

# Station 3: Evaluation Criteria

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At this station, learn how the Conceptual Alternatives were narrowed using evaluation criteria and standards associated with the project's Purpose and Need.

The term “Purpose and Need” refers to the transportation issues that the project is intended to address.



# Major Elements of the East Columbia-EIS Purpose & Need

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- Address traffic congestion and safety concerns
- Connect the major highway linkages between Eastern Boone County and Columbia
- Provide access to East Columbia



# Evaluation Criteria: Traffic and Safety

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To determine which of the Conceptual Alternatives minimally address **Traffic and Safety Concerns**, the following evaluation criteria were used:

- Is congestion improved compared to existing conditions?
- Are identified crash hotspots addressed?
- Are secondary roadway intersections improved compared to existing conditions?
- Are there adequate pathways for emergency service response?



# Evaluation Criteria: Major Highway Linkages

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To determine which of the Conceptual Alternatives minimally address **the Completion of the Major Highway Linkages between Eastern Boone County and Columbia**, the following evaluation criteria were used:

- Is the proposed roadway network consistent with the Major Roadway Plan?
- Does the proposed roadway network provide adequate connections to Routes 70, 63 and 740?
- Is the alternative consistent with the applicable design criteria?



# Evaluation Criteria: Access to East Columbia

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To determine which of the Conceptual Alternatives minimally address **Improving Access to Eastern Columbia**, the following evaluation criteria were used:

- Does the alternative create a discernable community gateway?
- Can the alternative accommodate adequate pedestrian/bicycle facilities?
- Will the alternative accomplish the area's growth/development goals?



# Evaluation Results

PURPOSE AND NEED ELEMENT	EVALUATION CRITERIA	STANDARD	CONCEPTUAL ALTERNATIVES										CONCLUSIONS		
			WW-1	WW-2	SC-1	SC-2	RR-1	RR-2	RR-3	NH-1	NH-2				
Address Traffic Congestion and Safety Concerns within the Existing Roadway Network	Is congestion on the existing roadway network improved compared to existing conditions?	An alternative should be an improvement over the conditions predicted for the no-build alternative.	N	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	Alternatives WW-1, NH-1 and NH-2 fail to improve on the number of monitored roadway segments that will be expected to experience "high" levels of congestion.
	Are identified crash hotspots addressed?	An alternative should address each of the hotspots within its footprint.	N	N	Y	Y	N	N	N	N	N	Y	Y	Y	Alternatives RR-1, RR-2 and RR-3 fail to explicitly allow for improvements to the St. Charles/Richland intersection while also increasing traffic volumes by using a northwestern loop. Alternatives WW-1 and WW-2 are so limited in scope that they provide improvements only along Route WW.
	Is the design year Level of Service (LOS) at the secondary roadway intersections adequate?	An alternative should be an improvement over the conditions predicted for the no-build alternative.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	For the East Columbia EIS project, intersection operation is more a function of the individual intersection's configuration than the configuration of the overall roadway network. Consequently, it has been concluded that all alternatives can satisfy this criteria.
	Are emergency service response times reduced for traffic bottlenecks?	An alternative should have adequate pathways to the existing emergency response services.	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Because Alternatives WW-1 and NH-1 do not provide any Stadium Blvd extensions, these alternatives do not minimally satisfy this element.
Complete the Major Highway Linkages between Eastern Boone County and Columbia	Does the proposed roadway network consistent with the Major Roadway Plan?	An alternative must maintain the number of each of the roadway types.	N	N	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Alternatives WW-1, WW-2, NH-1 and NH-2 fail to make provisions for an extension of Route 740 to I-70.
	Does the proposed roadway system provide adequate connections to routes 70, 63 and 740?	An alternative should provide connections to a majority of the interchanges (3 of 5).	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Alternatives WW-1 and WW-2 are so limited in scope that they only provide improved connections at Route WW.
	Is the alternative consistent with the applicable design criteria?	An alternative should have no significant deviations from the CATSO 2025 Transportation Plan.	Y	Y	N	N	N	N	N	N	N	N	N	N	Without substantial mitigation, the conversion of existing roadways into a connector between Route 63 and I-70 is incompatible with the design criteria for the repurposed roads.
Improve Access to Eastern Columbia	Does the alternative create a discernible community gateway?	An alternative should reasonably address each of the attributes of a successful gateway.	N	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	A key factor to creating a successful gateway is identifiability. Alternatives NH-1 and NH-2 fail to meet this standard because they do not create a single identifiable access point. Another factor for a successful gateway is improving access patterns. Alternative WW-1 fails to enhance the existing access pattern.
	Can the alternative accommodate adequate pedestrian/bicycle facilities?	An alternative should 1) have no obvious hindrance to constructing bridges that would accommodate all existing and proposed trails and 2) have no clear right-of-way constraints that would prevent the roadway from being designed in a manner that would allow it to be designated as a "Green Route".	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Alternatives RR-2 and RR-3 fail to meet <u>either</u> standard. Alternatives SC-2, RR-2 and RR-3 propose multiple stream crossings, some that would result in large portions of the stream meandering through the work area, which would hinder the eventual establishment of a stream-side trail. Using forecasted 2030 traffic projections, Alternatives SC-1, RR-1, RR-2 and RR-3 increase volumes on local roads to the extent that substantial improvements could be required to maintain them as a route for average riders.
	Will the alternative accomplish the area's growth/development goals?	An alternative should be consistent with essential community goals set by Columbia, CATSO, or Boone County.	N	N	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Based on coordination with Columbia, Boone County and CATSO, Alternatives WW-1, WW-2, NH-1 and RR-3 are not in accordance with the community's essential goals.
Does the alternative satisfy the access to Eastern Columbia purpose and need element?			N	Y	Y	Y	Y	Y	Y	Y	Y	N	Y		
CONCEPTUAL ALTERNATIVES THAT SATISFY THE PROJECT PURPOSE AND NEED			WW-1	WW-2	SC-1	SC-2	RR-1	RR-2	RR-3	NH-1	NH-2	THE ALTERNATIVES WITH A YES ARE THE REASONABLE ALTERNATIVES.			
			NO	NO	YES	YES	YES	YES	NO	NO	NO	NO	THE REASONABLE ALTERNATIVES SATISFY A MAJORITY OF THE EVALUATION CRITERIA FOR EACH OF THE THREE PURPOSE AND NEED ELEMENTS		



# Evaluation Results

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To minimally address the project's Purpose and Need, an alternative should satisfy a majority of the evaluation criteria for each of the three elements. Key findings include:

- Only SC-1, SC-2, RR-1 and RR-2 satisfy a majority of each of the three elements.
- Alternatives WW-1 and NH-1 fail to satisfy a majority of any of the three elements.
- Alternatives WW-2, RR-3 and NH-2 fail to satisfy at least one of the three elements.

