

Level 3 – Evaluation of Alternatives

	Level 3 Criteria	No Build Alternative (Existing plus Committed)	Expressway Alternative	Freeway Alternative																																																											
Community Values	<p>1. Miles of new non-motorized facilities.</p> <p>Off street Trails - calculated by using Colorado Avenue as the northern limit and the next major cross street or nearest trail as the southern limit.</p> <p>Dedicated on street trails – calculated in <u>one direction</u> for both Colorado Avenue and US 24.</p> <p>Already planned trails – defined as trails included in the City of Colorado Springs improvement plan.</p>	<p><u>0 miles of new off-street trails</u></p> <p><u>0 miles of new dedicated on-street trails</u></p> <p>* 5.9 miles of new already planned trails (Midland, Shryver Fountain Creek) not included in the above numbers</p>	<p><u>1.7 miles of new off-street trails</u></p> <ul style="list-style-type: none"> Cross street trails = 1.7 miles. (Trails were calculated up to the intersection assuming the crosswalks were not included) <p><u>7.6 miles of new dedicated on-street trails</u></p> <ul style="list-style-type: none"> Colorado Avenue sidewalks (one way) = 3.6 miles US 24 from the I-25 interchange to the Manitou Avenue interchange (one way) = 4.0 miles <p>* 5.9 miles of new already planned trails (Midland, Shryver Fountain Creek) not included in the above numbers</p>	<p><u>1.8 miles of new off-street trails</u></p> <ul style="list-style-type: none"> Cross street trails = 1.8 miles. (Trails were calculated continuous through the interchange) <p><u>3.6 miles of new dedicated on-street trails</u></p> <ul style="list-style-type: none"> Colorado Avenue sidewalks (one way) = 3.6 miles No bike lanes allowed for in the Freeway alternative. <p>* 5.9 miles of new already planned trails (Midland, Shryver Fountain Creek) not included in the above numbers</p>																																																											
	<p>2. Number of improved crossings of US 24 for non-motorized travelers (pedestrian bridge, overpass, interchange, intersection).</p> <p>Rating Scale:</p> <p>4 – Pedestrian/trail bridge. Bridge is independent of motorized crossing.</p> <p>3 – Overpass. Non-motorized crossing is on structure with motorized crossing, but not requiring crossing of traffic.</p> <p>2 – Interchange. Non motorized crossing incorporated within proposed interchange, so would require crossing ramps.</p> <p>1 – Intersection. Non motorized crossing incorporated within proposed traffic signal controlled intersection.</p>	<p>The No Build alternative has no improved crossings.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Crossing Location</th> <th>Crossing Rating</th> </tr> </thead> <tbody> <tr><td>I-25 (interchange)</td><td>2</td></tr> <tr><td>8th (intersection)</td><td>1</td></tr> <tr><td>14th (no signalized crossing)</td><td>0</td></tr> <tr><td>21st (intersection)</td><td>1</td></tr> <tr><td>26th (intersection)</td><td>1</td></tr> <tr><td>31st (intersection)</td><td>1</td></tr> <tr><td>Ridge Road (no signalized crossing)</td><td>0</td></tr> <tr><td>Manitou Avenue (interchange)</td><td>2</td></tr> <tr> <td>Total Crossing Rating</td> <td>8</td> </tr> </tbody> </table>	Crossing Location	Crossing Rating	I-25 (interchange)	2	8 th (intersection)	1	14 th (no signalized crossing)	0	21 st (intersection)	1	26 th (intersection)	1	31 st (intersection)	1	Ridge Road (no signalized crossing)	0	Manitou Avenue (interchange)	2	Total Crossing Rating	8	<p>The Expressway Alternative has 4 improved crossings (denoted by an asterisk below).</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Crossing Location</th> <th>Crossing Rating</th> </tr> </thead> <tbody> <tr><td>I-25 (interchange)</td><td>2</td></tr> <tr><td>8th (intersection)</td><td>1</td></tr> <tr><td>*14th (interchange)</td><td>2</td></tr> <tr><td>*21st (interchange)</td><td>2</td></tr> <tr><td>26th (intersection)</td><td>1</td></tr> <tr><td>*31st (intersection plus pedestrian overpass)</td><td>5 (1+4)</td></tr> <tr><td>*Ridge Road (intersection)</td><td>1</td></tr> <tr><td>Manitou Avenue (interchange)</td><td>2</td></tr> <tr> <td>Total Crossing Rating</td> <td>16</td> </tr> </tbody> </table>	Crossing Location	Crossing Rating	I-25 (interchange)	2	8 th (intersection)	1	*14 th (interchange)	2	*21 st (interchange)	2	26 th (intersection)	1	*31 st (intersection plus pedestrian overpass)	5 (1+4)	*Ridge Road (intersection)	1	Manitou Avenue (interchange)	2	Total Crossing Rating	16	<p>The Freeway Alternative has 5 improved crossings (denoted by an asterisk below).</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Crossing Location</th> <th>Crossing Rating</th> </tr> </thead> <tbody> <tr><td>I-25 (interchange)</td><td>2</td></tr> <tr><td>8th (intersection)</td><td>1</td></tr> <tr><td>*14th (interchange)</td><td>2</td></tr> <tr><td>*21st (interchange)</td><td>2</td></tr> <tr><td>*26th (overpass)</td><td>3</td></tr> <tr><td>*31st (interchange)</td><td>2</td></tr> <tr><td>*Ridge Road (overpass)</td><td>3</td></tr> <tr><td>Manitou Avenue (interchange)</td><td>2</td></tr> <tr> <td>Total Crossing Rating</td> <td>17</td> </tr> </tbody> </table>	Crossing Location	Crossing Rating	I-25 (interchange)	2	8 th (intersection)	1	*14 th (interchange)	2	*21 st (interchange)	2	*26 th (overpass)	3	*31 st (interchange)	2	*Ridge Road (overpass)	3	Manitou Avenue (interchange)	2	Total Crossing Rating
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<b style="writing-mode: vertical-rl; transform: rotate(180deg);">Community Values	<p>3. Alternative's visual compatibility with the corridor's context and setting.</p> <p>Rating Scale: Each alternative was scored in 8 categories that are directly related to visual compatibility. For each alternative, a higher rating score indicates a higher level of compatibility.</p>																																										
	<p>At this level of analysis, the major visual differences between the Build Alternatives and the No Build (Existing Plus Committed) Alternative is the amount of paving and the amount of existing vegetation within the ROW. Both Build Alternatives increase paving, and, potentially impact more existing vegetation. The Build Alternatives provide the greatest opportunity for reducing visual clutter and developing a corridor theme. The greatest visual difference between the Expressway and Freeway is the amount of elevated roadway; the Expressway has half that of the Freeway.</p>																																										
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4. Level of support from community.	Low	Medium to High	Medium to Low																																								
5. Compatibility with existing plans.	Not Compatible	Very Compatible	Very Compatible																																								
6. Potential impact to community economic viability.	Negative	Positive	Positive																																								

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Safety, Accessibility & Mobility	<p>1. Number of direct access points.</p> <p>a. Direct access to US 24 b. Direct access to side streets</p> <p><u>Assumptions for side street access:</u></p> <ul style="list-style-type: none"> • At collector intersections, no access is allowed within 150 feet. • At arterial intersections, no access is allowed within 300 feet. • At ramp terminals, no access is allowed within 500 feet. 	<p>a. 7.5 access points</p> <ul style="list-style-type: none"> • I-25 interchange • 8th Street intersection • 14th Street Right-In/Right-Out (½ access) • 21st Street intersection • 26th Street intersection • 31st Street intersection • Ridge Road intersection • Manitou Avenue interchange <p>b. No direct access points are lost in the No Build Alternative.</p>	<p>a. 7.5 access points</p> <ul style="list-style-type: none"> • I-25 interchange • 8th Street intersection • 14th Street ½ diamond interchange (½ access) • 21st Street interchange • 26th Street intersection • 31st Street intersection • Ridge Road intersection • Manitou Avenue interchange <p>b. 5 intersections removed, 35 side street access points removed</p>	<p>a. 5.5 access points</p> <ul style="list-style-type: none"> • I-25 interchange • 8th Street intersection • 14th Street ½ diamond interchange (½ access) • 21st Street interchange • 26th Street overpass • 31st Street intersection • Ridge Road overpass • Manitou Avenue interchange <p>b. 5 intersections removed, 39 side street access points removed</p>
	2. Percent change in 2030 travel time on US 24 between the I-25 and Manitou Avenue interchanges.	0% (2030 No build is base case)	56% decrease in travel time on US 24 (11 minutes)	63% decrease in travel time on US 24 (12.1 minutes)
	3. Percent change in 2030 travel time on Colorado Ave. between 8th Street and the Manitou Avenue interchange.	0% (2030 No build is base case)	17% increase in travel time on Colorado Ave. (1.6 minutes)	8% increase in travel time on Colorado Ave. (0.8 minutes)
	4. Percent change in 2030 travel time from two blocks south of US 24 to Colorado Ave. by vehicles on 8th, 21st, 26th and 31st Streets.	0% (2030 No build is base case)	39% decrease on 8 th Street (2.1 minutes) 64% decrease on 21 st Street (3.5 minutes) 9% increase on 26 th Street (0.2 minutes) 24% decrease on 31 st Street (0.5 minutes)	39% decrease on 8 th Street (2.1 minutes) 72% decrease on 21 st Street (3.9 minutes) 38% decrease on 26 th Street (0.6 minutes) 35% decrease on 31 st Street (0.8 minutes)
	<p>5. Change in number of inter-modal connections.</p> <p>a. Park-n-rides b. Bus Stops c. Trail access points</p>	<p>a. No Change b. No Change c. No Change</p>	<p>a. + 2, new park-n-rides at Gold Hill Mesa and 31st Street b. + 2, new bus stops at Gold Hill Mesa and 31st Street park-n-rides. c. + 5, new trail access points at 8th, 14th, 26th, 31st Streets and Ridge Road.</p>	<p>a. + 2, new park-n-rides at Gold Hill Mesa and 31st Street b. + 2, new bus stops at Gold Hill Mesa and 31st Street park-n-rides. c. + 5, new trail access points at 8th, 14th, 26th, 31st Streets and Ridge Road.</p>

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Safety, Accessibility, & Mobility	<p>6. Operational characteristics of transit system associated with the alternative.</p>	<p>Operation – Colorado Springs Metro Transit is pursuing plans to operate express bus service on US 24 between Manitou Springs and Downtown Colorado Springs during the morning and evening commute hours. This service would operate in general purpose travel lanes, under projected traffic conditions. The location of stops is not known at this time.</p> <p>Travel Time – The estimated travel time for express bus service is approximately 25 minutes.</p> <table style="margin-left: 20px;"> <tr> <td>Manitou interchange to I-25 east ramps</td> <td style="text-align: right;">17.4 minutes</td> </tr> <tr> <td>Estimated dwell times at stops</td> <td style="text-align: right;">3.0 minutes</td> </tr> <tr> <td>I-25 to Downtown Transit Center</td> <td style="text-align: right; border-bottom: 1px solid black;">4.0 minutes</td> </tr> <tr> <td>Total Travel Time</td> <td style="text-align: right;">24.4 minutes</td> </tr> </table> <p>Local bus service would continue to operate on Colorado Ave.</p>	Manitou interchange to I-25 east ramps	17.4 minutes	Estimated dwell times at stops	3.0 minutes	I-25 to Downtown Transit Center	4.0 minutes	Total Travel Time	24.4 minutes	<p>Operation – Transit service will operate in the general purpose travel lanes on US 24 between Manitou Springs and Downtown Colorado Springs. The express bus route will serve stops at Manitou Avenue and Canon, the 31st Street park-n-ride, and 21st Street and US 24. The express bus will operate with highest frequency service during the morning and evening commute and carry an estimated ridership of 1100 riders per day. Park-n-ride weekday demand is assumed to be 10% of estimated ridership, or about 110 vehicles. Assuming 85 spaces per acre, approximately an acre and a half of land would be needed to accommodate parking and access. The Expressway alternative includes the development of two acres of parking space in the northeast quadrant of 31st St. and US 24 to allow for flexibility in parking supply to support transit riders, shopping demand and visitation to Red Rock Canyon Open Space.</p> <p>Travel Time – Estimated travel time for express bus service under the Expressway Alternative during the peak hour commute is approximately 17 minutes.</p> <table style="margin-left: 20px;"> <tr> <td>Manitou interchange to I-25 east ramps</td> <td style="text-align: right;">9.3 minutes</td> </tr> <tr> <td>Park-n-ride and transit stop dwell times</td> <td style="text-align: right;">3.5 minutes</td> </tr> <tr> <td>I-25 to Downtown Transit Center</td> <td style="text-align: right; border-bottom: 1px solid black;">4.0 minutes</td> </tr> <tr> <td>Total Travel Time</td> <td style="text-align: right;">16.8 minutes</td> </tr> </table> <p>The potential for improving the bus travel time was evaluated based on whether thru movement travel could be improved at any of the major intersections along the corridor. Traffic analysis and intersection delay projections indicates the following LOS at key intersections during the peak commute hour:</p> <table style="margin-left: 20px;"> <tr> <td>31st St./US 24 thru movement:</td> <td style="text-align: right;">31.1 second delay / LOS C</td> </tr> <tr> <td>26th St./US 24 thru movement:</td> <td style="text-align: right;">17.4 second delay / LOS B</td> </tr> <tr> <td>21st St./US 24 interchange:</td> <td style="text-align: right;">no delay</td> </tr> </table> <p>The projected delay in through movement at each of the major intersections is minimal under the projected traffic conditions. The operational LOS is high for through movement and it would not, transit service in the Expressway Alternative is not expected to encounter delays in operation. Priority treatments, queue jumping, etc. are not anticipated at this time.</p>	Manitou interchange to I-25 east ramps	9.3 minutes	Park-n-ride and transit stop dwell times	3.5 minutes	I-25 to Downtown Transit Center	4.0 minutes	Total Travel Time	16.8 minutes	31st St./US 24 thru movement:	31.1 second delay / LOS C	26th St./US 24 thru movement:	17.4 second delay / LOS B	21st St./US 24 interchange:	no delay	<p>Operation – Transit service will operate in the general purpose travel lanes on the Freeway Alternative between Manitou Springs and Downtown Colorado Springs. The express bus route will serve stops at Manitou Avenue and Canon and the 31st Street park-n-ride. Express service will operate with highest frequency service during the morning and evening commute and carry an estimated ridership of 1100 riders per day. Park-n-ride weekday demand is assumed to be 10% of estimated ridership, or about 110 vehicles. 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Other operating parameters and travel times between the Expressway and Freeway Alternatives are very similar.</p>	Manitou interchange to I-25 east ramps	9.1 minutes	Park-n-ride access & dwell time	2.5 minutes	I-25 to Downtown Transit Center	4.0 minutes	Total Travel Time	15.6 minutes
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	8. Total hours of delay during the peak hour.	1415 hours	636 hours	601 hours																																																																																																																																																																																																												
	9. Change in regional vehicle miles traveled during the average day.	No Change (2030 No Build is the base case)	3.5% regional increase (662,500 miles additional)	3.8% regional increase (718,000 miles additional)																																																																																																																																																																																																												
	10. Crash expectancy for alternative.	The No Build Alternative would have the highest crash potential because of at grade intersections and significant congestion.	The Expressway Alternative would have a lower crash expectancy than the No Build Alternative because it reduces conflicts with two grade separations, and would have less congestion.	The Freeway Alternative would have the lowest overall crash expectancy because it has the fewest conflicts for motorists because all existing at grade intersections are grade separated. It also has the least amount of congestion. However, the nature of crashes may change due to a higher operating speed, and result in a higher proportion of more severe crashes.																																																																																																																																																																																																												

Level 3 – Evaluation of Alternatives

Level 3 Criteria		No Build Alternative (Existing plus Committed)	Expressway Alternative	Freeway Alternative
Environmental	1. Acres of new impervious surface.	0 acres	+ 45 acres	+ 46 acres
	2. Residences within 500 feet (approximately one block) of the edge of pavement.	399 residences	404 residences	410 residences
	3. Recorded historic sites within 500 feet (approximately one block) buffer of preliminary ROW / within preliminary ROW.	5 properties within 500 ft. buffer of existing ROW 4 districts entirely/partially within 500 ft. buffer of existing ROW 0 properties within existing ROW 0 districts entirely/partially within existing ROW	11 properties within 500 ft. buffer of preliminary ROW 4 districts entirely/partially within 500 ft. buffer of preliminary ROW 0 properties within preliminary ROW 0 districts entirely/partially within preliminary ROW	5 properties within 500 ft. buffer of preliminary ROW 5 districts entirely/partially within 500 ft. buffer of preliminary ROW 0 properties within preliminary ROW 0 districts entirely/partially within preliminary ROW
	4. Acres of parks and recreation resources within 500 feet (approximately one block) buffer of preliminary ROW / within preliminary ROW.	107 acres within 500 ft. buffer of existing ROW 11 acres within existing ROW	100 acres within 500 ft. buffer of preliminary ROW 23 acres within preliminary ROW	111 acres within 500 ft. buffer of preliminary ROW 23 acres within preliminary ROW
	5. Acres of new preliminary ROW.	0 acres	Approximately + 95 acres	Approximately + 104 acres
	6. Total number of relocations (residential and business) required.	0 residential relocations 0 business relocations	Approximately 30 residential relocations <small>(includes one multi-family housing unit with one owner, 8 units total)</small> Approximately 50 business acquisitions	Approximately 40 residential relocations <small>(includes two multi-family housing units with one owner per property, 14 units total)</small> Approximately 50 business acquisitions
	7. Acres of aquatic ecosystem within preliminary ROW.	19 acres of aquatic habitat located within existing ROW	32 acres of aquatic habitat located within preliminary ROW, includes wetland	32 acres of aquatic habitat located within preliminary ROW

Level 3 – Evaluation of Alternatives

Level 3 Criteria		No Build Alternative (Existing plus Committed)	Expressway Alternative	Freeway Alternative
Environmental	8. Impacts to 100-year floodplain.	The majority of existing US 24 is within the Fountain Creek 100 year floodplain. Under the No Build Alternative this condition would not be improved. Further, all of the bridges on US 24 and the adjacent city arterials, which are insufficient for the FEMA 100 year flood level, would not be replaced.	<p>An increase in impervious area will increase runoff to Fountain Creek. There will be an increased amount of pollutants generated, which should be treated prior to the runoff entering Fountain Creek.</p> <p>According to the FEMA floodplain maps, the Fountain Creek floodplain is wide and shallow in the overbanks along US 24. While this flow is presently considered effective flow, the velocities in the overbanks are much slower than through the main channel. Two scenarios could occur with the highway improvements: 1) the raised highway could create an "island" in the floodplain, creating ineffective flow on the outer banks, or 2) the raised highway could completely encroach into the floodplain, narrowing the floodplain. In either case, if the raised highway is placed in the shallow overbanks of the floodplain, typically, the overall flow area will be reduced, increasing the velocity and slightly lowering the water surface elevation along the encroachment.</p> <p>In locations where there are existing steep embankments directly adjacent to Fountain Creek, any encroachments into the floodplain by the roadway improvements may cause a rise in the water surface elevation.</p> <p>Both intersections and interchanges may continue to be impacted by the 100-year floodplain unless improvements are made to the Fountain Creek conveyance capacity and to the adjacent City streets and bridges.</p>	

Level 3 – Evaluation of Alternatives

	Level 3 Criteria	No Build Alternative (Existing plus Committed)	Expressway Alternative	Freeway Alternative
Implementation	<p>1. Construction impact on existing traffic.</p> <p>Rating Scale:</p> <p>3 - Very little impact. Traveling public will be generally unaffected.</p> <p>2 - Some impact. There will be periodic times of inconvenience to traveling public. Travel speeds will be slightly reduced.</p> <p>1 - Significant impact. Traveling public will be affected most of the time. Travel speeds will be greatly reduced.</p> <p>Impact rating shown in parentheses by segment</p>	N/A	<p>A. Interchange complex at I-25 through 14th Street (1)</p> <p>B. 21st Street Interchange (1)</p> <p>C. 26th Street Intersection/Overpass (2)</p> <p>D. 31st Street Intersection/Interchange (2)</p> <p>E. Ridge Road Intersection/Interchange (2)</p> <p>F. Manitou Interchange (1)</p> <p>G. Corridor Mainline (1)</p> <p>Total Expressway Rating – 10</p> <p>Construction of the Expressway Alternative will be slightly less impactful to the traveling public and will be easier to stage than the Freeway Alternative. This is primarily due to the relatively more straightforward construction of intersections as compared to interchanges.</p>	<p>A. Interchange complex at I-25 through 14th Street (1)</p> <p>B. 21st Street Interchange (1)</p> <p>C. 26th Street Intersection/Overpass (1)</p> <p>D. 31st Street Intersection/Interchange (1)</p> <p>E. Ridge Road Intersection/Interchange (1)</p> <p>F. Manitou Interchange (1)</p> <p>G. Corridor Mainline (2)</p> <p>Total Freeway Rating – 8</p> <p>Construction of the Freeway Alternative will be slightly more impactful to the traveling public and will be more difficult to stage than the Expressway Alternative. This is primarily due to the relatively more straightforward construction of intersections as compared to interchanges.</p>
	2. Conceptual program level costs for corridor improvements.	N/A	\$240 million (does not include ROW cost)	\$260 million (does not include ROW cost)
	3. Level of support from local government agencies (high, med, low).	Low	Medium to High, depending on agency	Medium to High, depending on agency