

Factors and Evaluation Criteria

Oregon State Rail Plan
Prioritization Implementation

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Purpose

The Oregon Department of Transportation (ODOT) is working to analyze and prioritize rail projects across the state, in alignment with the [Oregon State Rail Plan 2020](#). To understand the needs and benefits of the projects, a range of criteria will be evaluated.

Factors and Evaluation Criteria

The following terms and definitions describe the different steps in the methodology development and process.

- **Factors:** categories used to express agency and project values considered in the prioritization process which contain groups of variables with similar characteristics.
- **Evaluation Criteria:** characteristics that can be measured and organized under each factor.

To select prioritization factors and evaluation criteria, the Oregon State Rail Plan 2020 was reviewed. Additionally, input was sought from the project team of internal stakeholders and consultant team as well as the Rail Advisory Committee (RAC) Sub-Committee Working Group and the Technical Advisory Committee (TAC). See Appendix A for membership and affiliation of each. Table 1 provides a summary of the selected factors and evaluation criteria, along with brief notes of each.

Table 1: Evaluation Criteria by Factor

Factors	Evaluation Criteria	Notes
Mobility	<ul style="list-style-type: none">• Travel time• Travel reliability• Capacity improvements• Multimodal connectivity (passenger rail)	This criterion will prioritize the improvement the Project will provide to the transportation system, across all modes interacting with the Project.
Economic	<ul style="list-style-type: none">• Shipping costs• Operating costs• Regional and local economic impact (qualitative)	This criterion considers the changes in costs, including local and statewide economic effects, that could occur with the implementation of the Project.
Environment	<ul style="list-style-type: none">• Air quality and Greenhouse gases• Natural resources,	This criterion considers the potential impact to the physical and built

Factors	Evaluation Criteria	Notes
	<ul style="list-style-type: none"> Climate and seismic resiliency Cultural or historic resources Congestion mitigation 	environment that are anticipated as a result of the Project's implementation.
Safety	<ul style="list-style-type: none"> Change in operator and maintenance staff safety Change in passenger safety Change in Road User safety Level of stress (active transportation users) 	This criterion considers anticipated improvements to safety related to Project operation and impacts experienced by other transportation users due to Project operation.
Readiness	<ul style="list-style-type: none"> Funding Leverage Community support status Project development status Right-of-Way status 	This criterion reflects qualitative assessment of the Project to proceed based on: technical documents completed, owner buy-in/support, permits identified and/or received, regulatory and environmental approvals, known existing or pending funding, political support, and identified required approvals.
Equity	<ul style="list-style-type: none"> Transportation Disadvantaged Populations Index (TDPI) Expanding Economic Equity (qualitative) 	This criterion reflects Project impacts on a federally designated areas of persistent poverty and/or ODOT defined disadvantaged community.

Evaluation Criteria Scoring

Table 2 describes how the evaluation criteria will correlate with a Project's overall scoring:

Table 2: Evaluation Criteria Scoring

Criteria Score	Criteria Score Description
0	Major negative change expected
1	Minor negative change expected
2	No expected change
3	Minor positive change expected
4	Major positive change expected

Evaluation Criteria Methodology

This section provides a description and data needs for each evaluation criteria. This has been discussed and revised with the Project Team and Working Groups. Detailed methodology will be developed and documented for each evaluation criteria for the process of the evaluation and prioritization.

Mobility Factor

Evaluation Criteria	Description	Data Needs	Method
Travel Time	This criterion evaluates the time savings given the Project is implemented.	Travel time savings evaluation	0 – Travel times increase for freight rail and passenger rail. 1 – Travel times increase for passenger or freight rail. 2 – Travel times remain the same for passenger and freight rail. 3 – Travel times decrease for passenger or freight rail. 4 – Travel times decrease for freight rail and passenger rail.
Travel Reliability	This criterion evaluates the on-time performance of services using the project.	On-time performance evaluation	0 – Capacity bottlenecks increase and system redundancy decreases. 1 – Either capacity bottlenecks increase or system redundancy decrease. 2 – No anticipated change in travel reliability. 3 – Capacity bottlenecks decrease or system redundancy increases.

Evaluation Criteria	Description	Data Needs	Method
Capacity Improvements	This criterion evaluates the capacity (or throughput “velocity”) of the transportation system given the build and no-build scenarios.	Traffic data	4 – Capacity bottlenecks decrease and system redundancy increases. 0 – Capacity/velocity of track and size of train decrease. 1 – Capacity/velocity of track or size of train decrease. 2 – No anticipated change in track capacity/velocity and size of train. 3 – Capacity/velocity of track or size of train increase. 4 – Capacity/velocity of track and size of train increase.
Multimodal Connectivity (passenger rail)	This criterion evaluates how many destinations can be reached by these services.	Origin-destination pairs, Connected services, Train frequency	0 – The Project does not improve connectivity. 1 – The Project improves connectivity to between 1 and 2 destinations. 2 – The Project improves connectivity to between 3 and 4 destinations. 3 – The Project improves connectivity to between 5 and 6 destinations. 4 – The Project improves connectivity to more than 6 destinations.

Economic Factor

Evaluation Criteria	Description	Data Needs	Method
Shipping Costs	This criterion evaluates the changes in shipping costs as a result of the Project.	Build and no-build shipping costs	0 – Increase in shipping costs. 2 – No change in shipping costs. 4 – Decrease in shipping costs.
Operating Costs	This criterion evaluates the incremental change in operating costs resulting from the implementation of the Project, including the project’s ability to maintain a state of good repair.	Operating costs per unit of service for both build and no-build scenarios	0 – Increase in crew and infrastructure (track/row/station/structures/vehicle) incremental operating costs. 1 – Increase in crew or infrastructure (track/row/station/structures/vehicle) incremental operating costs. 2 – No change in incremental operating costs. 3 – Decrease in crew or infrastructure (track/row/station/structures/vehicle) incremental operating costs. 4 – Decrease in crew and infrastructure (track/row/station/structures/vehicle) incremental operating costs.

Evaluation Criteria	Description	Data Needs	Method
Regional and Local Economic Impact (qualitative)	This criterion evaluates the potential positive or negative impact associated with a project's implementation.	Qualitative description of the anticipated benefits to the local and regional economy as a result of the project. Also any potential negative economic impacts of not undertaking the project.	0 – If the Project isn't implemented, job loses and/or industry reduction. 1 – If the Project isn't implemented, loss in new investment opportunities. 2 –No economic impacts. 3 – If the Project is implemented, gain in new investment opportunities. 4 – If the Project is implemented, gain in new jobs and/or industry expansion.

Environment Factor

Evaluation Criteria	Description	Data Needs	Method
Air Quality and Greenhouse Gases	This criterion evaluates the air quality (particulates) and greenhouse gases (emissions) impacts related to the implementation and operation of the Project.	Air quality data, such as CO2, NOx, Ozone and greenhouse gases, such as fuel usage and VMT (reduction)	0 – If the Project has a negative impact on air quality and greenhouse gases. 1 – If the Project has a negative impact on air quality or greenhouse gases. 2 – If the Project has no impact on air quality and greenhouse gases. 3 – If the Project has benefits on air quality or greenhouse gases. 4 – If the Project has benefits to air quality and greenhouse gases.
Natural Resources	Minimize, mitigate or avoid impacts to waterways and sensitive areas	Required permitting, EIS air quality and climate change and biological resources and wetlands chapters	0 – If the Project disrupts or impacts natural resources without mitigation. 2 – If the Project disrupts or impacts natural resources with mitigation. 4 – If the Project does not impact natural resources.
Climate and Seismic Resiliency	Minimize, mitigate or avoid impacts to natural hazards (likely to get worse over time) and increase resiliency (e.g. to landslides, wildfires, erosion, extreme heat, sea level rise)	High-risk index (mapping from ODOT), Encouragement of resiliency (qualitative, no requirements or thresholds), EIS air quality and climate change chapter	0 – The Project does not incorporate climate resilience. 2 – The Project incorporates some climate resilience 4 – The Project addresses an imminent climate change-

Evaluation Criteria	Description	Data Needs	Method
Cultural or Historic Resources	This criterion evaluates cultural or historic resources which conflict with the Project.	Evaluation of benefit or negative impact to cultural or historic resources related to the Project.	<p>related threat to rail infrastructure.</p> <p>0 – The Project is anticipated to have unmitigable impacts on cultural and historic resources.</p> <p>2 – The Project is anticipated to have impacts on cultural or historic resources with acceptable mitigation.</p> <p>4 – The Project is anticipated to actively conserve cultural and historic resources.</p>
Congestion Mitigation	This criterion evaluates the changes in removing trucks and passenger vehicles from roadways, and localized grade-crossing improvements	Modal switch from truck to freight rail, results of travel demand forecasting, traffic impact reports.	<p>0 – Decrease in modal share for passenger and freight rail</p> <p>1 – Decrease in modal share for passenger or freight rail.</p> <p>2 – No modal share change for passenger and freight rail.</p> <p>3 – Increase in modal share for passenger or freight rail.</p> <p>4 – Increase in modal share for passenger and freight rail.</p>

Safety Factor

Evaluation Criteria	Description	Data Needs	Method
Change in Operator and Maintenance Staff Safety	This criterion evaluates changes in operation and maintenance staff's safety resulting from the Project's implementation.	Evaluation of safety environment for rail operators and maintenance staff given the build and no-build scenarios.	0 – The Project decreases operator and maintenance staff safety. 2 – The Project does not change operator and maintenance staff safety. 4 – The Project increases operator and maintenance staff safety.
Change in Passenger Safety	This criterion evaluates changes in Passengers' safety resulting from the Project's implementation	Evaluation of safety environment for passengers and of passenger facilities given the build and no-build scenarios	0 – The Project reduces passenger safety. 2 – The Project does not change passenger safety. 4 – The Project increases passenger safety.
Change in Road User Safety	This criterion evaluates changes in safety related to infrastructure conflicting with the Project, such as grade crossings and active transportation facilities. Grade crossing closures are approved by ODOT Rail Crossing Section. Quiet Zones are approved by the Federal Railroad Administration (FRA).	Crash data, safety data at rail crossings, other available safety data	0 – If there has been no coordination with ODOT Rail Crossing Section or FRA (quiet zones). 1 – If there has been a pre-application to ODOT Rail Crossing Section or FRA. 2 – If there has been an application submitted to the ODOT Rail Crossing Section or FRA . 3 – If ODOT Rail Crossing Section has issued a Notice of Proposed Action or FRA Notice of Intent.

Evaluation Criteria	Description	Data Needs	Method
Level of Stress (active transportation users)	This criterion evaluates level of stress for active transportation users, such as bicyclists and pedestrians, before and after the Project's implementation and evaluates changes associated with the Project	Bike level of traffic stress (BLTS) scores, state roads (ATNI map and Safety map)	<p>4 – If ODOT Rail Crossing Section and/or FRA have approved application, or ODOT and FRA approval is not required.</p> <p>0 – If BLTS is 4. 1 – If BLTS is 3. 2 – If BLTS is 2. 3 – If BLTS is 1. 4 – If BLTS is 0.</p>

Readiness Factor

Evaluation Criteria	Description	Data Needs	Method
Funding Leverage	This criterion discusses the opportunities for leveraging additional funding sources including funding from private entities and State and Federal grant programs.	List of committed and potential Project partners, list of upcoming related/relevant grant programs	0 – No other sources of funding available 1 – At least one Project partner or grant program identified comprising of less than 50% of the budget 2 – Two Project partners or grant programs identified and/or at least 50% of budget coming from other sources 3 - More than two Project partners or grant programs identified and at least 75% of the budget coming from other sources 4 – Additional sources cover all Project costs
Community Support Status	This criterion discusses the community, stakeholder, and political approvals required for various project attributes, and the current project level of support or opposition	List of public agency or board approval required. Summary of community outreach to date and public statements supporting or opposing the project	0 – No outreach has taken place. 1 – Through outreach, the Project has known community and political opposition. 2 – Through outreach, the Project has known community or political opposition. 3 – Through outreach, the project has known community or political support. 4 – Through outreach, the Project has known

Evaluation Criteria	Description	Data Needs	Method
Project Development Status	This criterion discusses the status of design documents, environmental review, and agency agreements completed and required	Design documents, EA/EIS/FONSI, MOU, IGA, Statewide Transportation Improvement Plan (STIP)	<p>community, and political support.</p> <p>0 – None of the options. 1 – Only one of the options. 2 – Only two of the options. 3 – Only three of the options. 4 – Four or more of the options.</p> <p>Options Completed in Project Development Status:</p> <ul style="list-style-type: none"> • Environmental review • Permits • Design • Agency agreements • STIP
Right-of-Way Status	This criterion discusses the status of the property owners approval (railroad, public, or private), status of ROW acquisition, and schedule for completion. Includes discussion on conformace with existing zoning and and impacts to existing land-use policies	Summary of ROW needs, ownership, negotiations status, right-of-way drawings, and zoning data	<p>0 – The Project has no owner approval and doesn't conform to existing/adjacent zoning. 1 – The Project has no owner approval or doesn't conform to existing/adjacent zoning. 2 – The Project has no status on owner approval and existing/adjacent zoning. 3 – The Project has owner approval or conforms to existing/adjacent zoning. 4 – The Project has owner approval and conforms to existing/adjacent zoning.</p>

Equity Factor

Evaluation Criteria	Description	Data Needs	Method
Transportation Disadvantaged Populations Index (TDPI)	<p>This criterion evaluation indexed census data characteristics designed to help prioritize improvements on segments that serve areas with high numbers of transportation disadvantaged residents and environmental justice communities that have been traditionally underserved by ODOT based on rail project location</p>	Spatial data and cumulative index from demographic census data based on each project's location	<p>0 – If index 0.0 to 1.0. 1 – If index 1.1 to 1.2. 2 – If index 1.3 to 1.4. 3 – If index 1.4 to 1.6. 4 – If index 1.6 to 3.3.</p>
Expanding Economic Opportunity (qualitative)	<p>This criterion evaluates the potential impact to promote economic opportunity through transportation investments associated with a project's implementation</p>	Qualitative understanding of the expected economic impact, specifically for BIPOC and women owned businesses , at the local, regional and/or state level	<p>0 – None of the options. 1 – Only one of the options. 2 – Only two of the options. 3 – More than 2 but less than 5 of the options. 4 – More than 5 of the options.</p> <p>Options for BIPOC and Women Owned Businesses:</p> <ul style="list-style-type: none"> • Effectively informed of the competitive contracting • Engaged in competitive contracting • Already working on the project or expected team • Project demonstrates ability to meet ODOT contracting goals • Project increases total annual dollars

Dynamic Weighting and Prioritization

A dynamic weighting approach will be used for the scoring and ranking of projects to reflect various implementation or funding opportunity requirements for each factor. Dynamic weighting allows for a flexible prioritization plan based on specific opportunities for implementation and available data. This approach can be used to identify which projects would be competitive for specific and differing application requirements and funding opportunities.

Figure 1 provides three approaches to the dynamic weighting. The Average Score reflects an approach where each factor is weighted equally. Weighting A reflects where Safety and Readiness weighted higher. Weighting B reflects Equity and Mobility weighted higher.

Figure 1

Factor	Average Score (equal weighting of 16.7%)	Weighting A	Weighting B
Mobility	2	5%	30%
Economic	3	10%	0%
Environment	2	15%	15%
Safety	4	30%	15%
Readiness	3	30%	10%
Equity	2	10%	30%
Total	2.67	3.00	2.40

Committee and Work Group Membership

Rail Advisory Committee (RAC)

- David Arnold, AORTA – Wallowa Union Railroad
- Gary Cardwell, Northwest Container Services
- Glenn Carey, SMART Union
- Bruce Carswell, Jaguar Transport Holdings, LLC
- Robert Eaton, Amtrak
- John Ficker, Retired, representing businesses
- Johan Hellman, BNSF Railway
- Aaron Hunt, Union Pacific
- Paul Langner, Teevin Bros. Land & Timber Co.
- Chris Myron, Brotherhood of Locomotive Engineers & Trainmen
- Ivo Trummer, Port of Portland

Rail Advisory Committee (RAC) Working Group

- Glenn Carey, SMART Union
- Bruce Carswell, Jaguar Transport Holdings, LLC
- John Ficker, Retired, representing businesses
- Johan Hellman, BNSF Railway
- Paul Langner, Teevin Bros. Land & Timber Co.

Technical Advisory Committee (TAC) Working Group

- John Boren, ODOT Freight Program
- Amy Ramsdell, ODOT Commerce and Compliance Division
- Chris Cummings, Business Oregon
- Suzanne Carlson, ODOT Climate Office
- John Burns, Oregon International Port of Coos Bay
- Patrick Sullivan, Amtrak
- Robin Wilcox, ODOT Social Equity Office
- Shelly Haack, Prosper Portland
- Ivo Trummer, Port of Portland
- Rosann O'Laughlin, ODOT
- Randy Knapick, Prosper Portland Mobility Consultant