

**DRAFT Airport Way Interchange Evaluation Criteria**  
**Evaluation of Engineered Solutions**



Goal	Objective	Evaluation Criteria	Basis for Evaluation	No Build	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7	Alt 8a	Alt 8b	Alt 9	Alt 10	Notes on Criteria Application	
1. Reduce congestion on the Airport Way northbound on-ramp while protecting the function of I-205	1. Minimize delay from Airport Way to northbound I-205.	E1.How long would it take to travel from Airport Way eastbound at 82nd Avenue to I-205 northbound (north of the Airport Way on-ramp)? (peak hour)	● = Substantial reduction in travel time compared to No Build Alternative; ⊖ = Moderate reduction in travel time compared to No Build Alternative; ○ = Negligible reduction or increase in travel time compared to No Build Alternative.	○	⊖	⊖	⊖	●	⊖	●	●	⊖		⊖	⊖	Evaluate based on how the alternative addresses congestion at the “top” of the ramp <u>and</u> at the intersection.  ● = congestion is improved at both locations; ⊖ = congestion is improved at one location; ○ = congestion is not improved at either.	
		E2.How long would it take to travel from Airport Way westbound just west of 122nd Avenue. to I-205 northbound (north of the Airport Way on-ramp)?	● = Substantial reduction in travel time compared to No Build Alternative; ⊖ = Moderate reduction in travel time compared to No Build Alternative; ○ = Negligible reduction or increase in travel time compared to No Build Alternative.	○	⊖	⊖	⊖	●	●	●	●	⊖		⊖	⊖	See Goal 1, 1-E1 above.	
	2. Correct existing design deficiencies that adversely affect vehicular traffic flow.	E1.How many existing design deficiencies would be corrected by the alternative?	● = High number of deficiencies corrected or high value of corrected deficiencies; ⊖ = Moderate number of deficiencies corrected or moderate to low value of corrected deficiencies; ○ = No design deficiencies corrected.	○	○	○	○	○	○	○	○	○	○	○	○	○	● = alternative would provide full shoulders or interchange spacing to meet standard; would correct current deficiency resulting in 10 mph below design speed and/or 7 or more minor deficiencies corrected. ⊖ = alternatives would correct shoulder width, lane width or curve deficiencies and/or up to six minor deficiencies. ○ = no deficiencies corrected  Note – At level 1 screening, no notable deficiencies would be corrected by any of the alternatives
	3. Minimize adverse impacts to other traffic movements in the study area.	E1.Would adverse impacts occur to traffic movements on Airport Way or other surface streets?	● = No adverse impacts would occur; ⊖ = Minor adverse impacts may occur; ○ = Substantial adverse impacts would occur.														Defer evaluation based on this criterion to “level 2 quantitative screening”.
4. Minimize impacts to I-205 mainline operations.	E1.How long would it take to travel from I-205 northbound north of Sandy Blvd. on-ramp to I-205 northbound (north of the Airport Way on-ramp)?	● = Substantial relative reduction in travel time ⊖ = Little or no relative change in travel time; ○ = Relative Increase in travel time.	⊖	○	○	○	○	○	○	●	●	⊖		●	⊖	● = added lane to I-205 and/or braided ramps ⊖ = minor operational improvements unlikely to change travel time ○ = no improvements	

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		E2.How would the alternative affect I-205 operations at: - I-205 NB Sandy Blvd.-Airport Way weave; - I-205 NB/Airport Way WB off-ramp diverge; - I-205 NB/Airport Way EB off-ramp diverge; - I-205 NB/Airport Way on-ramp merge; and - I-205 NB basic freeway segment north of Airport Way.	● = I-205 operations would be improved compared to the No Build Alternative; ⊖ = I-205 operations would be similar to those under the No Build Alternative; ○ = I-205 operations would be degraded compared to those under the No Build Alternative.	⊖	⊖	⊖	⊖	⊖	⊖	●	●	⊖		⊖	⊖	Defer to Level 2 screening.  Consider likely net effect of alternative at all five locations specified in the criterion. Use professional judgment in estimating whether alternative would result in improvement, no change, or degraded operations.
		E3.How would the alternative affect lane utilization on I-205 NB just north of the Sandy Blvd. on-ramp and just north of the Airport Way on-ramp.	● = Utilization of the right lanes on I-205 would be less than under the No Build Alternative; ⊖= Utilization of the right lanes on I-205 would be similar to that under the No Build Alternative; ○ = Utilization of the right lanes on I-205 would be greater than under the No Build Alternative.	⊖	⊖	○	○	⊖	⊖	●	●	⊖		○	⊖	Consider net effect similar to 1-4-E2 above
2. Reduce cut-through/spill-over of current traffic into neighborhoods and corridors adjacent to Airport Way	1. Minimize adverse effects of traffic diversions to avoid Airport Way by using adjacent corridors	E1. How much traffic is diverted to Killingsworth St. and Sandy Blvd.?	● = Diversions are negligible or could be served by reserve capacity; ⊖= Diversions are moderate to low, with some accommodated by reserve capacity; ○ = Diversions are substantially higher than reserve capacity.													Defer evaluation based on this criterion to "level 2 quantitative screening".
	2. Reduce traffic that cuts through neighboring residential areas.	E1. What is the potential for neighborhood cut-through traffic based on changes in volume on collector gateways?	● = Potential for reducing neighborhood cut-through traffic or potential for encouraging neighborhood cut-through traffic is negligible; ⊖= Potential for encouraging neighborhood cut-through traffic is moderate; ○ = Potential for encouraging neighborhood cut-through traffic is substantial.													Defer evaluation based on this criterion to "level 2 quantitative screening".

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3. Manage travel demand in the Airport Way corridor	1. Minimize impacts to existing bicycle and pedestrian facilities.	E1. Are existing bicycle or pedestrian facilities eliminated with the alternative?	● = No bicycle or pedestrian facilities are eliminated; ⊖ = Minor removal of bicycle or pedestrian facilities would occur; ○ = Substantial removal of existing bicycle or pedestrian facilities would occur.	●	●	●	●	●	●	●	●	●	●	●	●	Consider maintenance of connectivity. ⊖ = Minor removal of facilities, but connectivity is maintained. ○ = Removal of facilities that would result in no connectivity.	
		E2. Will planned bicycle or pedestrian improvements be prohibited due to the alternative?	● = Planned improvements would not be impacted; ⊖ = Planned improvements would be disrupted, but there would be feasible options for modification or replacement; ○ = Planned improvements would be prohibited.	●	●	●	●	●	●	●	●	●	●	●	●		●
	2. Do not preclude expansion of high capacity transit (HCT) in the I-205 corridor.	E1. Would the alternative preclude future expansion of HCT to the north via I-205 corridor?	● = No (would not preclude expansion); ○ = Yes.(would preclude expansion)	●	●	●	●	●	●	●	●	●	●	●	●	●	
		3. Provide opportunities for improved transit, carpool/vanpools.	E1. Does the alternative improve accessibility to transit opportunities (bike/ped access to bus stops and transit centers)?	● = Transit accessibility could be enhanced; ⊖ = Transit accessibility would not be impacted; ○ = Transit accessibility would be degraded.	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖
	E2. Does the alternative include new facilities or program enhancements for transit/carpooling?		● = New transit facilities or program enhancements would be provided; ⊖ = New transit facilities or program enhancements could be accommodated; ○ = New transit facilities or program enhancements would be precluded.	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	
	E3. Does the alternative provide for the possibility for transit signal priority or transit queue jumps?		● = Yes ○ = No	○	○	○	○	●	●	●	●	○		○	○	Note: Loops/fly-overs allow for ramp metering	

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4. Create a safer transportation system for all modes	1. Reduce merge/weave conflicts between I-205/Airport Way and Mt. Hood Interchange.	E1. What is the severity/effect of weaving with the alternative? (MOEs include: speed, LOS and v/c ratio).	● = Weaving would be improved compared to the No Build Alternative; ⊖ = Weaving would be similar to that under the No Build Alternative; ○● = Weaving would be degraded compared to that under the No Build Alternative.	⊖	⊖	⊖	⊖	●	⊖	○	○	⊖		⊖	⊖		
	2. Maintain and, if possible, enhance bicycle and pedestrian safety in the Airport Way corridor	E1. Are existing bicycle or pedestrian facilities made more un-safe with the alternative?	● = Bicycle or pedestrian safety would be enhanced; ⊖ = Bicycle or pedestrian safety would not be impacted; ○ = Bicycle or pedestrian safety would be degraded.														Defer evaluation for this criterion to 4-2-E2.
		E2. Are the bicycle or pedestrian facilities improved with the alternative in place?	● = Bicycle or pedestrian facilities would be enhanced; ⊖ = Bicycle or pedestrian facilities would not be impacted; ○ = Bicycle or pedestrian facilities would be degraded.	⊖	⊖	⊖	⊖	○	⊖	⊖	⊖	⊖			⊖	⊖	Consider level of improvement to bike/ped facilities: ● = Grade separation or similar elimination of conflict with vehicles, or removal or substantial safety hazard within bike/ped mode ⊖ = Minor improvement of existing facilities or no change ○ = Degrade facilities
		E3. Is bicycle or pedestrian connectivity improved with the alternative?	● = New bicycle or pedestrian corridors would be created; ⊖ = Bicycle or pedestrian facilities would not be impacted; ○ = Bicycle or pedestrian connectivity would be degraded.	⊖	⊖	⊖	⊖	○	⊖	⊖	⊖	⊖			⊖	⊖	
	3. Minimize design exceptions that would be required for any proposed solution	E1. How many safety-related design exceptions would be required by the alternative?	● = No design exceptions would be required; ⊖ = Few design exceptions would be required or degree of anticipated exceptions would be minor; ○ = Would require many design exceptions or degree of exceptions required would be major.	⊖	○	○	○	⊖	⊖	○	○	⊖			⊖	⊖	Use same ground rules as 1-2-E1; apply professional judgement.
4. Avoid designs that create aircraft safety hazards.	E1. Does the alternative create new or enhance existing wildlife attractants that are potential safety hazards?	● = Hazard wildlife attractants potentially reduced; ⊖ = No new or enhanced hazard wildlife attractants; ○ = Hazard wildlife attractant(s) potentially added or enhanced..														Use results from 6-4-E1. Assume that impervious area is an indicator of the need for potential	

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		E2. Does the alternative involve structures that potentially penetrate regulated airspace?	● = No ○ = Yes	●	●	●	●	●	●	●	●	●		●	●	
		E3. Does the alternative introduce glare or light that is a potential aviation hazard?	● = No ○ = Yes	●	●	●	●	●	●	●	●	●		●	●	
5. Recognize the need for continued economic activity and development	1. Minimize traffic congestion impacts to business in the Airport Way corridor and surrounding corridors, such as Sandy Boulevard.	E1. Does the alternative increase traffic demands or delays along Killingsworth/Sandy or Airport Way?	● = Demand or delay would not be adversely impacted when compared to No Build Alternative; ⊖ = Minor impacts to demand or delay would occur; ○ = Substantial impacts to demand or delay would occur.													Same as goal 2. Apply professional judgment  Defer evaluation based on this criterion to "level 2 quantitative screening".
	2. Don't preclude long-term airport growth.	E1. Does the alternative require use of lands critical for future airport growth?	● = No ○ = Yes	●	●	●	●	●	●	●	●	●		●	●	
		E2. Does the alternative include land use restrictions that would negatively impact PDX growth?	● = No ○ = Yes	●	●	●	●	●	●	●	●	●		●	●	
	3. Maintain freight mobility in the Airport Way corridor	E1. Are vehicle stop-times decreased with the alternative?	● = Stop locations would be reduced; ⊖ = Stop locations would not be increased; ○ = Stop locations would be increased.	○	⊖	⊖	⊖	●	⊖	●	●	○		⊖	○	Use Airport Way between 82 <sup>nd</sup> and 122 <sup>nd</sup> as study area for evaluation.

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		E2. Provides off-peak (24-hour) improvement.	● = Operational improvements would be provided during all hours of the day; ⊖ = Operational improvements would be provided during several hours of the day; ○ = Operational improvements would be provided during the peak hours only.	NA	●	●	●	●	●	●	●	●	●	●	●	Apply professional judgment.
	4. Maintain and, if possible, enhance access to PDX and businesses in the Airport Way corridor	E1. Does the alternative create a significant amount of increased travel distance for drivers destined for PDX or business centers?	● = Travel distances to PDX or business centers would be reduced; ⊖ = Travel distances to PDX or business centers would not change; ○ = Travel distances to PDX or business centers would be increased.	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	Apply professional judgment; change in travel time should be +/- 10% compared to No Build.
		E2. How long would it take to travel on Airport Way westbound and eastbound between the NE 82 <sup>nd</sup> Avenue and NE 112 <sup>nd</sup> Avenue?	● = Substantial reduction in travel time compared to No Build Alternative; ⊖ = Minor reduction in travel time compared to No Build Alternative; ○ = No change or increase in travel time compared to No Build Alternative.													Same as 1-1-E1.
6. Protect and enhance environmental resources	1. Avoid and minimize impacts to the Columbia Slough and Columbia River, freshwater lakes, and associated habitats.	E1. What is the alternative's footprint (square foot estimate) within/above the Columbia River?	● = Small or no relative footprint within Columbia River; ⊖ = Moderate relative footprint within Columbia River; ○ = Large relative footprint within Columbia River	●	●	●	●	⊖	⊖	●	●	○		○	○	● = No structure requiring fill or piers over Columbia River; or adding to existing structure with no piers/fill ⊖ = Structure requiring fill or piers only over south channel of Columbia River ○ = Structure completely over Columbia River
		E2. What is the alternative's footprint within the Columbia Slough and associated lakes/wetlands?	● = Small relative footprint within Columbia Slough and associated lakes/wetlands; ⊖ = Moderate relative footprint within Columbia Slough and associated lakes/wetlands; ○ = Large relative footprint within Columbia Slough and associated lakes/wetlands.	●	●	●	●	●	●	●	●	●	●	●	●	●

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	2. Avoid and minimize air quality impacts	E1. Does the alternative affect air quality conformity?	● = Low potential to affect conformity status; ⊖ = Moderate potential to affect conformity status; ○ = High potential to affect conformity status	●	●	●	●	●	●	●	●	●		●	⊖	Apply professional judgment
	3. Meet environmental regulatory requirements	E1. Does the alternative have any features that would make it unlikely to permit?	● = Few or no features making permits unlikely; ⊖ = Some features making permits potentially unlikely; ○ = Permits unlikely	●	●	●	●	⊖	⊖	●	●	○		○	○	
	4. Avoid and minimize stormwater impacts	E1. What is the approximate area of impervious surfaces?	● = Relatively small increase in impervious area (relative to No Build Alternative); ⊖ = Relatively moderate increase in impervious area; ○ = Relatively large increase in impervious area	●	●	⊖	⊖	○	⊖	○	○	○		○	○	Use relative amount of new lanes, ramps, etc. as indicator for amount of new impervious.
		E2. Does the alternative provide opportunities for low-impact stormwater treatment (e.g., infiltration)?	● = Multiple potential opportunities for treatment; ⊖ = Some opportunities for treatment; ○ = Few or no opportunities for treatment													Defer evaluation based on this criterion to "level 2 quantitative screening".
	5. Avoid and minimize wetlands impacts	E1. What is the approximate area of wetlands impacts?	● = Relatively small area of wetlands affected; ⊖ = Relatively moderate area of wetlands affected; ○ = Relatively large area of wetlands affected.													Defer evaluation based on this criterion to "level 2 quantitative screening".
	6. Avoid and minimize cultural resources impacts	E1. How many properties eligible for listing in the National Register of Historic Place would be affected?	● = No historic properties present or affected; ⊖ = Few historic properties present and/or affected. ○ = Multiple historic properties present and affected	●	●	●	●	⊖	⊖	●	●	⊖		⊖	⊖	Use mapping of historic properties from EBTM. ● = No known historic properties potentially affected ⊖ = Two or fewer sites potentially affected ○ = More than two sites potentially affected
	7. Take advantage of practical opportunities to enhance habitats for native plants, fish, and wildlife.	E1. Does the alternative provide opportunities for enhancement(s) to habitats in the project area?	● = Multiple potential opportunities for habitat enhancement; ⊖ = Some opportunities for habitat enhancement; ○ = Few or no opportunities for habitat enhancement													Defer evaluation based on this criterion to "level 2 quantitative screening".

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7. Provide a cost-effective project in a timely manner.	1. Develop a cost-effective project	E1. Would this alternative provide value considering amount of investment required?	● = Benefits would significantly out-weigh costs; ⊖ = Benefits may be minor or short-term, but would be justified compared to costs; ○● = Cost would not be justified given anticipated benefits.	NA	●	●	●	⊖	⊖	⊖	⊖	⊖		○	○	Assume: 2-lane on ramp would function adequately and Restriping I-205 would be approved by FHWA.
		E2. What is the approx project cost?	● = Relatively low cost; ⊖ = Relatively moderate cost; ○ = Relatively high cost.	●	●	●	●	⊖	⊖	⊖	⊖	⊖		○	○	● = less than \$50M ⊖ = \$50M - \$300M ○ = greater than \$300M
		E3. What would the relative cost of maintenance be?	● = Relatively low cost; ⊖ = Relatively moderate cost; ○ = Relatively high cost.	●	●	⊖	⊖	⊖	⊖	⊖	⊖	⊖	○		○	○
	2. Complete improvements by 2014	E1. Is it feasible to design and build this by 2014? (permitting, funding, design, construction, ROW)	● = Could be fully constructed by 2014; ⊖ = Substantial progress on construction could be made by 2014; ○ = Substantial progress on construction could not be achieved by 2014	NA	●	⊖	⊖	○	○	○	○	○		○	○	

Yellow denotes criteria remained constant across all alternatives

Blue denotes analysis will be deferred until next step of process