QUALITATIVE SCREENING ANALYSIS

LEGEND

		Santa Fe Interchange Alternatives		
		Most Desirable	→	Least Desirable
		○	◒	●
Congestion / Delay				
1	Optimizes Interchange Traffic Operations	All Movements LOS D or better	Any movement LOS E, but no movements LOS F	Any movement LOS F
2	Optimizes Adjacent Intersection Traffic Operations	All Movements LOS D or better	Any movement LOS E, but no movements LOS F	Any movement LOS F
Reliability				
1	Ability to reduce signalized intersection or signal phases	Eliminates 1 or more Traffic Signals	Eliminates 1 or more Traffic Signal Phases	Requires additional Traffic Signals or No Reduction in Signals or Phases
2	Interchange accommodates higher ramp volumes	2 or more unsignalized ramp movements	1 unsignalized ramp movement	No unsignalized ramp movements
Implementation				
1	Minimize project costs: Raw Construction Cost	$0 - $35 million (high end of range)	$36 - $45 million (high end of range)	> $45 million (high end of range)
	Minimize project costs: Right-of-Way Acquisition Cost	$0 - $2 million (high end of range)	$2 - $4 million (high end of range)	> $4 million (high end of range)
2	Provides a constructable solution	Early phase elements which can be constructed outside of traffic can immediately remove traffic traveling across the existing interchange	Early phase elements which can be constructed outside of traffic can reduce demand on signals and/or be used for MHT in latter phases	Elements must be constructed under traffic, increasing MHT phases and forcing elements to be constructed in smaller pieces
3	Provides long-term phasability/implementation	Elements can be constructed early as stand alone improvements along with capacity elements that can be easily implemented in the future	Elements can be constructed early as stand alone improvements without opportunity for additional capacity elements in the future	All interchange elements must be constructed as a whole for interchange to be considered operational
Environment				
Note: Values listed are for mainline and interchange extensions only. Values do not include attempts at avoiding or minimizing impacts to the resources. They are conservative estimates based on conceptual level design and preliminary environmental impact estimation. More detailed design and environmental evaluation will be completed at the next level of screening, which will provide more accurate impact calculations. These numbers may increase or decrease slightly with more accurate analysis.				
1	Minimize impacts to adjacent bicycle and pedestrian trail system	0-0.5 miles	0.5-1 miles	> 1 mile
2	Minimize acquisition of additional right-of-way	0-15 partial parcels; <10 acres	15-30 partial parcels; 10-20 acres	>30 partial parcels; >20 acres
3	Minimize impacts to wetlands and waters of the U.S.	0-5 % of APE* (0-1.3 acres)	6-15% of APE* (1.4-4.0 acres)	16-100% of APE* (4.1-26.8 acres)
4	Minimize impact to potential Threatened or Endangered habitat	0-5 % of APE* (0-2.9 acres)	6-15% of APE* (3.0-8.8 acres)	16-100% of APE* (8.9-58.7 acres)
5	Minimize encroachment on hazardous material sites (value dependent on site type; assumes reasonable mitigation is possible)	0-2 sites	3-5 sites	> 5 sites
6	Minimize impacts to cultural resources	no impacts, or diminish integrity by indirect effects such as visual or noise impacts	alter resource or change character by a direct physical impact	obliteration of part of resource or relocation of resource to alternative site
7	Minimize impacts to 4(f) parkland resources	0-1 acres	1-3 acres	> 3 acres
8	Minimize impacts to Riparian habitat	0-5% of APE* (0-2.1 acres)	6-15% of APE* (2.2-6.4 acres)	16-100% of APE* (6.5-42.7 acres)
9	Minimize impacts to existing view sheds	no visual impact	will impact viewshed somewhat	will completely restrict viewshed
Ease of Movement				
1	Provide optimal opportunity for multi-modal solutions (qualitative): Provides ease of movement for transit options / does not preclude or alter transit options considered or planned	Simplifies access to potential PNR's and does not preclude SW LRT	Does not preclude SW LRT	Precludes SW LRT
	Provide optimal opportunity for multi-modal solutions (qualitative): Relative degree of trail impact / improvement	1 grade separation of moderate length required	2 grade separations of moderate length required	>2 grade separations required or very long
2	High degree of driver expectancy	Signage / vehicle maneuvers similar to existing	1 or 2 movements requiring advance signs to maneuver	>2 movements requiring advance signs to maneuver
Safety				
1	Address existing interchange safety issues	Will meet AASHTO geometric criteria with minimal variances	Will meet AASHTO geometric criteria with moderate variances	Does not meet AASHTO geometric criteria
2	Reduce conflicting vehicular movements	Eliminates >1 conflicting movements	Eliminates 1 conflicting movement	No elimination or increases conflicting movements

**Definition of APE*: Area of Potential Effect, as defined to include the environmental resources under study in this project, generally 300 feet on either side of the highway centerline, and drawn using natural resources within the original study area, potential retention ponds and potential ramp tie-ins. (methodology in seperate memorandum)

999 18th Street, Suite 2600, Denver, Colorado 80202
303 292 9[illegible] phone 303 292 [illegible] fax