **Local jobs created** - This project created local construction jobs and helped retain 565 jobs and created 20 to 30 new jobs.

B.2 WINCHESTER RAIL YARD – CENTRAL OREGON & PACIFIC RAILROAD (CORP)

CORP's primary classification yard had been located within the southern edge of Roseburg's city limits. This part of town has numerous at-grade crossings that were often blocked during the continual switching movements that occurred daily. While the more important crossings were protected with active warning signals, several crossings had no more protection than a wooden crossbuck warning sign. Train horn noise consistently aggravated the citizens of Roseburg as the switching activity was performed throughout the 24-hour day. CORP recommended that their classification yard be relocated to a new site north of Roseburg near the town of Winchester. This project was one of the first funded under the *Connect*Oregon I program. Once the switching activity was shifted to the new yard at Winchester, train movements over the crossings were significantly reduced. Crossing safety, crossing blockage and train noise issues with Roseburg's city limits were correspondingly reduced, improving the quality of life for area residents.

The railroad is now able to build and break down trains at the Winchester Rail Yard. Those tasks had been completed at the existing cramped facility near downtown Roseburg which created frequent blockages for vehicle traffic at rail crossings throughout Roseburg. While long trains will still travel through Roseburg, crossings will be blocked for much shorter periods of time because the switching operations will now take place far from those crossings.

Evaluation Factors by Rail Partner

State.

- **Mobility**
  - **Improved system connectivity** - This project benefits multimodal freight transportation movement because it improves connectivity to ports and the national rail network.

Railroads.

- **Mobility**
  - **Improved system velocity and throughput** - System velocity improvements are realized with a more efficient yard layout which will reduce train delay and yard dwell time.
  - **Reduced delay** - Improved efficiency reduces train delay and yard dwell time increasing revenue and equipment utilization.
  - **Improved reliability** - This project improves reliability of the freight system and improves connectivity to the freight system.
- **Economic**

  - **Increased revenue traffic** - The more efficient yard layout increases the capacity of the rail system, enabling the railroad to handle more traffic.
  - **Improved equipment utilization** - As switching operations are streamlined, yard is equipment can be better utilized.

- **Safety**
  - **Reduced incidents** - This project improves safety on the freight system by reducing the number of trains crossing the tracks in down town Roseburg.

Communities. (also see State)

- **Mobility**
  - **Improved system mobility** – This project provides local mobility benefits as cars will wait fewer times, for shorter periods, at grade crossings.
- **Economic**
  - **Increased local jobs** - This project created local construction jobs and helped retain existing jobs in the area that could have been transferred had the yard not been moved.
- **Environmental**
  - **Improved air quality** - Reduction in vehicle idling at rail crossings reduces emissions and positively impacts air quality.
  - **Reduced Environmental Justice impacts** - Reduction in localized switching activity at grade crossings reduces train horn noise.
- **Safety**
  - **Reduced incidents** - This project improves safety on the freight system by reducing the number of trains crossing the tracks in down town Roseburg.

B.3 OREGON INTERNATIONAL PORT OF COOS BAY - RAIL LINK

In 2007, following decades of neglect and underinvestment, CORP owners and management closed the Coos Bay Rail Link with short notice to shippers. The line had been seen as unprofitable, and rail investor desire was to tear up the line and sell it for scrap. The loss of rail service resulted in shippers paying higher transportation costs (50 percent or more) and employee layoffs. The Port of Coos Bay saw the impact the closed line had on the community and worked closely with state and elected officials to develop a plan to acquire the line and bring it back into service. The Port eventually acquired the rail line in 2009-10, and has benefitted from significant help from the state and others to repair the line and make it suitable for traffic, again. The Port has received two *Connect*Oregon

grants, a $13.5 million Transportation Infrastructure Generating Economic Recovery (TIGER) II, a $2.5 million American Recovery & Reinvestment Act (ARRA) grant and others. In all, the Port has received over $41 million between 2009 and today[29].

Evaluation Factors by Rail Partner

State.

- **Mobility**
  - **Improved system connectivity** - This project directly benefits multimodal freight transportation movement in Oregon by connecting the Port of Coos Bay to the national freight rail network.
  - **Improved system access** - This project reduces dependence on I-5 for freight traffic.
  - **Improved system efficiency** - Reduction of roadway demand for I-5 and Route 38 will reduce roadway delays.
  - **Increased system redundancy/resiliency** - This project improves reliability/redundancy of the freight system by providing a new modal option.
  - **System preservation** – This project preserves a key rail corridor in the State.
- **Economic**
  - **Jobs retained** - This project provides the opportunity to remain competitive in the market place, while retaining and/or creating living wage jobs that local communities rely on.
  - **Positive tax revenue impacts** - This project provides economic benefit to the State through an increased level of trade activity at the Port of Coos Bay.
  - **Reduced system maintenance costs** - Through reduction in dependence of I-5 for freight traffic, highway maintenance costs may be lowered over time.
- **Environmental**
  - **Improved air quality** - Use of the more efficient rail mode will improve air quality.
- **Safety**

[29] https://www.portofcoosbay.com/projects/?rq=projects

- **Reduced incidents -** This project improves safety on the freight system by reducing demands on I-5 and Route 38.

Shippers.

- **Mobility**
  - **Increased modal alternatives** - This project provides shippers with transportation options.
- **Economic**
  - **Positive business cost impacts** - The ability to move product via rail instead of truck reduces overall shipping costs.

Ports

- **Mobility**
  - **Improved system throughput** - Without the project, rail service to the Port of Coos Bay would be non-existent.
- **Economic**
  - **Improved access to markets** - These projects have allowed the International Port of Coos Bay to re-connect to the national rail network with a viable rail link.

Railroads.

- **Mobility**
  - **Increased throughput** - The project will improve the efficiency of UP train operations by increasing the volume of cargo that can be transported by rail. The clearance restriction on the rail link limited the link's economic viability of rail. Now fully loaded, standard railcars can use the line.
  - **Reduced hours of train delay** - Improved efficiency will reduce train delay and yard dwell time.
- **Economic**
  - **Increased revenue traffic** - Improved efficiencies will increase revenue and equipment utilization.

Communities. (also see State)

- **Mobility**
  - **Improved system connectivity -** Without the project rail service to shippers between Eugene and Coos Bay would be non-existent. These projects have allowed the Coos Bay community to remain connected to the national rail network with a viable rail link.
- **Economic**

- **Increased local jobs** - This project created local construction jobs and helped create and retain permanent jobs in the area that could have been lost without the rail line.

- **Safety**
  - **Reduced incidents -** Shifting demands off of the local system will improve safety for the motoring public.

B.4 WILLAMETTE RIVER BRIDGE AT HARRISBURG – UNION PACIFIC (UP)

Structural damage caused by years of use prompted UP to slow the operating speed over this critical river crossing from 70 mph to 30 mph. The rehabilitation of this bridge had been forestalled as UP opted to fund other, more critical improvements to its physical plant throughout the nation. However, Amtrak's passenger service continued to suffer from the daily slowing of their trains. Consequently, funding for this project was authorized under *Connect*Oregon IV and has resulted in a reestablishment of normal track operating speed over this structure of 70 mph. This action has resulted in an increase of on-time performance for Amtrak service between Eugene and Portland. Amtrak's transit time, as well as overall customer satisfaction, have also improved. In addition, UP freight trains have benefitted by this improvement with an increase in overall system velocity as well as an improvement in crew and equipment utilization.

Evaluation Factors by Rail Partner

State.

- **Mobility**
  - **Improved system efficiency and connectivity** - This project affects the entire rail system and provides system wide benefits and including benefits to other rail projects and other railroads such as Portland and Western Railroad.
  - **Increased system redundancy/resiliency** - Replacing this bridge improves the "State of Good Repair" of a piece of rail infrastructure on a north / south route critical to the state of Oregon.

- **Economic**
  - **Benefit-cost ratio** - The project provided an important rail system improvement and leveraged significant private investment—with a total UP investment of $12,400,000
  - **Reduced system maintenance costs** -This project could lower highway maintenance costs as more people chose to use improved transit over highways.

- **Environmental**
  - **Improved air quality** - This project could have a positive environmental impact as more people chose to use improved rail over highways.

Shippers.

- **Mobility**
  - **Improved service reliability** - This project improves the efficiency of the UP network which positively impacts any customers that use the rail service.

Railroads.

- **Mobility**
  - **Increased system velocity** - This project increases the track speed over the bridge from 30 mph to 70 mph improving system velocity.
  - **Reduced hours of delay –** By increasing speed the freight system has less overall delay.
- **Economic**
  - **Increased revenue traffic** - Increased system velocity allows the railroad to get more capacity out of their network and increase traffic and revenue on the line.
  - **Improved equipment utilization** - Increased system velocity helps the railroad get to destinations quicker and improves equipment utilization.

Passengers.

- **Mobility**
  - **Improved travel time** - This project increases the track speed over the bridge from 30 mph to 70 mph improving reducing travel time and making this mode of travel attractive to Amtrak riders. This in turn could also attract new customers, who currently use personal vehicles on the highway, onto rail.

B.5 HINKLE YARD IMPROVEMENTS

Under *Connect*Oregon I, Union Pacific applied for and was awarded a grant of $3.7 million to construct a staging track near their main line within Hinkle Yard. This track allows UP to temporarily hold a train intact (typically a bulk train such as a grain, soda ash or potash train) while awaiting available capacity at the Port of Portland. The track also facilitated the setup of a Distribution Power Unit for bulk commodity trains, and constructed receiving yard support track. The improvements allowed for increased mainline capacity that addressed growing rail demand and volume in the area. Because the train is held at a crew change location such as Hinkle and the train is held intact, once permission is received to

advance this train, the train can then be expedited to the prospective export terminal. Shippers and the railroad all benefit by *Connect*Oregon-funded project by accruing a reduction in operating costs and ultimately a reduction in transit time (once the green light is given to restart this train's journey).

Evaluation Factors by Rail Partner

State.

- **Mobility**
  - **Improved system efficiency** - The improvements allowed for increased mainline capacity that addressed growing rail demand and volume in the area.
- **Economic**
  - **Increase/retain jobs** - Opportunity to attract business to Oregon because of reliable rail connections that provide good service and connectivity to markets.
  - **Benefit-cost ratio** - The project provided an important rail system improvement and leveraged significant private investment from UP.
- **Environmental**
  - **Improved air quality** - Fewer idling trains have a positive impact on air quality.

Shippers.

- **Mobility**
  - **Improved service reliability** - Shippers will now have improved service reliability and fewer delivery delays.
- **Economic**
  - **Positive business cost impact** - Shippers using rail may continue using rail and have modal options– maintaining their bottom line. Also, with increased rail capacity there may be opportunities for new shippers to use rail.

Ports

- **Economic**
  - **Improved system throughput** - The increased capacity will allow the Port to increase their business.
- **Environmental**
  - **Improved air quality** - Fewer idling trains have a positive impact on air quality.

Railroads.

- **Mobility**
  - **Increased throughput** - Upgrading the physical plant at Hinkle will increase system capacity and improve rail system fluidity for all trains operating in the area.
  - **Reduced delay** - The project resulted in a reduction of dwell time (the time rail cars wait in a terminal) from an average of 4.2 hours in 2008 to 2.7 hours in 2011.
- **Economic**
  - **Increased revenue** - The increased capacity will allow UP to increase their business in the area.
  - **Improved equipment utilization** - The project will allow UP to improve their equipment utilization.

C. Example Projects by Type

As with other statewide plans in Oregon, this State Rail Plan does not recommend specific projects, however, it does present potential projects by type for Oregon to consider pursuing in the future. This Appendix identifies these potential projects. This list of projects has been developed from analysis conducted as part of this plans development, from projects identified in the 2010 Oregon Rail Study, and it also contains projects that the plan team is aware of through knowledge of Oregon's rail system. This list has not been prioritized, nor is it a statement of advocacy for any individual project.

Railroad Corridor Preservation Projects

- Albany and Eastern Railroad Sweet Home Branch
- Central Oregon & Pacific Railroad Ashland to Montague, CA
- Hampton Railway Entire Line
- Lake Railway (miles in OR only Entire line)
- Longview Portland & Northern Railway Entire line
- Oregon Pacific Railroad Liberal to Mollala
- Port of Tillamook Bay Railroad Already abandoned part of line
- Portland & Western Railroad Astoria District –Forest Grove District
- Wallowa Union Railroad Entire line
- Willamette & Pacific Railroad Abandoned in 2011; Dallas District
- Willamette Valley Railway Entire line
- Wyoming & Colorado Railroad Entire line

Main Line Speed Improvement Projects

- BNSF: Upgrade to CTC BNSF Oregon Trunk – Chemult to Oregon Trunk Junction
- BNSF: Increased Speed Over the Willamette and Columbia River Bridges
- BNSF and UP North Portland Junction (UP & BNSF)
- CTC Crates to Biggs Signal improvements – increased fluidity

Connecting Ports to Main Line Projects

- West Hayden Island Main Line Access

Port Projects

- Port of Portland T-4 Pier 1 Rail Yard Improvements
- Port of Portland West Hayden Island Unit Train Loops
- Port of Portland T-4 Soda Ash Storage Tracks
- UP Bonneville Yard Build-Out to support Port of Portland T-4
- Ramsey Yard Utilization
- South Rivergate Rail Access: Second Slough Bridge

Connecting Shortline Railroads to Class 1 Railroad Main Line Projects

- BNSF/UP/Portland Terminal Railroad – Mainline Access Improvement. Train movement through Lake Yard is currently managed by hand-thrown switches causing slow and impeded movement for switching, mainline freight and Amtrak trains into and through Lake Yard. The proposed project would replace hand-thrown switches between the mainline and yard tracks with automated power switches.
- Peninsula Terminal Railroad: BNSF/PT Rail Connection at Suttle Road

Quiet Zone Projects

Where grade separations are not feasible or affordable quiet zone projects maintain safe at-grade crossings without the noise from train horns.

- Portland - Cathedral Park Quiet Zone

Passenger Rail Projects

- Sherwood to Milwaukie Commuter Rail
- McMinnville to Forest Grove/Hillsboro Commuter Rail
- Sunriver to Redmond Commuter Rail

Main Line Capacity Projects

- Albany Rail Consolidation Project
  - Double Track UP main line – from siding just south of Albany through Albany to Millersburg.
  - Add CTC
  - Eliminate at-grade crossings through combination of closure and grade separation
    - » Ellingson Rd. SW
    - » 34th Ave. SW *
    - » SW Queen *
    - » SE Madison
    - » SE Main St.
    - » Santiam Rd. SE
    - » SE Geary
    - » SE Salem Ave. *
    - » NE Davidson St. *

** Primary or Critical Crossing*

- Union Pacific Railroad
  - Double Track - Eugene Depot to Irving
  - Extend Siding at Coalca
  - Double Track -Willsburg Junction to Clackamas
  - Double Track - T-5 (Bonneville Yard) to Barnes Yard
  - Double Track - Penn Jct. to West Hemlock
  - Double Track – Hinkle to Nampa, ID
  - Double Track – Troutdale to Hinkle
  - Double Track – Peninsula Jct. to Troutdale
  - Double Track – Peninsula Jct. to North Portland Jct.
  - UP: North Portland Crossover Improvements
  - UP Main Line: Track Realignment South of Albina ("6 MPH Curves")
  - UP North Portland: Undoing the "X"
  - Mosier 2 MT New 2MT section on Portland Sub – additional capacity

- Hinkle Gravel Tracks New tracks for bulk staging – additional capacity/fluidity at major yard
- Milam-Gibbon 2 MT New 2MT section on LaGrande Sub – additional capacity
- Graham Line Midpoint Siding New siding on Graham Line for meets/pass – increased fluidity
- East Portland Connection Additional connection to Graham Line – increased fluidity
- Hinkle 2nd Trim Lead Additional capacity/fluidity at major yard

- BNSF Railway
  - Siding Extensions – Bend to Oregon Trunk Jct. Install and extend sidings for meets/passes to increase capacity and velocity. For example, two sidings under consideration for extension are Moody and Merrill sidings. Moody siding is 4,330 feet long and located on the Oregon Trunk Subdivision at MP 5.4 south of Wishram. Merrill siding is 2,400 feet long and is located on the Gateway Subdivision at MP 15.4 south of Klamath Falls. Sidings would be extended to 7,500 feet or greater.
  - Willbridge Crossover. Upgrade from No. 11 power double crossovers. Project would increase train velocity by allowing higher train speeds through the crossovers. With federal funding, ODOT is preparing the PE/NEPA project to 30% designs with expected completion March 2014
  - Third Main Line – North Portland Jct. to Vancouver, WA
  - Bieber Junction, Klamath Falls. Power switches at Bieber Junction where BNSF and Union Pacific connect to improve velocity

Safety Projects

Several areas in the state currently have in-street running, which should be evaluated in the future, including:

- Rainier, OR
- Salem, OR
- Jefferson, OR

As rail traffic increases throughout the state communities should review locations that have at-grade rail crossings, including:

- Port of Portland

  - Port of Portland Marine Drive Grade Separation Project
  - Port of Portland T-6 Berth 607 Grade Separation
- Kenton Line
  - NE 158th *
  - NE 148th
  - NE 138th *
  - NE 112th
  - NE 105th
  - NE Cully *
  - N. 11th /Lombard
  - N. Peninsular
  - N. Columbia Boulevard at Penn. Junction *
- Valley Main
  - SE 11th /12th at Clinton *
  - SE Harmony Road *
  - SE Harrison in Milwaukie *
  - SE Oak Street
  - SE 37th Avenue
  - SE Lawnfield Road
- Canby Area
  - NE Territorial Rd.
  - N. Redwood St.
  - Put Railroad into trench
    - NE 4th Ave.
    - N. Ivy St.
    - N. Grant
    - N. Elm St.
  - S. Barlow Rd.
- Aurora
  - Main St. NE *
- Hubbard
  - D Street

- Woodburn
  - Hardcastle Ave.
  - E. Lincoln St.
  - Young St.
  - E. Cleveland St.
  - S. Boone Ferry Rd. *
- Gervais Area
  - Ivy Ave.
  - Douglas Ave. NE
  - Keene Rd. NE
  - Concomly Rd. NE
  - Waconda Rd. NE
  - Brooklake Rd. NE
  - Quinaby Rd. NE
  - Perkins Rd. NE
- Salem Area
  - Blossom Dr. NE
  - Hyacinth St. NE *
  - Silverton Rd. NE
  - Woodrow St. NE
  - Sunnview Rd. NE
  - Madison St. NE
  - Market St. NE *
  - D. St. NE
  - Marion St. NE
  - Center St. NE
  - Chemeketa St. NE
  - Court St. NE
  - State St.
  - Mill St. SE
  - Hines St. SE
  - McGilcrest St. SE

  - Madrona Ave. SE
- Turner Area
  - Delaney Rd. SE
  - Chicago St. SE
  - Hennies Rd. SE
  - Hunsaker Rd. SE
- Marion – Jefferson Area
  - Marion Hill SE
  - Libby Ln. SE
  - Cemetary Rd. SE
  - Hazel St.
  - S. Main St. *
  - Scravel Hill Rd. NE

** Primary or Critical Crossing*

D. Definitions

Urban Rail Systems. Urban rail systems provide passenger service within a metropolitan area, connecting residential neighborhoods with local activity centers. Urban rail service can take several forms, including heavy-rail transit (e.g., subways and elevated trains), which offers high-capacity, high-speed service; cable-cars, trams or streetcars offering lower-speed, lower-capacity localized service; and light-rail systems, which offer capacities and speeds between those of heavy rail and streetcars/trams.

Commuter Rail Systems. Also called regional rail, these rail systems typically provide passenger service within a single region, and occasionally between regions. A commuter rail system operates on mainline trackage which may be shared with intercity rail and freight trains. Systems tend to operate at lower frequencies than urban rail systems, but tend travel at higher speeds and cover longer distances.

Intercity Passenger Rail Systems. Also called conventional rail, intercity passenger rail services provide transportation between metropolitan areas, to rural areas, and to points beyond the State's borders, primarily sharing freight trackage. Amtrak operates all intercity rail services in the State. Generally, the speed range for conventional rail is 99 mph or less, but can be quite diverse, ranging from 31 mph in a mountainous area or on undeveloped tracks to 124 mph on newly-constructed or improved tracks. Ideally, the average speed of intercity rail service should be faster than 62 mph in order to be competitive with car, bus and other methods of transport.

High Speed Rail Systems. Generally, the speed range for high speed rail is between 124 mph and 249 mph. Although almost every form of high speed rail is electrically driven via overhead lines, this is not necessarily a defining aspect and other forms of propulsion, such as diesel locomotives, may be used. A definitive aspect is the use of continuous welded rail which reduces track vibrations and discrepancies between rail segments enough to allow trains to pass at speeds in excess of 124 mph. Although a few exceptions exist, zero grade crossings is a policy adopted almost worldwide.