

1 Chapter 2 – Alternatives

2 This chapter summarizes how the Colorado Department of Transportation (CDOT) project
3 team (which consisted of representatives from the Federal Highway Administration [FHWA]
4 and CDOT along with a consultant team of professionals in a variety of disciplines) developed
5 and evaluated alternative solutions to meet the purpose and need described in **Chapter 1,**
6 **Purpose and Need.** This chapter describes the development and evaluation process and
7 identifies the Proposed Action.

8 The alternatives development process followed a
9 Context Sensitive Solutions (CSS) approach as
10 described in the National Cooperative Highway
11 Research Program (NCHRP) Report 480, *A Guide to*
12 *Best Practices for Achieving Context Sensitive Solutions*
13 (NCHRP, 2002) for studying improvements on
14 United States Highway 24 (US 24). Alternatives
15 were developed using an approach of working with
16 multi-disciplinary teams of transportation and
17 highway design professionals, environmental
18 experts, and a wide range of stakeholders with an
19 interest in the outcome.

20 Guided by the principles of CSS, the project team
21 recognized that successful solutions to meeting the
22 purpose and need would require a thorough
23 understanding of the characteristics of the highway,
24 the needs of regional and local travelers, the causes
25 for congestion, and the relationship between the
26 highway and the surrounding community.

27 To understand this context, the team enlisted the
28 help of many partners: regional commuters and
29 local travelers; residents of nearby neighborhoods; the local business community; representatives
30 of local, state, and federal agencies; and planners, engineers, and other technical experts. In
31 public open houses held in 2004, 2005, and 2006, these partners identified numerous issues they
32 saw or experienced with US 24, contributed ideas and suggestions for improvements to US 24,
33 and raised issues and concerns about the possible effects of rebuilding US 24. The project also
34 included an Executive Leadership Team (ELT) that represented local jurisdictions and provided
35 policy-level recommendations on issues such as funding, maintenance, and ownership
36 responsibilities. In addition, a Technical Leadership Team (TLT) guided decisions involving data
37 gathering and analysis, provided review of technical documentation, provided support and
38 insight with respect to agency issues and regulations, assisted with the development and
39 screening of alternatives, and facilitated coordination. Additional information about the ELT
40 and TLT, including the list of participants, is provided in **Chapter 5, Agency Coordination**
41 **and Public Involvement.**

“Context Sensitive Solutions (CSS) is a collaborative, interdisciplinary approach that involves all stakeholders to develop a transportation facility that fits its physical setting and preserves scenic, aesthetic, historic, and environmental resources, while maintaining safety and mobility. CSS is an approach that considers the total context within which a transportation improvement project will exist. CSS principles include the employment of early, continuous and meaningful involvement of the public and all stakeholders throughout the project development process.”

**Federal Highway Administration
“What is CSS”**

<http://www.fhwa.dot.gov/context/what.cfm>

42 The result of this collaborative, interdisciplinary process – using the CSS approach described in
 43 the text box above – was a range of actions or alternatives that could address the purpose and
 44 need while minimizing negative effects to the community and the environment. Each of these
 45 actions or alternatives was evaluated using criteria that the partners helped develop to ensure the
 46 purpose and need were met. In the end, a Proposed Action was identified.

47 The purpose and need statement in this Environmental Assessment (EA) is important because it
 48 lays out why the Proposed Action is being pursued and serves as the basis for developing a
 49 reasonable range of alternatives. Ongoing participation in the US 24 EA process by the FHWA,
 50 ELT, and TLT ensured collaboration throughout the study process.

51 2.1 How Alternatives were Developed

52 The alternatives were developed using a rigorous three-step
 53 approach based on the principles of CSS, as illustrated in
 54 **Exhibit 2-1**. Each step involved public input, brain-
 55 storming, analysis, and technical evaluation using screening
 56 criteria developed in collaboration with the public and the
 57 TLT. At each step in the process, the screening criteria
 58 became more focused and more measurable, and the
 59 scrutiny grew more rigorous as ideas progressed to
 60 potential solutions, and potential solutions progressed to
 61 the Proposed Action. The alternatives development
 62 process, the criteria used to screen the alternatives, and the
 63 results of each screening step are explained in more detail
 64 in **Appendix B**.

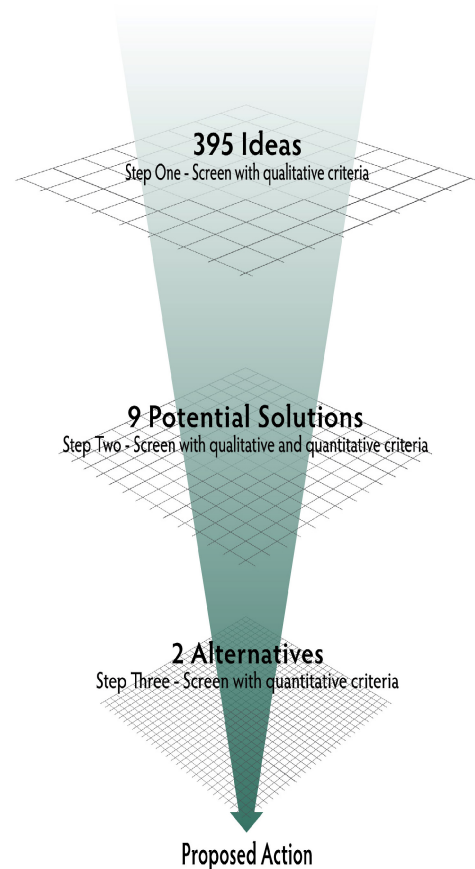
65 2.1.1 Step One: Identify Transportation Problems 66 and Ideas

67 At the beginning of the project, consistent with the CSS
 68 principle of outreach, stakeholders, community residents,
 69 business owners, highway users, and other partners were
 70 asked what transportation issues they perceived in the
 71 study area. This effort first identified nine Critical Issues;
 72 from the Critical Issues, a Community Vision was
 73 developed and categories of criteria for evaluation and
 74 screening of alternatives were established, as shown in
 75 **Exhibit 2-2**.

76 Both the Community Vision and the Criteria categories,
 77 shown in **Exhibit 2-3**, provided the context for developing the purpose and need, the
 78 alternatives, and ultimately the Proposed Action. A complete list of all stakeholder concerns is
 79 included in **Appendix B**. The community and all other stakeholders were then asked for their
 80 ideas for addressing the issues. A complete list of the stakeholder ideas is included in
 81 **Appendix B**. These ideas were then screened for fatal flaws using qualitative criteria that
 82 address safety, accessibility, mobility, environmental considerations, and community values.
 83 Some ideas that were outside the scope of this project were forwarded to appropriate agencies.

84 The results of this screening step were presented to the public at a workshop in January 2005,
 85 and the comments received were used to help develop potential solutions.

EXHIBIT 2-1
 Alternatives Development Process



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87

EXHIBIT 2-2
Critical Issue Identification Resulted in Community Vision and Criteria Categories

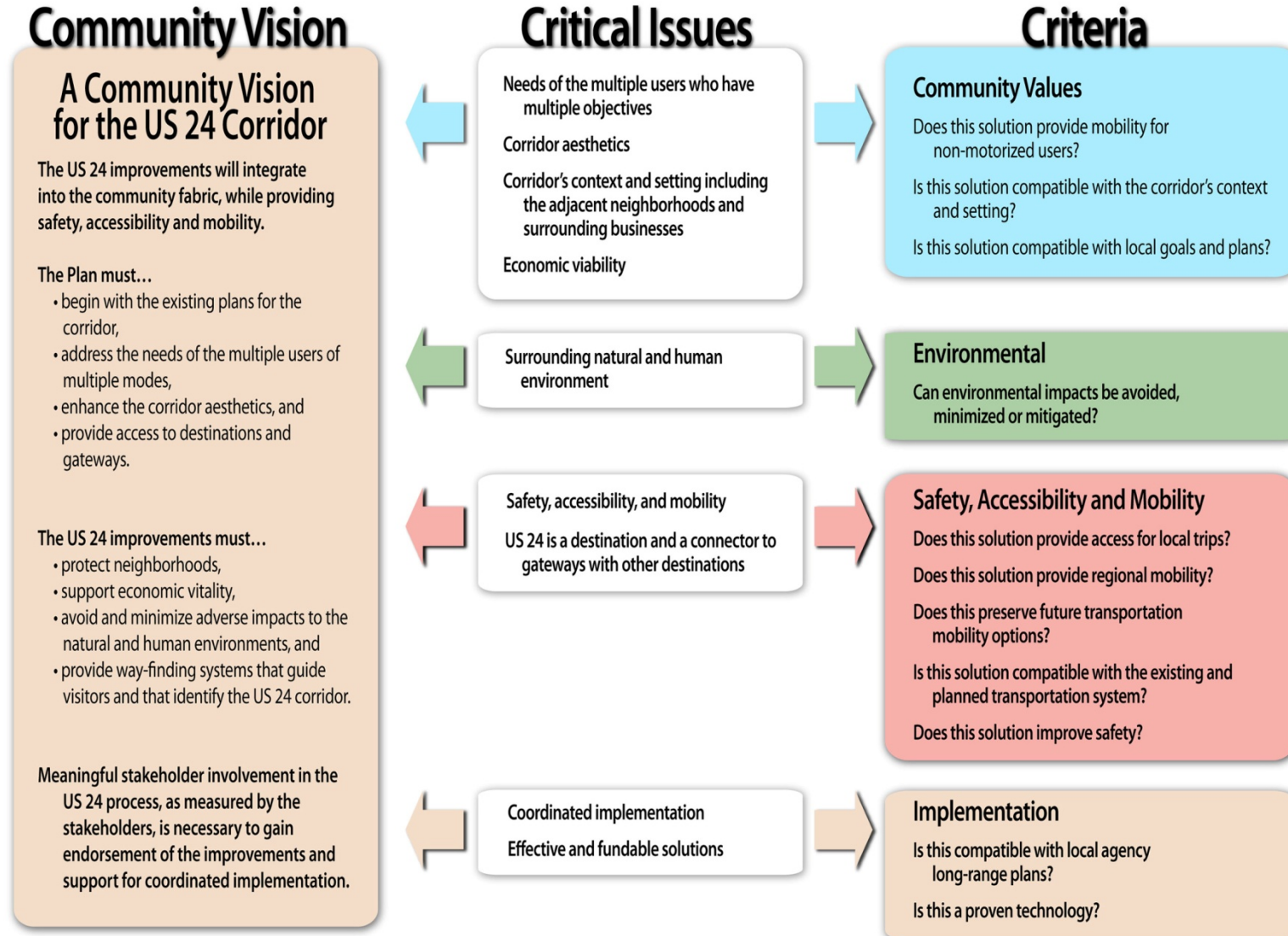


EXHIBIT 2-3
Screening Criteria

	Community Values			Safety, Accessibility, and Mobility			Environmental	Implementation		
STEP 1 SCREEN WITH QUALITATIVE CRITERIA	Is this idea compatible with non-motorized mobility?	Is this idea compatible with the corridor's context and setting?	Is this idea compatible with local goals and plans?	Does this idea provide access for local trips or does it provide regional mobility or does it preserve future transportation mobility options?	Is this idea compatible with the existing and planned transportation system?	Can this idea improve safety?	Can adverse environmental impacts be avoided, minimized, or mitigated?	Is this compatible with implementation of local agency plans?	Is this a proven technology?	
STEP 2 SCREEN WITH QUALITATIVE AND QUANTITATIVE CRITERIA	<ol style="list-style-type: none"> Number of vehicles moved to other modes of travel. What is the level of community support for this potential solution? Change in number of grade-separated crossings of US 24. Miles of new trails. Does this solution support existing plans? The number of views that are altered. 			<ol style="list-style-type: none"> Change in number of access points on US 24. Change in number of signalized intersections. Change in capacity. Number of new or improved cross streets. Number of new or improved parallel facilities. Improvement in travel time. Change in number of inter-modal connections. Number of potential riders. What is the right-of-way width needed for this solution? Number of corridor accident locations improved. 			<ol style="list-style-type: none"> Acres of new paved surface. Number of residences within 500 feet (approximately 1 block) of the edge of pavement. Number of new stream crossings. Number of recorded historic sites within 500 feet (approximately 1 block) of the edge of pavement. Number of locations where parks, trails, and recreation resources are affected. Acres of new right-of-way. 		<ol style="list-style-type: none"> Ability of this solution to be phased and provide incremental benefits. Construction impact on existing traffic. Ease and speed of construction. Ability of this solution be funded. Does this solution support the Regional Congestion Management Plan? 	
STEP 3 SCREEN WITH QUANTITATIVE CRITERIA	<ol style="list-style-type: none"> Miles of new non-motorized facilities. Number of improved crossings of US 24 for non-motorized travelers. Alternative's visual compatibility with the corridor's context and setting. Level of support from community. Economic viability. Compatibility with existing plans. 			<ol style="list-style-type: none"> Number of direct access points. Percent change in 2030 travel time on US 24 between the I-25 and Manitou Avenue interchanges. Percent change in 2030 travel time on Colorado Avenue between the I-25 and Manitou Avenue interchanges. Percent change in 2030 travel time from 2 blocks south of US 24 to Colorado Avenue by vehicles on 8th Street, 21st Street, 26th Street, and 31st Street. Change in number of inter-modal connections. Operational characteristics of transit system associated with the alternative. Level of Service at each intersection/interchange. Total hours of delay during the peak hour. Change in regional vehicle miles traveled during the average day. Crash expectancy for alternative. 			<ol style="list-style-type: none"> Acres of new impervious surface. Residences within 500 feet. Recorded historic sites within 500 feet. Acres of parks and recreation resources within 500 feet. Acres of new preliminary right-of-way. Total number of relocations (residential and business) required. Acres of aquatic ecosystem within preliminary right-of-way. Impacts to 100-year floodplain. 		<ol style="list-style-type: none"> Construction impact on existing traffic. Range of conceptual costs for corridor improvements. Level of support from local government agencies (high, medium, low). 	

88 2.1.2 Step Two: Transform Ideas into Potential Solutions

89 Being guided by the CSS principle of developing solutions that reflect the community, all of the
90 ideas that remained after the Step One of screening were sorted and then combined into a total
91 of nine potential solutions composed of similar ideas.

92 Many ideas suggested improvements to non-infrastructure elements, which were combined into
93 the following five potential solutions.

- 94 • **Non-Motorized Technologies** – Ideas that proposed upgrading bicycle facilities, sidewalks
95 and trails, or pedestrian overpasses.
- 96 • **Transportation System Management** – Ideas that included variable message signs, park
97 and ride facilities, and signal timing.
- 98 • **Transportation Demand Management** – Ideas such as express lanes, carpooling, flexible
99 work hours, and related approaches.
- 100 • **Flexible Transit Systems** – Ideas that proposed flexible transit systems, such as buses, that
101 could have changing routes based on demand.
- 102 • **Fixed Transit Systems** – Ideas that proposed fixed transit systems involving light rail,
103 trolleys, or other similar technology.

104 Other ideas suggested rebuilding other roadways to relieve congestion on US 24 and these ideas
105 were combined to form the following two potential solutions.

- 106 • **Reconstruct Local Streets** – Ideas such as removing some on-street parking from
107 Colorado Avenue and increasing the speed limit.
- 108 • **Other Regional Routes** – Including rebuilding Rampart Range Road or Mount Herman
109 Road to provide an alternative to traveling on US 24.

110 Additional ideas suggested ways to improve travel on US 24. These ideas were combined to
111 form the following two potential solutions.

- 112 • **US 24 Freeway** – Increases highway capacity in the study area and uses primarily
113 interchanges to connect US 24 with the cross streets.
- 114 • **Midland Expressway** – Increases highway capacity in the study area but uses a mixture of
115 interchanges and intersections to connect US 24 with the cross streets.

116 Using both qualitative and quantitative criteria, as shown in **Exhibit 2-3**, these nine potential
117 solutions were evaluated to determine if they could meet the purpose and need. The results of
118 this screening are shown in **Exhibit 2-4**.

EXHIBIT 2-4
Potential Solutions¹

Potential Solutions	Screening Result
Non-Motorized Technologies <i>Maximize bicycle/pedestrian facilities and upgrade sidewalks and trail connections</i>	<input checked="" type="checkbox"/> Eliminated as Stand-Alone Solution <ul style="list-style-type: none"> Does not meet the purpose and need as a stand-alone alternative because this solution provides only minor reduction of traffic congestion on US 24
Transportation System Management <i>Variable message signs, park and ride facilities, and signal timing</i> Transportation Demand Management <i>Express lanes, carpooling, and flexible work hours</i>	<input checked="" type="checkbox"/> Eliminated as Stand-Alone Solutions <ul style="list-style-type: none"> Does not meet the purpose and need as a stand-alone alternative because these solutions provide only minor reduction of traffic congestion on US 24
Flexible Transit Systems <i>Express buses in general-purpose lanes on US 24, and bus rapid transit in dedicated lanes on US 24</i> Fixed Transit Systems <i>Light rail on US 24 and historic trolley on Colorado Avenue</i>	<input checked="" type="checkbox"/> Eliminated as Stand-Alone Solutions <ul style="list-style-type: none"> Does not meet the purpose and need as a stand-alone alternative because these solutions provide only minor reduction of traffic congestion on US 24
Reconstruct Local Streets <i>Upgrade local or parallel streets and provide traffic-calming features on local streets</i> Improving Other Regional Routes <i>Rebuild Rampart Range Road, Mount Herman Road, others</i>	<input checked="" type="checkbox"/> Eliminated as stand-alone solutions <ul style="list-style-type: none"> Does not meet the purpose and need as a stand-alone alternative because these solutions provide only minimal reduction of traffic congestion on US 24 by rerouting only a few vehicle trips
US 24 Freeway <i>High-capacity, free-flowing roadway with interchanges or overpasses at cross streets; two general-purpose lanes each direction; 55 miles per hour (mph).</i>	<input checked="" type="checkbox"/> Carried Forward <ul style="list-style-type: none"> Meets the purpose and need by providing a substantial reduction in traffic congestion through adding capacity to highway, which accommodates forecasted future travel demand in the US 24 corridor
Midland Expressway <i>Lower-speed roadway with one additional through-lane in each direction, and intersections, interchanges, or overpass at cross streets; three lanes each direction; 50 mph</i>	<input checked="" type="checkbox"/> Carried Forward <ul style="list-style-type: none"> Meets the purpose and need by providing a substantial reduction in traffic congestion through adding capacity to highway which accommodates forecasted future travel demand in the US 24 corridor

¹ A description of the criteria used to screen these potential solutions can be found in **Appendix B** and are summarized in **Exhibit 2-3**.

119 Most of the problems and ideas posed by the public centered on US 24, and the public preferred
 120 solutions that focused on improving US 24. Few supported the solution of Reconstruct Local
 121 Streets or Improving Other Regional Routes. Although some of the solutions, such as
 122 Non-Motorized Technologies and Transportation Demand Management, could not resolve the
 123 capacity problem on US 24 by themselves, combining elements of these solutions with either the
 124 US 24 Freeway or the Midland Expressway solution was recommended.

125 The analysis determined that, by themselves, the following solutions failed to provide enough
 126 additional capacity in the study area to ensure acceptable travel conditions in the future:
 127 Non-Motorized Technologies, Transportation System Management, Transportation Demand
 128 Management, Flexible Transit Systems, Fixed Transit Systems, Reconstruct Local Streets, and
 129 Other Regional Routes. Therefore, each of these solutions as a stand-alone alternative would not
 130 meet the purpose and need for the project and all were eliminated from further consideration as
 131 alternatives.

132 **2.1.3 Step Three: Refine Potential Solutions to Become Alternatives**

133 The US 24 Freeway and the Midland Expressway solutions were found to reflect community
 134 values, were sensitive to environmental and community resources, and met the purpose and
 135 need for the project. **Exhibit 2-5** summarizes these findings.

EXHIBIT 2-5
 Alternatives¹

Alternatives	Screening Result
<p>Midland Expressway Alternative</p> <ul style="list-style-type: none"> – Four and six through-lanes, two or three in each direction, on US 24, acceleration/deceleration lanes for ramps and turn lanes at intersections, and remove direct access to US 24 at 14th Street – Cross section width varies 72 to 141 feet – Interchanges at I-25, 8th Street, 21st Street, and Manitou Avenue – Intersections at 26th Street and 31st Street – Overpass at Ridge Road – Posted speed 50 mph 	<p><input checked="" type="checkbox"/> Advanced as Proposed Action</p> <ul style="list-style-type: none"> • Balances local travelers’ needs and the needs of regional commuters with improved peak hour operations while still providing the connectivity needed by local travelers to destinations along US 24 • Is consistent with neighborhood context for an urban arterial • Maintains existing intersection at 26th Street, considered the gateway to Old Colorado City • Is preferred by the community
<p>US 24 Freeway Alternative</p> <ul style="list-style-type: none"> – Four through-lanes, two in each direction, on US 24, acceleration/deceleration lanes at each interchange, and remove direct access to US 24 at 14th Street – Cross section width varies from 72 to 96 feet – Interchanges at I-25, 8th Street, 21st Street, 31st Street, and Manitou Avenue – Overpasses at 26th Street and Ridge Road – Posted speed 55 mph 	<p><input type="checkbox"/> Not Advanced</p> <ul style="list-style-type: none"> • Does not provide the connectivity needed by local travelers to destinations along US 24 • Emphasizes regional mobility between Colorado Springs and the mountains with all grade-separated interchanges • Is not consistent with neighborhood context because it introduces continuous flow for regional trips and requires local travelers to reroute their trips to interchanges instead of intersections • Removes intersections at 26th Street, considered the gateway to Old Colorado City • Lacks community support

¹ A description of the criteria used to screen these potential solutions can be found in **Appendix B** and are summarized in **Exhibit 2-3**.

136 Transportation planners and traffic and roadway engineers evaluated all of the potential
 137 solutions to determine which ones, either individually or in combination, could meet the
 138 purpose and need. The two potential solutions carried forward from step two were scrutinized in
 139 step three by the project team and the TLT.

140 The most frequently mentioned problems and ideas offered by the community centered on
 141 US 24. However, reflecting the near-even balance between regional and local travelers
 142 mentioned in **Chapter 1, Purpose and Need**, perceptions varied widely about the nature of the
 143 problems and how to fix them. These differences between travelers were evaluated by the
 144 project team and taken into account as the US 24 Freeway and the Midland Expressway
 145 solutions were formed into two distinct stand-alone alternatives.

146 Regional travelers typically prefer a highway that allows for
 147 continuous travel at a constant, higher speed and has
 148 grade-separated interchanges rather than intersections. The
 149 US 24 Freeway Alternative was developed to reflect
 150 preferences of regional travelers.

Interchanges have a higher capacity than intersections, and are needed to efficiently handle large volumes of turn movements.

Interchanges remove traffic signals from the mainline of the highway, so the vehicle-carrying capacity for through trips is about 50 percent higher than signalized intersections.

151 In contrast, local drivers prefer frequent access to
 152 commercial and residential areas. Local drivers typically
 153 prefer slower speeds to ease entering and exiting the
 154 highway and signalized intersections rather than
 155 interchanges as a way to connect to their destinations. The
 156 Midland Expressway Alternative was developed to reflect preferences of local travelers.

157 **US 24 Freeway Alternative**

158 The US 24 Freeway Alternative would provide a high-capacity, free-flowing highway with an
 159 urban look and feel. The posted speed limit would be 55 mph.

160 The US 24 Freeway Alternative would include four through-lanes, two in each direction, with
 161 acceleration/deceleration lanes at each interchange. Intersections at 8th Street, 21st Street, and
 162 31st Street would be rebuilt as interchanges, and access to and from US 24 between I-25 and
 163 Manitou Avenue would be only at these interchanges. The existing at-grade access to US 24 at
 164 26th Street and Ridge Road would be removed and replaced with overpasses. The existing
 165 at-grade access to US 24 at 14th Street could be replaced with an overpass in the future, but is
 166 not part of the US 24 Freeway Alternative.

167 Two elements of other potential solutions that were eliminated as stand-alone alternatives were
 168 incorporated into the US 24 Freeway Alternative to enhance the alternative. First, it would
 169 complete the Midland Trail between 21st Street and 25th Street. Second, it would continue to
 170 accommodate the express bus service, currently called the Ute Express, operated by Mountain
 171 Metro Transit.

172 **Midland Expressway Alternative**

173 The Midland Expressway Alternative would provide a lower-speed highway with increased
 174 at-grade access for local travelers with a look and feel that is more like a local road than the
 175 US 24 Freeway Alternative. The posted speed limit would be 50 mph.

176 The Midland Expressway Alternative would include four through-lanes, two in each direction,
 177 along with directional interchange ramps and acceleration/deceleration lanes from I-25 west to
 178 21st Street. West of 21st Street, US 24 would include six through-lanes, three in each direction,
 179 with turn lanes. The additional through-lanes are needed to maintain adequate Level of Service
 180 (LOS) for the at-grade intersections. The intersections at 8th Street and 21st Street would be
 181 replaced with grade-separated interchanges, and the intersection at Ridge Road would be
 182 replaced with US 24 going over Ridge Road. Signalized intersections would remain at 26th Street
 183 and 31st Street. Community residents favored intersection upgrades over a new interchange at
 184 31st Street to minimize cut-through traffic in adjacent neighborhoods. Direct access to US 24 at
 185 14th Street and Ridge Road would be removed. The existing at-grade access to US 24 at 14th
 186 Street could be replaced with an overpass in the future, but is not part of the Midland
 187 Expressway Alternative.

188 Two elements of other potential solutions that were eliminated as stand-alone alternatives were
 189 incorporated into the Midland Expressway Alternative to enhance the alternative. First, it would
 190 complete the Midland Trail between 21st Street and 25th Street. Second, it would continue to
 191 accommodate the existing express bus service on US 24 for commuters operated by Mountain
 192 Metro Transit.

193 **Results of Step Three Refinement**

194 The criteria used to screen these alternatives are described in **Appendix B** and are shown in
 195 **Exhibit 2-3**.

196 After thorough evaluation of traffic operations and potential community effects, and based on
 197 public and agency comments, it was determined that the US 24 Freeway Alternative would be
 198 inconsistent with local connectivity needs. It was seen by local agencies and community residents
 199 as too urban for the area’s context and too focused on the needs of commuters and regional
 200 travelers. It would not provide the mobility and connectivity needed for all users, and would
 201 impair some characteristics that make the community unique. The US 24 Freeway Alternative
 202 would be more visually intrusive than the US 24 Expressway Alternative and would change the
 203 use and feel of the entryway access into Manitou Springs, the Old Colorado City Historic
 204 District, and the neighborhoods that surround US 24. Although a freeway would improve travel
 205 time for commuters and regional travelers, as well as relieve US 24 congestion, the US 24
 206 Freeway Alternative would not have sufficient benefits to outweigh the potential negative
 207 consequences. Therefore, this alternative was not advanced for further analysis in the EA.

208 The Midland Expressway Alternative best balances the needs of both local and regional travelers
 209 and meets the purpose and need by reducing congestion, improving mobility for local and
 210 regional trips, and maintaining connectivity to the multiple destinations along US 24. Therefore,
 211 the Midland Expressway Alternative was identified as the Proposed Action, and advanced for
 212 analysis in this EA.

213 **2.2 Description of the No Action Alternative**

214 In accordance with the National Environmental Policy Act of 1969 (NEPA), a No Action
 215 Alternative is included as a potential solution to provide a basis for comparison with any action
 216 alternative(s). For this reason, the No Action Alternative is advanced for analysis in an EA even
 217 though it does not meet the purpose and need.

218 The No Action Alternative, as shown in **Appendix A**, consists of existing transportation
 219 facilities and transportation projects committed to be built. These would be built by others, not
 220 by CDOT. The No Action Alternative would not make any changes to the existing US 24
 221 beyond the projects listed below. These projects are shown in existing adopted transportation
 222 plans and are not federally funded.

- 223 • **8th Street Intersection** – Lengthen turn lanes and acceleration and deceleration lanes on
 224 US 24 and widen 8th Street north and south of US 24. The bridge over Fountain Creek on
 225 8th Street would not be replaced.
- 226 • **21st Street Roadway** – Widen 21st Street south of US 24 to four through-lanes with
 227 dedicated turn lanes and extend acceleration lane. Some upgrades to the US 24 and
 228 21st Street intersection also would be built. The bridge over Fountain Creek on 21st Street
 229 would not be replaced.

- 230 • **Midland Trail** – Complete Midland Trail between 21st Street and 25th Street to unite the
 231 disconnected portions of the existing Midland Trail.

232 With the No Action Alternative, improvements to elements such as variable message signs
 233 would be implemented as part of the region’s existing congestion management program. Bus
 234 routes and service would continue as they are today, and bike and pedestrian facilities would be
 235 extended or upgraded as local funds and grants allow. CDOT would continue regular operations
 236 and maintenance along the US 24 corridor, with activities such as snow plowing, striping, and
 237 sign replacement.

238 **2.3 How the Community Helped Shape the Proposed Action**

239 Community residents and other partners played an important role in shaping the Proposed
 240 Action, including:

- 241 • Members of the community provided observations about their community’s context that
 242 they wanted considered during project implementation. These included unique features such
 243 as Fountain Creek and sensitive resources like the historic Midland Terminal Railroad
 244 Roundhouse.
- 245 • Business owners emphasized the importance of maintaining 26th Street, the gateway to Old
 246 Colorado City.
- 247 • Agency staff on the TLT provided suggestions on technical elements related to congestion
 248 relief.

249 A few specific examples of how the community helped shape the project are summarized in
 250 **Exhibit 2-6**. A complete description of the public involvement process is provided in
 251 **Chapter 5, Agency Coordination and Public Involvement**.

EXHIBIT 2-6
 How Community Ideas Shaped the Proposed Action

Ideas from the Community ¹	Element or Feature in Proposed Action
Improve major intersections to make them operate better and improve the ability for neighborhood traffic and pedestrians to cross US 24.	All intersections would be rebuilt to improve traffic operations for US 24 as well as the cross streets. Signalized intersections would provide adequate turn lanes and acceleration/deceleration lanes, and signals would be timed to provide uniform traffic progression for US 24. New interchanges at 8th Street and 21st Street would improve traffic flow for all movements at these locations. All intersections and interchanges would accommodate bicycles and pedestrians.
Do not destroy Fountain Creek.	A greenway master plan for this segment of Fountain Creek was developed in cooperation with the neighborhoods and various state and local partners that includes the construction and reconstruction of trails, habitat improvements, and other amenities (CDOT, 2007). CDOT would implement some improvements under the Proposed Action, while other entities would provide improvements that are within their authority as funds become available.
Do not touch the historic Midland Terminal Railroad Roundhouse.	The proposed interchange at 21st Street would avoid the Midland Terminal Railroad Roundhouse.

EXHIBIT 2-6

How Community Ideas Shaped the Proposed Action

Ideas from the Community ¹	Element or Feature in Proposed Action
Do not overload Colorado Avenue by moving traffic off US 24.	By improving traffic flow on US 24, commuters and regional travelers would be less likely to divert to Colorado Avenue as an alternate route around congested intersections.
Add a park-and-ride lot that could be used for both transit and off-site parking for neighborhood events.	Although not an element of the Proposed Action, a park and ride could be accommodated on CDOT right-of-way and may be built by others on the northeast corner of US 24 and 31st Street.
Elevate US 24 to go over Ridge Road to make it safer for trail users and wildlife to enter the Red Rock Canyon Open Space and provide a trail connection from Midland Trail to the Open Space.	US 24 would be elevated to go over Ridge Road, which would remain at ground level for easier access to the Open Space by non-motorized travelers and wildlife; Ridge Road would be reconstructed and would accommodate a connection from the Open Space to the Midland Trail.
Make bridges over Fountain Creek friendly for pedestrians, bikes, and horses.	Bridges and trails would be designed to accommodate these users.
Leave underpass at I-25 into America the Beautiful Park open to bikes and pedestrians.	Midland Trail underpass of I-25 would remain open and not be impacted by the Proposed Action.
Avoid encroaching into Fountain Creek near Safeway.	US 24 west of 31st Street would be shifted south to avoid impacting Fountain Creek south of Safeway.

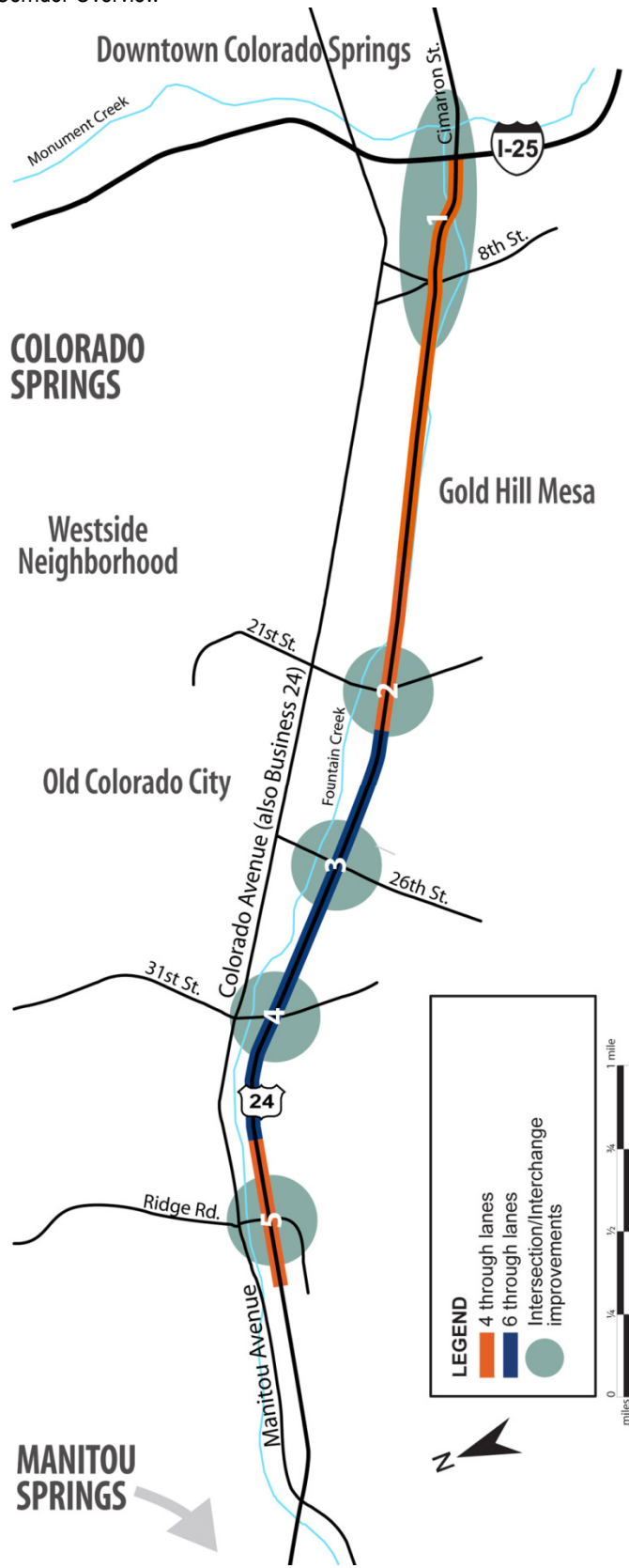
¹ Ideas from participants at Open House #3 on April 14, 2005; TLT meetings; project website; and telephone hotline.

252 **2.4 Description of the Proposed Action**

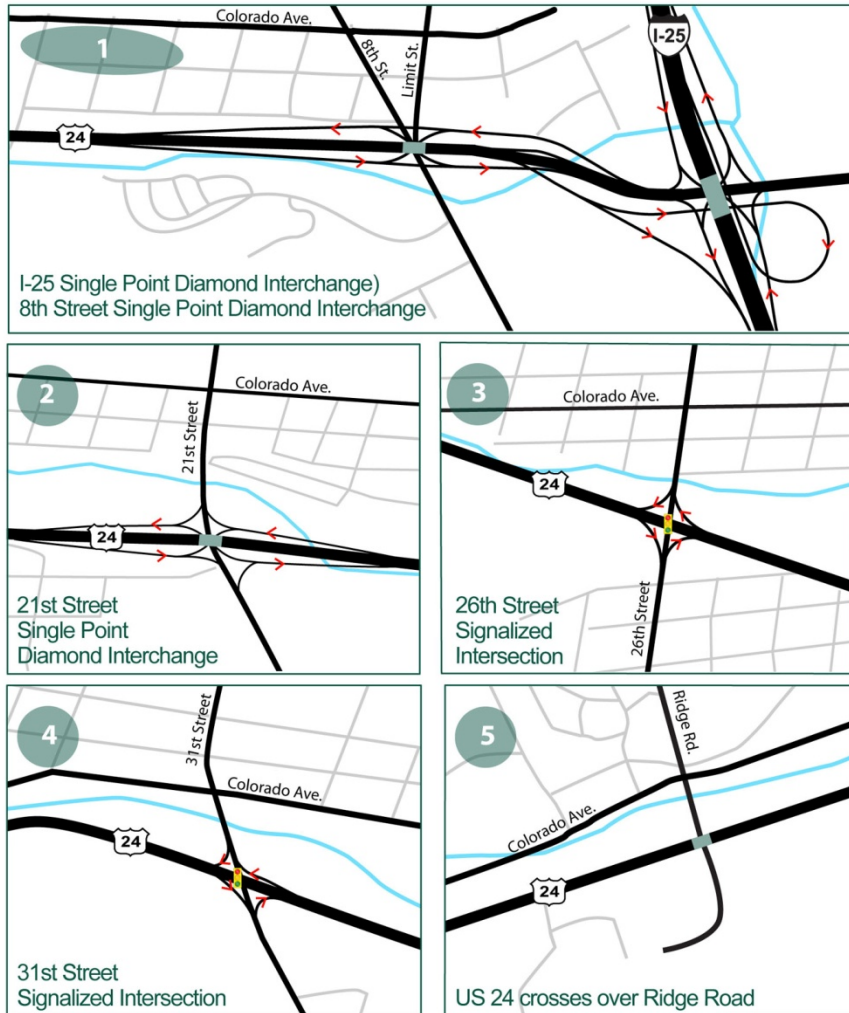
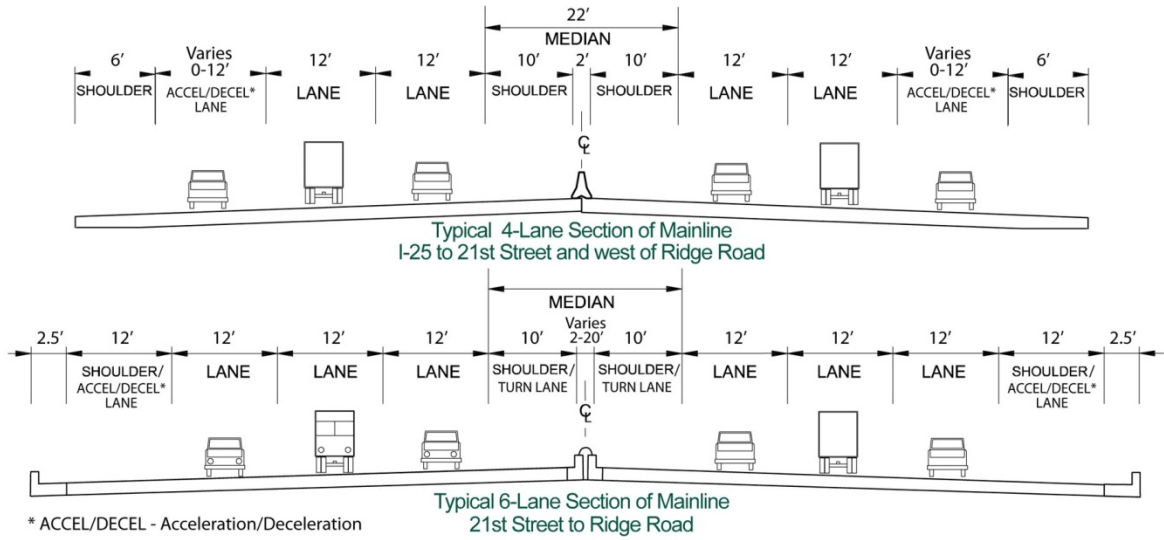
253 All features of the US 24 Proposed Action would be designed for 50 mph and meet or exceed
 254 American Association of State Highway and Transportation Officials (AASHTO) standards. The
 255 Proposed Action is shown in **Appendix A** and illustrated in **Exhibit 2-7** and **Exhibit 2-8**. The
 256 Proposed Action on the US 24 corridor includes the following elements:

- 257 • **Maintain four through-lanes** (two in each direction) **between I-25 and 21st Street**.
- 258 • **Add two through-lanes, between 21st Street and just west of Ridge Road**, for a total of
 259 six through-lanes (three in each direction).
- 260 • **Replace nine bridges on US 24 and cross streets** to accommodate the profile changes to
 261 US 24. Over Fountain Creek, these bridges would be built to comply with current state and
 262 local standards to reduce flooding hazards in the study area.
- 263 • **Due to replacement of the nine bridges, realign and widen Fountain Creek** at bridge
 264 crossings and locations where the roadway overlaps the existing channel to provide an
 265 armored low-flow channel and a widened stabilized area to accommodate the 100-year flood.

266 EXHIBIT 2-7
 267 Proposed Action – US 24 Corridor Overview



268 **EXHIBIT 2-8**
 269 Proposed Action – Typical Section, Design Details – NOT TO SCALE



- 270 • **Build single-point diamond interchange (SPDI) with a loop ramp for eastbound-to-**
 271 **northbound travel at US 24 and I-25.** This interchange design replaces the tight diamond
 272 interchange identified in the *I-25 Improvements through the Colorado Springs Urbanized Area EA*
 273 (CDOT, 2004a). Since that EA was approved, traffic forecasts and future traffic operations
 274 have been revised by the Pikes Peak Area Council of Governments (PPACG), making an
 275 SPDI design more efficient operationally.
- 276 • **Naegle Road from 21st Street to 25th Street would be closed because the intersection**
 277 **of 21st Street and Naegle Road is too close to the US 24 and 21st Street interchange.**
 278 There is inadequate room to provide a turn lane for vehicles at Naegle Road.
- 279 • **The existing 25th Street bridge over Fountain Creek would be removed because it**
 280 **would no longer connect to Naegle Road and, therefore, provide no function.** The
 281 existing 25th Street would be ended north of the Fountain Creek.
- 282 • **Replace the existing at-grade intersections with interchanges at 8th Street and at 21st**
 283 **Street,** which also includes directional interchange ramps and acceleration/deceleration
 284 lanes.
- 285 • **Upgrade the US 24 and 26th Street at-grade intersection,** which also includes left and
 286 right turn lanes.
- 287 • **Widen the intersection of US 24 and 31st Street. Widen the 31st Street and Colorado**
 288 **Avenue intersection.** South of US 24, 31st Street would be rebuilt to better align with the
 289 highway intersection.
- 290 • **Replace the existing at-grade intersection with an overpass that carries US 24 over**
 291 **Ridge Road.** Ridge Road would be widened between High Street and Colorado Avenue and
 292 improvements would be made to the Ridge Road and Colorado Avenue intersection.
- 293 • **All improvements tie into the unimproved, existing US 24 approximately 1,800 feet**
 294 **west of Ridge Road.** Because neither existing nor future congestion is a problem between
 295 Ridge Road and Manitou Avenue, no changes to US 24 are proposed west of Ridge Road.
- 296 • **Build sidewalks on the north-south cross streets** at all intersections and as a part of all
 297 interchanges.
- 298 • **Connect the Midland Trail from 21st to 25th Street,** with north-south trail connections at
 299 each of the interchanges and intersections along the US 24 corridor. The trail would be built
 300 to meet the City of Colorado Spring’s trail design standards and to allow clearance under the
 301 bridges for bicycle, pedestrian, and equestrian crossings. Completing this east-west bicycle
 302 and pedestrian trail system was an opportunity resulting from the required roadway right-of-
 303 way acquisitions and the channel re-grading required by the bridge replacements. The trail
 304 would improve pedestrian and bicycle mobility in the study area and is consistent with
 305 community planning.
- 306 • **Incorporate Transportation System Management** elements such as signal timing, turn
 307 lanes, and consideration for transit stops.

308 The Proposed Action also includes various environmental mitigation measures such as
 309 enhancements to park and recreation resources, noise barriers, and permanent water quality
 310 features such as stormwater detention/treatment ponds. These are discussed in more detail in
 311 **Chapter 3, Affected Environment and Environmental Consequences.**

312 A detailed illustration of the Proposed Action is included in **Appendix A.**

313 2.5 Project Implementation

314 During the planning of the US 24 corridor, the original scope was for US 24 to connect to I-25
 315 as developed in the *I-25 Improvements through the Colorado Springs Urbanized Area EA*
 316 (CDOT, 2004a). With input from stakeholders, the US 24 project revisited the interchange type
 317 at I-25, and is proposing a change in interchange type. Because the original planning for the I-25
 318 interchange was completed separately, funding for I-25 was identified separately from the
 319 funding for US 24.

320 The estimated cost of the Proposed Action is currently included in the adopted, fiscally
 321 constrained PPACG *Moving Forward – 2035 Regional Transportation Plan (RTP)* (PPACG, 2008a).
 322 Included in the RTP is \$460 million identified in inflated, years-of-expenditure dollars for the
 323 US 24 corridor from 8th Street west to Manitou Avenue.

324 The US 24/I-25 interchange is included separately in the RTP. In years-of-expenditure dollars,
 325 \$125 million has been identified for its completion.

326 The RTP assumes that the Proposed Action would not be built all at once, but in several
 327 segments over several years, as funding becomes available. Funding is currently identified in the
 328 PPACG *Transportation Improvement Program (TIP)* (PPACG, 2008b), a plan for expenditures over
 329 the next 5 years, to begin final design activities for the 8th Street and US 24/I-25 interchanges,
 330 as soon as FHWA finalizes their decision on this EA. Funding in the TIP is listed as \$3 million
 331 for fiscal year 2013, \$10 million for fiscal year 2016, and \$3 million for fiscal year 2017.

332 For purposes of comparing US 24 alternatives, estimated costs were developed in 2011 dollars.
 333 The total estimated cost of the Midland Expressway Alternative (not including the I-25
 334 interchange) is \$230 million for construction and \$50 million for right-of-way. The total
 335 estimated cost of the US 24/I-25 Interchange is \$87 million for construction and \$8 million for
 336 right-of-way.

337 To facilitate implementation of the entire project, the US 24 corridor has been broken into
 338 construction packages that can be built independently and, upon completion, provide immediate
 339 benefits to the community. These packages are shown in **Exhibit 2-9**.

340 Future funding would be the major determining factor in deciding when each of the
 341 construction packages would be implemented. However, the 8th Street and US 24/I-25
 342 interchanges are the highest priority on the US 24 corridor because this complex serves both
 343 local and regional motorists, and currently experiences the most congestion.

344 The Proposed Action has been designed to a planning level of detail, allowing engineers and
 345 planners to investigate the environmental impacts and the costs. The future design and
 346 construction of any package could be delivered as a traditional design-bid-build package,
 347 design-build contract, or any other alternative delivery option.

348 2.6 Options not Precluded by the Proposed Action

349 The following features were considered but are not included as a part of the Proposed Action.
 350 They may be built by others in the future and are not precluded by the Proposed Action. These
 351 features are not presently in an approved long-range plan.

- 352 • **At 15th Street**, an overpass is proposed to carry 15th Street over US 24 and Fountain Creek,
 353 and connect to the local street networks of Old Colorado City and Gold Hill Mesa. This

- 354 overpass would include ramps on the east side to connect to 8th Street at its interchange
355 with US 24.
- 356 • **At Ridge Road**, ramps providing direct access to US 24 are proposed to convert the
357 overpass included in the Proposed Action to an interchange. The ramps would be built by
358 the local municipalities on right-of-way owned by CDOT.
 - 359 • **At 31st Street**, a park and ride facility is proposed in the northeast quadrant of the
360 intersection, with access from Colorado Avenue. The facility would be built by Mountain
361 Metro Transit on right-of-way to be acquired by CDOT under the Proposed Action for
362 roadway improvements.
 - 363 • **South of US 24**, a trail is proposed along Fountain Creek between 8th Street and 21st Street.
364 The facility would also serve as maintenance access to the creek on right-of-way owned or in
365 easements held by CDOT and the local municipalities.
 - 366 • **Additional work to Fountain Creek**, such as constructing retaining walls or flood walls,
367 could be completed in the future, reducing the risk of flooding to any residential and
368 commercial properties still remaining within the floodplain boundary. Another future option
369 would be to purchase property remaining within the floodplain; Pre-Disaster Mitigation
370 funds for programs of this type are available annually from the Colorado Division of
371 Emergency Management. These funds do not require a disaster declaration and could be
372 requested by the City of Colorado Springs or El Paso County.

373 EXHIBIT 2-9
374 Construction Packages

