

Memorandum

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Project# 27358

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RE: US 26 Rhododendron Design Refinement Plan

TM#1 EVALUATION CRITERIA & PERFORMANCE MEASURES

Purpose

The purpose of this memorandum is to articulate the evaluation criteria and performance measures that have been extracted from the Corridor Vision Statement (Reference 1) and that will be used to evaluate the concept design alternatives for the US 26 Rhododendron Design Refinement Plan (Refinement Plan).

Understanding and executing a performance-based design decision framework, (Reference 2 – TM2 Performance-Based Design Decision Framework) with clear, actionable, and measurable evaluation criteria enables project teams to make informed decisions about trade-offs between concept design alternatives while easily tying the evaluation to the Corridor Vision.

Development of Evaluation Criteria & Performance Measures

The evaluation criterion was developed based on the Corridor Vision Statement with the purpose of evaluating how well each concept design alternative meets the project's intended outcomes, goals, and vision.

Guidance from the Blueprint for Urban Design (BUD) was used to further refine the criterion to be context specific and relative to the needs of the intended users based on the selected urban context of "Rural Community". Qualitative and quantitative performance measures were developed to evaluate the three (3) following concept design alternatives:

- No-Build Condition
- 3-lane Alternative
- 5-lane Alternative

The Corridor Vision Statement:

"Mt. Hood Highway (US26) connects the Portland Metro Area to Central Oregon and serves as Rhododendron's primary thoroughfare. It provides access to basic necessities and local services such as the post office, groceries, and restaurants. The Highway within the community promotes safe walking, biking, rolling, and driving. This includes features that promote traffic calming and reduce travel speeds. The Highway offers safe and convenient options to access businesses, trails, and transit stops. Rhododendron is also a base camp for those taking transit up the mountain where they can ski, hike and mountain bike in the Mt Hood National Forest. Rhododendron is vibrant, with unique history, natural beauty, diversity of businesses and transportation facilities that serve all ages and abilities."

Evaluation Criteria & Performance Measures

Table 1 summarizes the proposed evaluation criteria and performance measures for the Refinement Plan. The table is organized by the following as follows:

- **Evaluation Criteria** are derived from the Corridor Vision Statement and will be used to evaluate the three concepts.
- **Description** includes the purpose and general explanation of the evaluation criteria, connecting the criteria to the Corridor Vision Statement for the study.
- **Performance Measures** are the measurements used to assess the evaluation criteria.

Evaluation Criterion Scoring

Table 2 provides a scoring scale from -1 to +2, reflecting the extent to which a concept design alternative achieves the prioritization criterion. Performance measure sub-categories within each evaluation criteria are scored individually, and then averaged to provide an overall score for the evaluation criteria. Each evaluation criteria score can result in a range between -5 (worst possible score) to +10 (best possible score) based on the five evaluation criteria listed in Table 1.

Table 1 Evaluation Criteria and Performance Measures

Evaluation Criteria	Description	Performance Measures
Safety	The project provides safety countermeasures that reduce the frequency of fatal and severe injury crashes and encourage slower speeds, which reduces crash severity.	<ul style="list-style-type: none"> • Percentage of anticipated crash reduction based on Crash Reduction Factors (CRF) • Number of conflict points • Pedestrian risk factors¹ • Bicycle risk factors¹ • Speed reduction effectiveness
Multimodal Integration	The project provides an integrated network of comfortable facilities and services for a variety of travel modes based on the modal priority suggested for the corridor context. The "Rural Community" designation allocates the highest priority to bicyclists and pedestrians, medium priority to motorists and freight, and varies in priority with transit.	<ul style="list-style-type: none"> • Consistency with bicyclist modal considerations² • Consistency with pedestrian modal considerations² • Consistency with motorist modal considerations² • Consistency with freight modal considerations² • Consistency with transit modal considerations²
Connectivity	The project provides safe and convenient options to cross US 26, connecting users to the adjacent assets, businesses, trails, and transit stops. Project meets ODOT's operational performance targets and continues to serve as an important regional connection addressing "vehicle carrying capacity" needs over Mt. Hood. The project removes barriers and fills gaps for pedestrians, bicyclists, and transit users.	<ul style="list-style-type: none"> • Target pedestrian crossing spacing and facility type consistency³ • Traffic operations⁴ and regional connectivity • Ease of access to community destinations • Property access points (ingress & egress)
Livability	The project supports the community's vision for increasing the sense of place, allowing for vibrant mix of development, a reduction of travel speeds, and transportation facilities meeting the needs of the "all ages and abilities" population.	<ul style="list-style-type: none"> • Community and stakeholder support
Feasibility	The project has no major design feasibility concerns (environmental and right-of-way concerns) and minimizes cost relative to the project benefits. Unknowns are within reasonable control and can be anticipated through contingency plans. The project is designed with consideration given to on-going and winter maintenance practices.	<ul style="list-style-type: none"> • Construction feasibility (including, but not limited to, right-of-way availability, existing terrain, utility location, visibility concerns, etc.) • Project costs • Maintenance considerations

¹ Risk factors are defined based on ODOT's All Roads Transportation Safety (ARTS) [Program](#) and consistency with [ODOT's Statewide Pedestrian and Bicycle Safety Implementation Plan](#).

² Based on BUD Table 2-3 for Rural Community land use context

³ Consistent with ODOT 2022 Traffic Manual and Blueprint for Urban Design

⁴ Traffic operational performance measures include volume-to-capacity (V/C), delay, and 95th percentile queuing

Table 2 Evaluation Criterion Scoring

Evaluation Criteria	Performance Measures	Scoring			
		-1	0	+1	+2
Safety	Quantitative: Percentage of anticipated crash reductions based on CRF	Project is anticipated to increase crashes.	Project is not anticipated to reduce crashes.	Project provides a moderate value crash reduction factor.	Project provides a high value crash reduction factor.
	Quantitative: Number of Conflict Points	Project increases the number of conflict points.	Project does not change the number of conflict points.	Project reduces the number of conflict points.	Project significantly reduces the number of conflict points.
	Quantitative: Pedestrian Risk Factor Scoring	Project adds a risk factor(s).	Project does not eliminate an existing risk factor.	Project eliminates 1 existing risk factor.	Project eliminates 2 or more existing risk factors.
	Quantitative: Bicyclist Risk Factor Scoring	Project adds a risk factor(s).	Project does not eliminate an existing risk factor.	Project eliminates 1 existing risk factor.	Project eliminates 2 or more existing risk factors.
	Quantitative: Speed Reduction Effectiveness	Project includes treatments with documented effectiveness at increasing speeds.	Project includes no treatments with documented effectiveness at speed reduction .	Project includes 1-2 treatments with documented effectiveness at speed reduction .	Project includes 3 or more treatments with documented effectiveness at speed reduction .
Multimodal Integration	Qualitative: Consistency with motorist modal considerations for Rural Community context	Project reduces consistency of recommended modal considerations & priority for motorist	Project makes no change to consistency of recommended modal considerations & priority for motorist	Project improves consistency of recommended modal considerations & priority for motorist	Project significantly improves consistency of recommended modal considerations & priority for motorist
	Qualitative: Consistency with freight modal considerations for Rural Community context	Project reduces consistency of recommended modal considerations & priority for freight	Project makes no change to consistency of recommended modal considerations & priority for freight	Project improves consistency of recommended modal considerations & priority for freight	Project significantly improves consistency of recommended modal considerations & priority for freight
	Qualitative: Consistency with transit modal considerations for Rural Community context	Project reduces consistency of recommended modal considerations & priority for transit	Project makes no change to consistency of recommended modal considerations & priority for transit	Project improves consistency of recommended modal considerations & priority for transit	Project significantly improves consistency of recommended modal considerations & priority for transit
	Qualitative: Consistency with bicyclist modal considerations for Rural Community context	Project reduces consistency of recommended modal considerations & priority for bicyclist	Project makes no change to consistency of recommended modal considerations & priority for bicyclist	Project improves consistency of recommended modal considerations & priority for bicyclist	Project significantly improves consistency of recommended modal considerations & priority for bicyclist
	Qualitative: Consistency with pedestrian modal considerations for Rural Community context	Project reduces consistency of recommended modal considerations & priority for pedestrian	Project makes no change to consistency of recommended modal considerations & priority for pedestrian	Project improves consistency of recommended modal considerations & priority for pedestrian	Project significantly improves consistency of recommended modal considerations & priority for pedestrian
Connectivity	Quantitative: Consistency with crossing treatment recommendations and target pedestrian crossing spacing for roadway context	Project reduces crossing opportunities and does not meet target pedestrian crossing spacing.	Project does not change existing crossing opportunities.	Project meets recommended crossing treatments and does not meet target pedestrian crossing spacing.	Project meets recommended crossing treatment requirements and meets target pedestrian crossing spacing.
	Quantitative: ODOT operational performance targets and regional connectivity.	Project does not meet ODOT operational performance targets and degrades vehicle carrying capacity.	Project meets ODOT operational performance targets and degrades vehicle carrying capacity.	Project meets ODOT operational performance targets and makes no change to vehicle carrying capacity.	Project meets ODOT operational performance targets and improves vehicle carrying capacity.
	Qualitative: Ease of access to destination points, community trails, historic places, and transit facilities.	Project creates barriers to access destinations.	Project makes no changes to accessing destinations.	Project improves access to destinations.	Project significantly improves access to destinations.
	Quantitative: Property access points are well defined (egress/ingress)	N/A	No change is made to existing access points.	Some access points to properties are defined.	All access points are well defined for all properties.
Livability	Qualitative: Community response based on open house and interviews	Project creates negative	Project creates mixed responses or neutral responses	Project creates positive responses	Project creates strongly positive responses
	Qualitative: Stakeholder response based on open house and interviews	Project creates negative responses	Project creates mixed responses or neutral responses	Project creates positive responses	Project creates strongly positive responses
Feasibility	Qualitative: Construction feasibility	Project poses significant construction challenges.	Project poses moderate construction challenges.	Project poses minor construction challenges.	Project poses no notable construction challenges.
	Quantitative: Expected project costs	Construction costs are comparatively high .	Construction costs are comparatively medium .	Construction costs are comparatively low .	N/A
	Qualitative: Maintenance needs and considerations	Project cannot accommodate maintenance requirements and increases maintenance needs.	Project accommodates maintenance requirements but increases maintenance needs.	Project accommodates maintenance requirements and reduces maintenance needs.	N/A

Next Steps

The Evaluation Criteria and Performance Measures has been reviewed by the project management team (PMT) and updated to produce the Final Evaluation Criteria and Performance Measures. The Evaluation Criteria will be used to compare the three concept design alternatives developed as part of Task 6: Design Refinement and Alternatives Evaluation.