

Salem Willamette River Crossing Alternate Modes Study: Evaluation Framework

PREPARED FOR: Salem Willamette River Crossing Alternate Modes Study
Stakeholder Advisory Committee

PREPARED BY: Theresa Carr, CH2M HILL
David Sokolowski, CH2M HILL
Jessica Roberts, Alta Planning + Design

DATE: July 28, 2009

This memo outlines a proposed process and set of criteria that will assist the Salem Willamette River Crossing Alternate Modes Study (Alt Modes Study) team in evaluating project concepts. The intent of the framework is to consider each potential improvement concept in relation to a series of “success factors” – important factors in individual mode choice decisions. Evaluation criteria are used to compare the alternatives with one another to determine how they perform against a broad range of stakeholder values.

The evaluation framework is based on input from the technical team, a discussion by the Stakeholder Advisory Committee (SAC) at its June 22, 2009 meeting, and feedback from the four implementing agencies for the project – the Oregon Department of Transportation, the City of Salem, the Mid-Willamette Valley Council of Governments, and Cherriots. It is important to note that the evaluation framework is drafted before brainstorming potential improvements in order to encourage an open and unbiased evaluation process.

The general evaluation rating method for this project is a “consumer reports” style, as described in the table below.

Rating	Description
●	The concept addresses the criterion and/or makes substantial improvements in the criteria category
◐	The concept partially addresses the criterion and/or makes some improvements in the criteria category
○	The concept does not support the intent of and/or negatively impacts the criterion
N/A	The criterion does not apply

Findings from this evaluation process will serve as a framework for discussion among project stakeholders about the benefits and limitations of the various concepts. The evaluation framework is often a living document. As the team moves through the evaluation process, some criteria will be less applicable than others in differentiating among

alternatives. However, certain criteria that do not serve as a differentiator in project selection an option may be important in phasing improvements, or in project implementation.

The team envisions three categories of projects for the Alt Modes Study – physical projects (bicycle lanes, transit queue jumps), operational projects (transit signal priority, more frequent transit service), and policy projects (individualized marketing, parking pricing).

Using the rating method described on the previous page, objectives, performance measures, and an evaluation scale were developed for each of the criteria categories listed below. Criteria are organized into three general categories – attractiveness from the user perspective; potential market, community costs, and benefits; and community, agency, and political support.

Attractiveness from User Perspective

- Travel Time
- Independence of Movement
- Comfort and Convenience
- Cost to User
- Safety and Security
- Health and Culture

Potential Market, Community Costs, and Benefits

- Effectiveness
- Ease of Implementation
- Sustainability
- Equity

Community, Agency, and Political Support

- Community and Political Acceptance
- Consistency with State and Local Policy

Each of the potential project concepts will be evaluated and initial recommendations will be prepared for a group of projects to be implemented. The technical team will then quantify the effect this has on reducing auto trips over the Willamette River in Salem with the intent of reducing the number of autos traveling over the Willamette River in Salem (peak hour, year 2030) by at least eight percent.

The evaluation framework is described in detail through the table that follows. The criteria address key deficiencies and areas of importance that are further described in the white paper “Summary of Obstacles to Alternate Mode Use” and in the summary of Stakeholder Advisory Committee #1.

ATTRACTIVENESS FROM USER PERSPECTIVE			
Criteria Category	Objective	Performance Measure	Scale
Travel Time	Minimize the amount of time it takes to commute between home and work	<p>What is the actual (not perceived) travel time differential compared to existing conditions and when compared to driving alone?</p> <p>Is the travel time different between the peak and non-peak? If so, to what extent?</p>	<ul style="list-style-type: none"> ● The concept reduces actual travel time for the relevant alternate mode compared to existing conditions under that mode. With the concept, the commute is comparable to driving alone, or is less than 10 minutes longer than driving alone. The travel time during the peak hour is within 10% of the travel time outside the peak. ● The concept reduces actual travel time for the relevant alternate mode compared to existing conditions under that mode, but it remains more than 10 minutes longer than driving alone; and or there is a >10% difference between peak and non-peak travel but the travel time differential is less than 30 minutes. ○ The concept does not improve actual travel time and it remains substantially longer than driving alone; and/or the travel time differential between the peak and non peak is > 30 minutes.
Control (Independence of Movement)	Users have confidence that the mode of transportation will run according to schedule or will be predictable in the time it takes from day to day.	<p>How long does the commuter have to wait before they make progress on my commute? Can they count on that and use the time productively, or does it vary day by day?</p> <p>What is the travel time variance day to day? If variable, to what extent?</p>	<ul style="list-style-type: none"> ● The commuter is able to make progress on their commute immediately and takes a predictable amount of time, and/or the concept arrives on time most days and allows riders to predict when they will arrive at their destination with minimal unexpected wait times. ● Some (less than 10 minutes) wait is required before progress is made on the commute, and/or the concept experiences some moderate delay / uncertainty on a regular but infrequent basis (less than two days/week). ○ The concept has extensive (more than 10 minutes) delay and uncertainty more than two days a week and riders are unable to predict when the vehicle will arrive and when they will reach their destination.
	Maintains flexibility and viability when the user's schedule changes due to unexpected events/needs (running late, emergency, work errand) or due to the stage in life (school-age children, elderly parents). Users have resources to address sudden changes in travel needs, and are comfortable with using those resources.	<p>Is the commuter still able to use the concept if they are running behind schedule, have an errand in the middle of the workday, are working a flex schedule, or have an emergency at home?</p> <p>How long will it take the commuter to use the other mode or route in these circumstances when compared to the typical peak hour commute?</p>	<ul style="list-style-type: none"> ● The concept is available outside the commuter's typical start and end times (later morning, midday, evening) with no additional transfers and no additional travel time when compared to using that same mode during the peak hour. ● The concept is available outside the commuter's typical start and end times (later morning, midday, evening) with no more than one additional transfers and no more than 30 minutes additional travel time when compared to using that same mode during the peak hour. ○ The concept is not available outside the commuter's typical start and end times (later morning, midday, evening); or it requires two or more additional transfers; and/or it adds more than 30 minutes additional travel time when compared to using that same mode during the peak hour.
Comfort/Convenience	It is easy to start using the concept (for all users including those new to the mode and those with disabilities), easy to access the alternate mode or route, and pick-up/drop-off is physically located close to home and/or work	<p>What kind of investment is required (time, knowledge, equipment) before the commuter is able to use the alternate mode? How easy is it to use?</p> <p>What is the quality of access to the pick up point? The quality of the wait?</p> <p>Are there stops between pick up and drop off? Does the commuter need to transfer to another vehicle?</p> <p>What is the quality of access from the drop off point?</p>	<ul style="list-style-type: none"> ● Information about the concept is available, easy to use, and/or the initial investment is low. A variety of communication options are accommodated to provide access to all types of users (e.g. paper schedules vs. iPhone application). The concept is friendly to new users, and/or accommodates all users. Access to the pick up location and from the drop off location is short, direct, and safe. The pick up location is pleasant. Stops between the pick up and drop off locations are minimal. No transfers between vehicles are required. ● Information about the concept is available upon request and/or the initial investment is moderate. Access to the pick up location and from the drop off location is safe, but may be longer than desired and/or may require some out-of-direction travel (fewer than 10 minutes out-of-direction). OR multiple stops are required between the pickup and drop off location including a transfer of vehicles. ○ The mode is intimidating or requires substantial investment before using. Access to the pick up location, the from the drop off location, or the locations themselves are not considered safe OR access to the pick up and/or drop off locations require greater than 10 minutes out-of-direction travel.

Cost to User	The total visible cost of the alternate mode is comparable to or lower than a single occupant vehicle trip	What is the out-of-pocket cost associated with the commute per use, and how does this compare to driving? Are the benefits visible?	<ul style="list-style-type: none"> ● The out-of-pocket cost associated with the concept commute is lower than, the same as, or less than 10 percent higher than a single-occupancy vehicle trip per use, and commuters are able to make informed choices between the concept and private vehicle trips based on cost. ◐ The out-of-pocket cost associated with the concept commute is between 10-50 percent higher than a single-occupancy vehicle trip per use. Indirect costs of driving are perceived as visible but hard to quantify. ○ The out-of-pocket cost associated with the concept commute is over 50 percent higher than a single-occupancy vehicle trip per use. Indirect costs of driving are perceived as invisible.
Safety/Security	The commute feels safe and secure for average users	Are personal belongings considered safe where they are left during the day (home, park-and-ride lot, changing room)? Does the alternate mode/route feel safe? How likely is the average commuter to worry about being hit by a car/truck, or about being mugged?	<ul style="list-style-type: none"> ● Personal belongings are secured and monitored; secure, convenient, covered bicycle parking is provided in sufficient quantities to exceed demand. Sufficient measures are in place for the average commuter to feel safe during the commute. The wait location is visible and well lit. For bicyclists and pedestrians the concept provides adequate information, through dedicated facilities, low traffic volumes/speeds, or signage, to avoid conflicts with autos and trucks and mitigate known dangerous situations. ◐ Personal belongings are not monitored but considered secure; bicycle parking is provided but not maximally secure/convenient/dry, or may not be plentiful enough that users can count on it. Sufficient measures are in place for the average commuter to feel safe during the commute. The wait location is visible and well lit. For bicyclists and pedestrians concept may require co-mingling with autos/trucks, but conflicts are minimized. ○ Personal belongings are not monitored and concern exists about safety and/or security at begin/end points or during the commute.
Health and Culture	Stress level during the commute is low, The concept is likely to provide new users with a positive experience, and time is available for relaxing activities such as thinking, conversations, or reading	<p>What is the quality of the commute time when compared to driving alone? Are commuters able to use the time productively (read for work, send emails, conduct meetings) or pleasantly (listen to music, think, read for fun)?</p> <p>What kind of a learning curve is required to become comfortable using the concept?</p>	<ul style="list-style-type: none"> ● The concept allows commuters to use commute time productively or pleasantly. As a result of the concept, typical commuters would classify the trip as more pleasant and stress-free as compared to driving alone. The concept is likely to provide new users with a positive experience. ◐ The concept allows commuters to use commute time productively or pleasantly on some occasions, but it is not consistent. On times when the commute time is not productive or pleasant, it is no less pleasant an experience when compared to driving. ○ The concept does not allow commuters to use commute time productively or pleasantly. As a result of the concept, typical commuters would classify the trip as less pleasant and/or more stressful as compared to driving alone. New users would be unlikely to sustain use of the concept.
	Commute increases physical activity and promotes a healthier lifestyle as compared to driving	High, moderate, low. Depends on perception of importance by user.	<ul style="list-style-type: none"> ● The concept would greatly increase physical activity and encourage a healthier lifestyle compared to driving. ◐ The concept somewhat increases physical activity and encourage a healthier lifestyle compared to driving. ○ The concept does not increase physical activity or encourage a healthier lifestyle compared to driving.
	The workplace culture recognizes the value of encouraging alternate modes of transportation and does not provide direct or indirect disincentives for driving.	Do workplace leaders recognize use of alternate modes as healthy for the individual and beneficial for the organization? Is information regularly disseminated (employee orientation, department/HR communications) about multimodal commute options? Are alternatives to driving available to access to off-site meetings?	<ul style="list-style-type: none"> ● Workplace leadership visibly encourages use of the concept. Alternatives are available to driving to meetings during the work day. Employees are likely to encourage one another to use the concept. ◐ Alternatives are available to driving to meetings during the work day. Employees are likely to encourage one another to use the concept, but leadership neither provides support or discouragement. ○ The workplace culture discourages use of the concept either through encouragement of driving, by example, or inflexibility in schedules. Alternatives are not available to driving to meetings during the work day.

POTENTIAL MARKET, COMMUNITY COSTS AND BENEFITS			
Criteria Category	Objective	Performance Measure	Scale
Effectiveness	The market for the concept is relevant to the study. The concept makes a difference in reducing peak demand from the Willamette River crossing in Salem	High, moderate, low – is the market for the concept sizeable enough to warrant the investment? How effective is the concept at helping to reach the project’s objective of reducing auto trips by 8% or greater?	<ul style="list-style-type: none"> ● High: the concept is expected to be very effective at influencing mode choice, greatly contributing towards the 8% modal target shift. The market is clearly defined and includes West Salem residents and/or residents of communities west of Salem that use the river crossing for jobs and/or regular errands in downtown Salem. ◐ Moderate: by itself the concept makes a slight difference in reducing the number of auto trips over the Willamette River in Salem but combined with other concepts it is effective at reaching larger targets. The market may or may not be clearly defined, but is expected to include West Salem and/or residents of communities west of Salem in addition to other locations. ○ Low: concept makes minimal/no difference in reducing the number of auto trips over the Willamette River in Salem compared to other concepts. The market is small, ill-defined, or does not rely on a river crossing.
Ease of Implementation	Salem residents know about the concept and know that they can use it. Barriers to entry are reduced or eliminated.	How easy will it be to share understanding of service (mode, route) with the general public? Is the service automatically highly visible? Does it rely on continual advertisement/education?	<ul style="list-style-type: none"> ● Salem residents are able to access information about the concept in multiple ways including internet, phone, published and broadcast media, and public areas such as parks and libraries. Information is available once the commute is underway. Once people understand the existence of the service, ongoing communications about it are simple and low cost. Existing barriers to entry/user are removed or eliminated. ◐ Salem residents are able to access information about the concept, but it is difficult to expose the concept to the greater community OR ongoing communications are not low cost. Barriers to entry/use exist but are small. ○ It is difficult to expose the concept to the greater community AND ongoing communications would be complicated and high cost.
	The concept has good potential to obtain funding for implementation	How likely is this concept to obtain the proper approvals to be implemented? What scale of costs (high, medium, low) is required for construction/implementation? Could one or more potential funding sources be easily identified?	<ul style="list-style-type: none"> ● The concept is very competitive for one or more funding sources OR is competitive for multiple identified funding sources. Construction/implementation costs are low compared to other concepts being considered. ◐ The concept is competitive for one or two funding sources though funding remains uncertain. Construction/implementation costs are moderate compared to other concepts being considered. ○ The concept has no identified funding sources and/or construction/implementation costs are moderate to high compared to other concepts being considered.
	The concept has good potential to maintain funding for operations	What scale of efforts (high, medium, low) is required to maintain or continue operations for the concept? Could one or more potential funding sources be easily identified?	<ul style="list-style-type: none"> ● M&O costs are low. The concept is very competitive for one M&O funding source OR is competitive for multiple identified M&O funding sources. ◐ M&O costs are moderate to high. The concept is competitive for one or more M&O funding sources. ○ M&O costs are moderate to high. Funding for M&O is uncertain/unlikely.
Sustainability	Vehicles emissions are reduced compared to single occupant vehicle trips, and/or the physical infrastructure minimizes negative environmental impacts/footprint	High, moderate, low. Depends on perception of importance by user.	<ul style="list-style-type: none"> ● The concept encourages reduced vehicle emissions compared to future no build conditions (qualitative). Physical infrastructure has no environmental impact and a small carbon footprint. ◐ The concept is likely to encourage behavior that would have a minor reduction in vehicle emissions compared to single occupancy vehicle trips. Physical infrastructure has minor environmental impacts or moderate impacts that can be mitigated. ○ The concept is unlikely to affect a reduction in vehicle emissions compared to single occupancy vehicle trips. Physical infrastructure has moderate impacts that cannot be mitigated, or substantial environmental impacts.

Equity	The cost of the concept is shared equally among users	Who bears the costs of the concept? Is one group (e.g., business) responsible for implementing the concept while other groups benefit? Does the concept impact one group (e.g., low income or minority) more than other groups?	<ul style="list-style-type: none"> ● The costs of the concept are equally shared among user and implementation groups ◐ The concept impacts one or more groups more than the community at large, but the impacts are minor or are moderate with the ability to mitigate. ○ The concept does not equally share the costs among user and implementation groups. Impacts are moderate without little potential for mitigation.
	The benefits of the concept are shared equally among users	Does the concept benefit one group over others? If so, is that group low income, disabled, or minority?	<ul style="list-style-type: none"> ● The benefits of the concept are equally shared among user and implementation groups ◐ The concept benefits one or more groups more than the community at large, but the size of the beneficiary group(s) is large and/or the benefits are minor. ○ The concept does not equally share the benefits among user and implementation groups. The size of the beneficiary group(s) is small and the benefits are great.

COMMUNITY, AGENCY, AND POLITICAL SUPPORT

Criteria Category	Objective	Performance Measure	Scale
Consistency with State and Local Policy	The concept is consistent with state and local policy direction (Governor, City goals, employer goals) to reduce single occupant vehicle trips	Does the concept help to implement the Governor’s sustainability goals? Does it comply with the City’s vision, TSP goals?	<ul style="list-style-type: none"> ● The concept helps to implement the Governor’s sustainability goals, and is consistent or compatible with applicable visions and goals. ◐ The concept helps to implement the Governor’s sustainability goals, and is consistent or compatible with some, but not all applicable visions and goals. Modification of vision or goals is expected to be viable. ○ The concept helps to implement the Governor’s sustainability goals, and/or is consistent or compatible with some, but not all applicable visions and goals. Modification of vision or goals is expected to be difficult.
Community and Political Acceptance	One or more champions can be identified for the concept	Has someone risen to champion the concept within the community? Is there a champion within local or regional elected government for the concept? Could a likely champion be identified?	<ul style="list-style-type: none"> ● The concept has an identified champion or champions in the community. Elected officials are likely to support the concept. ◐ The concept does not have an identified champion or champions in the community, however elected officials are likely to support the concept OR the concept has an identified champion or champions in the community but elected support is uncertain. ○ The concept has no identified champions in the community, no likely champions could be identified, and elected support is uncertain.
	The concept is expected to receive wide and/or strong public acceptance	Who will advocate for the concept? How vocal will their advocacy be? Who will oppose the concept? How vocal will their opposition be? Who is likely to be more influential with decision makers?	<ul style="list-style-type: none"> ● The concept has many vocal supporters and advocates, and is expected to receive wide and/or strong public acceptance. ◐ The concept has a few supporters and advocates, who may or may not be vocal, as well as few critics. The concept is expected to garner support from the majority of the community. ○ Community opposition outweighs support.
	The concept provides a community service	Will the concept be valued by the community over time? Is a needed community function served by the concept?	<ul style="list-style-type: none"> ● The concept is visible, serves an identified community need, and is considered valuable to the public. ◐ The concept serves an identified community need, but may not be visible to the public over time. ○ The concept is unlikely to be noticed by the community, does not serve an identified need, and/or could be seen as reducing transportation utility in another sector or mode.