

Table 2-2: SECOND TIER REASONABLE ALTERNATIVES SCREENING

July 2013

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Evaluation Factor	Definition/Clarification	Indicators	Alternatives			
			1 No-Build	5 Geometric Improvements	6 Interchange Consolidations	Preferred
Safety						
Crash Reduction	Evaluate alternative with respect to reduction in crash rate	Addresses all or most of locations with crash rates above statewide average (Complete, Substantial, Half, Some or No Achievement)				
		Improves I-70 curves (Complete, Substantial, Half, Some or No Achievement)				
		Removes key bottlenecks (Complete, Substantial, Half, Some or No Achievement)				
		Number of interchange geometrics improved	2	12	12	12
Compliance with MoDOT Access Management Guidelines	Evaluate how well the alternative provides for the opportunity to implement Access Management Guidelines	Complete, Substantial, Half, Some or No Achievement				
Congestion Relief						
Traffic Operations/ Congestion Relief	Evaluate the alternatives from a traffic operations standpoint	Speed above 25 mph in 2040				
Restore/Maintain Existing Infrastructure						
Restore & Maintain Existing Infrastructure	Evaluate the corridor wide rehabilitation and/or rebuilding of existing highway	Rehabilitates and/or rebuilds existing highway (Complete, Substantial, Half, Some or No Achievement)				
Compliance with MoDOT Engineering Policy Guide	Evaluate how well the proposed strategy package provides the opportunity for the Engineering Policy Guide to be met.	Complete, Substantial, Half, Some or No Achievement				

Complete Achievement/High Impact (approximately 100%); Substantial Achievement/Substantial Impact (approximately 75%); Half Achievement/Moderate Impact (approximately 50%); Some Achievement/Some Impact (approximately 25%); No Achieve/No Impact
The evaluation symbol legend for the Achievement/Impact Scale is included on Page 4 below.

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Improve Accessibility						
Improve accessibility across/neighborhood	Evaluate how well the alternative improves neighborhoods and communities accessibility	Number of Interchange and Overpass Reconfigurations	0	10	10	10
		Bicycle and/or Pedestrian accommodations and/or improvements proposed (Complete, Substantial, Half, Some or No Achievement)				
Improve Public Transportation	Evaluate potential for the alternative to improve public transportation	Adds Park & Ride (Complete, Substantial, Half, Some or No Achievement)				
		Support Operation Green Light (Complete, Substantial, Half, Some or No Achievement)				
		Coordinate with SmartMoves Transit Plan (Complete, Substantial, Half, Some or No Achievement)				
Improve Goods Movement						
Improve Goods Movement	Alternative effectively serves freight movements in corridor	Improves Freight Movement (Complete, Substantial, Half, Some or No Achievement)				
Engineering						
Construction Staging	Evaluate how well the alternative minimizes the impact on travel and access during construction.	High, Substantial, Moderate, Some or No Impact				
Maintenance of Traffic	Evaluate potential complexity of maintaining traffic on roadway and access during construction.	High, Substantial, Moderate, Some or No Impact				
Reduce Existing Travel Diversions to Other Routes	Evaluate how the alternative reduces the diversion of travel to other routes.	High, Substantial, Moderate, Some or No Impact				

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Opportunities for Future Transportation Options	Evaluate if the alternative allows for future transportation options of the roadway facility.	High, Substantial, Moderate, Some or No Impact				
Social and Economic						
Land Use	Support local and regional land use plan	Right of way needed (acres)				
Displacements and Relocations	Evaluate the impact on residences and businesses to be displaced	Residential – Single family (each)	0	42	62	31
		Commercial/Industrial (each)	0	5	8	6
		Churches (each)	0	1	1	0
Environmental Justice	Evaluate the impact to low income and/or minority areas	Area of property affected (each)	0.0			
Public Facilities and Services	Evaluate the impact to facilities and services used for public uses	Number of facilities (each)	0	1 - Property Only No Relocation	1 - Property Only No Relocation	1 - Property Only No Relocation
Environment						
Air Quality	Evaluate potential impact on air quality.	Potential to reduce local congestion (base on projected LOS) (High, Substantial, Moderate, Some or No Impact)				
Noise	Evaluate potential impact on existing sensitive receptors (residences, schools, churches, parks)	Number of sensitive noise receptor impacted	683	917	911	922
Parks/Recreational Land	Evaluate potential impact on parks	Number of park/recreational lands affected (each)	0	3	3	3
Historic Property	Evaluate potential impact on historic properties	Number of historic properties impacted (buildings on or eligible for NRHP (each)	0	1 potential property	1 potential property	1 potential property
Archaeological Site	Evaluate potential impact to known archeological sites	Number of archaeological sites potentially impacted (each)	0	3	3	3

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Water Resources	Evaluate potential impact to rivers and streams	Encroachment on the Blue River (High, Substantial, Moderate, Some, or No Impact)							
Floodplains	Evaluate potential impact on floodplains	Area of floodplain affected (acres)	0.00	1.65	1.65	1.65			
Wetlands	Evaluate potential impact on wetlands	Area of emergent wetland affected (acres)	0.00	0.02	0.17	0.02			
		Area of forested/shrub wetland affected (acres)	0.00	0.00	0.02	0.00			
Special Waste	Evaluate potential impact on special waste sites	Number of sites affected (each)	1	16	16	16			
Forested Areas	Evaluate potential impact on forested areas	Area of sites affected (acres)	0.00	2.86	15.60	2.86			
Cost									
Land Acquisition Cost	Opinion of probable land acquisition cost	Right of Way Cost (millions)	\$0.0	\$11.7	\$16.0	\$12.3			
Construction Cost	Opinion of probable construction cost	Total Construction Cost (millions)	\$71.9	\$205.0	\$245.0	\$215.0			
Total Costs	Opinion of total cost	Total Cost (millions)	\$71.9	\$216.7	\$261.0	\$227.3			
Legend:									
Complete Achievement	Substantial Achievement	Half Achievement	Some Achievement	No Achievement	High Impact	Substantial Impact	Moderate Impact	Some Impact	No Impact
									

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Table 2-3 Highway Safety Manual Results

Sections	No-Build Alternative		Geometric Improvements Alternative		Interchange Consolidations Alternative		Preferred Alternative		No-Build versus Preferred Alternative Percent Change	
	Crashes	Fatal and Disabling	Crashes	Fatal and Disabling	Crashes	Fatal and Disabling	Crashes	Fatal and Disabling	Crashes	Fatal and Disabling
The Paseo to U.S. 40	3,677	74	3,307	72	3,222	69	3,180	70	-13.5	-5.4
U.S. 40 to east of Blue Ridge Cutoff	2,543	49	2,440	51	1,865	38	2,474	50	-2.7	2.0
I-435: 23 rd Street ramps to Raytown Road/Stadium Drive ramps	1,120	26	1,115	26	945	23	1,011	25	-9.7	-3.8
Total	7,340	149	6,862	149	6,032	130	6,665	145	-9.2	-2.7