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Project Evaluation Framework

This memorandum outlines the process for screening Salem River Crossing concepts and evaluating alternatives. The outcome of this evaluation process will be the selection of a few alternatives to be analyzed in the Draft Environmental Impact Statement (Draft EIS).

Screening and Evaluation Process

The proposed evaluation framework includes two parts: screening and evaluation. The first part screens concepts against the minimum requirements of the project purpose and need. Threshold criteria represent this set of minimum requirements. In this screening process, if concepts do not meet the thresholds, they are considered infeasible and are dropped from further consideration. Concepts that meet the threshold criteria are considered feasible and are developed into project alternatives.

The second step of the framework compares the project alternatives against a set of goals and objectives. Goals and objectives are used to compare the alternatives with one another to determine how they perform against a broad range of stakeholder values.

The performance of each of the project alternatives will be rated by technical staff for each objective. The Task Force (TF) will set a weighting factor for each objective to establish its level of importance in relation to the other objectives. A total score (the sum of all the performance ratings times the weighting factors) will be calculated for each alternative, and an associated ranking of alternatives prepared. The higher the score, the more successfully the alternative matches the stated TF values for the project. The ranking will be used by the TF in developing its recommendation of alternatives to be evaluated further as part of the environmental documentation process.

The evaluation framework serves three primary purposes. First, it ensures that all project alternatives address the project's purpose and need. The threshold criteria determine the minimal requirements in relation to the Purpose and Need Statement. Second, it helps frame a discussion with a wide variety of stakeholders about what project features are most valuable. These values are reflected in the goals and objectives and the weighting factors. Third, it establishes the relative advantages and disadvantages of feasible alternatives to support selection of a few for further analysis in the Draft EIS.

The evaluation process for the Salem River Crossing project is comprised of the following tasks:

- Develop threshold criteria
- Develop goals and objectives and performance measures
- Identify a broad range of concepts

- Evaluate concepts for feasibility and remove infeasible concepts from further consideration
- Develop alternatives from feasible concepts
- Collect performance data for each criterion for each alternative
- Evaluate alternatives
- Select alternatives for more detailed analysis in the Draft EIS

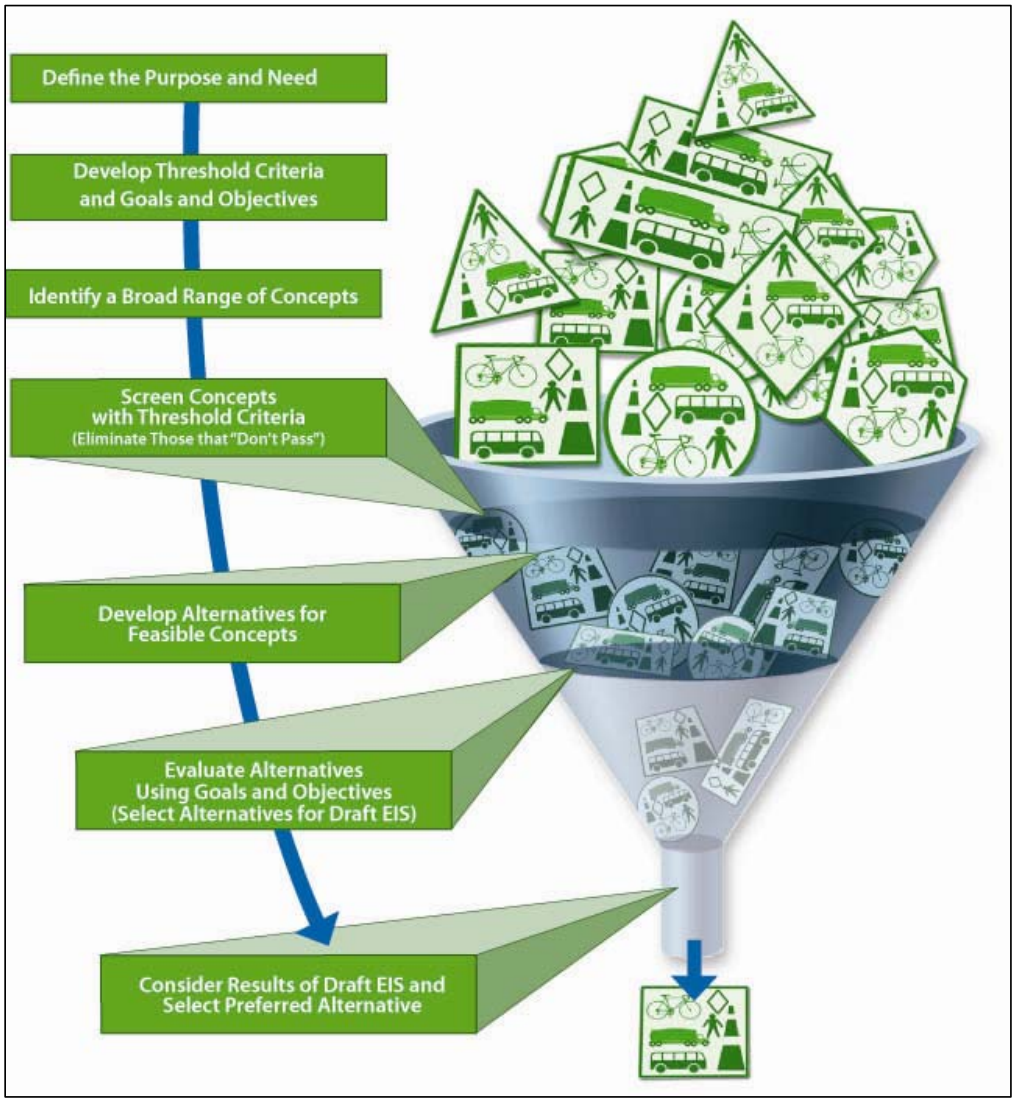

FIGURE 1 – Screening and Evaluation Process

Screening of Concepts Using Threshold Criteria

The first tier of alternative evaluation is to compare a wide variety of concepts against a set of threshold criteria. Threshold criteria serve as a set of minimum requirements for project concepts before they can be developed into full-fledged alternatives. Concepts either meet the threshold criteria or they do not, and those that meet these criteria are deemed feasible. A concept must meet all the threshold criteria to be considered further. Threshold criteria are based on existing or readily available data, and may reflect regulatory or policy imperatives. Threshold criteria are used throughout the evaluation process to eliminate concepts or alternatives as more information becomes available.

Threshold criteria are directly linked to project needs specified in the Purpose and Need statement, as shown below.

No.	Identified Project Need, from Project Purpose and Need Statement	Threshold Criteria
1, 2, 3, 4	Improve existing and future mobility and safety of passenger vehicles Improve existing and future mobility and safety of freight vehicles Improve existing and future reliability of public transportation Improve existing and future mobility and safety of pedestrians and bicyclists	– Concept[1] must reduce vehicle hours of delay (VHD) during the 2030 p.m. peak hour by approximately~~at least~~ 70% within the Downtown and West Salem traffic districts[2] over the No-Build alternative – Concept must reduce volume to capacity on existing west bound (Marion Street) bridge during the 2030 p.m. peak hour by approximately~~at least~~ 25% over the No-Build alternative – Concept must be designed to meet the applicable geometric requirements for transit vehicles, trucks, emergency vehicles, bicycles, and pedestrians, as outlined in the project's design criteria[3].
5	Minimize traffic disruptions and enable emergency vehicle response in the event of restricted access to and/or closure of the existing bridges due to an emergency or other incident	~~– Not a threshold criteria (addressed in goals and objectives)~~ – No deterioration of emergency response capability during closure of the existing bridges due to an emergency or other incident throughout planning period
6	Develop a financial strategy for implementation	– Not a threshold criteria (addressed in goals and objectives)
	Regulatory Mandates[4]	– Alternative must meet Section 4(f) and 6(f) requirements (impacts to parks, recreation, and historic resources) – Alternative must meet Statewide Planning goal requirements with regard to development outside the urban growth boundary or qualify for a goal exception

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[1] Concepts can be combinations of multimodal, land use, and physical improvements

[2] Map of districts is attatched in Appendix A

[3] Design criteria are attached in Appendix B

[4] There are many regulatory requirements with which a project must demonstrate compliance. In most cases, regulatory compliance can be achieved through modifying the design or developing mitigation to address an impact. The two regulatory areas noted above are more rigid and it may become apparent during the alternatives development process that an alternative does not conform with one of these requirements and must be removed from consideration.

Evaluation of Feasible Alternatives Using Identified Goals and Objectives

Goals and objectives are used to differentiate and identify trade-offs among feasible alternatives. To be most effective, an objective must be measurable and well-defined. This ensures a common understanding of each objective's meaning, and allows for a clear comparison among alternatives.

Goal 1: Improve mobility and safety for people and freight across the Willamette River in the Salem-Keizer Metropolitan area

Objectives	Performance Measures
1. Improve vehicle and freight mobility for local travel	Average travel time during PM peak hour for nine pairs of local trips: From: • High/Center • Lancaster/Center • Liberty/Fairview To: • Brush College/Wallace • Glen Creek/Wallace • Highway 22/Doaks Ferry
2. Improve vehicle and freight mobility for regional travel	Average travel time during PM peak hour for six pairs of regional trips: From: • High/Center • Lancaster/Center • Liberty/Fairview To: • Highway 22/Highway 51 • River Bend/Wallace
3. Improve vehicle and freight mobility for through travel	Average travel time during PM peak hour for 2 pairs of through trips: From: • I-5/Salem Parkway • I-5/Mission To: • Highway 22/51
4. Improve safety for vehicles and freight	Qualitative scale considering factors that influence injury crashes including non-peak period traffic volumes, number of signalized intersections, presence of access control, and bicycle/ pedestrian/auto interactions
5. Improve transit reliability across the Willamette River in Salem	PM peak hour travel time between Courthouse Transit Center (downtown) and Glen Creek Transit Center (West Salem)
6. Improve pedestrian facilities across the Willamette River in Salem	Qualitative scale incorporating pedestrian safety and security, directness and connectivity to the pedestrian facility network, and quality of environment (path width, grade, lighting, drainage, landscaping, shade)

7.	Improve bicycle facilities across the Willamette River in Salem	Qualitative scale incorporating bicyclist safety and security, directness and connectivity to the bicycle facility network, and quality of environment (path width, grade, lighting, drainage, landscaping, shade)
8.	Improve emergency vehicle response across the Willamette River in Salem	Qualitative scale for travel time across the river during an event in which one of the existing bridges is closed
9.	Minimize traffic impacts during construction	Qualitative scale considering duration of lane closures and travel demand in areas affected

Goal 2: Preserve natural and cultural resources

Objectives	Performance Measures
1. Avoid direct and indirect impacts to wetlands, and mitigate any unavoidable impacts	Net area and quality of wetland loss
2. Avoid direct and indirect impacts to Threatened and Endangered fish species and other fish habitat, and mitigate any unavoidable impacts	Cubic yards of pier encroachment in the floodway (ordinary high water level)
3. Avoid direct and indirect impacts to habitat for terrestrial Threatened and Endangered species, and mitigate any unavoidable impacts	Qualitative scale considering likelihood of occurrence within 100 feet of alternative footprint
4. Avoid direct and indirect impacts to terrestrial wildlife, and mitigate any unavoidable impacts	Acres of non-urban and non-agricultural land loss (including riparian areas)
5. Protect the existing floodplain	Cubic yards of fill encroachment in 500-year floodplain
6. Preserve air quality	Number of intersections along a major collector or arterial within study area where the primary approach exceeds volume-to-capacity ratio of 0.9 during the PM peak hour
7. Avoid direct and indirect impacts to historic resources, and mitigate any unavoidable impacts	Number of historic sites affected (National Register, National Register eligible, local historic sites)
8. Avoid direct and indirect impacts to cultural and archaeological resources, and mitigate any unavoidable impacts	Number of known cultural/archaeological sites affected
9. Preserve trees	Square footage of tree canopy loss
10. Preserve native plant communities	Acres of native plant community loss

Goal 3: Preserve the quality of life in communities on both sides of the river

Objectives	Performance Measures
1. Minimize impacts to businesses	Number of businesses displaced
2. Minimize impacts to residences	Number of residential units displaced
3. Minimize impacts to non-relocated businesses	Square footage of business properties required for right-of-way
4. Minimize other impacts to non-relocated residences	Square footage of residential properties required for right-of-way
5. Minimize traffic intrusion onto residential streets	Number of residences on streets in project area which have traffic levels 20 percent higher than future No-Build condition
6. Minimize noise in residential areas	Number of residences within preliminary 65 decibel noise contour centered on east and west bridgeheads
7. Maintain neighborhood cohesion	Qualitative scale considering changes in access, presence of physical barriers, separation of parts of existing neighborhoods from each other, ability of pedestrians to cross key bridge approach streets
8. Stimulate economic development	*Qualitative scale of potential to stimulate development of underdeveloped land or make existing development more successful* *(Note: this criterion requires data that may not be available. Staff is checking on this.)*
9. Reduce through freight traffic in downtown	Percentage of through freight traffic diverted from downtown
10. Support adopted land use and transportation plans	Qualitative scale of consistency with policies in the applicable local and regional Comprehensive Plans and Transportation System Plans
11. Minimize construction duration	Number of months of construction
12. Enhance public access to the river	Qualitative scale considering number and quality of access opportunities including amount of river frontage
13. Minimize impacts to recreational facilities	Qualitative scale considering recreation use, constructive use, and long-term construction impacts on recreation properties
14. Minimize impacts to schools	Qualitative scale considering right of way impacts to school facilities, noise at school facilities, safe routes to school.

Goal 4: Meet federal, state, and local regulatory requirements

Objectives	Performance Measures
1. Meet Section 4(f) and 6(f) requirements	Qualitative scale of the likelihood that alternative can meet Section 4(f) and 6(f) requirements
2. Meet Statewide Planning goal requirements	Qualitative scale of the likelihood that alternative can comply with Statewide Planning goal requirements

Goal 5: Provide a cost effective and timely solution

Objectives	Performance Measures
1. Minimize construction cost	Cost for planning, design, permitting, and capital construction in 2007 dollars
2. Minimize operations and maintenance cost	Average annual cost for operations and maintenance in 2007 dollars
3. Minimize implementation timeline	Qualitative scale of financial strategy implementability considering risk of success and time to start of construction
4. Maximize incremental benefits	Qualitative scale considering ability to phase project elements to achieve incremental benefits throughout 20-year period

Goal 6: Ensure an aesthetically pleasing solution (if applicable)[5]

Objectives	Performance Measures
1. Enhance pedestrian/bicycle experience on the bridge	Qualitative scale considering architectural detail, interpretive displays, viewing facilities/vantage points, and human scale
2. Provide a structure that instills a sense of community pride and blends with the surrounding environment	Qualitative scale considering views of the bridge from the community, gateway treatments
3. Preserve, enhance, or create views from the bridge	Qualitative scale considering quality of views provided from the bridge for bicyclists, pedestrians, and vehicle occupants
4. Provide opportunities for productive use under bridge structure that serves as a community asset	Qualitative scale considering potential for visually pleasing, commercial or recreational use

[5] Goal and objectives relating to aesthetics will not be used for initial screening, but will be added for selection of a preferred alternative when design information will be available.