

1 Chapter 3 – Affected Environment and 2 Environmental Consequences

3 The United States Highway 24 (US 24) West Environmental Assessment (EA) follows the intent
4 of the National Environmental Policy Act of 1969 (NEPA) by concentrating on the issues that
5 are truly relevant to the Proposed Action, rather than “amassing needless detail” (Title 40 of the
6 Code of Federal Regulations [CFR] Part 1500.1[b]). For each environmental resource typically
7 included in a Colorado Department of Transportation (CDOT) NEPA study, the project team
8 collected and evaluated environmental data, determined the presence/absence of each resource,
9 its distribution, and the relative importance of the resource in the study area. The assessment of
10 environmental issues consisted of a team of resource specialists conducting field reconnaissance
11 site visits; evaluating published reports, plans, and studies; discussing the study with
12 knowledgeable individuals; and/or reviewing secondary data such as United States Census
13 Bureau data. These findings were discussed with agency staff and the Technical Leadership
14 Team (TLT), and presented at public meetings to determine if any issues important to the public
15 or resource agencies had been omitted or overlooked.

16 Documentation of the assessment of each
17 resource is provided in detailed technical
18 memoranda that have been summarized in this
19 chapter. See **Appendix C** for detailed graphics
20 and information. The analysis presented in this
21 chapter is organized to focus on important
22 issues identified through the evaluation process.
23 Transportation resources are analyzed first, and
24 then resources are discussed in descending
25 order of expected degree of environmental
26 effect. Each section evaluates the potential
27 effects to environmental resources. Mitigation
28 and permitting for each resource are also
29 discussed.

30 A discussion of potential cumulative impacts
31 from the Proposed Action, and other past,
32 present, and future projects, follows the
33 resource-specific sections. Cumulative impacts
34 can result from individually minor but
35 collectively significant actions taking place over time.

36 This chapter concludes with a summary of impacts of both the No Action Alternative and
37 Proposed Action, and mitigation that would be implemented under the Proposed Action.

- 3.1 *Transportation Resources*
- 3.2 *Floodplains*
- 3.3 *Right-of-Way*
- 3.4 *Historic Properties*
- 3.5 *Parks, Trails and Recreation Resources*
- 3.6 *Traffic Noise*
- 3.7 *Social Resources*
- 3.8 *Environmental Justice*
- 3.9 *Land Use*
- 3.10 *Hazardous Materials*
- 3.11 *Water Quality*
- 3.12 *Wetlands and Waters of the US*
- 3.13 *Other Resources*
- 3.14 *Cumulative Impacts*
- 3.15 *Summary of Project Impacts*

3.1 Transportation Resources

3.1.1 Traffic Conditions

US 24 is an urban principal arterial from Interstate 25 (I-25) west to Manitou Avenue. East of 8th Street, US 24 provides three through-lanes in each direction with ramps connecting to I-25. West of 8th Street, US 24 has two through-lanes in each direction with auxiliary acceleration and deceleration lanes for all right turns. Six intersections provide access to local streets between the interchanges – 8th Street, 14th Street (right-in, right-out for westbound traffic), 21st Street, 26th Street, 31st Street, and Ridge Road. Each intersection provides single right and left turn lanes, with the exception of a double left turn at 8th Street for the westbound-to-southbound and northbound-to-westbound movements. Additionally, there are no right turn lanes for northbound-to-eastbound turns at 26th Street and 31st Street. Beyond Manitou Springs, west of the study area, US 24 remains a four-lane highway.

Although the peak hours vary slightly by segment, traffic counts collected for the study indicate that the morning peak hour is between 7 a.m. and 8 a.m., and the evening peak occurs between 4 p.m. and 5 p.m. These times are consistent with typical peak hours in urban areas. Fairly high noon peak traffic was also observed, presumably due to the surrounding commercial development. However, this noon peak hour was not analyzed.

The highest peak hour volumes in the study area are experienced between the I-25 interchange and 8th Street. At the I-25 interchange, more vehicles from the study area access southbound I-25 than northbound I-25. The substantial turn volumes to southbound 8th Street are consistent with the destinations south of US 24, which include retail and housing. Midway along the study area, 21st Street is a major access point to the south. At the west end of the study area, 31st Street is an important access point from the north.

Just north of US 24 on 21st Street is an intersection with Naegle Road. This intersection is too close to the US 24 and 21st Street intersection, resulting in turning vehicles at both intersections overlapping and interfering with the operations of the other intersection.

On US 24, the heaviest existing traffic volumes are eastbound in the morning peak hour and westbound in the evening peak hour. Much of the US 24 traffic enters and exits the study area west of the Manitou Avenue interchange and remains on US 24, suggesting that US 24 carries a large number of regional trips. Through the US 24 corridor, during the peak period in the peak direction, heavy trucks represent from 0.5 percent to 3.1 percent of the traffic.

As described in **Chapter 1, Purpose and Need**, this segment of US 24 cannot handle current traffic volumes, and the resulting congestion is unacceptable today and is forecasted to get worse in the future. Level of Service (LOS) D is the standard of acceptable performance for City of Colorado Springs and CDOT, and was adopted as the standard for this study by the TLT. In the morning peak hour, the US 24 intersections with 8th Street and 21st Street operate at an unacceptable LOS F. In the evening peak hour, both intersections operate at an unacceptable LOS E. At the Ridge Road intersection, the overall intersection operates at LOS A because vehicles on US 24 do not stop here. However, the trips on Ridge Road generated from the Red Rock Canyon Open Space and the neighborhood south of US 24 operate at LOS F in the existing peak hours.

79 Currently, at most major intersections along the US 24 corridor, the excessive traffic delay
80 results in significant queuing. Queues form at the US 24 and northbound I-25 ramp intersection
81 in both the morning and evening peak hours. Often, these lengthy queues extend well up the
82 off-ramp onto mainline I-25. At 8th Street, the excessive eastbound delay results in queuing in
83 both the morning and evening peak hours with the morning peak hours being worse than the
84 evening peak hours. Also, queues at both the southbound left turn lane and northbound right
85 turn lane exceed available storage capacity. This causes turning vehicles to queue into the
86 through-lanes and results in congestion for the non-turning vehicles. The intersection of US 24
87 and 21st Street has significant queuing on all approaches, which is exacerbated by the close
88 proximity to the Naegle Road intersection on the north leg of 21st Street. Consistent with the
89 peak hour traffic volumes, the worst queuing occurs eastbound in the morning and westbound
90 in the evening. Both the eastbound through-movement and southbound left turn movement at
91 the intersection of US 24 and 26th Street experience lengthy queues. At 31st Street, both the
92 eastbound and westbound through-movements have significant queues and the eastbound left
93 turn queues often exceed available storage, spilling into the eastbound through-lanes. As queues
94 and resulting delays increase, drivers are more likely to reroute onto neighborhood streets
95 looking for a shorter route.

96 Detailed discussion of transportation conditions and local and regional traffic analyses are
97 documented in the *Traffic Impact Analysis Technical Memorandum* (CH2M HILL, 2008a) in
98 **Appendix C.**

99 **3.1.2 Transit Operations**

100 Bus service is operated by Mountain Metro Transit, a division of the City of Colorado Springs.
101 This service operates in the study area along Colorado Avenue, 8th Street, 21st Street, and other
102 city streets. Four Mountain Metro Transit routes currently operate in the US 24 corridor and
103 these routes change occasionally:

- 104 • **Route 3** – Travels along Colorado Avenue to connect Manitou Springs with downtown
105 Colorado Springs. Route 3 carries among the highest number of riders in the Mountain
106 Metro Transit system.
- 107 • **Route 4** – Travels along 8th Street to connect the Broadmoor Resort with downtown
108 Colorado Springs.
- 109 • **Route 14** – Travels the far-east end of Colorado Avenue to connect areas north of the study
110 area with downtown Colorado Springs.
- 111 • **Route 16** – Travels along Colorado Avenue, 21st Street, and 26th Street to connect
112 neighborhoods north of the study area with downtown Colorado Springs.

113 Ute Pass Express provides regional bus service between downtown Colorado Springs and
114 mountain communities west of Manitou Springs, and does not have stops on US 24. Ute Pass
115 Express is a public transit service introduced to improve mobility options and reduce traffic
116 congestion along US 24. This service is funded by a federal Congestion Mitigation and Air
117 Quality demonstration grant, and 2011 is the last year in a 3-year grant. Private bus service in the
118 study area is provided by casinos to their Cripple Creek businesses.

119 3.1.3 Bicycle and Pedestrian Facilities

120 Sidewalks exist along most city streets in the study area, although they are inconsistent in size,
 121 quality, and condition. Pedestrian movement across US 24 is facilitated by pedestrian signals and
 122 crosswalks. Anecdotal evidence indicates some pedestrians cross US 24 at locations between
 123 intersections. Trails within the study area are used by commuters going into downtown
 124 Colorado Springs and recreational users accessing America the Beautiful Park, Red Rock Canyon
 125 Open Space, and other local parks. Several trails intersect the study area and are shown in
 126 **Exhibit 3-1:**

- 127 • **Midland Trail** – Runs east-west on the north side of US 24 from east of I-25 to 21st Street.
 128 At this point, there is a 4-block gap and the Midland Trail begins again at 25th Street,
 129 continuing west to Ridge Road. A short segment has been constructed on the north side of
 130 Colorado Avenue between Columbia Road and Mustang Field. On the east, the Midland
 131 Trail connects to the Pikes Peak Greenway via an underpass of I-25 south of Colorado
 132 Avenue.
- 133 • **Bear Creek Trail** – Runs east-west south of the study area and connects to the Pikes Peak
 134 Greenway via an underpass of I-25 south of the US 24 and I-25 interchange.
- 135 • **Pikes Peak Greenway** – Runs north-south along Monument Creek and Fountain Creek
 136 east of I-25.
- 137 • **Foothills Trail** – Runs north-south on 31st Street.

138 3.1.4 Impacts of the No Action Alternative

139 Traffic Conditions

140 The existing configuration of US 24 and its cross streets cannot accommodate existing traffic
 141 volumes. By 2035, traffic volumes in the study area are forecasted to increase on average
 142 45 percent over 2005 conditions (CH2M HILL, 2008a). As a result of increased traffic volumes,
 143 LOS would deteriorate further, with most locations in the study area operating at LOS E or
 144 LOS F in the evening peak travel hour, as shown in **Exhibit 3-2**.

145 Heavy traffic on US 24 would cause most cross-street intersections to operate at unacceptable
 146 LOS during peak hours. Due to the congestion on US 24 and operational inefficiencies of the
 147 I-25 interchange, the northbound ramps would operate at unacceptable LOS and cause traffic to
 148 back up onto the interstate during peak periods.

149 Increasing congestion would cause longer travel times through the study area and result in more
 150 cut-through traffic as drivers seek to escape the overcrowded roadways.

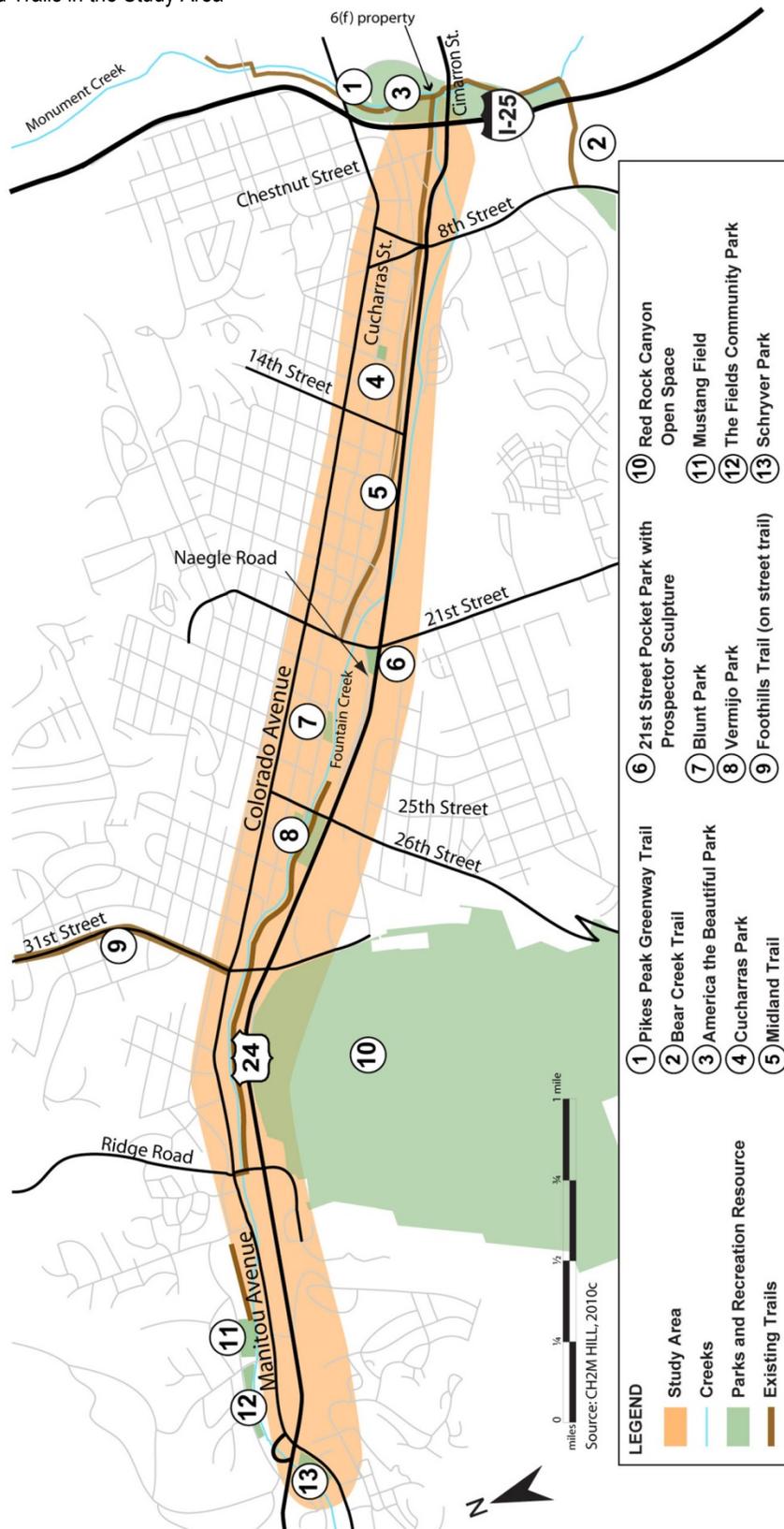
151 Transit Operations

152 Connections to bus service in the study area may remain unchanged or may be altered according
 153 to Mountain Metro Transit plans and funding. Continued congestion at US 24 intersections
 154 could affect the timeliness of bus service and could affect timely transfers between bus routes.

155 Bicycle and Pedestrian Facilities

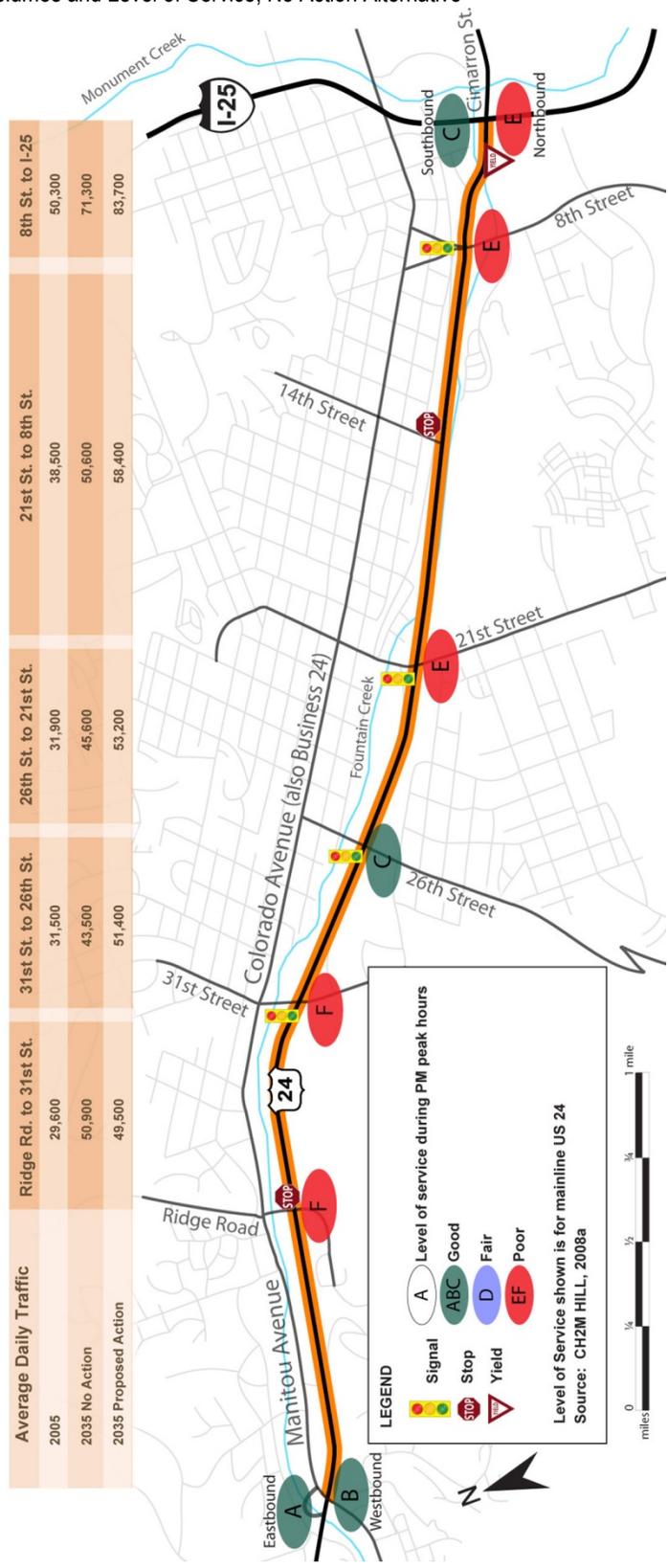
156 Local sponsors plan improvements to trails as funding becomes available. Connecting the
 157 Midland Trail between 21st Street and 25th Street along Fountain Creek is one planned trail
 158 improvement. Completing this east-west trail system would increase mobility for bicyclists and
 159 pedestrians, and would improve connectivity to other local and regional trails.

160 EXHIBIT 3-1
 161 Existing Parks and Trails in the Study Area



162
163

EXHIBIT 3-2
Forecasted 2035 Traffic Volumes and Level of Service, No Action Alternative



164 3.1.5 Impacts of the Proposed Action

165 Traffic Conditions

166 By 2035, traffic volumes in the study area with the
 167 Proposed Action are forecasted to increase on average
 168 65 percent over 2005 conditions (CH2M HILL, 2008a).
 169 The Proposed Action would increase volumes above the
 170 No Action Alternative as a result of latent demand. Latent
 171 demand represents travel that is desired but rerouted
 172 because of constraints. Drivers desiring to travel on US 24,
 173 but currently traveling on adjacent routes such as Colorado
 174 Avenue or 31st Street, would shift back to traveling along
 175 US 24 under the Proposed Action because of its increased
 176 capacity and improved traveling conditions.

177 Under the Proposed Action, traffic operations would be
 178 improved over No Action Alternative conditions for
 179 nearly all of the study area. Forecasted average daily traffic
 180 volumes and LOS during the evening peak hour are shown
 181 in **Exhibit 3-3**.

182 The single-point diamond interchange (SPDI) proposed at
 183 the I-25 interchange would eliminate the tight curve and
 184 low speeds of the existing interchange design. Ramp acceleration and deceleration lengths would
 185 be increased to meet current design standards, reducing the potential for slowdowns in through-
 186 lanes on US 24. The interchange ramps between 8th Street and I-25 would be connected to
 187 allow continuous flow of traffic between the two interchanges, improving traffic operations in
 188 these areas. Flyover ramps at the I-25 interchange would allow travelers eastbound on US 24 to
 189 access I-25 without stopping at either the 8th Street or I-25 interchanges. Removing this regional
 190 traffic provides substantial improvement to traffic operations to the intersection on 8th Street.

191 The existing right-in/right-out at 14th Street intersection would be removed because this access
 192 point would interfere with the interchange ramp movements at both 21st Street and 8th Street.

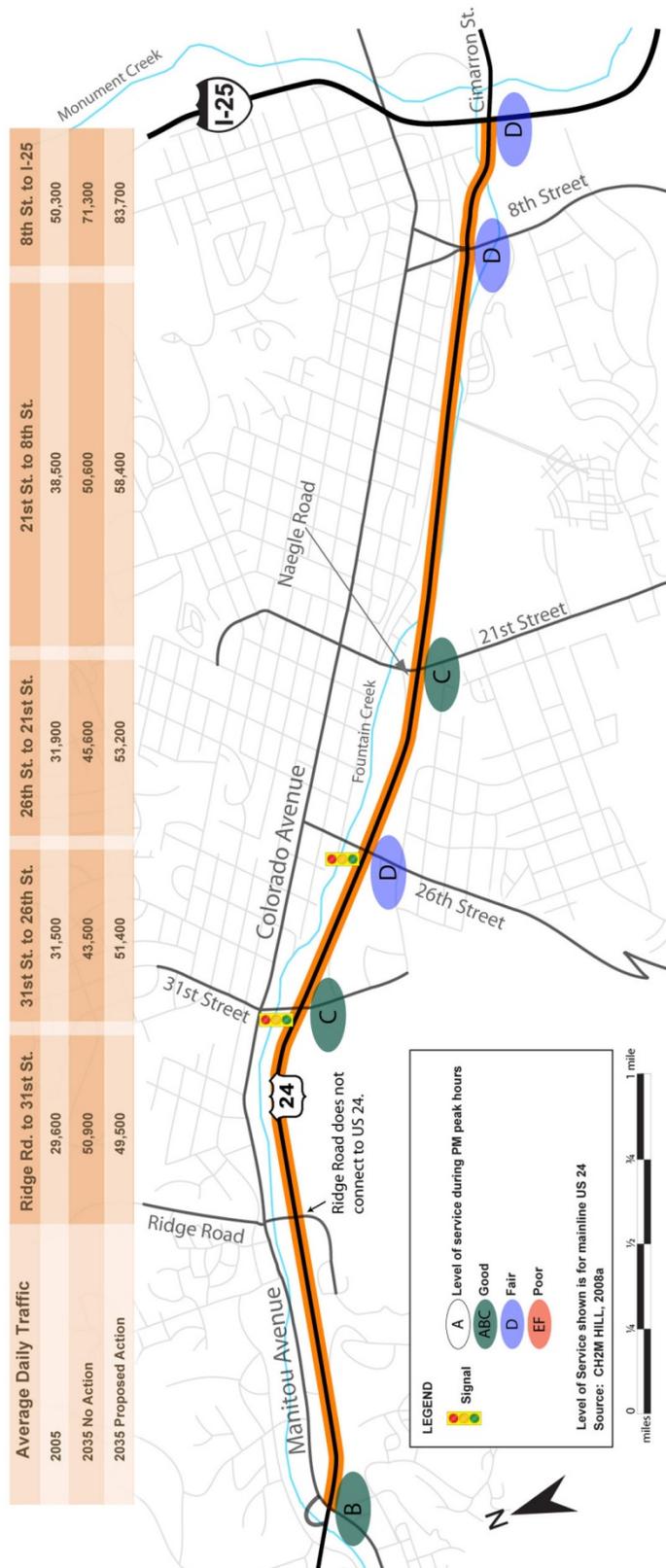
193 Naegle Road from 21st Street to 25th Street would be closed because the intersection of
 194 21st Street and Naegle Road is too close to the US 24 and 21st Street interchange. There is
 195 inadequate room to provide a turn lane for vehicles at Naegle Road.

196 The existing 25th Street bridge over Fountain Creek would be removed because it would no
 197 longer connect to Naegle Road and, therefore, would provide no function. The existing
 198 25th Street would be ended north of the Fountain Creek.

Traffic conditions in the year 2035 were forecasted using the PPACG regional travel demand model. This regional model is a robust database of future land use characteristics, expected future roadway network improvements, planned transit operations, and travel behavior.

The model considers anticipated land use changes and takes into account travel patterns likely to result from planned activities in the study area, such as development of Gold Hill Mesa and other infill development.

199 **EXHIBIT 3-3**
 200 Forecasted 2035 Traffic Volumes and Level of Service, Proposed Action



201 Traffic accessing the Red Rock Canyon Open Space or leaving the neighborhood on the south
202 side of US 24 would be rerouted, accessing Ridge Road from Colorado Avenue because Ridge
203 Road would be removed as an at-grade intersection and replaced with US 24 going over Ridge
204 Road with no direct access from US 24.

205 Traffic modeling suggests that congestion is not a problem at the Manitou Avenue interchange
206 in 2035; therefore, no highway capacity improvements are recommended west of Ridge Road.

207 **Transit Operations**

208 The Proposed Action would continue to accommodate express bus service on US 24 for
209 regional travelers and existing bus service on city streets for local travelers. The Proposed Action
210 would enhance transit operations in the study area by providing land for a new park and ride,
211 which would be built by others, at the northeast corner of US 24 and 31st Street.

212 Increased capacity on US 24 would improve bus operations on Colorado Avenue and
213 surrounding roads, and help maintain the timeliness of bus service and transfers between bus
214 routes.

215 Construction could temporarily impact bus stops for transit routes that cross US 24, if detours
216 or lane closures are required.

217 **Bicycle and Pedestrian Facilities**

218 Sidewalks would be constructed along each of the US 24 cross streets, including Ridge Road,
219 31st Street, 26th Street, 21st Street, and 8th Street, connecting pedestrians to the north and
220 south of US 24.

221 The segment of the Midland Trail that crosses under I-25 north of the US 24/I-25 interchange
222 would not be impacted by the Proposed Action. The Midland Trail from 8th Street to
223 approximately 11th Street would require realignment to accommodate the US 24 road
224 improvements. The Proposed Action would reconstruct the affected portion of the trail and no
225 permanent change in the function or continuity of the trail would occur. At the US 24 cross
226 streets of 21st Street, 26th Street, 31st Street, and Ridge Road, the bridges would be replaced,
227 causing a temporary construction impact to the trail in the vicinity of each bridge. No long-term
228 impacts at these four locations are expected and trail continuity would be maintained during
229 construction.

230 A segment of the Foothills Trail, an on-street trail along 31st Street, would be temporarily
231 impacted by roadway construction.

232 The grade separation at Ridge Road and US 24 would change the pedestrian and bicycle access
233 to the Red Rock Canyon Open Space. With US 24 being raised over Ridge Road, bicycles and
234 pedestrians would no longer be able to access the Red Rock Canyon Open Space from US 24.

235 Completing this east-west trail system would increase mobility for bicyclists and pedestrians, and
236 would improve connectivity to other local and regional trails by expanding the trail network.

237 **Construction**

238 Construction phasing has not yet been developed in detail. If lanes are closed on US 24 and/or
239 major side streets during construction, congestion in and surrounding the construction area
240 would increase during times of lane closures. This increased congestion could temporarily
241 increase traffic volumes on other roadways (such as Colorado Avenue or 31st Street) as drivers
242 find other travel routes to avoid construction congestion.

243 If road closures are required on any facilities, detours would be implemented that would
 244 temporarily increase traffic volumes on adjacent neighborhood streets and parallel facilities.

245 Lane closures, detours, and increased congestion during construction would cause delays for the
 246 traveling public and inconvenience to residents in the area. Increased congestion in the study
 247 area could also delay buses and affect timely transfers between bus routes.

248 During construction, closure, or rerouting of existing sidewalks/trails may cause out-of-direction
 249 pedestrian and bicycle travel.

250 **3.1.6 Mitigation**

251 CDOT will construct a cul-de-sac on 25th Street south of Vermijo Avenue.

252 CDOT will construct an on-street trail on Ridge Road from Colorado Avenue south to Red
 253 Rock Canyon Open Space.

254 CDOT will work with Mountain Metro Transit to ensure access is maintained to bus stops on
 255 26th Street during construction.

256 CDOT will realign and reconstruct the Midland Trail between 8th Street and 11th Street.

257 CDOT will maintain the safety of the Midland Trail users by temporarily relocating the trail at
 258 21st Street, 26th Street, 31st Street, and Ridge Road during construction of the bridges over
 259 Fountain Creek. New permanent trail will be constructed as part of each bridge improvement.
 260 The new segments will go under each bridge in the vicinity of where they are currently located.

261 CDOT will place signs along the Midland Trail notifying users that the trail is in the 100-year
 262 floodplain.

263 CDOT will reconstruct the on-street trail of the Foothills Trail on 31st Street in its current
 264 location.

265 CDOT will collaborate with City of Colorado Springs Parks, Recreation & Cultural Services
 266 Department (or Trails, Open Space & Parks program [TOPS], as appropriate) on the alignment
 267 and design of trails to be constructed, and build all trails to comply with adopted City of
 268 Colorado Springs Parks, Recreation & Cultural Services Department plans.

269 CDOT will develop a traffic control plan during final design that details strategies to minimize
 270 traffic disruption from construction activities.

271 Construction phasing and other activities will be planned to minimize the impact to the traveling
 272 public, area residents, businesses, and emergency service providers. CDOT will develop a Public
 273 Information Plan during construction that will provide coordination with stakeholders, including
 274 the community, Colorado State Patrol, Colorado Springs Police, Manitou Springs Police, and
 275 Colorado Motor Carriers Association. Any lane closures during construction will comply with
 276 CDOT's Lane Closure Strategy. Advance notice will be provided for extended lane closures.
 277 Detours for vehicles, bicycles, and pedestrians will be identified with adequate signage to
 278 minimize out-of-direction travel.

279 3.2 Floodplains

280 Executive Order 11988, “Floodplain Management,” requires federal agencies to avoid impacts to
281 floodplains whenever possible. Federal Highway Administration (FHWA) requirements for
282 compliance with this Executive Order are outlined in 23 CFR 650, Subpart A.

283 Floodplains are the lands beside a stream or river that are inundated when the capacity of the
284 stream channel is exceeded. A 100-year floodplain is the area that would be flooded by a storm
285 estimated to occur once in 100 years. Changes in the floodplain, such as adding fill material,
286 constructing buildings or bridges, or constricting the stream
287 channel, can reduce the capacity of a floodplain and cause the
288 water surface elevation to rise. Any change greater than a
289 1-foot increase over the Base Flood Elevation would be
290 considered an impact to the floodplain, and mitigation would
291 be necessary.

Nearly all of US 24 east of
31st Street is in the 100-year
floodplain of Fountain Creek
and its tributaries.

292 More than two-thirds of US 24 in the study area is in the Fountain Creek 100-year floodplain
293 designated by the Federal Emergency Management Agency (FEMA). The Pikes Peak Regional
294 Building Department's Floodplain Management Office provides floodplain management services
295 for Colorado Springs, Manitou Springs, and unincorporated El Paso County.

296 Regulatory requirements and design criteria guided the development of the Proposed Action; if
297 conflicts or contradictions occurred, the most conservative or restrictive standard was applied.
298 Specific design criteria are summarized below.

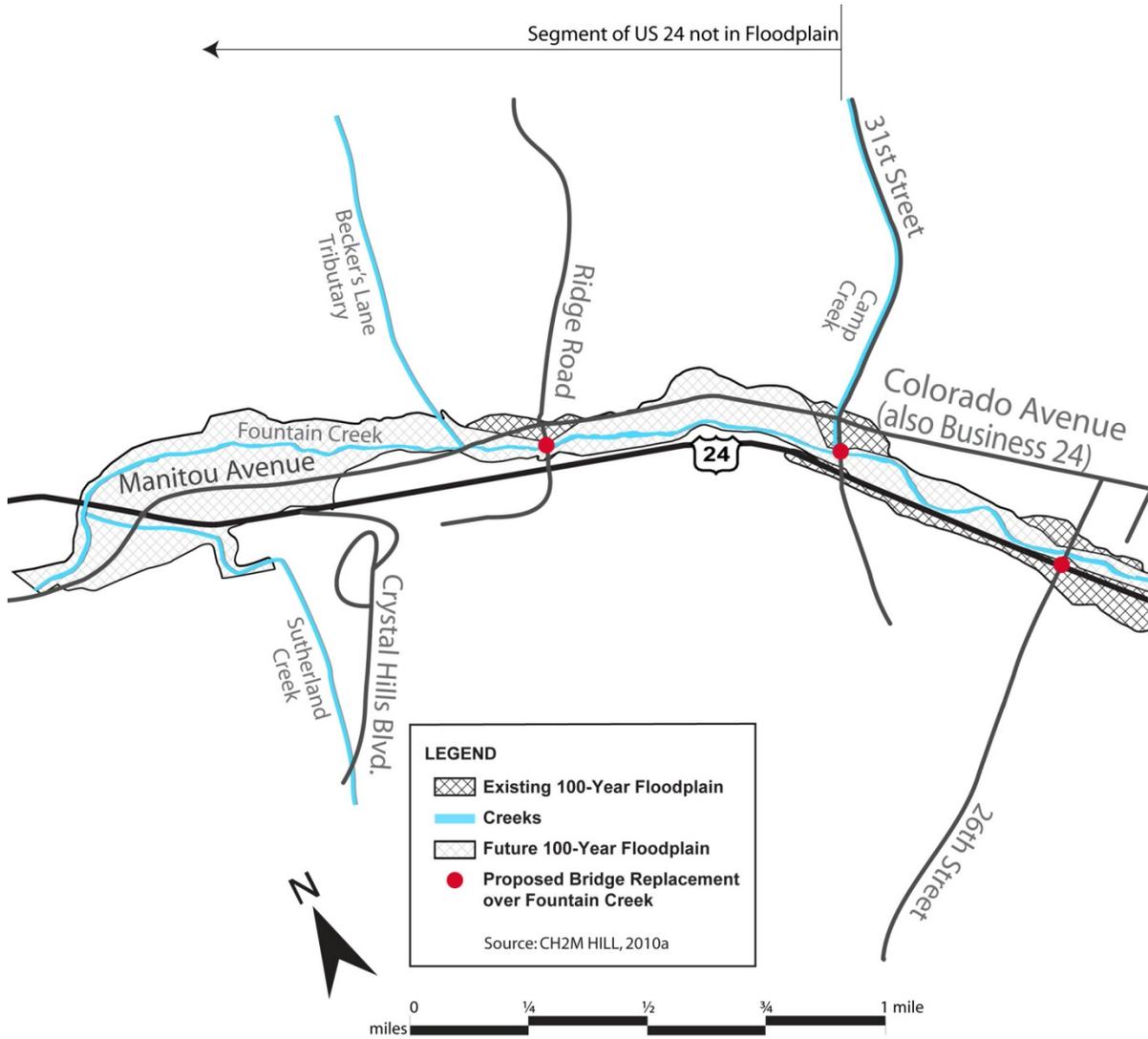
- 299 • **CDOT** – Bridges must comply with the department’s *Drainage Design Manual*
300 (CDOT, 2004b). The current minimum requirement is that during a 100-year flood, the
301 water surface would be no less than 4 feet below the bottom of the bridge girders.
- 302 • **El Paso County** – The floodplain administrator recommends that projects not increase the
303 100-year floodplain water surface elevation.
- 304 • **City of Colorado Springs** – The current standard is that during a 100-year flood, the water
305 surface would be no less than 2 feet below the bottom of the bridge girders.

306 Fountain Creek has been the subject of several recent floodplains studies. Muller Engineering
307 (1994) estimated peak flow rates; FEMA (1999) developed computer models of water surface
308 elevations; and URS (2005) revised estimated peak flow rates in a study for United States Army
309 Corps of Engineers (USACE) based on new hydrology. The URS model (2006) is the most
310 current accepted model for Fountain Creek in the study area, and was the basis for this analysis.

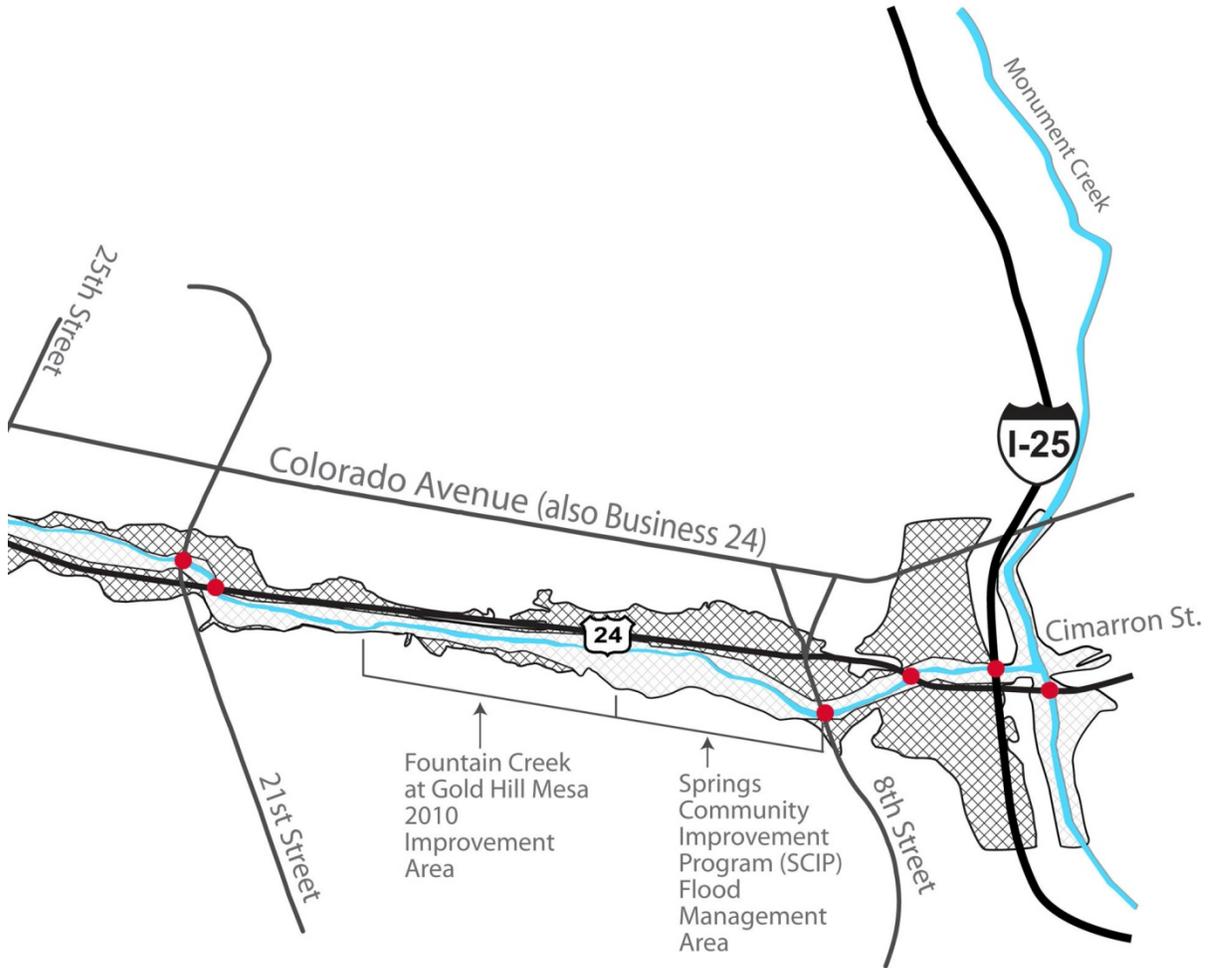
311 Regulated floodplains are associated with five streams in the study area: Fountain Creek,
312 Monument Creek, Camp Creek, Becker’s Lane Tributary, and Sutherland Creek. These features
313 and the current floodplains are shown in **Exhibit 3-4**. To show detail, the graphic is presented
314 on two pages.

315 Fountain Creek parallels US 24 from I-25 to Manitou Springs, with US 24 crossing over
316 Fountain Creek in two locations. Within the study area, every north-south street intersection
317 with US 24 has a bridge over Fountain Creek. The bridges crossing Fountain Creek at 8th Street,
318 21st Street, 25th Street, 26th Street, 31st Street, and Ridge Road do not currently accommodate
319 the 100-year flood volume.

320 **EXHIBIT 3-4**
 321 Existing and Proposed Future 100-Year Floodplains



322 EXHIBIT 3-4 (CONTINUED)
323 Existing and Proposed Future 100-Year Floodplains



324 US 24 is not within the floodplain between
 325 Crystal Hills Boulevard and 31st Street. West of
 326 Crystal Hills Boulevard, US 24 is well above the
 327 creek, rising above the high water elevation of the
 328 100-year flood in this area. During high flows,
 329 Sutherland Creek crosses under US 24 by flowing
 330 down Crystal Hills Boulevard.

331 East of 31st Street, 95 percent of US 24 is in the
 332 100-year floodplain. The bridge east of 21st Street
 333 was nearly washed out during an estimated
 334 20-year storm event in 1999, requiring substantial
 335 construction and a lengthy detour of highway
 336 traffic.



The US 24 bridge east of 21st Street was heavily damaged by flooding from a storm in 1999

337 Subsequently, from 8th Street west to 13th
 338 Street, the Fountain Creek floodplain was improved by the City of Colorado Springs to reduce
 339 the impact of flooding.

340 From about 8th Street west to 13th Street, the channel of Fountain Creek was reconstructed in
 341 2010 by CDOT, the City of Colorado Springs' Stormwater Enterprise, and the developer of
 342 Gold Hill Mesa in order to comply with the Colorado Department of Public Health and
 343 Environment (CDPHE) requirements. CDOT right-of-way (ROW) included the southern bank
 344 of the creek and portions of the low-flow channel.

345 CDOT consulted with the appropriate regulatory agencies, and CDPHE provided oversight of
 346 the project. Ultimately, the preferred plan for the restoration project was agreed upon and
 347 CDOT, the City of Colorado Springs, and Gold Hill Mesa together implemented the plan. The
 348 purpose of the project was to remove and stabilize contaminated soils from former mining
 349 operations on Gold Hill Mesa. The outer bank of the low-flow channel, constructed as part of
 350 the channel improvement, is armored with large rock and several drop structures were built. A
 351 small number of mature trees were removed and hundreds of smaller trees and shrubs were
 352 planted. Areas were re-seeded and erosion control blankets were installed to stabilize slopes.
 353 Following this reconstruction, the channel accommodates the 50-year flood event, and would
 354 accommodate the 100-year flood event after the Proposed Action is constructed.

355 The floodplain expands north across US 24 as the creek approaches its confluence with
 356 Monument Creek. The 100-year floodplain extends north across Colorado Avenue and south of
 357 the I-25 interchange. The elevated portion of I-25 is out of the floodplain but all of the US 24
 358 mainline and connecting ramps would be inundated in a 100-year flood. Additional information
 359 about the floodplains analysis is included in the *Floodplains Technical Memorandum* (CH2M HILL,
 360 2010a) in **Appendix C**.

361 **3.2.1 Impacts of the No Action Alternative**

362 Throughout the study area, most of existing US 24 and much of the adjoining land (including
 363 hundreds of residential and commercial properties) are subject to 100-year flooding from
 364 Fountain Creek and its tributaries. Because no new bridges would be built with the No Action
 365 Alternative, US 24 and adjoining properties would remain within the 100-year floodplain, and
 366 bridges would overtop and create backflow areas during storms.

3.2.2 Impacts of the Proposed Action

Because the existing bridges have to be reconstructed to tie into the new US 24 highway, the Proposed Action must rebuild the bridges crossing Fountain Creek in accordance with current state and local design standards, the Proposed Action would reduce the size of the floodplain of Fountain Creek from approximately 378 acres to 228 acres. The Proposed Action would also remove US 24 and bridges on the mainline and side streets from the floodplain.

At each bridge, the Fountain Creek channel would need to be realigned and widened to accommodate the 100-year flood. The reduced floodplain is illustrated in **Exhibit 3-4**. Channel improvements are needed to provide transitions between the current streambanks and the replacement bridges, and to avoid new US 24 encroachments. General channel modifications require grading a transition from creek banks upstream and downstream at each new bridge.

The Proposed Action roadway embankments encroach into the Fountain Creek floodplain at three locations: on the north bank from 8th to 15th Street, on the south bank between 25th and 31st Streets, and on the south bank from 31st Street and Ridge Road. Some embankment encroachments extend into the floodplain and others encroach directly into the low-flow channel. A low-flow channel is a smaller channel within a larger drainage way that carries normal flows. Only minor impacts are anticipated at the confluences of each tributary creek to Fountain Creek. Further hydraulic analysis would be completed during final design to confirm actual limits of hydraulic impacts and bridge sizing.

Analyses conducted for this EA indicate that the floodplain limits and the water surface elevation would not rise at any locations after the Proposed Action is implemented, and the water surface elevation would be lowered at all bridge crossings and most segments of Fountain Creek. US 24 and its intersections would no longer be overtopped during the 100-year flood. An estimated 68 properties with residential or commercial structures in the floodplain would no longer be in the floodplain (this is the number of properties or lots, some of which contain more than one building), as would another 55 units of manufactured housing at A-1 Mobile Village.

Parts of the Midland Trail bicycle and pedestrian trail system from 26th Street to approximately Ridge Road would be within the floodplain.

During the development of the Proposed Action, coordination with the USACE and FEMA was ongoing. The existing conditions, the impacts of the alternatives, and possible mitigation were discussed. General agreement was reached that the Fountain Creek floodplain would be improved as a result of the Proposed Action.

3.2.3 Mitigation

New bridges crossing Fountain Creek at I-25, 8th Street, 21st Street, 26th Street, 31st Street, and Ridge Road, as well as three US 24 bridges, will be designed to state and local standards that require accommodating the 100-year flood, which will require re-grading Fountain Creek upstream and downstream of each bridge.

CDOT will re-grade the Fountain Creek channel from I-25 to Ridge Road, providing an armored low-flow channel and a widened stabilized area to accommodate the 100-year flood. The design will strive to maintain the low-flow channel in its current location whenever possible to protect existing large trees and stream-side vegetation. This will stabilize the newly constructed slopes and minimize erosion during construction. The design will utilize retaining walls to provide adequate channel width and depth in confined areas. Disturbed areas will be

410 stabilized and re-vegetated with native species. CDOT will complete this re-grading in
411 coordination with the USACE and FEMA.

412 CDOT will place signs along the trail notifying users that some segments of the Midland Trail
413 are within the 100-year floodplain.

414 During the final design, CDOT will coordinate with the appropriate local and federal agencies to
415 conduct hydraulic analysis, confirm limits of improved floodplain, and provide a Conditional
416 Letter of Map Revision.

417 **3.3 Right-of-Way**

418 Right-of-way (ROW) is the land owned by CDOT used for transportation facilities and their
419 maintenance. This section describes the potential ROW acquisitions and relocations that would
420 be necessary for the Proposed Action. Existing ROW and potential property impacts were
421 analyzed using current parcel mapping obtained from El Paso County and the construction
422 limits for the Proposed Action developed during conceptual design. These data were
423 supplemented with field visits and review of aerial photography. Additional information about
424 ROW is included in the *Right-of-Way Technical Memorandum and Acquisition Atlas*
425 (CH2M HILL, 2010b) in **Appendix C**.

426 Private property and land owned by public entities such as City of Colorado Springs surround
427 the state-owned ROW along US 24. Width of ROW varies, but essentially follows the roadway
428 corridor, leaving little room for expansion between 8th Street and Ridge Road without acquiring
429 ROW.

430 **3.3.1 Impacts of the No Action Alternative**

431 Under the No Action Alternative, local agencies would widen and improve intersections at both
432 8th Street and 21st Street, and extend the Midland Trail between 21st Street and Manitou
433 Avenue. While these improvements may require additional ROW, they were not designed when
434 this EA was conducted and specific impacts are not yet known. For more information on the
435 projects included in the No Action Alternative, refer to **Chapter 2, Alternatives**.

436 **3.3.2 Impacts of the Proposed Action**

437 Implementation of the Proposed Action would require the acquisition of approximately 78 acres
438 of ROW from 109 properties (81 commercial, 3 mixed-use, 14 public, and 11 residential),
439 affecting 75 ownerships. Of the 109 impacted properties, 87 would be acquired in total and the
440 remaining 22 would require partial acquisition. Estimated ROW acquisition by ownership type is
441 provided in **Exhibit 3-5** and shown by location in **Exhibit 3-6**.

442 Beyond acquisition of property, the Proposed Action would result in relocation for each
443 residential unit and each business. On this corridor, a single property may accommodate more
444 than one business, more than one residential unit and, in one case, a single property has two
445 single-family dwellings. A total of 24 households or residential units are displaced, 20 of which
446 are on properties zoned residential and four are in mixed-use zoning. There are 77 businesses on
447 60 commercial properties. At the time this EA was published, there were 77 structures that
448 accommodate businesses. Although some structures were found to be vacant at one time during
449 this study, some of these were later found to be occupied. Therefore, for purposes of this EA, it
450 is assumed that 77 businesses would require relocation.

EXHIBIT 3-5
Property Acquisitions by Land Use Category

Type	Ownership Type				Total
	Residential	Commercial	Public	Mixed-Use	
Total Acquisitions	9 (3 acres)	67 (51 acres)	8 (6 acres)	3 (1 acre)	87 (61 acres)
Partial Acquisitions	2 (<1 acre)	14 (9 acres)	6 (8 acres)	None (0 acres)	22 (17 acres)
Number of Owners	10	60	2	3	75

Source: CH2M HILL, 2010b

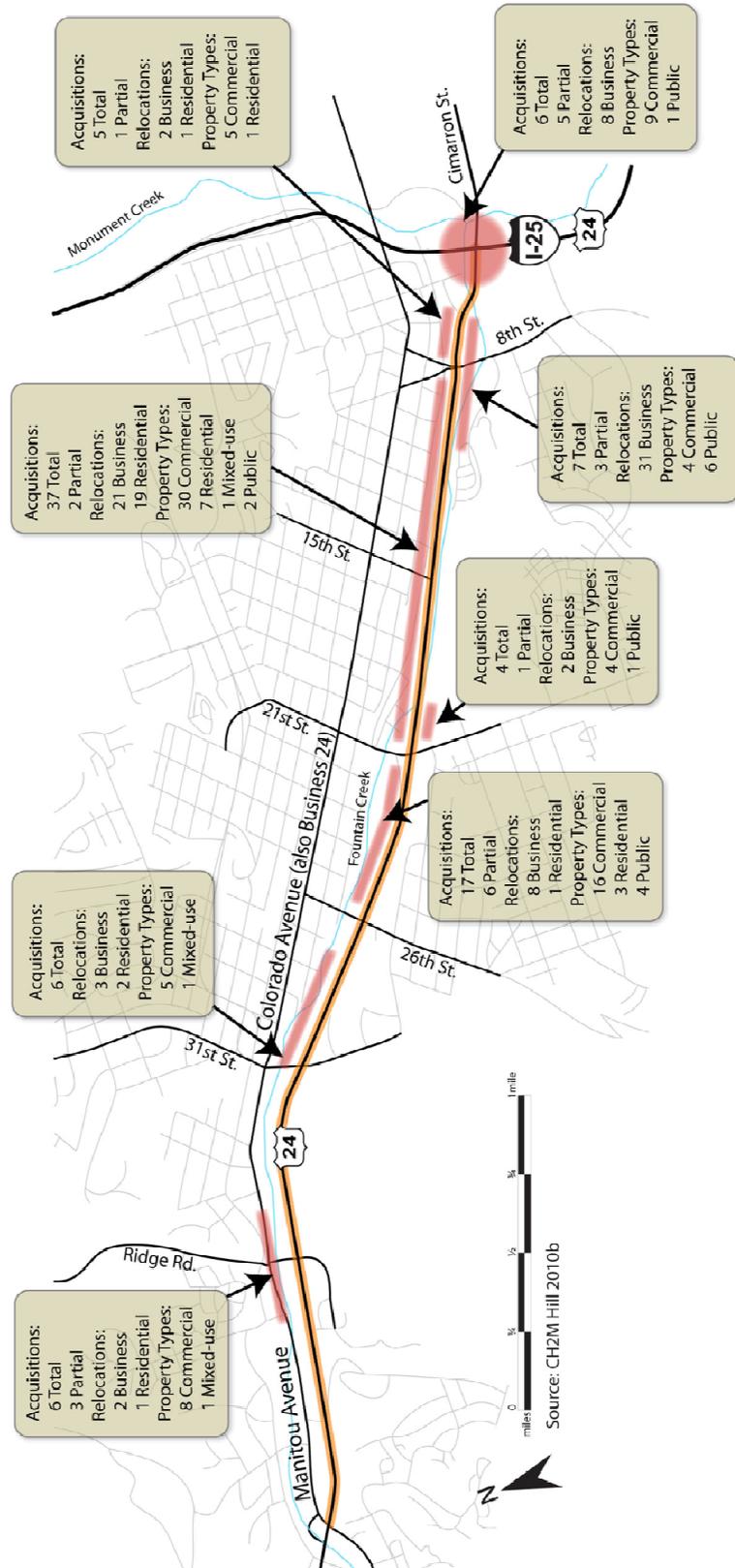
451 All property acquisitions are required for improvements to the transportation facilities. For
452 example, the Proposed Action would permanently close Naegle Road and eliminate access to
453 several properties. These properties are included in the acquisitions counted above because
454 access to the properties cannot be restored. Also included in the acquisition numbers are
455 properties impacted by the construction of the bridges and the re-grading of the channel at each
456 bridge.

457 Several design refinements are included in the Proposed Action that minimize the number of
458 acquisitions needed and avoid properties of importance to the community. Businesses, such as
459 Safeway, that are of great importance to the community and that would have a difficult time
460 relocating within the study area, were avoided.

461 A unique commercial site acquired for the Proposed Action is the Fountain Creek Recreational
462 Vehicle Park. The Proposed Action would require the total acquisition of all three parcels
463 associated with this vehicle park because of the reconstruction of the 31st Street bridge and the
464 necessary channel re-grading associated with the bridge. The vehicle park is open year round and
465 provides short- and long-term services to campers. Due to the transitory nature of the
466 occupancy at this site, final relocation impacts would be determined prior to construction in
467 accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act
468 of 1970, as amended (Uniform Act).

469 In December 2008, the project team evaluated comparable housing and commercial properties
470 currently available within 10 miles of the study area. For commercial property, 13 comparable
471 listings were available in the immediate study area and an additional 18 were available within a
472 10-mile radius. These available listings represent properties that would allow the relocation of
473 several businesses on one property. The project would likely be completed in individual
474 packages due to funding constraints as described in **Chapter 2, Alternatives**. The purchase of
475 properties would occur over multiple years based on these packages, and would allow additional
476 time for comparable housing to be located. Therefore, all 77 businesses that have to be relocated
477 due to the project are expected to be able to relocate within a 10-mile radius of the study area.
478 For residential properties, one comparable listing was found in the immediate study area and 82
479 were found within a 10-mile radius. There is a potential for all 24 acquired residences to be
480 relocated within the 10-mile radius of the study area.

481 EXHIBIT 3-6
 482 Right-of-Way Acquisitions



483 As described in **Section 2.4, Description of the Proposed Action**, improvements to the I-25
484 interchange included in the Proposed Action differ slightly from what was approved in the *I-25*
485 *Improvements through the Colorado Springs Urbanized Area EA* (I-25 EA) (CDOT, 2004). The SPDI
486 design changes the amount of ROW needed from five properties. These changes are included in
487 the numbers given above for commercial and public properties. Additional information about
488 these properties is included in the *Right-of-Way Technical Memorandum and Acquisition Atlas*
489 (CH2M HILL, 2010b) in **Appendix C**.

490 **3.3.3 Mitigation**

491 Measures to avoid and minimize impacts to public and private property were considered by the
492 project team. The Proposed Action represents the efforts to minimize impacts to property and
493 meet the purpose and need for the project. For example, the Proposed Action was designed to
494 avoid Safeway.

495 All property acquisition and relocation shall comply fully with federal and state requirements,
496 including Uniform Act defined previously. CDOT requires Uniform Act compliance on any
497 project for which it has oversight responsibility, regardless of the funding source. Additionally,
498 the Fifth Amendment of the United States Constitution provides that private property may not
499 be taken for a public use without payment of “just compensation.” All impacted residential or
500 commercial properties will be provided notification of CDOT’s intent to acquire an interest in
501 their property, including a written offer letter of just compensation specifically describing those
502 property interests. A ROW specialist will be assigned to each property owner to assist them with
503 this process.

504 In certain situations, it may be necessary to acquire improvements that are located within a
505 proposed acquisition parcel. In those instances where the improvements are occupied, it would
506 become necessary to “relocate” those individuals from the subject property (residential or
507 business) to a replacement site. The Uniform Act provides for numerous benefits to these
508 individuals to assist them both financially and with advisory services related to relocating their
509 residence or business operations.

510 The benefits under the Uniform Act are available to both occupants and tenants of either
511 residential or business properties. In some situations, only personal property must be moved
512 from the real property, and this is also covered under the relocation program. As soon as
513 feasible, any person scheduled to be displaced shall be furnished with a general written
514 description of the displacing Agency's relocation program, which provides, at a minimum,
515 detailed information related to eligibility requirements, advisory services and assistance,
516 payments, and the appeal process. It shall also provide notification that the displaced person(s)
517 will not be required to move without at least 90 days advance written notice. For residential
518 relocations, this notice cannot be provided until a written offer to acquire the subject property
519 has been presented and at least one comparable replacement dwelling has been made available.
520 Relocation benefits will be provided to all eligible persons regardless of race, color, religion, sex,
521 or national origin. Benefits under the Uniform Act, to which each eligible owner or tenant may
522 be entitled, will be determined on an individual basis and explained to them in detail by an
523 assigned ROW Specialist.

524 3.4 Historic Properties

525 Historic properties are defined as any prehistoric or historic district, site, building, structure, or
526 object included in, or eligible for inclusion in, the National Register of Historic Places (National
527 Register). A property is eligible for the National Register if it possesses historic integrity, such as
528 maintaining original materials and design, and meets one or more of the following four criteria:

- 529 • **Criterion A** – Associated with important historical events or patterns,
- 530 • **Criterion B** – Associated with lives of persons significant in our past,
- 531 • **Criterion C** – Embodies distinctive characteristics of an architectural type, period, or
532 method of construction, or
- 533 • **Criterion D** – Has yielded or is likely to yield information important in prehistory or history.

534 Historic properties also include those resources that are of significant local importance as
535 defined by local consulting parties.

536 Section 106 of the National Historic Preservation Act of
537 1966, as amended, requires federal agencies to evaluate the
538 effects of their undertakings on historic properties.

539 Throughout the Section 106 process, agencies must consult
540 with the Colorado State Historic Preservation Officer
541 (SHPO) and other interested or consulting parties. In
542 addition to the Colorado SHPO, the City of Colorado
543 Springs and El Paso County participated as consulting
544 parties in Section 106 consultations. CDOT invited several
545 other entities to be consulting parties, including the City of
546 Manitou Springs, Colorado Springs Pioneers Museum, Old
547 Colorado City Historical Society, Organization of Westside
548 Neighbors, Colorado Preservation, Inc., and the National
549 Trust for Historic Preservation. None of these groups
550 chose to participate as consulting partners. Correspondence
551 with the Colorado SHPO and consulting parties is included
552 in **Appendix H**.

Section 106 of the National Historic Preservation Act Compliance Steps

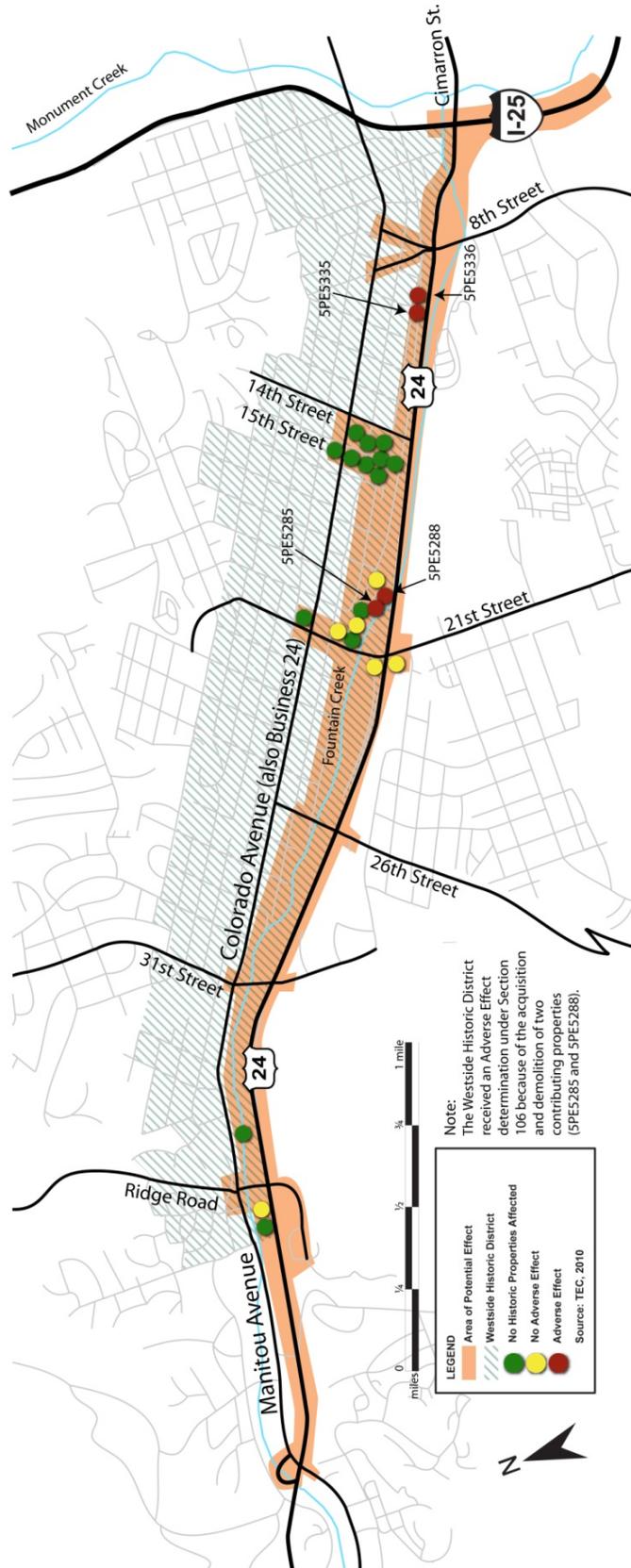
The Section 106 process is a series of sequential steps requiring agencies to:

1. *Determine the Area of Potential Effect (APE) for historic properties.*
2. *Identify historic properties within the APE.*
3. *Determine effects on historic properties from the Proposed Action (and Alternatives).*
4. *Resolve adverse effects (i.e., agree upon mitigation measures) with consulting parties.*

553 The Area of Potential Effect (APE) for this EA extends along US 24 from I-25 west to just past
554 the Manitou Avenue interchange, as shown in **Exhibit 3-7**. The APE was developed in
555 consultation with the Colorado SHPO based on the proposed improvements throughout the
556 US 24 corridor. Accordingly, the APE widens near intersections and along cross streets where
557 improvements are planned. The APE narrows to CDOT ROW just west of Ridge Road.

558 Twenty-two historic properties, determined to be eligible, are present within the APE. These
559 include 20 historic architectural resources (predominantly single-family residential dwellings
560 dating from the late 1800s to early 1900s), a railroad roundhouse, and a large, residential historic
561 district. In addition to the 22 historic properties, 2 other resources for which National Register
562 eligibility could not be determined (due to restricted access to the properties) are being treated
563 conservatively as historic properties for the purpose of effect determinations. A segment of the
564 Colorado Midland Railroad is also located within the APE, but has been found to not be eligible
565 for listing in the National Register. A survey was conducted for archaeological resources, and
566 none was identified (refer to **Section 3.13.1, Archaeological Resources**). The Colorado SHPO
567 concurred with National Register eligibility findings in a letter dated December 27, 2010.
568 **Exhibit 3-7** shows the locations of these resources.

569 EXHIBIT 3-7
 570 Historic Properties and Effects from the Proposed Action



571 Detailed documentation of historic properties, bases for their eligibility, effects from the
572 Proposed Action, alternatives considered to avoid impacts, and other information is
573 documented in the *Historic Resources Survey and Effect Determination* (TEC, 2010) in **Appendix C**.

574 **3.4.1 Impacts of the No Action Alternative**

575 As described in **Chapter 2, Alternatives**, the No Action Alternative includes several locally
576 funded projects. While these projects may require acquisition of ROW, they are unlikely to affect
577 historic properties because historic properties are either not present or not close enough to
578 proposed improvements to be affected.

579 **3.4.2 Impacts of the Proposed Action**

580 Under Section 106, effect determinations consist of one of the following:

- 581 • **No Historic Properties Affected** – Historic properties are either not present or are
582 present, but not affected by the action,
- 583 • **No Adverse Effect** – A historic property is affected but the characteristics that qualify the
584 property for inclusion in the National Register are not affected, or
- 585 • **Adverse Effect** – An action directly or indirectly alters the characteristics of a historic
586 property that qualify it for inclusion in the National Register.

587 Of the 24 properties and one historic district assessed, the Proposed Action was determined to
588 have the following effects: 14 No Historic Properties Affected, 6 No Adverse Effects, and
589 5 Adverse Effects (including the historic district). The historic district received an Adverse
590 Effect determination because of the acquisition and demolition of two contributing properties.
591 A brief description of each historic property and the effect determinations are presented in
592 **Exhibit 3-8**. The first five historic resources shown in **Exhibit 3-8** have a determination of
593 Adverse Effect. The properties are listed based on the effect finding and then ordered by the site
594 number. The list does not reflect any priorities.

EXHIBIT 3-8

Effect Determinations for Historic Properties

Site Number	Description / Location	National Register Status (Criteria)	Summary of Effects	
5EP5285	One-story, Hipped-Roof-Box style, single-family residence built in 1899, located at 1815 Sheldon Avenue	Eligible for the National Register under Criterion C as a good example of a Hipped-Roof-Box style of residence.	Adverse Effect. Acquisition and demolition of property. CDOT also considered options to leave the building in place but found that Adverse Effects would occur under Criteria (iv) (“change of the character of the property’s use or of physical features within the property’s setting that contribute to its historic significance”) and (v) (“introduction of visual, atmospheric, or audible elements that diminish the integrity of the property’s significant historic features”).	
5EP5288	Two-story, Queen Anne style, single-family residence built in 1897, located at 1803 Sheldon Avenue	Eligible for the National Register under Criterion C for architectural merit because it displays characteristics of a Queen Anne style residence.	Adverse Effect. Acquisition and demolition of property.	
5EP5335	Commercial (Brick: Folk Victorian) built in 1959, located at 302 S. 10th Street	Eligible for the National Register under Criterion C as an example of the Folk Victorian style of architecture.	Adverse Effect. Acquisition and demolition of property.	
5EP5336	Two-story, Twentieth Century Commercial type building built in 1950, located at 301 S. 10th Street	Eligible for the National Register under Criterion C for architectural merit as a good representative example of the Twentieth Century Commercial type.	Adverse Effect. Acquisition and demolition of property.	

EXHIBIT 3-8

Effect Determinations for Historic Properties

Site Number	Description / Location	National Register Status (Criteria)	Summary of Effects	
Westside Historic District	Historic district with residential/mixed use buildings, constructed between late 1800s and early 1900s, located north of US 24, approximately between I-25 to the east and Columbia Road to the west	Potentially eligible for the National Register under Criterion A for its role in the development of Colorado Springs and Criterion C for possessing a significant concentration, linkage, and continuity of sites, buildings, and structures, united historically and aesthetically by plan and physical development.	Adverse Effect. Acquisition of two contributing properties (5EP5285 and 5EP5288) at fringe of a large district comprised of 60 subdivisions and thousands of properties; upgrade and reconstruction of several roads within existing roadway network.	
5EP194	Former Midland Terminal Railroad Roundhouse, constructed in 1887, located at 600 S. 21st Street	Listed on the National Register under Criterion A and C for historic associations and architectural merit.	No Adverse Effect. No physical change to property. Minor change to visual setting from elevated US 24 bridge.	
5EP384.2	Former segment of the Colorado Midland Railroad constructed in 1886, located at approximately US 24 and 21st Street	Deemed not eligible in 2002 and 2004. This segment lacks integrity but the overall railroad is considered eligible for the National Register.	No Adverse Effect. Acquisition and demolition of property. 5EP384.2 has been abandoned and rail materials have been removed and converted to a paved trail. There would be No Adverse Effect to the overall railroad resource (5EP384) because this segment has no integrity and does not contribute to the eligibility of the overall resource.	NO PHOTO AVAILABLE
5EP5218	A hotel/motor lodge complex constructed in 1885, located at 3627 W. Colorado Avenue	Eligible for the National Register under Criterion A for its association with the growth of the motor lodge industry.	No Adverse Effect. Acquisition of small vacant portion of property at eastern end for drainage improvements; no change in setting; no acquisition of buildings; no change in use of property. Visual effect of overpass limited due to distance, vegetative screening, and property orientation (toward Colorado Avenue).	

EXHIBIT 3-8

Effect Determinations for Historic Properties

Site Number	Description / Location	National Register Status (Criteria)	Summary of Effects	
5EP5263	One-story apartment building complex with elements of the Minimal Traditional style built in 1955, located at 2032 W. Cucharras Street	Eligible for the National Register under Criterion C for architectural merit because it is a good representative example of the Minimal Traditional style as applied to multi-family dwellings in Colorado Springs.	No Adverse Effect. Sidewalk added in front of property within existing roadway ROW; no physical impact to property and no change in setting.	
5EP5278	One-story, Hipped-Roof-Box style residence built in 1904, located at 1904 Sheldon Avenue	Eligible for the National Register under Criterion C for architectural merit as a good example of the Hipped-Roof-Box style.	No Adverse Effect. No physical changes to historic property; removal of several houses on opposite side of road (east of property) has minor effect on residential setting.	
5EP5290	One-story, single-family residence built in 1890, located at 319 S. 18th Street	Eligible for the National Register under Criterion C for architectural merit as a good representative example of the colonial revival style.	No Adverse Effect. Minor change in visual setting from closer proximity of highway to side of property; acquisition of industrial property to the east (same property owner) that is not within historic property boundary.	
5EP235.15	Residence (Late Victorian) constructed in 1889, located at 1508 W. Colorado Avenue	Eligible for the National Register under Criterion C for architectural merit as a good example of Late Victorian style.	No Historic Properties Affected. No proposed or planned roadway improvements in immediate area of property. No change in setting.	NO PHOTO AVAILABLE
5EP235.31	Two-Story, stucco clad, Mission style church built from 1920 to 1929, located at 15 S. 21st Street	Eligible for the National Register under Criterion C for architectural merit as a good example of the Mission style in a non-residential setting.	No Historic Properties Affected. Roadway improvements along 21st Street end south of property. No change in setting.	

EXHIBIT 3-8

Effect Determinations for Historic Properties

Site Number	Description / Location	National Register Status (Criteria)	Summary of Effects	
5EP5264	One-story residential building constructed in 1901, located at 2027 W. Cucharras Street	Due to limited access, this property is treated as National Register eligible for the purposes of Section 106 consultation.	No Historic Properties Affected. No proposed or planned roadway improvements in immediate area of property. No change in setting.	
5EP5276	One-story Victorian residence constructed in 1949, located at 1913 Sheldon Avenue	Due to limited access, this property is treated as National Register eligible for the purposes of Section 106 consultation.	No Historic Properties Affected. No proposed or planned roadway improvements in immediate area of property. No change in setting.	
5EP5223	One-story, Craftsman Bungalow style, single-family residence constructed in 1900, located at 3441 W. Colorado Avenue	Eligible for the National Register under Criterion C for architectural merit as a good representative example of a Craftsman Bungalow style.	No Historic Properties Affected. Roadway improvements within CDOT ROW on back side of property; no physical impact and no change in setting. New overpass at Ridge Road screened from property by distance and vegetation.	
5EP5216	Art Modern style commercial lodge with a detached two-story hotel and three one-story blocks of guest rooms at the side and rear of the lot constructed in 1948, located at 3709 W. Colorado Avenue	Eligible for the National Register under Criterion C for its historical associations and architectural merit.	No Historic Properties Affected. Roadway improvements within CDOT ROW on back side of property; overpass of Ridge Road (approximately 900 feet away) screened by distance and vegetation; no physical impact and no change in setting.	
5EP5302	One-and-one-half story Late Victorian residence constructed in 1899, located at 1508 W. Cucharras Street	Eligible for the National Register under Criterion C for architectural merit as a good representative example of the Late Victorian style residence.	No Historic Properties Affected. No proposed or planned roadway improvements in immediate area of property. No change in setting.	

EXHIBIT 3-8

Effect Determinations for Historic Properties

Site Number	Description / Location	National Register Status (Criteria)	Summary of Effects	
5EP5303	One-and-one half story Late Victorian residence constructed in 1895, located at 1504 W. Cucharras Street	Eligible for the National Register under Criterion C for architectural merit as a good representative example of the Late Victorian style residence.	No Historic Properties Affected. Repair/ replacement of sidewalk on east side of property within roadway ROW. No physical impact to property and no change in setting.	
5EP5306	Two-story Nineteenth Century Commercial style building constructed in 1901, located at 1501 W. Colorado Avenue	Eligible for the National Register under Criterion C for architectural merit as a good representative example of the Nineteenth Century Commercial style building.	No Historic Properties Affected. Minor roadway improvements within roadway ROW on east side of property (property faces north) and at intersection of 15th Street and Colorado Avenue; no physical impact and no change in setting.	
5EP5310	Two-story Late Victorian style residence constructed in 1884, located at 1419 W. Colorado Avenue	Eligible for the National Register under Criterion C for architectural merit as a good representative example of the Late Victorian style.	No Historic Properties Affected. No proposed or planned roadway improvements in immediate area of property. No change in setting.	
5EP5319	One-and-one half story, Late Victorian Cottage style residence constructed in 1890, located at 1423 W. Cucharras Street	Eligible for the National Register under Criterion C for architectural merit as a good representative example of the Late Victorian style residence.	No Historic Properties Affected. No proposed or planned roadway improvements in immediate area of property. No change in setting.	
5EP5320	One-story single-family Victorian residence constructed in 1889, located at 1429 W. Cucharras Street	Eligible for the National Register under Criterion C for architectural merit as a good representative example of the Late Victorian style residence.	No Historic Properties Affected. No proposed or planned roadway improvements in immediate area of property. No change in setting.	

EXHIBIT 3-8

Effect Determinations for Historic Properties

Site Number	Description / Location	National Register Status (Criteria)	Summary of Effects	
5EP5322	One-story, single-family Craftsman style residence constructed in 1909, located at 1422 W. Vermijo Avenue	Eligible for the National Register under Criterion C for architectural merit as a good representative example of the Craftsman style residence.	No Historic Properties Affected. No proposed or planned roadway improvements in immediate area of property. No change in setting.	
5EP5323	One-story, single-family Hipped-Roof-Box residence constructed in 1889, located at 219 S. 15th Street	Eligible for the National Register under Criterion C for architectural merit as a good representative example of the Hipped-Roof-Box style residence.	No Historic Properties Affected. Repair/replacement of sidewalk on east side of property within roadway ROW. No physical impact to property and no change in setting.	

595 Determination of effects to historic properties was undertaken in consultation with the
 596 Colorado SHPO and other consulting parties. The Colorado SHPO concurred with all effect
 597 determinations in a letter dated December 27, 2010. The City of Colorado Springs Historic
 598 Preservation Board provided comments on the eligibility and effects determinations. No
 599 comments were received from El Paso County.

600 The Proposed Action would result in adverse effects to two historic commercial properties
 601 (5EP5335 and 5EP5336), two historic residences (5EP5285 and 5EP5288), and the Westside
 602 Historic District (5EP5364). CDOT considered numerous options to minimize effects to these
 603 properties but ultimately had no other option that met safety, traffic, and community needs
 604 without demolishing historic properties 5EP5335, 5EP5336, 5EP5285, and 5EP5288. Please
 605 see **Appendix C: Historic Resources Survey and Determination of Effect US 24 West, Colorado**
 606 **Spring, Colorado** (TEC, 2010) and **Appendix H** for more information about the eligibility and
 607 effect determinations for these properties.

608 3.4.3 Mitigation

609 Mitigation for impacts to historic properties will be developed under consultation with the
 610 Colorado SHPO and other consulting parties. These will be documented in a Memorandum of
 611 Agreement (MOA). See **Appendix H** for the full MOA document. (Details of the MOA will be
 612 added here once it has been signed by all parties.)

613 3.5 Parks, Trails, and Recreation Resources

614 Development of the Proposed Action occurred over several years and was guided by a TLT that
615 included representation from the City of Colorado Springs' Parks, Recreation & Cultural
616 Services Department. The project team conducted additional outreach to local stakeholders,
617 including the City of Colorado Springs Parks, Recreation & Cultural Services Department (or
618 TOPS Working Committee), City of Manitou Springs Open Space Advisory Committee, Trails
619 and Open Space Coalition, Friends of Red Rock Canyon, and Pikes Peak Area Bikeways
620 Coalition.

621 The City of Colorado Springs has a well-developed park system with more than 14,000 acres of
622 park and recreation resources that include 15 community and regional parks, over 100
623 neighborhood parks, 5 sports complexes, 47 open space areas, and more than 250 miles of
624 urban and park trails. As shown in **Exhibit 3-9**, 10 of these features are located within the
625 Colorado Springs portion of the study area and three parks are located in the western portion of
626 the US 24 study area in Manitou Springs. **Exhibit 3-10** provides details regarding location,
627 size/length, and amenities for each of these resources.

628 According to the *Colorado Springs Parks, Recreation and Trails 2000-2010 Master Plan* (City of
629 Colorado Springs, 2000), no additional parks are proposed in the study area. The plan does,
630 however, include the connection of the Midland Trail from 21st Street to 25th Street and west of
631 Ridge Road to the City of Manitou Springs, increasing the length of the trail to a total of
632 3.52 miles.

633 CDOT, the City of Colorado Springs' Stormwater Enterprise, and Gold Hill Mesa restored a
634 segment of Fountain Creek east of 21st Street in 2010. The restoration removed and stabilized
635 contaminated soil, enhanced water quality, reduced erosion, and reestablished native riparian
636 vegetation. The developer of Gold Hill Mesa also plans to build a trail along the creek that
637 would serve residents of the area and connect to the Midland Trail.

638 EXHIBIT 3-9
 639 Existing Parks and Recreation Resources in the Study Area

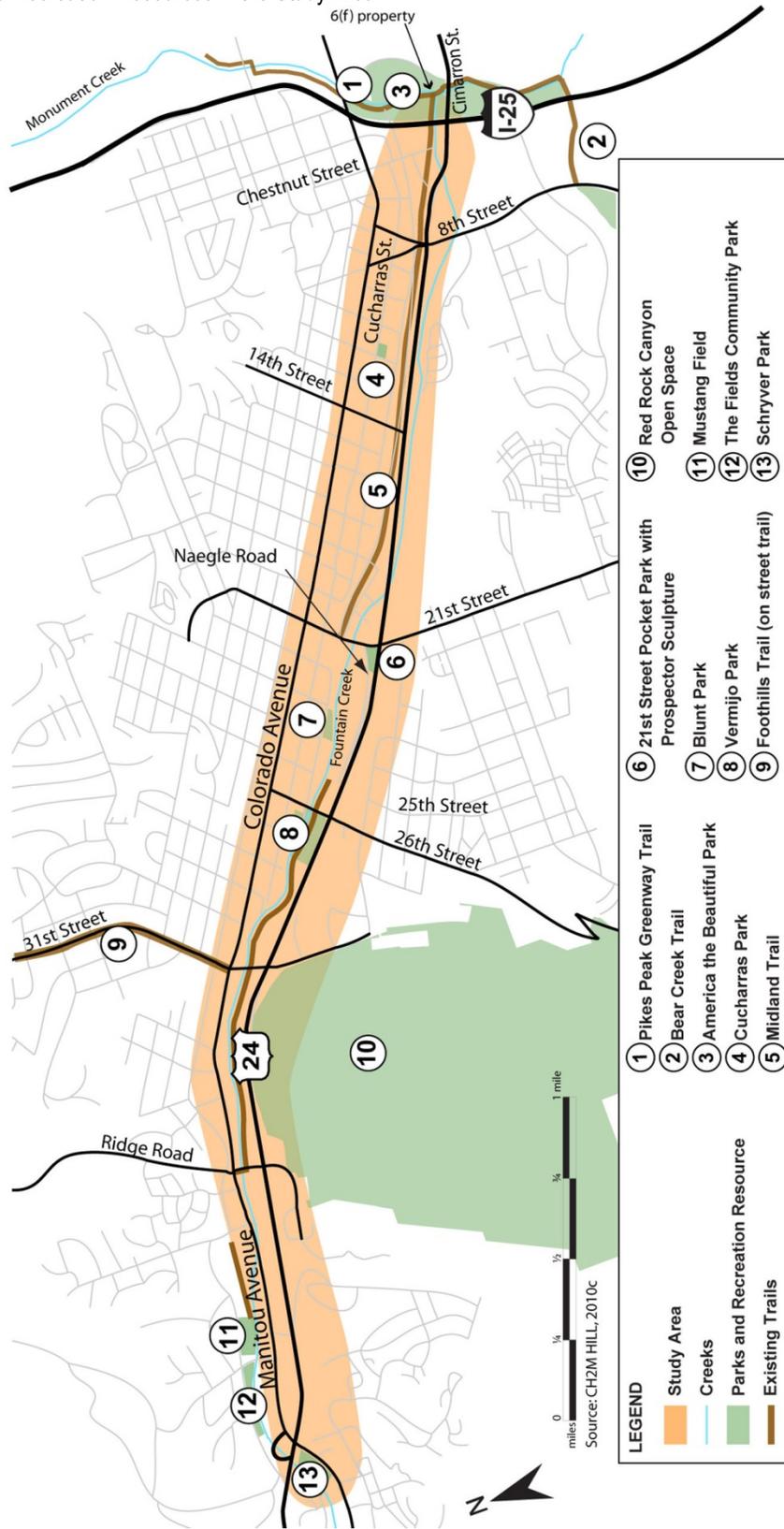


EXHIBIT 3-10**Existing Parks and Recreation Resources in the Study Area**

Map¹ ID	Name	Jurisdiction	Size/Length	Amenities
1	Pikes Peak Greenway	City of Colorado Springs	14 miles	Concrete, asphalt, and gravel surface; connects several regional trails. Includes Section 6(f) property.
2	Bear Creek Trail	City of Colorado Springs	0.4 mile	Concrete and asphalt trail; links Bear Creek Regional County Park to Pikes Peak Greenway
3	America the Beautiful Park	City of Colorado Springs	16.8 acres	Picnic pavilions, playground, pathways, fountain, Midland Trail and Pikes Peak Greenway Trail access, venue for outdoor concerts and movies
4	Cucharas Park	City of Colorado Springs	0.7 acre	Basketball court, multi-play court, picnic area, and playground
5	Midland Trail	City of Colorado Springs	2.9 miles	Concrete surface; provides access to America the Beautiful Park and west to Ridge Road
6	21st Street pocket park with Prospector Sculpture	City of Colorado Springs	1.5 acres	Parking, pathway, picnic table, shelter, and sculpture
7	Blunt Park	City of Colorado Springs	3.3 acres	Athletic fields, picnic areas, playground, and pathways
8	Vermijo Park	City of Colorado Springs	4.6 acres	Baseball field, basketball court, playground, and walking paths
9	Foothills Trail	City of Colorado Springs	6.5 miles	Concrete, asphalt, and gravel surface trail; on-street in study area
10	Red Rock Canyon Open Space	City of Colorado Springs	789 acres	Open space, trails, picnic areas, and educational programs
11	Mustang Field	City of Manitou Springs	7.1 acres	Baseball field, bleachers, and restrooms
12	The Fields Community Park	City of Manitou Springs	4.7 acres	Skateboard park, pavilion, restrooms, and tennis court
13	Schryver Park	City of Manitou Springs	9.7 acres	Pool, fitness center, trail, picnic area, restrooms, pond, two playgrounds, and basketball court

Source: CH2M HILL, 2010c

¹ Map ID numbers correspond to parks and recreation resources shown in **Exhibit 3-9**.

640 A detailed discussion of parks and recreation resources is provided in the *Parks and*
641 *Recreational Resources Technical Memorandum* (CH2M HILL, 2010c) and *Supplement to the*
642 *Parks and Recreation Resources Technical Memorandum* (CH2M HILL, 2011) in **Appendix C**.

643 **3.5.1 Impacts of the No Action Alternative**

644 Improvements to the 8th Street intersection would involve widening 8th Street north of US 24.
645 If this occurs, the No Action Alternative would have the potential to impact the Midland Trail at
646 8th Street. This improvement would be built by others and plans have not been developed to
647 understand if impacts would occur and to what extent.

648 The City of Colorado Springs plans to construct the connection of the Midland Trail west
649 between 21st Street and 25th Street and into Manitou Springs in stages. The completion of the
650 Midland Trail would add to the trail system and improve pedestrian and bike access to Manitou
651 Springs.

652 3.5.2 Impacts of the Proposed Action

653 Of the 13 parks and recreation resources in the study area (as listed in **Exhibit 3-10**), the
654 Proposed Action would affect four, as shown in **Exhibit 3-11**: Foothills Trail, Vermijo Park,
655 21st Street pocket park, and the Midland Trail. Although the wider roadway cross-section and
656 interchange reconstruction would constitute a change to the visual environment for the Pikes
657 Peak Greenway and Bear Creek Trails, impacts would be similar to those for the existing
658 highway and interchange structures. Acquisition of commercial structures between Blunt Park
659 and US 24 could result in a change to the visual environment.

660 Additional protection is provided for outdoor recreational lands under the Section 6(f)
661 legislation (16 United States Code [U.S.C.] 4601-8(f)(3)) where Land and Water Conservation
662 Funds were used for the planning, acquisition, or development of the property. One Section 6(f)
663 property was identified within the study area: the east end of the Midland Trail and the
664 pedestrian bridge over Monument Creek (see **Exhibit 3-10** for location). These features are not
665 affected by the Proposed Action.

666 Widening US 24 to the north would require realignment of Midland Trail between 8th Street and
667 11th Street, a distance of approximately 1,584 feet (0.3 mile), as shown in **Exhibit 3-11**. The
668 undercrossing of the Midland Trail at the I-25 interchange would remain open.

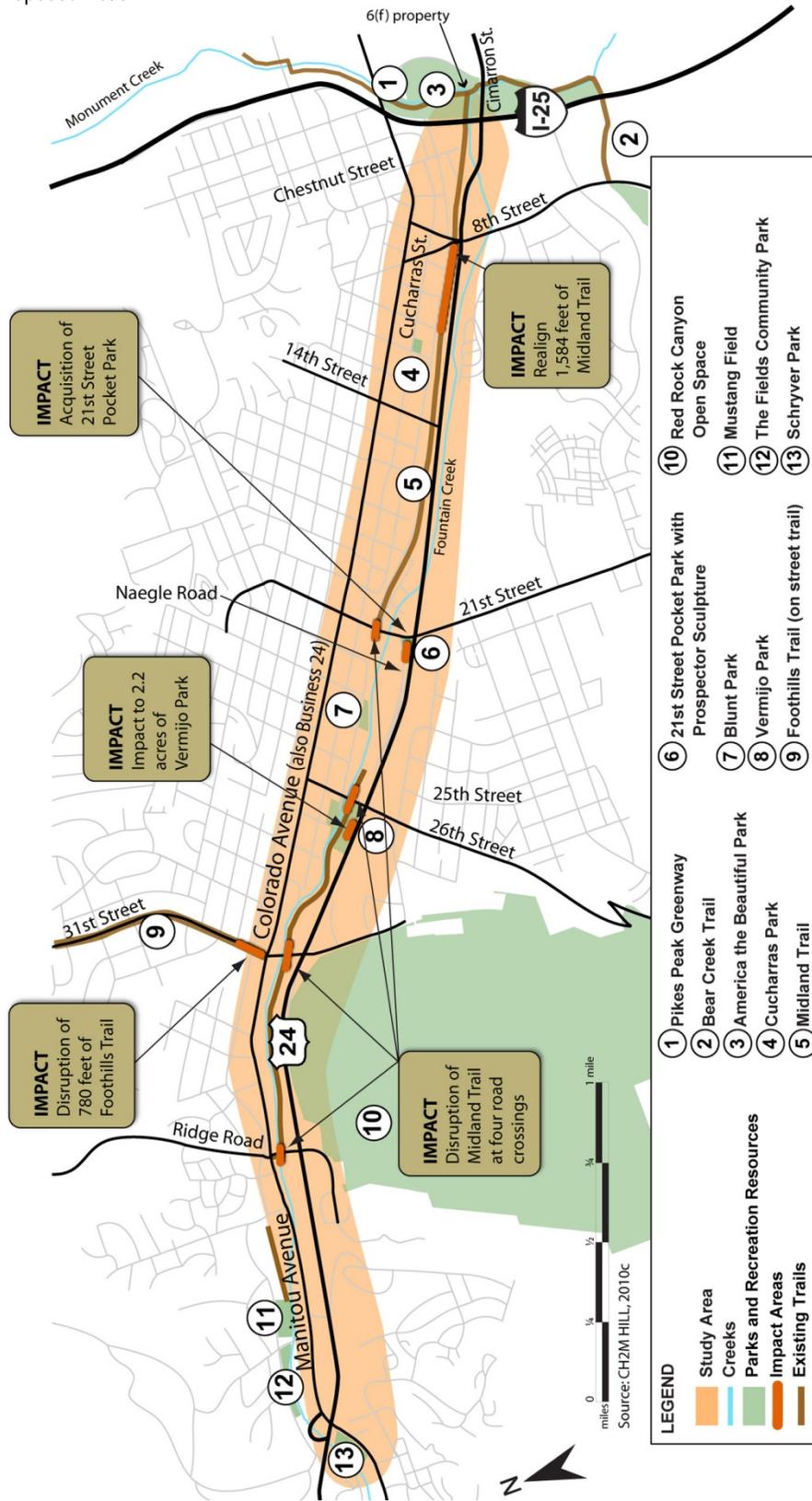
669 The missing connection of the Midland Trail from 21st Street to 25th Street would be
670 constructed on ROW acquired for the improvements included in the Proposed Action, creating
671 a continuous off-street trail from I-25 to Ridge Road. This trail would improve connectivity with
672 all of the trails throughout the US 24 corridor.

673 At the cross streets of 21st Street, 26th Street, 31st Street, and Ridge Road, the bridges crossing
674 the Midland Trail would be replaced, causing a temporary construction impact to the trail in the
675 vicinity of each bridge. Once construction is completed, users would be able to cross under each
676 bridge at these locations on newly constructed trail. No long-term impacts at these four trail
677 locations are expected and the continuity of the trail during construction would be maintained.
678 These four temporary impact areas total approximately 0.2 mile of the trail.

679 The Proposed Action would require the full acquisition of the 21st Street pocket park, a small
680 park comprising 1.5 acres in a high-traffic area adjacent to the US 24 and 21st Street intersection.
681 The park is not programmed for any organized recreation activities by the City of Colorado
682 Springs. The public has expressed a desire to preserve the Prospector Sculpture that is located
683 within this park.

684 Vermijo Park is an isolated and underutilized park, hidden from US 24 by dense trees lining the
685 border of Fountain Creek. As a result, the public has expressed some concern over personal
686 safety in the park due to its poor visibility. The park has a baseball field, but no activities or
687 events are scheduled in this park by the City of Colorado Springs. Less than 0.1 acre of the park,
688 including part of the baseball field, would need to be acquired to accommodate a new bridge on
689 26th Street and the accompanying sidewalk along the eastern edge of the park. In addition,
690 2.2 acres of the park, including a portion of the baseball field, would be temporarily impacted
691 due to the Fountain Creek channel modifications. The reduction in parkland and partial loss of
692 the baseball field would reduce some of the park's functions.

693 EXHIBIT 3-11
 694 Impacts of the Proposed Action



695 A retaining wall would be constructed between Vermijo Park and the Fountain Creek channel,
696 which could alter views toward US 24. US 24 would be approximately 5 feet higher near Vermijo
697 Park, however, the predicted noise levels do not warrant a noise wall in this location. (Refer to
698 **Section 3.6, Traffic Noise** for additional discussion).

699 To accommodate improvements included in the Proposed Action, approximately 780 linear feet
700 (0.15 mile) of Foothills Trail would be reconstructed in its current on-street location. Therefore,
701 no long-term impacts are anticipated.

702 The Proposed Action would not require ROW from Red Rock Canyon Open Space. Roadway
703 widening would require cutting into the bluff. This cut, within CDOT ROW along the northern
704 edge of the property, would not be visible from within Red Rock Canyon Open Space.

705 Throughout public workshops to address the aesthetics of the US 24 corridor, the community
706 has not identified this as an area of concern. Access to Red Rock Canyon from US 24 would be
707 relocated from the at-grade intersection of US 24 and Ridge Road to 31st Street or Manitou
708 Avenue via Colorado Avenue. Red Rock Canyon Open Space is accessible by local traffic from
709 Colorado Avenue on the Ridge Road overpass. Due to the very high visitation level of this open
710 space, the Colorado Springs Parks, Recreation & Cultural Services Department is supportive of
711 this access revision as it limits direct highway access to the park. The grade separation of Ridge
712 Road would improve safety for non-motorized travelers. The overpass structure would be
713 approximately 25 feet high and 135 feet wide and would be visible from portions of the park.
714 This would constitute a change in the visual environment, but would be consistent with the
715 existing highway corridor. Noise levels could increase as a result of the wider roadway footprint
716 and elevated structure but would not reach impact levels. Temporary detours and an increase in
717 construction-related traffic, noise, and dust would be expected throughout construction.

718 The Proposed Action would not result in any land use or access changes that would affect the
719 planned trails in the study area. The project team has coordinated with the Colorado Springs
720 Parks, Recreation & Cultural Services Department and Gold Hill Mesa developers throughout
721 the development of the Proposed Action and has incorporated their input into the project's
722 design.

723 During planning for this project, CDOT funded a master plan for the Midland Greenway
724 (CDOT, 2007). The *Midland Greenway Plan* recognizes the incredible opportunity for a dynamic
725 community amenity. The multi-faceted plan includes trails, natural water quality treatments,
726 fountains, places to play, and areas to discover. The Midland Greenway also serves as an
727 important watershed feature designed to carry a 100-year flood. Further, the *Midland Greenway*
728 *Plan* discusses links among the trails and parks. The *Midland Greenway Plan* highlights Fountain
729 Creek as a focal point and an asset to the Westside neighborhoods. The plan was developed by
730 the Midland Greenway Advisory Committee, which included representatives from CDOT,
731 El Paso County, the City of Colorado Springs, City of Manitou Springs, Colorado Springs
732 Utilities, Pikes Peak Area Council of Governments (PPACG), Old Colorado City Historical
733 Society, Friends of Red Rock Canyon, the Trails and Open Space Coalition, and Gold Hill Mesa.
734 This planning was initiated in response to the proposed future acquisition of ROW needed for
735 the highway improvements. Elements of the Proposed Action such as the reconstruction of the
736 bridges to allow clearance for pedestrian trails, channel modifications to carry the 100-year floor,
737 and constructing the trail from I-25 to 31st Street along Fountain Creek are consistent with the
738 *Midland Greenway Plan*. Other elements, such as trail segments outside areas directly impacted by
739 the project or enhancements such as benches or fountains, would require other sponsors.

740 3.5.3 Mitigation

741 Mitigation measures for the project's impacts present opportunities to enhance the City of
742 Colorado Springs' network of parks and recreation resources. A letter from CDOT to the City
743 of Colorado Springs explaining the proposed mitigation for the Midland Trail was signed by the
744 City, indicating their agreement, and is included in **Appendix I. Exhibit 3-12** summarizes the
745 impacts and mitigation strategies. The Midland Trail will be realigned between 8th Street and
746 11th Street. For safety reasons, the 10-foot-wide trail must be offset from the highway by 12 feet
747 to allow adequate separation (highway clear zone) between higher speed vehicles and pedestrians
748 and bicyclists using the trail. The affected portion of the trail will be reconstructed and no
749 permanent change in the function or continuity of the trail will occur.

750 CDOT will provide advanced notice to the community prior to the relocation of the Prospector
751 Sculpture at the 21st Street pocket park. CDOT will coordinate with the community and the
752 Colorado Springs Parks, Recreation & Cultural Services Department to identify a location where
753 the sculpture will be relocated. One potential site for relocation is Vermijo Park at 26th Street.

754 CDOT will contribute up to \$50,000 to the City of Colorado Springs to fund a park plan for
755 Vermijo Park. All trees greater than 2 inches in diameter at breast height will be mitigated at a
756 1 to 1 basis. Non-native trees will be replaced with native trees.

757 The Foothills Trail will be reconstructed in place along 31st Street with new streetscape, from
758 just north of Colorado Avenue to Red Rock Canyon Open Space.

759 CDOT will provide advanced notice to users regarding temporary trail relocations for both the
760 Midland Trail and Foothills Trail during construction activities and provide information on the
761 final location of the relocated trail. For the safety of trail users, the trail would have to be
762 temporarily relocated during the construction of the bridges over Fountain Creek and new
763 permanent trail would be constructed as part of each bridge improvement. During final design,
764 CDOT will seek community input and will coordinate with the Colorado Springs Park and
765 Recreation Department with regard to the design and aesthetics of these trails.

766 Mitigation for temporary construction related impacts such as detours, out-of-direction travel,
767 and air emissions are addressed in **Section 3.1, Transportation Resources** and **Section 3.13.4,**
768 **Air Quality.**

771 3.6 Traffic Noise

772 Traffic noise is typically a concern for residents living adjacent to heavily traveled roadways.
 773 Traffic noise tends to be loudest when a large volume of traffic flows at high speeds. Loudest
 774 traffic noise can be expected just before and after the peak period, when volumes are still heavy
 775 but speed is not diminished.

776 Federal noise guidelines quantify noise levels in terms of decibels and have set limits for
 777 determining what noise levels are considered excessive. According to the guidelines, a level of
 778 66 decibels or more interferes with normal conversation within an outdoor area such as parks,
 779 schools, and residences. For noise sensitive commercial uses, the threshold is higher at
 780 71 decibels.

781 Based on modeling of future conditions, if future noise levels are forecasted to exceed
 782 66 decibels at residences, or if future noise levels would increase by 10 or more decibels
 783 compared with current noise levels, CDOT considers mitigation such as noise barriers and
 784 determines whether such mitigation is reasonable and feasible.

785 As part of the US 24 EA, acoustic engineers measured noise continuously for one week at eight
 786 locations along the US 24 corridor in 2007; the results are shown in **Exhibit 3-13**. Noise levels
 787 at five of the eight monitoring locations already experience loudest-hour noise levels that exceed
 788 CDOT's 66-decibel criterion for triggering consideration of noise abatement for residences.
 789 Loudest-hour noise levels at the eight locations ranged from 61 to 73 decibels, with the loudest
 790 levels measured at residences located just 100 feet from the pavement and having a clear line of
 791 sight to US 24. Lower levels were measured at greater distances from the roadway and/or at
 792 locations where local terrain or buildings obstructed the line of sight.

793 The FHWA's Traffic Noise Model (TNM) was used to model existing noise levels and predict
 794 future (2035) noise levels along the entire US 24 corridor for both the No Action Alternative
 795 and the Proposed Action. A summary of the modeled existing and predicted future Proposed
 796 Action noise levels for each section of the US 24 corridor is provided in **Exhibit 3-13**. The
 797 summary is representative of the loudest noise levels at the residences located along US 24. Also
 798 provided in **Exhibit 3-13** is the noise level increase at these representative locations, and the
 799 number of residences that are considered impacted by noise. Noise levels under the Proposed
 800 Action are predicted to impact 29 residences and one child development center. Noise levels at
 801 the Red Rock Canyon Open Space are forecasted to be below the 66 dBA criterion.

802 Additional information about the noise analysis is included in the *Noise Technical Memorandum*
 803 (Hankard, 2011) in **Appendix C**.

EXHIBIT 3-13
 Existing and Proposed Action Noise Levels (2035)¹

Location	North or South of US 24	Existing Noise Level (1-hour L_{eq} , dBA) ²	Proposed Action Noise Level (1-hour L_{eq} , dBA)	Increase in Noise Level (1-hour L_{eq} , dBA)	
				Decibels ³	
I-25 to 8th Street	North	65	67	2	2
8th Street to 15th Street	North	64	67	3	3
8th Street to 15th Street	South	63	66	3	1

EXHIBIT 3-13Existing and Proposed Action Noise Levels (2035)¹

Location	North or South of US 24	Existing Noise Level (1-hour L _{eq} , dBA) ²	Proposed Action Noise Level (1-hour L _{eq} , dBA)	Increase in Noise Level (1-hour L _{eq} , dBA)	Number of Impacted Residences or Parks ³
				Decibels ³	
15th Street to 21st Street	North	61	66	5	1
21st Street to 31st Street	North	63	66	3	2
21st Street to 31st Street	South	64	67	3	0
Ridge Road to Manitou Avenue	North	62	62	0	0
Ridge Road to Manitou Avenue	South	69	70	1	21

Source: Hankard, 2010

¹ All noise levels are in A-weighted decibels. A-weighting of noise levels approximates the average frequency response of the human ear. The average one-hour A-weighted decibel (dBA) is the scale used for traffic noise analyses.

² Noise levels at location within each section where loudest noise levels are expected along US24.

³ Noise levels at location within each section where loudest noise levels are expected along US24.

804 3.6.1 Impacts of the No Action Alternative

805 With the No Action Alternative, the US 24 roadway would not be modified, but corridor-wide
806 traffic would increase by an average of 45 percent due to regional growth. As a result, noise
807 levels are predicted to increase by 1 to 3 dBA along the US 24 corridor. A 1 dBA increase is
808 expected between I-25 and 21st Street, because US24 is already close to capacity in this area,
809 thus adding more traffic eventually leads to congestion, lowering of speeds, and a drop in noise
810 levels. A 2 to 3 dBA increase is expected west of 21st Street, as US24 has the capacity to absorb
811 the forecast additional traffic without a significant drop in speeds. Regardless, no noise
812 mitigation would be provided under the No Action Alternative.

813 3.6.2 Impacts of the Proposed Action

814 With implementation of the Proposed Action, the US 24 average daily travel is forecasted to
815 increase to 50,000 to 84,000 in 2035, an increase of about 65 percent from 2005 trips. This
816 includes both the growth in traffic due to population and land use changes, as well as trips that
817 would now reroute to US 24 from neighborhood streets previously used to avoid the congestion
818 on US 24. Noise levels would increase in some locations due to increasing traffic volumes,
819 expanding US 24 north in some areas, building new interchange ramps closer to residences, and
820 changing the elevation of US 24 in some locations.

821 In addition to long-term noise impacts resulting from the configuration of the Proposed Action,
822 short-term noise impacts would occur as the direct result of construction activities. Maximum
823 noise levels from construction activity typically result from the loudest one or two pieces of
824 heavy equipment that are in use at a given time.

825 3.6.3 Mitigation

826 Noise mitigation was considered for each of the residences, parks, and other land uses that
827 would be impacted by traffic noise with the Proposed Action. The analysis of the feasibility and
828 reasonableness of providing noise mitigation was carried out according to the current (2011)

829 policies of the FHWA and CDOT. For noise walls to be included in the Proposed Action, they
 830 must be predicted to achieve certain minimum noise reductions (7 dBA), and they must meet
 831 certain cost-benefit parameters (\$6,800 per benefited receptor per decibel of noise reduction).

832 **Exhibit 3-15** shows the locations where noise walls were found to be reasonable and feasible
 833 along US 24 and are recommended for inclusion in the Proposed Action. These include the
 834 north side of US 24 from 11th Street to 14th Street, the A-1 mobile home park on the south side
 835 of US 24, and the residences on the south side of US 24 on Red Canyon Place. These walls
 836 range from 15 to 18 feet in height and 870 to 1,490 feet in length. They are predicted to protect
 837 110 residences, including 25 of the 29 impacted residences. Noise walls were found to be either
 838 infeasible or unreasonable at the other areas where noise impact was predicted to occur under
 839 the Proposed Action, therefore, noise walls are not recommended at these locations. The results
 840 of the noise mitigation analyses are presented in **Exhibit 3-14**.

EXHIBIT 3-14
 Results of Noise Mitigation Analyses

Area	Height	Length	Area (Sq. Ft.)	Cost per Sq. Ft.	# of Benefited Receptors	Avg. Noise Reduction at Benefited Receptors (dBA)	Cost Benefit	Meets all Feasibility and Reasonableness Criteria?
11th Street to 14th Street	18	1,490	26,820	\$45	25	7	\$6,800	Yes
A-1 Mobile Homes	15	1,430	21,450	\$45	64	7	\$2,200	Yes
East of 21st Street	18	1,220	21,960	\$45	14	7	\$10,000	No
26th Street	15	1,760	26,400	\$45	23	6	\$8,300	No
Red Canyon Place	15	870	13,050	\$45	21	10	\$2,700	Yes

Note:

dBA = A-weighted decibels

841 During final design of the project, all mitigation recommendations will undergo an abatement
 842 re-evaluation to refine barrier dimensions and siting, and assure that conditions and
 843 homeowners/residents desires for noise abatement have remained consistent with the
 844 conditions evaluated in this document. Additionally, the City of Colorado Springs and area
 845 residents will have the opportunity to provide input on design elements related to noise
 846 mitigation, including design, grading, landscaping, and color and material of noise barriers, with
 847 the goal of constructing an aesthetically pleasing and economically viable project.

848 Construction noise impacts will be mitigated by limiting work to daytime hours, as described by
 849 CDOT and City of Colorado Springs requirements, when possible, and requiring the contractor
 850 to use well-maintained equipment, particularly with respect to mufflers.

851 **EXHIBIT 3-15**
 852 Traffic Noise Measurement Stations and Proposed Noise Abatement Locations



853 3.7 Social Resources

854 This section describes existing socioeconomic conditions and potential impacts on population,
855 employment, neighborhoods, community facilities, and local businesses. Public input guided the
856 evaluation of community impacts and the development of appropriate mitigations. Additional
857 information about the socioeconomic analysis is included in the *Socioeconomic Resources Technical*
858 *Memorandum* (CH2M HILL, 2010d) in **Appendix C**.

859 Population and Employment

860 Population and employment statistics for the study area and the City of Colorado Springs are
861 presented in **Exhibit 3-16**. In 2000, approximately 28,700 persons, 8 percent of the population
862 of Colorado Springs, lived in the census tracts adjacent to US 24. The population of Colorado
863 Springs grew by 13 percent (46,800 persons) between 2000 and 2009. Although data are not
864 available at the tract level for this period and the 2010 census tract data are not available, it is
865 reasonable to assume that population growth would follow historic trends and would be lower in
866 the study area because it is a more established land use and not subject to the higher growth seen
867 in other areas of the City of Colorado Springs. Population is expected to increase by
868 approximately 52 percent in El Paso County between 2009 and 2035, from 604,900 to 919,600;
869 some of this growth is likely to be accommodated in the area surrounding the study area.

EXHIBIT 3-16

Population and Employment Statistics: 1990, 2000, and 2009

	Census Tracts Adjacent to US 24				City of Colorado Springs			
	1990	2000	% Change 1990-2000	2009 ¹	1990	2000	% Change 1990-2000	2009
Population	26,082	28,734	11%	----	281,140	360,798	28%	397,913
Households	11,937	13,649	14%	----	111,002	141,757	28%	158,247
Labor Force	11,408	16,622	46%	----	150,988	195,339	29%	215,177
Employment ²	10,297	15,936	57%	----	140,904	186,819	38%	200,818
Unemployment	1,111	686	-38%	----	10,084	8,520	-16%	14,359

Source: U.S. Census Bureau, 2010; State of Colorado, 2010

¹ Data are not available at the tract level between census years.

² Includes both civilian and military employment.

870 Between 1990 and 2000, employment increased by over 50 percent in the study area and over
871 35 percent for the City of Colorado Springs based on City of Colorado Springs data. During the
872 same period, unemployment decreased by more than 35 percent in the study area and 15 percent
873 in the City of Colorado Springs. Between 2000 and 2009, data are available only from the City of
874 Colorado Springs and show that while population grew 10 percent, employment increased by
875 7 percent and unemployment numbers increased by more than 68 percent. The most recent data
876 indicate higher unemployment, which is consistent with the nationwide recession.

877 The majority of census tracts adjacent to US 24 have lower median home values, median
878 household incomes, and per capita incomes than the City of Colorado Springs overall, indicating
879 the presence of some lower-income communities.

880 The majority of the more than 300 businesses in the study area can be found along Colorado
 881 Avenue and south of US 24 along 8th Street. Services include professional, personal, retail, and
 882 restaurants. The Colorado Place Shopping Center (304 South 8th Street) is the largest retail
 883 center within the study area. It contains 27 retail spaces that provide food and personal services.
 884 All of the businesses in the US 24 corridor are mapped and described in detail in the *Socioeconomic*
 885 *Resources Technical Memorandum* (CH2M HILL, 2010d) in **Appendix C**.

886 Gold Hill Mesa is a major urban redevelopment project southeast of US 24 between 8th Street
 887 and 21st Street. The plan for Gold Hill Mesa includes more than 140 acres of residential
 888 development and 67 acres of commercial development. Construction began in 2006.

889 **Neighborhoods and Community Facilities**

890 Neighborhoods directly north of US 24 include Pleasant Valley, Old Colorado City, and
 891 Westside. Neighborhoods directly south include Crystal Hills in the City of Manitou Springs,
 892 Midland, Gold Hill Mesa, Skyway, and Ivywild. US 24 also provides access to other
 893 neighborhoods north and south of the study area. The neighborhood street network is a grid
 894 system that allows for easy rerouting of trips, an undesired effect for the neighborhoods.
 895 Sidewalks are disconnected within the neighborhoods. These neighborhoods are shown by
 896 general location in **Exhibit 3-17**.

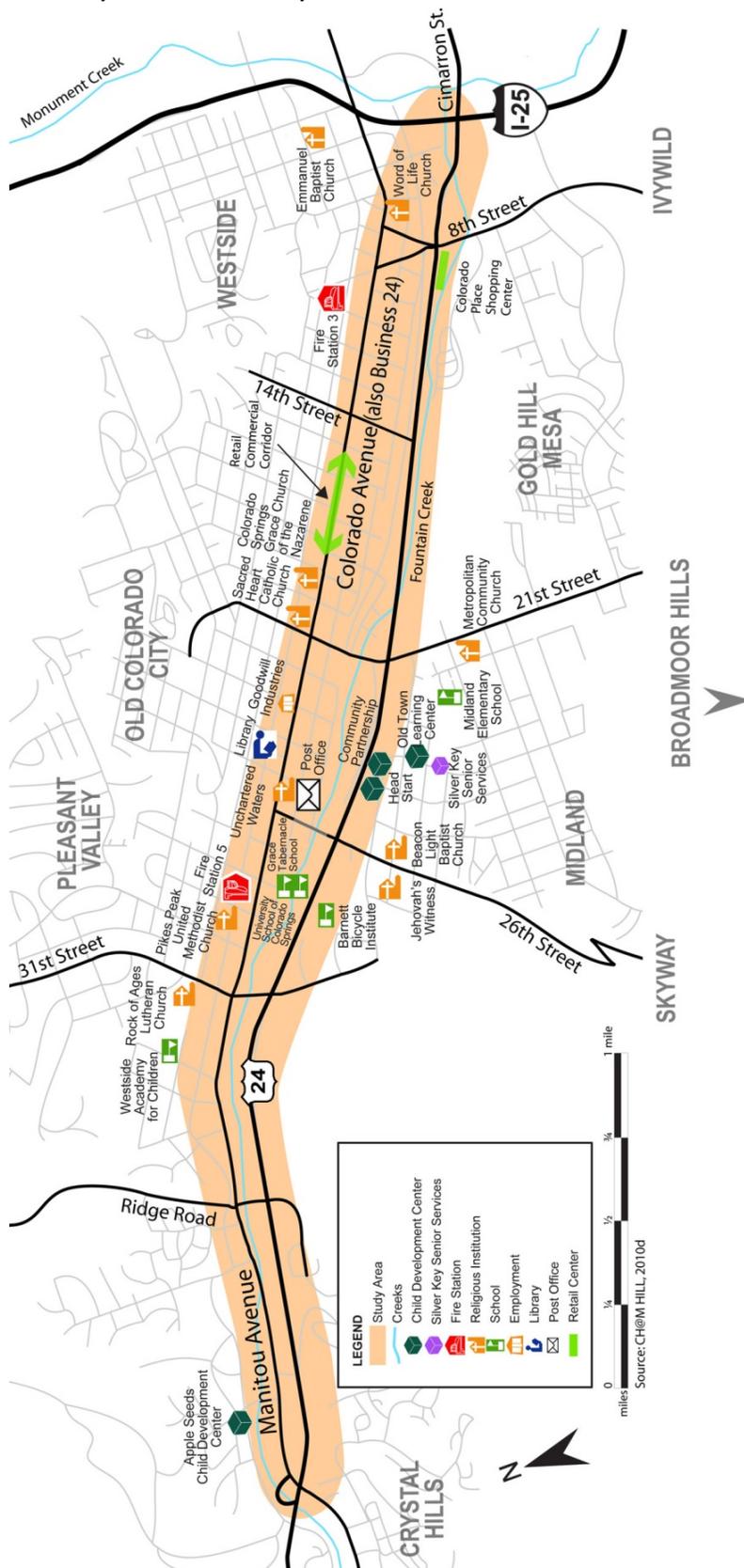
897 The Organization of Westside Neighbors is a non-profit organization that represents more than
 898 8,200 residences and 800 businesses in the Westside area of Colorado Springs. The project team
 899 has met with this organization throughout the development of the project to provide
 900 information, understand neighborhood concerns, and gather input.

901 In addition to coordination with the Organization of Westside Neighbors, other neighborhood
 902 meetings took place throughout 2006 with different organizations and homeowner's
 903 associations. Meeting topics varied from a general overview of the project to economic studies.
 904 A summary of these meetings and activities is provided in **Chapter 5, Agency Coordination**
 905 **and Public Involvement**.

906 Community facilities within 1,000 feet of US 24 include schools, child development centers,
 907 religious institutions, a library, a U.S. Post Office, senior services, and emergency services. These
 908 resources are described below and shown in **Exhibit 3-17**.

- 909 • **Schools** – There are four schools within 1,000 feet of US 24. They include Midland
 910 Elementary School; the Greats Tabernacle School for preschool-aged children; the Westside
 911 Academy for Children for pre-kindergarten and kindergarten-aged children; and the Barnett
 912 Bicycle Institute, a school that offers technical programs, business training, or technician
 913 certifications.
- 914 • **Child Development Centers** – There are four child development centers within 1,000 feet
 915 of the US 24 Corridor: Apple Seeds Child Development Center, Old Town Learning Center,
 916 Head Start of El Paso County, and the Community Partnership-Child Development Center.
 917 Serving an estimated 1,600 children, these programs offer free or affordable services to
 918 pregnant woman, children of low-income families, and children with special needs.

919 EXHIBIT 3-17
 920 Neighborhoods and Community Facilities in the Study Area



- 921 • **Religious Institutions** – Nine religious institutions are located within 1,000 feet of US 24.
 922 These include Metropolitan Community Church, Unchartered Waters, Jehovah’s Witnesses,
 923 Beacon Light Baptist Church, Pikes Peak United Methodist Church, Rock of Ages Lutheran
 924 Church, Day Spring Bible College, Colorado Springs Emmanuel Missionary Baptist Church
 925 Corporation, and Word of Life Church.
- 926 • **Library** – There is one library located just outside of the study area north of Colorado
 927 Avenue. This library, the Old Colorado City Public Library located at 2418 West Pikes Peak
 928 Avenue, is a branch of the Pike’s Peak Library District and provides a variety of classes,
 929 programs, and events.
- 930 • **U.S. Post Office** – There is one U.S. Post Office in the study area, located at 204 S.
 931 25th Street.
- 932 • **Senior Services** – Silver Key Senior Services (2250 Bott Avenue) provides social, home
 933 care, legal, and other support services to adults over 60 years old within the study area.
- 934 • **Emergency Services** – There are 20 fire stations located throughout the City of Colorado
 935 Springs. Two of these are located within 1,000 feet of US 24: Fire Station 3 (922 W.
 936 Colorado Avenue) and Fire Station 5 (2830 W. Colorado Avenue). The City of Colorado
 937 Springs Police Department comprises four area commands with a total of 11 police facilities,
 938 none of which is located within the study area.

939 The project team spoke with emergency responders in the early phases of the project to provide
 940 information about the project and identify any concerns. The Colorado Springs Police
 941 Department supports the addition of standard shoulders through the US 24 corridor and
 942 requested CDOT consider an inside shoulder at the I-25 and US 24 ramp intersection for
 943 emergency and police vehicles. Further coordination with emergency responders would occur
 944 during final design.

945 No hospitals are located within 1,000 feet of the US 24 study area. Memorial Hospital and
 946 Memorial Hospital for Children, approximately 2.5 miles from the study area, are the nearest
 947 full-service hospitals.

948 **3.7.1 Impacts of the No Action Alternative**

949 Although the transportation projects included in the No Action Alternative would improve
 950 mobility for local trips, they are limited in scope and would not address congestion, mobility for
 951 regional trips, nor would they improve connectivity to destinations along US 24. Adverse effects
 952 on socioeconomic conditions would arise as a result of this unmet transportation need. These
 953 would include effects that are typically caused by traffic congestion and impaired mobility,
 954 including longer travel times, neighborhood cut-through traffic, deteriorating safety conditions,
 955 an increase in localized air pollution and noise, and lengthened emergency response times.

956 Access to Gold Hill Mesa would become increasingly difficult from US 24 with unacceptable
 957 Level of Service at 8th Street and 21st Street.

958 **3.7.2 Impacts of the Proposed Action**

959 The Proposed Action would benefit local residents, businesses, and regional commuters by
 960 reducing congestion and improving mobility and connectivity along US 24. The US 24 overpass
 961 of Ridge Road improves safety for motorized and non-motorized travelers to the Red Rock
 962 Canyon Open Space and neighborhood south of US 24. Sidewalks would be provided or

963 improved along 8th Street, 21st Street, 26th Street, 31st Street, and Ridge Road. The sidewalks
964 would be detached from the road where space permits to more safely accommodate pedestrians.

965 US 24 acts as the existing boundary for neighborhoods in the study area, and the Proposed
966 Action would not divide existing neighborhoods or impact neighborhood cohesion. Access to
967 US 24 at 14th Street would be removed. No new access points to US 24 would be provided.
968 Neighborhood cut-through traffic, caused by congestion on US 24, would be reduced.

969 The neighborhood and community facilities in the study area such as schools, child development
970 centers, religious institutions, the library, the post office, and the senior services would not be
971 directly impacted by the Proposed Action. These facilities would benefit by the reduced
972 congestion, the improved mobility, and the connectivity of the area.

973 The Proposed Action would require the acquisition and relocation of residential and commercial
974 properties, as detailed in **Section 3.3, Right-of-Way**. For example, an estimated 24 households
975 would be displaced. This represents approximately one fifth of
976 one percent of the 13,649 households in US 24 adjoining Census
977 tracts, as reported in **Exhibit 3-16**. Given the small number of
978 displacements in relation to the total amount of comparable
979 housing stock in this area, no effect on local or regional
980 population distribution or housing demand would be expected.

The Proposed Action would accommodate emergency service providers with 12-foot shoulders on both sides of the highway.

981 Employees of the estimated 77 relocated businesses would have to travel to a new location to
982 maintain their employment or find employment elsewhere. This could affect an estimated
983 1,859 employees, according to the *U.S. Highway 24 Alternatives Analysis (Manitou Springs to*
984 *Interstate 25) Market and Socio-Economic Impacts* (THK Associates, Inc., 2006) with a follow-up
985 memorandum in October 2008. That analysis indicated that much of the economic activity from
986 these businesses was for goods and services with demand from the surrounding market area and
987 thus most of these businesses would likely be able to relocate within the study area. Thus, the
988 net impact to local employment would be from only those displaced businesses that do not
989 relocate nearby.

990 Highway construction jobs have the potential to substantially offset short-term loss of
991 employment from displaced businesses. At any given time during the multiyear duration of
992 implementing the Proposed Action, it is reasonable to expect that there would be several
993 hundred persons employed in various aspects of project design and construction. The estimated
994 cost of construction in 2011 dollars is \$230 million.

995 The economic impacts study also identified short term declines of \$521,000 annually in property
996 tax collection and an estimated \$1.2 million annually in sales tax revenues. However, these
997 impacts would be offset in the longer term as the result of local development and redevelopment
998 that would occur due to the increased accessibility of the study area. With the Proposed Action,
999 the improved traffic operations would increase the geographic market area of the businesses
1000 within the study area, resulting in a net increase of \$3.7 million in sales taxes; \$1,478,529 in
1001 property taxes. The study projected a net increase of approximately 640 additional employees
1002 and more than 1,000 new residents in the study area. This development and redevelopment
1003 would be by others and therefore, are not direct benefits of the project. For more information
1004 see **Section 3.14, Cumulative Impacts**.

1005 The economic impacts study described above showed that most of the local businesses that are
1006 acquired for the improvements would relocate within the study area. Businesses that were of
1007 great importance to the community and would have a difficult time relocating within the study
1008 area, such as Safeway, were not impacted. The Proposed Action was designed to avoid these
1009 businesses.

1010 The Proposed Action includes 12-foot shoulders on both sides of US 24 throughout most of the
1011 US 24 corridor. The shoulders would provide access for emergency service providers during
1012 congestion resulting from emergencies.

1013 During construction, temporary detours, out-of-direction travel, and construction-related noise
1014 would affect local residents, businesses, and regional commuters. Impacts would be greatest for
1015 residents and businesses adjacent to the proposed project.

1016 **3.7.3 Mitigation**

1017 CDOT will provide advance notice to emergency service providers, local schools, homeowners
1018 associations, and local businesses of upcoming construction activities that are likely to result in
1019 traffic disruption and rerouting.

1020 For any person(s) whose real property interests may be impacted by this project, the acquisition
1021 of those property interests will fully comply with the Uniform Act. The Uniform Act is a
1022 federally mandated program that applies to all acquisitions of real property or displacements of
1023 persons resulting from federal or federally assisted programs or projects. It was created to
1024 provide for and ensure the fair and equitable treatment of all such persons. To further ensure
1025 that the provisions contained within this act are applied “uniformly,” CDOT requires Uniform
1026 Act compliance on any project for which it has oversight responsibility regardless of the funding
1027 source. Additionally, the Fifth Amendment of the United States Constitution provides that
1028 private property may not be taken for a public use without payment of “just compensation.” All
1029 impacted owners will be provided notification of the acquiring agency’s intent to acquire an
1030 interest in their property including a written offer letter of just compensation specifically
1031 describing those property interests. A ROW specialist will be assigned to each property owner to
1032 assist them with this process (CDOT, 2008b).

1033 Mitigation for temporary construction-related impacts such as detours, out-of-direction travel,
1034 noise, and air emissions are addressed in **Section 3.1, Transportation Resources, Section 3.6,**
1035 **Traffic Noise, and Section 3.13.4, Air Quality.**

1036 3.8 Environmental Justice

1037 Environmental justice refers to social equity in bearing the burdens of adverse environmental
1038 impacts. In the past, some racial or ethnic minorities and low-income populations have
1039 experienced disproportionate impacts caused by construction of transportation projects. In
1040 response to this concern, an Executive Order was issued by President Clinton in 1994. Among
1041 other things, it directed that:

1042 “Each Federal agency shall make achieving environmental justice part of its mission by
1043 identifying and addressing, as appropriate, disproportionately high and adverse human health or
1044 environmental effects of its programs, policies, and activities on minority populations and
1045 low-income populations.”

1046 -Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority*
1047 *Populations and Low-Income Populations*, 1994.

1048 The analysis that follows documents the presence of minority and low-income populations in
1049 the study area and evaluates the potential for impacts to these populations. Details are provided
1050 in the *Environmental Justice Technical Memorandum* (CH2M HILL, 2010e) in **Appendix C**.

1051 While the U.S. Census Bureau is the primary source of data for the environmental justice
1052 analysis, additional efforts were made to supplement census findings. Data searches were
1053 conducted at the Office of Economic Development and International Trade, Minority Business
1054 Office website to identify any minority-owned businesses in the study area (State of Colorado,
1055 2008). The Colorado Springs Housing Authority was contacted to identify Section 8 housing in
1056 the study area. Recent home sales data on www.Trulia.com were used to compare median home
1057 sale prices in the study area to the greater community. Demographic data from local schools
1058 (e.g., race and ethnicity, eligibility for free/reduced-price lunch) were evaluated and compared to
1059 countywide statistics. The project team also conducted field visits and met with local business
1060 owners to identify potential issues or concerns.

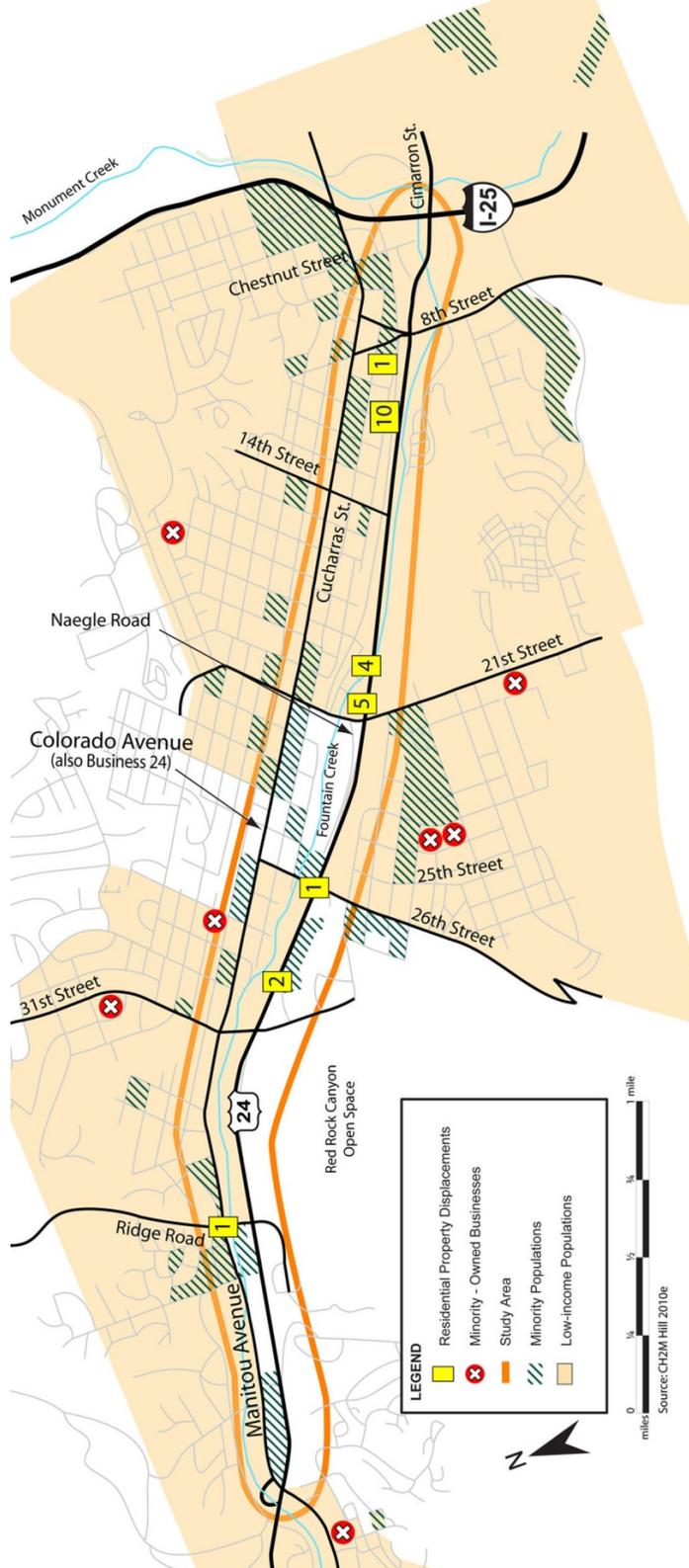
1061 Specialized outreach to minority and low-income populations was undertaken as part of the
1062 public involvement process to solicit input and identify concerns regarding the project. The
1063 specific efforts targeted at minority, non-English speaking, and low-income populations in the
1064 study area are detailed in **Chapter 5, Agency Coordination and Public Involvement**.

1065 Minority Populations

1066 Minority populations are comprised of ethnic and/or racial
1067 minorities. For the purposes of this analysis, a minority is a
1068 person who is Black, Hispanic, Asian American, American
1069 Indian, or Alaskan Native. In Colorado Springs, 25 percent of the
1070 population is considered minority. Census and other data sources
1071 do not indicate that the study area contains higher-than-average
1072 concentrations of minorities when compared to the City of
1073 Colorado Springs as a whole. Of the 343 census blocks within 0.25 mile of the proposed
1074 improvements, 57 (17 percent) contain higher-than-average concentrations of minority
1075 populations. Only six of these blocks are immediately adjacent to US 24. Because some blocks
1076 extend beyond the study area boundaries, some of the minorities identified through census data
1077 may be outside of the study area for the project. Census blocks with higher-than-average
1078 concentrations of minorities are scattered north and south of the US 24 corridor and are shown
1079 by location in **Exhibit 3-18**.

The study area does not contain higher than average concentrations of minorities, when compared to the city as a whole.

1080 **EXHIBIT 3-18**
 1081 **Minority and Low-Income Populations, Minority-Owned Businesses, and Residential Property Acquisitions**



1082 Sources: US Census Bureau, 2000; HUD Income Limits, 2008; Office of Economic Development and
 1083 International Trade, Minority Business Office, 2008.

1084 Midland Elementary School is located within a census block that contains 225 people, 61 of
 1085 whom (27 percent) consider themselves minorities. The school reports that approximately
 1086 32 percent of its student population is minority. None of the other data sources evaluated
 1087 indicated that the study area contains higher-than-average minority populations, and there were
 1088 no requests for translation services or specialized meetings throughout the public involvement
 1089 process. As shown in **Exhibit 3-18**, seven businesses in the vicinity of the proposed project are
 1090 registered with the Office of Economic Development and International Trade, Minority
 1091 Business Office.

1092 **Low-Income Populations**

1093 For the purposes of this analysis, households earning less than
 1094 \$20,000 each year are considered low-income. This threshold
 1095 was derived from a combination of census average household
 1096 size data and the income thresholds set annually by the
 1097 Department of Housing and Urban Development (HUD) for
 1098 the distribution and allocation of Community Development
 1099 Block Grant funds, in accordance with CDOT guidance.
 1100 In Colorado Springs, 17 percent of households fall below the \$20,000 threshold.

The study area contains higher than average concentrations of low-income households, when compared to the city as a whole.

1101 Census and other data sources indicate that the study area contains higher-than-average
 1102 concentrations of low-income households when compared to the City of Colorado Springs as a
 1103 whole. Of the 21 census block groups adjacent to US 24, 17 (81 percent) contain higher-than-
 1104 average concentrations of low-income households. The census block groups adjacent to US 24
 1105 are large and extend north and south more than 0.25 mile from US 24. As a result, many of the
 1106 households identified through census data may be outside of the study area for the project.
 1107 Census block groups with higher-than-average concentrations of low-income households are
 1108 shown by location in **Exhibit 3-18**.

1109 The Colorado Springs Housing Authority identified more than 700 Section 8 properties within
 1110 the City of Colorado Springs. It is reasonable to assume that a portion of these are located
 1111 within the study area but, because of concerns relating to privacy, the Authority was unable to
 1112 provide the exact number and location. Lower home values and demographic data for Midland
 1113 Elementary School, where more than half of the students in attendance are eligible for free or
 1114 reduced-price lunches, also support census findings.

1115 **3.8.1 Impacts of the No Action Alternative**

1116 The No Action Alternative would improve intersection geometry at both 8th Street and
 1117 21st Street and complete the Midland Trail between 21st Street and Manitou Avenue. These
 1118 improvements may require ROW acquisition from within minority and low-income areas.
 1119 Because specific ROW needs for the No Action Alternative have not been identified, it is
 1120 unknown if these actions would result in the relocation of minority or low-income residents.

1121 Adverse effects to minority and low-income populations
 1122 could arise from the No Action Alternative. These would
 1123 include effects that are typically caused by traffic
 1124 congestion and impaired mobility, including longer travel
 1125 times, neighborhood cut-through traffic, deteriorating
 1126 safety conditions, an increase in localized air pollution and
 1127 noise, and lengthened emergency response times. Traffic
 1128 congestion likely would worsen on local streets as drivers

Because the majority of the corridor is considered low-income, impacts associated with either the No Action Alternative or the Proposed Action would be predominantly borne by low-income populations.

1129 seek alternatives to US 24, which could affect the timeliness of transit routes serving the area.
 1130 Pedestrian and bike safety would not be improved, as sidewalks would remain disconnected and
 1131 highway crossing opportunities limited. The No Action Alternative does not include drainage
 1132 improvements. Properties adjacent to US 24, most in low-income areas, would continue to be
 1133 subject to 100-year flooding from Fountain Creek. These effects would be predominantly borne
 1134 by low-income populations due to their proximity to Fountain Creek.

1135 **3.8.2 Impacts of the Proposed Action**

1136 As shown in **Exhibit 3-18**, most residential acquisitions (22 out of 24) required for the Proposed
 1137 Action are located in census blocks with higher-than-average percentages of low-income
 1138 households. Because the majority of the US 24 corridor is considered low-income, these impacts
 1139 would be predominantly borne by low-income populations.

1140 None of the business relocations are known to be owned by
 1141 minorities or provide services or employment of special importance
 1142 to minority or low-income persons.

*Improvements included
 in the Proposed Action
 would also benefit
 minority and low-income
 residents.*

1143 Locations where predicted noise levels equal or exceed CDOT's
 1144 Noise Abatement Criteria (66 decibels for residences) are
 1145 considered impacted by noise, as are locations where future noise
 1146 levels are predicted to exceed existing noise levels by 10 decibels or more. Traffic noise impacts
 1147 are predicted to occur at 30 residences, eight of which are located in areas with higher-than-
 1148 average concentrations of minority residents and/or low-income households.

1149 The Proposed Action would result in temporary impacts to the community from increased dust,
 1150 dirt, noise, traffic, and access disruptions during the construction process. Because the majority
 1151 of the US 24 corridor is considered low income, these impacts would be predominantly borne
 1152 by low-income populations.

1153 The Proposed Action would benefit minority and low-income residents, as well as the overall
 1154 community by reducing congestion, improving mobility, constructing sidewalks, residents
 1155 currently in the 100-year floodplain will be outside of the floodplain, and reducing traffic noise
 1156 levels (after constructing noise barriers). The Proposed Action would remove through-traffic
 1157 from local streets and facilitate timely transfer between bus routes. This, in combination with
 1158 construction of sidewalks at intersections, would promote better multimodal connections for
 1159 transit-dependent residents.

1160 As previously noted, ROW and temporary construction-related impacts would be predominantly
 1161 borne by low-income populations. However, when offsetting benefits from the project and
 1162 proposed mitigation are also considered, these impacts would not be considered
 1163 disproportionately high and adverse. All other impacts are either distributed across the
 1164 community (e.g., business acquisitions, temporary construction-related impacts) or would be
 1165 mitigated so as to not disproportionately affect minority and/or low-income populations
 1166 (e.g., acquisition of parkland, noise levels).

1167 **3.8.3 Mitigation**

1168 CDOT will follow the Uniform Act, as amended, in acquiring ROW. CDOT's programs to
 1169 assist renters and homeowners with the inconvenience of relocation would provide monetary
 1170 compensation for the fair market value of the property, relocation assistance, moving assistance,
 1171 and relocation replacement housing payments or rent supplements.

1172 Noise barriers would reduce noise levels below 66 decibels at three locations in the US 24
 1173 corridor. Specifics are addressed in **Section 3.6, Traffic Noise**. Two of the walls will be
 1174 constructed in higher-than-average low income and/or in neighborhoods between 11th Street
 1175 and 14th Street and on the south side of US 24 in the area of the A-1 mobile homes.

1176 Mitigation for temporary construction-related impacts such as detours, out-of-direction travel,
 1177 and air emissions are addressed in **Section 3.1, Transportation Resources** and **Section 3.13.4,**
 1178 **Air Quality**. Mitigation has been factored into the analysis of potential impacts to minority and
 1179 low-income populations. Efforts will be made to notify and include minority and low-income
 1180 populations in the public hearing for the EA. The public hearing will be advertised in *Hispania*
 1181 and on community websites, neighborhood newsletters, and flyers. Telephone numbers for
 1182 information and Spanish translation will be included. Translators will be available upon request
 1183 at the public hearing for the EA.

1184 CDOT will develop and implement a public information plan throughout construction. This
 1185 plan and any information on construction activities and detours will be provided in both English
 1186 and Spanish.

1187 **3.9 Land Use**

1188 Relevant land use plans, land use and zoning maps, and aerial photographs were reviewed to
 1189 characterize and evaluate land use and zoning issues in the US 24 study area.

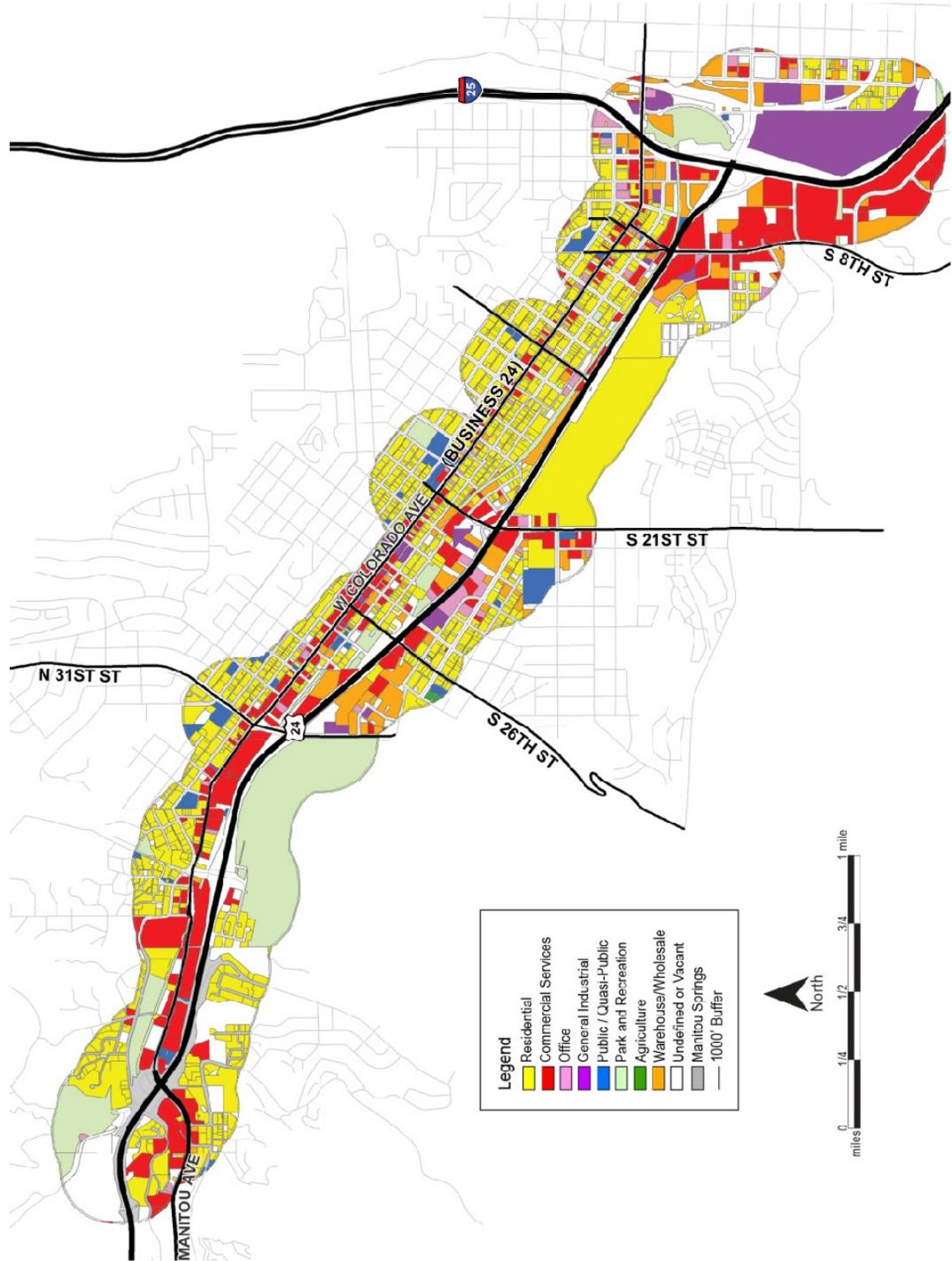
1190 The land uses that currently surround US 24 are varied, and nearly every category is represented.
 1191 Land immediately north of US 24 consists predominantly of commercial and industrial uses with
 1192 residential land uses further north. Land immediately south of US 24 includes a mixture of uses.
 1193 Existing land uses are illustrated in **Exhibit 3-19**.

1194 Existing land use is generally consistent with existing zoning in the study area. Some
 1195 inconsistencies do exist (e.g., residential uses in commercial or industrial zones), which may
 1196 indicate a desire to transition lower-intensity uses (e.g., single-family dwellings) to
 1197 higher-intensity uses (e.g., higher-density residential, offices, or commercial establishments) in
 1198 the US 24 corridor. Existing zoning is mapped and described in detail in the *Land Use Technical*
 1199 *Memorandum* (CH2M HILL, 2009a) in **Appendix C**.

1200 Land use planning in the study area is the responsibility of El Paso County, City of Colorado
 1201 Springs, and City of Manitou Springs. Future land use directly surrounding US 24 is classified by
 1202 Colorado Springs as a mature redevelopment corridor. According to the *City of Colorado Springs*
 1203 *Comprehensive Plan* (City of Colorado Springs, 2001a), a mature redevelopment corridor is defined
 1204 as a corridor that lines older arterial streets and state highways with retail uses and auto-oriented
 1205 services developed in a typical strip commercial pattern. These corridors also include significant
 1206 infill and redevelopment opportunities. The adopted land use plans listed below provide policy,
 1207 goals, and visions for land use, transportation, pedestrian and bicycle access, improvements for
 1208 intersection operations, and other planning elements within the study area.

- 1209 • *Moving Forward – 2035 Regional Transportation Plan* (PPACG, 2008a): Identifies US 24 in the
 1210 study area as a major multimodal, regional arterial that facilitates longer-distance regional
 1211 trips and access to adjacent establishments in the most densely developed areas.

1212 EXHIBIT 3-19
 1213 Existing Land Use



- 1214 • *City of Colorado Springs Comprehensive Plan* (City of Colorado Springs, 2001a): Does not identify
 1215 specific goals or objectives for US 24, but includes transportation planning to enhance the
 1216 natural environment and improve mobility.
- 1217 • *City of Colorado Springs Comprehensive Plan Annual Report 2007-2008* (City of Colorado Springs,
 1218 2007a): Identifies the US 24 corridor as one of eight designated redevelopment corridors and
 1219 areas for possible redevelopment and/or infill development.
- 1220 • *City of Colorado Springs Intermodal Transportation Plan* (City of Colorado Springs, 2001b): Does
 1221 not identify specific goals or objectives for US 24, but is part of a continuing effort to
 1222 enhance the transportation system for the City of Colorado Springs and to develop a
 1223 comprehensive approach to transportation planning.
- 1224 • *City of Colorado Springs 2008 Strategic Plan* (City of Colorado Springs, 2007b): Does not identify
 1225 specific goals or objectives for US 24. A key issue identified in the plan is sustainability and
 1226 support for development that revitalizes neighborhoods.
- 1227 • *Westside Plan* in 1980 – Updated by the *Midland Plan* in 1986 (City of Colorado Springs,
 1228 1980 and 1986): Identifies the need for transportation improvements that would keep
 1229 through traffic off of local residential streets and eliminate congestion problems. Plans for
 1230 the extension of the Midland Trail and other local bike/pedestrian trails. Potential solutions
 1231 to address congestion on US 24 and Colorado Avenue identified in the plan include
 1232 widening US 24 and eliminating signals at major intersections on US 24.

1233 The only major land development project in progress in the study area is Gold Hill Mesa,
 1234 located south of US 24 between 8th Street and 21st Street. This development includes more than
 1235 140 acres for residential development and 67 acres for commercial development. As a
 1236 traffic-generating land use, this could add to the existing traffic congestion problems on US 24.
 1237 Another smaller residential development of custom homes is being built south of US 24 and
 1238 west of Ridge Road, and could also add traffic to US 24.

1239 Additional information about land use and zoning is included in the *Land Use Technical*
 1240 *Memorandum* (CH2M HILL, 2009a) in **Appendix C**.

1241 **3.9.1 Impacts of the No Action Alternative**

1242 The No Action Alternative would improve intersection geometry at both 8th Street and
 1243 21st Street and complete the Midland Trail between 21st Street and Manitou Avenue. These
 1244 improvements to be built by others might require ROW acquisition and the conversion of
 1245 existing land to transportation uses.

1246 The No Action Alternative would not support planned development/re-development in the
 1247 study area because congestion on US 24 would continue. Access to Gold Hill Mesa and other
 1248 existing neighborhoods would become increasingly difficult, which could make residential and
 1249 commercial units less desirable.

1250 The No Action Alternative would only partially support the relevant goals and objectives
 1251 presented in adopted land use plans. It would not provide the necessary congestion relief,
 1252 improve mobility for vehicles or improve connectivity to destinations along US 24. The Midland
 1253 Trail extension would support goals related to pedestrian and bicycle access.

1254 **3.9.2 Impacts of the Proposed Action**

1255 The Proposed Action is consistent with planned land uses. The study area is mostly built, leaving
 1256 limited potential for additional new development other than for Gold Hill Mesa and a smaller

1257 residential area being developed with custom homes south of US 24
 1258 and west of Ridge Road. Improved access at new interchange
 1259 locations could result in the redevelopment of commercial land uses.
 1260 Capacity improvements would support the additional traffic
 1261 associated with Gold Hill Mesa. A detailed analysis of compatibility
 1262 with relevant land use plans is included in the *Land Use Technical*
 1263 *Memorandum* (CH2M HILL, 2009a) in **Appendix C**.

The Proposed Action supports the goals and objectives of adopted land use plans and policies.

1264 The Proposed Action supports the goals and objectives of adopted land use plans and policies.
 1265 It provides the additional capacity necessary to accommodate anticipated growth and
 1266 redevelopment; improves capacity, mobility, transportation connections, and pedestrian and
 1267 bicycle access; and builds more trail in the existing gap in the Midland Trail.

1268 The Proposed Action would result in the direct conversion of residential, commercial, and
 1269 public lands to a transportation use. The widening of US 24 and associated improvements
 1270 described in **Chapter 2, Alternatives** would require the acquisition of 109 properties
 1271 (81 commercial, three mixed-use, 14 public, and 11 residential) (refer to **Section 3.3,**
 1272 **Right-of-Way**). Direct impacts to land use by land use classification are quantified in
 1273 **Exhibit 3-20**.

EXHIBIT 3-20

Summary of Direct Land Use Impacts by Land Use Classification¹

Land Use Classification	Existing Acres in Study Area	Acres Converted for Proposed Action	Percent of Impact
Residential	541.17	5.01	<1
Commercial	268.81	30.51	11
Office	33.59	3.55	11
Industrial	97.43	4.78	5
Public/Quasi-Public	45.23	0.54	1
Park and Recreation	202.01	8.03	4
Agriculture	1.04	0.00	0
Warehouse/Wholesale	116.98	16.97	15
Undefined/Vacant	159.13	15.53	10
Total	1,465.39	84.92	6

¹ Land Use classifications defined by the City of Colorado Springs differ from the property types defined by the El Paso County Assessor. Therefore, the quantities presented in **Exhibit 3-20** should not be compared to those in **Section 3.3, Right-of-Way**.

1274 3.9.3 Mitigation

1275 Mitigation strategies for acquiring residential, commercial, and public lands for transportation
 1276 use are addressed in **Chapter 3, Section 3.3, Right-of-Way**.

1277 No land use specific mitigation measures are necessary. Local planning jurisdictions have the
 1278 authority to make land use decisions and approve land use change and development. The project
 1279 team will continue to coordinate with local governments to ensure the Proposed Action is
 1280 consistent with land use objectives.

1281 3.10 Hazardous Materials

1282 US 24 in the study area is a major transportation route and a designated truck route in an area
1283 with many commercial and industrial establishments. The US 24 corridor is also a designated
1284 route for transport of hazardous materials. Therefore, the potential exists for accidental release
1285 of hazardous substances to the environment. Regulations and standard procedures are in place
1286 to minimize the risk of spills and to ensure their safe remediation.

1287 Before acquiring any property for use as roadway ROW, CDOT undertakes due diligence to
1288 determine whether the property is contaminated with hazardous materials or petroleum products
1289 within structures and/or in the soil and groundwater. Encountering such materials during the
1290 construction of US 24 improvements could affect the health and safety of the public,
1291 construction workers, and the environment.

1292 Four types of contamination are often found along an urban highway:

- 1293 • Soil and groundwater pollution due to fuel leaking from an underground storage tank;
- 1294 • Soil and groundwater contamination due to landfills, material spills, or industrial operations;
- 1295 • Asbestos found in nearby structures that are acquired for highway ROW and in soil where
1296 building debris has been buried; and
- 1297 • Lead paint found on highway bridge structures or in buildings acquired for ROW.

1298 Coordination with the Colorado Department of Labor and Employment Division of Oil and
1299 Public Safety (OPS) was conducted as part of this study. An environmental records search was
1300 performed on the US 24 study area to identify recognized environmental conditions (RECs),
1301 potential RECs, or historical RECs that may impact the project. RECs are sites where current or
1302 historic activities may have resulted in the release of hazardous materials into the soil,
1303 groundwater or surface water. Historical RECs are sites that in the past would have been
1304 considered a REC, but may or may not be considered a REC currently, such as a leaking
1305 underground storage tank (LUST) site that has been remediated and the remediation has been
1306 accepted by the OPS. The results from the environmental records search are shown in
1307 **Exhibit 3-21**, and encompass an area extending 1 mile in each direction from the US 24
1308 centerline. A summary table is provided as **Exhibit 3-22** listing the Map ID, the site type, the
1309 owner or company name of the site, the address of the site, comments regarding the site, and a
1310 determination whether the site is considered a REC. Out of the 238 sites reviewed, three are
1311 considered RECs and are discussed in **Section 3.10.2, Impacts of the Proposed Action**. A
1312 driving tour was also conducted for the purpose of locating and assessing the sites identified in
1313 the records search and to identify any other RECs or potential RECs not contained within the
1314 EDR report, but none was identified during this site reconnaissance. For detailed results of the
1315 database records search, please refer to the *Hazardous Materials Technical Memorandum*
1316 (CH2M HILL, 2010f) in **Appendix C**.

1317 US 24 is a transportation corridor through a long-developed urban area with commercial and
1318 industrial land uses. A large number and variety of older hazardous material sites were identified
1319 in the study area. These include sites that are listed in the national database Comprehensive
1320 Environmental Response, Compensation, and Liability Information System, most of which do
1321 not require further remedial action. Also found in the study area were a number of underground
1322 storage tanks, mostly at gasoline stations, including some that previously leaked and were
1323 subsequently removed and remediated. Another prominent site is the Gold Hill Mesa

EXHIBIT 3-21

Summary of Hazardous Materials Sites

Map ID	Facility Name and Address	Comments	REC?
1	Abe's Gas House, 32 Manitou Avenue	Leaking underground storage tank (LUST), Underground storage tank (UST): UST is registered with OPS. No Further Action issued from OPS.	Historical REC
2	Garden of the Gods Campground, 3704 West Colorado Avenue	Aboveground storage tank (AST): UST is registered with OPS. Not considered to be leaking.	NO
3	R & P Tours, 3440 West Colorado Avenue	UST: UST is registered with OPS. Not considered to be leaking.	NO
4	Cliff Brice Stations, 3313 West Colorado Avenue	UST: UST is registered with OPS. Not considered to be leaking.	NO
5	Longs Drug Store #288, 3143 West Colorado Avenue	Facility Index System (FINDS), Resource Conservation and Recovery Act (RCRA)-Conditionally Exempt Small Quantity Generators (CESQG): Site in FINDS database for RCRA-CESQG and Aerometric Information Retrieval System (AIRS). No RCRA violations.	NO
5	Best Cleaners, 3157 West Colorado Avenue	AIRS, DRY CLEANERS, FINDS, RCRA-CESQG, Voluntary Cleanup Program (VCP): Facility has an air permit for trichloroethylene (TCE) emissions. Facility is a dry cleaner. Site in FINDS database for RCRA-CESQG and AIRS. No RCRA violations noted. Approved VCP application in 2005. Outside of project ROW.	NO
5	Red Rocks Shopping Center, 3175 West Colorado Avenue	LUST: No Further Action issued from OPS.	Historical REC
6	7-Eleven #22613, 3004 West Colorado Avenue	UST: UST is registered with OPS. Not considered to be leaking.	NO
6	30th Street Car Wash, 3005 West Colorado Avenue	UST: UST is registered with OPS. Not considered to be leaking.	NO
6	Fountain Creek RV Park, 3023 West Colorado Avenue	AST: AST is registered with OPS. Not considered to be leaking.	NO
6	K & S Automotive, 3042 West Pikes Peak Avenue	FINDS: Site in FINDS database for RCRA-CESQG. LUST: Two tanks permanently closed. RCRA-CESQG: No RCRA violations noted. UST: UST is registered with OPS.	Historical REC
6	Red Rock AMOCO, 3104 West Colorado Avenue	FINDS: Site in FINDS database for RCRA-Non-Gen. RCRA site not generating waste (NonGen): No RCRA violations noted.	NO
6	AMOCO #5494, 3104 West Colorado Avenue	LUST: 8 tanks total, 4 have been removed; 4 have been permanently closed. LUST TRUST: See LUST for same property. UST: UST is registered with OPS.	Historical REC
7	Diamond Shamrock 675, 2715 West Colorado Avenue	LUST: OPEN, site is in active groundwater monitoring. Outside of project ROW. LUST TRUST: See LUST for same property. UST: UST is registered with OPS.	Historical REC

EXHIBIT 3-21

Summary of Hazardous Materials Sites

Map ID	Facility Name and Address	Comments	REC?
7	Old Towne Propane, 2725 West Colorado Avenue	AST: UST is registered with OPS. Not considered to be leaking.	NO
7	Health Martrix The, 2802 West Colorado Avenue	FINDS: Site in FINDS database for RCRA-Non-Gen. RCRA-NonGen: RCRA violation, outside of project ROW.	NO
7	Ford Motor Co Test Facility, 2803 West Cucharras Street	FINDS: Site in FINDS database for RCRA-Non-Gen. RCRA-NonGen: No RCRA violations noted.	NO
7	Sparrow & Jacobs Inc., 2808 West Colorado Avenue	FINDS: Site in FINDS database for RCRA-CESQG. RCRA-CESQG: No RCRA violations noted.	NO
7	Roger & Phil McLaughlin, 2811 West Cucharras Street	UST: AST is registered with OPS. Not considered to be leaking.	NO
8	Colorado Philadelphia Reduction Works, East Side of 31st Street between US 24 and Robinson Street	Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS): Status has been changed to No Further Remedial Action Planned (NFRAP), outside of project ROW. FINDS: Site in FINDS database for CERCLIS.	NO
9	Sno White Linen & Uniform Rent, 110 South 25th Street	AIRS: Facility has an air permit for TEC and particulate matter emissions. DRY CLEANERS: Facility is a dry cleaner. FINDS: Site in FINDS database for RCRA-CESQG and AIRS. RCRA-CESQG: No RCRA violations noted. UST: UST is registered with OPS. Not considered to be leaking.	NO
9	Sno White Laundry, 2515 West Colorado Avenue	UST: AST is registered with OPS. Not considered to be leaking.	NO
9	Bobs Discount Collision Paint, 2524 West Cucharras Street	FINDS: Site in FINDS database for RCRA-CESQG. RCRA-CESQG: No RCRA violations noted.	NO
9	Dees RV, 314 South 25th Street	AST: AST is registered with OPS. Not considered to be leaking.	NO
10	Cobb Mechanical Contractors, 3007 West Morrison	UST: UST is registered with OPS. Not considered to be leaking.	NO
10	Western Service Furniture, 511 South 29th Street	FINDS: Site in FINDS database for RCRA-NonGen. RCRA-NonGen: No RCRA violations noted.	NO
10	Baxley Oil Co., 615 South 29th Street	AIRS: Facility has an air permit benzene and volatile organic compound (VOC) emissions. AST: AST is registered with OPS. FINDS: Site in FINDS database for RCRA-NonGen and AIRS. LUST: 7 USTs permanently closed; 4 USTs in use; and 12 ASTs in use. Downgradient and outside of project ROW. LUST TRUST: See LUST for same property. RCRA-NonGen: No RCRA violations noted. UST: UST is registered with OPS.	Historical REC

EXHIBIT 3-21

Summary of Hazardous Materials Sites

Map ID	Facility Name and Address	Comments	REC?
10	American Western Builders Inc., 622 South 29th Street	UST: UST is registered with OPS. Not considered to be leaking.	NO
10	Westsidiers Garage, 622 South 29th Street	LUST: No Further Action issued from OPS.	Historical REC
11	The Car Shop, 2423 West Cucharras Street	FINDS: Site in FINDS database for RCRA-NonGen. RCRA-NonGen: No RCRA violations noted.	NO
12	El Paso Asphalt Inc., 2616 Robinson Street	UST: UST is registered with OPS. Not considered to be leaking.	NO
12	Oldach Window Corp., 2700 Robinson Street	FINDS: Site in FINDS database for RCRA-CESQG. RCRA-CESQG: No RCRA violations noted.	NO
12	F H Staggs Lumber Inc., 2700 Robinson Street	UST: UST is registered with OPS. Not considered to be leaking.	NO
13	Don's Body Shop, 202 South 21st Street	FINDS: Site in FINDS database for RCRA-Non-Gen. LUST: No Further Action issued from OPS. RCRA-NonGen: RCRA violation, outside of project ROW. UST: UST is registered with OPS.	Historical REC
13	Private Garage, 209 South 21st Street	FINDS: Site in FINDS database for RCRA-Non-Gen. RCRA-NonGen: No RCRA violations.	NO
13	1st Stop/Farm Crest, 2105 West Colorado Avenue	LUST TRUST: 7 tanks, 2 in use, 5 permanently closed. No Further Action received from OPS.	Historical REC
13	Farm Crest Stores #1, 2105 West Colorado Avenue	LUST: 7 tanks, 2 in use, 5 permanently closed. No Further Action received from OPS.	Historical REC
13	J Oil Co., 212 South 21st Street	UST: UST is registered with OPS. Not considered to be leaking.	NO
13	Auto Max, 212 South 21st Street	LUST: No Further Action issued from OPS. LUST TRUST: No Further Action issued from OPS.	Historical REC
13	Lookout Mountain Motors, 2132 West Colorado Avenue	LUST: No Further Action issued from OPS.	Historical REC
14	Bobs Delivery Service, 2320 Robinson Street	AST: AST is registered with OPS. Not considered to be leaking.	NO
14	Dees RV, 2330 Naegle Road	AST: AST is registered with OPS. Not considered to be leaking.	NO
14	Gold Hill Police Station, 2335 Robinson Street	LUST: No Further Action issued from OPS.	Historical REC
14	Gold Hill Division Station, 2335 Robinson Street	UST: UST is registered with OPS. Not considered to be leaking.	NO

EXHIBIT 3-21

Summary of Hazardous Materials Sites

Map ID	Facility Name and Address	Comments	REC?
14	Sun City RV Inc., 2380 Naegle Road	AST: AST is registered with OPS. Not considered to be leaking.	NO
14	United States Postal Service, 2410 Robinson Street	FINDS: Site in FINDS database for RCRA-NonGen. RCRA-NonGen: No RCRA violations.	NO
15	Steve Mills Racing & ACR Inc., 2215 West Vermijo Avenue	FINDS: Site in FINDS database for RCRA-CESQG. RCRA-CESQG: No RCRA violations noted.	NO
16	Rons Auto Body, 210 South 20th Street	FINDS: Site in FINDS database for RCRA-NonGen. RCRA-NonGen: No RCRA violations.	NO
17	Lamar Outdoor Advertising, 2110 Naegle Road	FINDS: Site in FINDS database for RCRA-NonGen. RCRA-NonGen: No RCRA violations.	NO
18	Avenue Cleaners, 1706 West Colorado Avenue	DRY CLEANERS: Facility is a dry cleaner. FINDS: Site in FINDS database for RCRA-CESQG. RCRA-CESQG: No RCRA violations noted.	NO
18	Western National Bank, 1723 West Colorado Avenue	LUST: No Further Action issued from OPS. LUST TRUST: See LUST for same property. UST: UST is registered with OPS.	Historical REC
19	Perkins Auto Body, 2005 West Sheldon Avenue	FINDS: Site in FINDS database for RCRA-CESQG. RCRA-CESQG: No RCRA violations noted.	NO
20	REMCO, 2210 Bott Avenue	FINDS: Site in FINDS database for RCRA-NonGen. RCRA-NonGen: No RCRA violations.	NO
20	Ted Foltz, 2212 Hagerman Street	UST: UST is registered with OPS. Not considered to be leaking.	NO
21	7-Eleven #13079, 1011 South 21st Street	LUST: Site received approval from OPS of the Corrective Action Plan. UST: UST is registered with OPS.	Historical REC
21	Yogurt Shop, 1022 South 21st Avenue	UST: UST is registered with OPS. Not considered to be leaking.	NO
21	Not reported, 651 South 21st Street	ASBESTOS: Abatement has been completed.	NO
21	Advance Auto Parts #6462, 651 South 21st Street	FINDS: Site in FINDS database for RCRA-NonGen. RCRA-NonGen: No RCRA violations.	NO
21, 22	Shell Oil, 651 South 21st Street	AST: AST is registered with OPS. Not considered to be leaking. LUST: No Further Action issued from OPS. LUST TRUST: See LUST for same property. UST: UST is registered with OPS.	Historical REC
22, 23	Superior Cleaners, 1532 West Colorado Avenue	AIRS: Facility has an air permit for VOC emissions. DRY CLEANERS: Facility is a dry cleaner.	NO
22	Rycole Enterprises Inc., 1532 West Colorado Avenue	LUST: No Further Action issued from OPS. UST: UST is registered with OPS.	Historical REC

EXHIBIT 3-21

Summary of Hazardous Materials Sites

Map ID	Facility Name and Address	Comments	REC?
24	7-Eleven #22684, 1428 West Colorado Avenue	UST: UST is registered with OPS. Not considered to be leaking.	NO
25	Karle Coachwork Co., 1120 Pecan Street	FINDS: Site in FINDS database for RCRA-CESQG. RCRA-CESQG: No RCRA violations noted.	NO
25	Stripping Workshop, The, 2165 Broadway	FINDS: Site in FINDS database for RCRA-NonGen. RCRA-NonGen: No RCRA violations.	NO
26	Colorado Springs Iron & Metal, 400 South 16th Street	UST: UST is registered with OPS. Not considered to be leaking.	NO
27	Murphy Beds Of Colorado, 1301 West Colorado Avenue	UST: UST is registered with OPS. Not considered to be leaking.	NO
27	Colorado Fence Co., 1435 West Vermijo Street	UST: UST is registered with OPS. Not considered to be leaking.	NO
27	GE Johnson Construction Co Inc., 310 South 14th Street	LUST: No Further Action issued from OPS. UST: UST is registered with OPS	Historical REC
27	Wreckmasters, 315 South 14th Street	FINDS: Site in FINDS database for RCRA-CESQG. RCRA-CESQG: No RCRA violations noted.	NO
28	Pinecreek Realty, 929 West Colorado Avenue	UST: UST is registered with OPS. Not considered to be leaking.	NO
29	Pikes Peak Broadcasting Co., 3 South 7th Street	LUST: No Further Action issued from OPS. UST: UST is registered with OPS.	Historical REC
30	Coca Cola Bottling Co., 415 West Pikes Peak Avenue	LUST: No Further Action issued from OPS. UST: UST is registered with OPS.	Historical REC
31	Gold Hill Mesa, 21st Street / US 24	VCP: Capped and being developed as residential area. Likely institutional controls to consider if purchasing ROW on the property.	NO
32	CCOD Fire Station #8, 1616 Park Avenue	LUST: Address is in Denver. Not applicable to this search. LUST TRUST: Address is in Denver. Not applicable to this search. UST: Address is in Denver. Not applicable to this search.	Historical REC
32	Enterprise Leasing, 803 West Colorado Avenue	LUST: No Further Action issued from OPS. UST: UST is registered with OPS.	Historical REC
32	Avenue Discount Gas Station, 822 West Colorado Avenue	LUST: No Further Action issued from OPS. UST: UST is registered with OPS.	Historical REC
33	Chief Petroleum Bulk Plant, 301 South 10th Street	AST: AST is registered with OPS. Not considered to be leaking. LUST: 14 Tanks: 10 in use, 4 permanently closed. LUSTs are closed. LUST TRUST: See LUST for same property. UST: UST is registered with OPS.	Historical REC

EXHIBIT 3-21

Summary of Hazardous Materials Sites

Map ID	Facility Name and Address	Comments	REC?
33	Bulk Lubricants Storage, 302 South 10th Street	AST: AST is registered with OPS. Not considered to be leaking.	NO
33	Chief Petro Card Lock, 910 West Vermijo Street	AST: AST is registered with OPS. Not considered to be leaking.	NO
34	City Glass Co Inc., 414 West Colorado Avenue	LUST: No Further Action issued from OPS. UST: UST is registered with OPS.	Historical REC
34	Koscove Junk Yard, 431 West Colorado Avenue	LUST: No Further Action issued from OPS. LUST TRUST: See LUST for same property. UST: UST is registered with OPS.	Historical REC
35	Colorado Springs Manufactured Gas Plant, 101 South Conejos Street	CERCLIS: NFRAP, downgradient of project ROW. CERC-NFRAP: NFRAP, downgradient of project ROW. Manufactured Gas Plant: Refer to CERCLIS site.	NO
35	Colorado Springs Yard Section, Colorado Avenue / South Conejos	LUST: No Further Action issued from OPS. UST: UST is registered with OPS.	Historical REC
36	USPS Vehicle Maintenance Facility, 119 South Sierra Madre Street	LUST: 4 Tanks: 1 in use, 3 closed, No Further Action from OPS issued for LUST.	Historical REC
37	Bills Tool Rental, 125 South Chestnut Street	AST: AST is registered with OPS. Not considered to be leaking. LUST: 4 Tanks: 2 in use (one LPG and one UST), 2 permanently closed. No Further Action issued from OPS for LUST. LUST TRUST: See LUST for same property. UST: UST is registered with OPS.	Historical REC
37	Flintco Lumber & Components, 221 South Chestnut Street	UST: UST is registered with OPS. Not considered to be leaking.	NO
37	DMI Collision, 305 South Chestnut Street	FINDS: Site in FINDS database for RCRA-CESQG. RCRA-CESQG: No RCRA violations noted.	NO
37	Garys Collision Alignment, 601 West Cucharras Street	FINDS: Site in FINDS database for RCRA-CESQG. RCRA-CESQG: No RCRA violations noted.	NO
37	CIMINO Sign Co., 612 West Cucharras Street	FINDS: Site in FINDS database for RCRA-CESQG. RCRA-CESQG: No RCRA violations noted.	NO
37	Boddington Lumber Co., 628 West Vermijo Street	FINDS: Site in FINDS database for RCRA-NonGen. RCRA-NonGen: No RCRA violations	NO
38	Colorado Springs Supply Company, 121 West Cucharras Street	LUST: No Further Action issued from OPS. UST: UST is registered with OPS.	Historical REC
39	Royal Distribution, 212 Conejos Street	LUST: No Further Action issued from OPS.	Historical REC

EXHIBIT 3-21

Summary of Hazardous Materials Sites

Map ID	Facility Name and Address	Comments	REC?
39	AP Harley Sales Co., 324 West Costilla Street	LUST TRUST: No Further Action issued from OPS. UST: UST is registered with OPS.	Historical REC
39	Scandrett Erickson Properties, 327 West Vermijo Avenue	UST: UST is registered with OPS. Not considered to be leaking.	NO
39	Barney's US Maintenance, 327 West Vermijo Avenue	LUST: No Further Action issued from OPS. LUST TRUST: See LUST for same property.	Historical REC
39	Sides Construction Co., 332 West Costilla Street	UST: UST is registered with OPS. Not considered to be leaking.	NO
39	302nd Aircraft Maint Hangar, Building 210	UST: UST is registered with OPS. Not considered to be leaking.	NO
40	Stanleys Garage, 904 Garner Street	FINDS: Site in FINDS database for RCRA-NonGen. RCRA-NonGen: No RCRA violations	NO
40	Fountain Creek S.C.I.P., 908 Garner Street	FINDS: Site in FINDS database for RCRA-NonGen. RCRA-NonGen: No RCRA violations.	NO
40	Salvage Yard, 928 Garner Street	LUST: No Further Action issued from OPS. UST: UST is registered with OPS.	Historical REC
40	LPW Inc., 946 Garner Street	UST: UST is registered with OPS. Not considered to be leaking.	NO
41	Portland Mill, 1045 West Rio Grande Street	FINDS: Site in FINDS database for VCP. VCP: Downgradient and outside of project ROW.	NO
41	Acorn Food Store #3060, 305 South 8th Street	LUST: 7 tanks total: 4 in use, 3 permanently closed. The corrective action plan for the site is being implemented. If the property is part of the ROW more investigation is needed to determine if the contamination could affect property value and/or construction. LUST TRUST: See LUST for same property. UST: UST is registered with OPS.	YES
41	Daniels Motors Inc., 320 South 8th Street	CERC-NFRAP: NFRAP, inside of project ROW and site is no longer present FINDS: Site in FINDS database for CERC-NFRAP and RCRA-NonGen. LUST: No Further Action issued from OPS. RCRA-NonGen: No RCRA violations. UST: UST is registered with OPS.	Historical REC
41	Grease Monkey, 350 South 8th Street	LUST: No Further Action issued from OPS. UST: UST is registered with OPS.	Historical REC
41	Pikes Peak Broadcasting Co., 399 South 8th Street	LUST: No Further Action issued from OPS. UST: UST is registered with OPS.	Historical REC
41	Burkeen Motors, 514-520 South 8th Street	LUST: No Further Action issued from OPS. UST: UST is registered with OPS.	Historical REC

EXHIBIT 3-21

Summary of Hazardous Materials Sites

Map ID	Facility Name and Address	Comments	REC?
41	Gas and Food, 604 South 8th Street	LUST: No Further Action issued from OPS. LUST TRUST: See LUST for same property. UST: UST is registered with OPS.	Historical REC
41	Pikes Peak Humane Society, 633 South 8th Street	VCP: Lies on eastern edge of PCE and TCE plume. Further investigation is needed if ROW is purchased in this area.	YES
41	Dellacroce Property, 697 South 8th Street	LUST: No Further Action issued from OPS.	Historical REC
41	Westside 66, 699 South 8th Street	LUST: No Further Action issued from OPS. UST: UST is registered with OPS.	Historical REC
41	Rudolph Property Lot 1, 707 South 8th Street	LUST: 1/1 Open.	Historical REC
42	Crissey Fowler Lumber Co., 107 West Vermijo Street	LUST: No Further Action issued from OPS.	Historical REC
42	Power Rental South, 114 West Cimarron Street	LUST: No Further Action issued from OPS. UST: UST is registered with OPS.	Historical REC
42	Crissey Fowler Lumber Co., 117 West Vermijo Street	LUST: No Further Action issued from OPS. UST: UST is registered with OPS.	Historical REC
42	Crissey Fowler Lumber Co., 120 West Costilla Street	LUST: No Further Action issued from OPS.	Historical REC
42	Penske Truck Leasing Co., 124 West Cimarron Street	AST: AST is registered with OPS. Not considered to be leaking. LUST: No Further Action issued from OPS. LUST TRUST: See LUST for same property. UST: UST is registered with OPS.	Historical REC
42	Ryder Truck Rental Inc., 124 West Cimarron Street	ERNS: Downgradient and outside of project ROW. LUST: No Further Action issued from OPS.	Historical REC
42	Crissey Fowler Lumber Co., 132 West Costilla Street	LUST: No Further Action issued from OPS.	Historical REC
43	Pueblo Cleaning Corporation 1, 311 South Nevada Avenue	CORRACTS: Downgradient and outside of project ROW. FINDS: Site in FINDS database for RCRA-CESQG and CORRACTS. RCRA-CESQG: Violation, downgradient and outside of project ROW.	NO
44	Denver Burglar Alarm Co., 617 South Sierra Madre Street	LUST: No Further Action issued from OPS. UST: UST is registered with OPS.	Historical REC

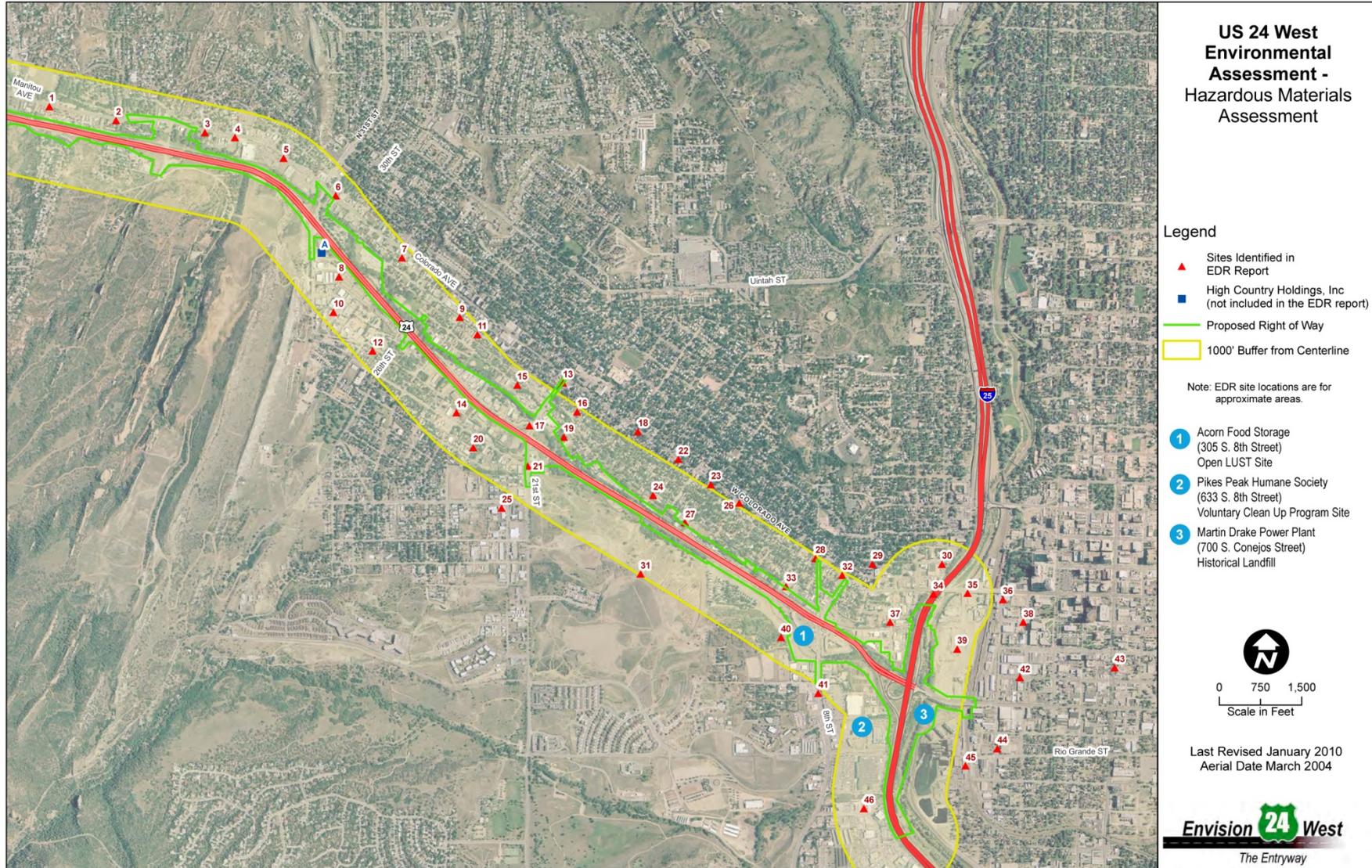
EXHIBIT 3-21

Summary of Hazardous Materials Sites

Map ID	Facility Name and Address	Comments	REC?
44	Brookharts Inc., 704 South Sierra Madre Street	LUST: No Further Action issued from OPS. UST: UST is registered with OPS. VCP: Downgradient and outside of project ROW.	Historical REC
45	Martin Drake Power Plant CS, 700 South Conejos Street	AST: AST is registered with OPS. Not considered to be leaking. Historic Landfill: Former evaporation pond. Could be in project ROW. Further investigation is needed.	YES
46	Alpine Porsche-Audi Inc., 1020 Motor City Drive	LUST: No Further Action issued from OPS.	Historical REC
46	South Point Lincoln Mercury, 945 Motor City Drive	FINDS: Site in FINDS database for RCRA-CESQG. LUST: No Further Action issued from OPS. RCRA-CESQG: No RCRA violations noted.	Historical REC

1324
1325

EXHIBIT 3-22
Sites of Recognized Environmental Condition in Study Area



1326 development, formerly a gold ore processing facility that has been capped and is being
1327 developed as a residential area.

1328 Groundwater flow direction and whether or not the identified site was up or downgradient from
1329 the US 24 study area was used to determine if the site is an REC. In general, the shallow
1330 groundwater flow directions within the US 24 study area are toward the creek channels, based
1331 on geomorphology and stream mechanics. However, since the lower reaches of creeks in alluvial
1332 sediments are typically losing streams, such as this stretch of Fountain Creek and Monument
1333 Creek, the shallow groundwater flow direction will turn and flow sub-parallel to the direction of
1334 creek flow.

1335 **3.10.1 Impacts of the No Action Alternative**

1336 Locally funded projects in adopted transportation plans have the potential to encounter
1337 contaminated structures, soils, or groundwater and sponsors of those projects would remediate
1338 sites prior to construction of improvements.

1339 **3.10.2 Impacts of the Proposed Action**

1340 The three locations along US 24 where current hazardous material RECs exist that are impacted
1341 by the Proposed Action are described below and shown in **Exhibit 3-22**.

- 1342 • **Leaking Underground Storage Tank (LUST) Site - Acorn Food Store.** This site is
1343 located at 305 South 8th Street in Colorado Springs. The database records search indicates
1344 Acorn Food Store is an open LUST site with soil and groundwater contamination that has
1345 migrated offsite. Once the final ROW is determined, file review at OPS is recommended for
1346 this site regardless of its current status to determine if the existing characterization data
1347 provide sufficient information to determine possible environmental impacts. Following file
1348 review, a Phase II environmental site assessment (ESA) may be conducted to verify that the
1349 documented contamination has been adequately characterized and removed, and to confirm
1350 that offsite properties continue to not be impacted by the historical releases and/or practices
1351 at the site.
- 1352 • **Voluntary Cleanup Program Site - Pikes Peak Humane Society.** The Pike's Peak
1353 Humane Society is located at 633 S 8th Street in Colorado Springs. Based on a file review at
1354 the Colorado Department of Public Health and Environment (CDPHE), Pikes Peak
1355 Humane Society lies on the eastern edge of a dissolved perchloroethylene (PCE) and
1356 trichloroethylene (TCE) plume and is not considered the source of the plume. Once the final
1357 ROW is determined, file review at CDPHE is recommended for this site regardless of its
1358 current status to determine if the existing characterization data provides sufficient
1359 information to determine possible environmental impacts. Following file review, a Phase II
1360 ESA may be conducted to verify that the documented contamination has been adequately
1361 characterized and removed, and to confirm that offsite properties continue to not be
1362 impacted by the historical releases and/or practices at the site.
- 1363 • **Historical Landfill - Martin Drake Power Plant.** This site is located on southeast of the
1364 intersection of US 24 and I-25 at 700 South Conejos Street. If ROW acquisition is necessary
1365 for the highway upgrades, further discussion with Colorado Springs Utilities is
1366 recommended to determine if soils or groundwater within the US 24 ROW have been
1367 impacted.

1368 • **Historical RECs.** Several LUST sites that have been issued a “no further action” from OPS
 1369 are within a one-mile area of the US24 Centerline. It should be noted that contamination
 1370 from closed LUST sites on construction projects has been discovered in the past. While
 1371 these sites are not considered current RECs at this time, they are considered historical RECs
 1372 and have been noted as such in **Exhibit 3-21**. Upon completion of the final ROW and
 1373 design drawings, consideration should be given to conducting further research at OPS to
 1374 verify the nature and extent of contamination, particularly if the design requires excavation
 1375 of the soil and groundwater in these areas.

1376 Some highway bridge structures are known to have been painted with lead-based paint. The
 1377 paint on these structures should be tested prior to demolition or renovation to determine if
 1378 lead-based paint is present. If the paint contains lead in concentrations above the regulatory
 1379 threshold, the structures may require removal of the lead-based paint prior to disposal or
 1380 renovation.

1381 If a portion of the Gold Hill Mesa property is acquired for ROW, research should be conducted
 1382 with El Paso County to determine if there are institutional or engineering controls on the
 1383 property that require special handling of the soil if it is excavated.

1384 In addition, the Proposed Action would result in the acquisition of approximately 78 acres of
 1385 land and the displacement of 24 residences and 77 businesses. All such acquisitions involve
 1386 some risk of encountering various common hazardous materials, such as asbestos or lead-based
 1387 paint, that would not normally be listed on any database of hazardous material sites.

1388 **3.10.3 Mitigation**

1389 Before construction begins, CDOT will inspect and test for asbestos, lead-based paint, and
 1390 hazardous material on any bridges, buildings, and other structures that will be disturbed or
 1391 demolished. Prior to acquisition of any site, a site-specific Initial Site Assessment Phase I ESA
 1392 will be conducted.

1393 Additionally, the following mitigation will be undertaken with respect to the three sites listed as
 1394 RECs.

1395 For the leaking underground storage tank (UST) (305 South 8th Street) and the underground
 1396 chemical plume (633 South 8th Street), once the final ROW is determined, file review at
 1397 Colorado’s Division of Oil and Public Safety and/or CDPHE will be undertaken to determine if
 1398 the available data provide sufficient information to identify possible environmental impacts. In
 1399 addition, further inquiry with the property owner will be appropriate as part of the acquisition
 1400 process.

1401 Regarding the historical landfill associated with the power plant, if ROW is to be acquired for
 1402 the Proposed Action, CDOT will initiate further discussion with Colorado Springs Utilities to
 1403 determine if soils or groundwater within the US 24 ROW have been impacted or will be
 1404 impacted in the proposed ROW.

1405 Following file review and/or discussions with the owner, a Phase II ESA may be conducted to
 1406 verify that the documented contamination has been adequately characterized and removed and
 1407 to confirm that offsite properties will not be impacted by the historical releases and/or practices
 1408 at the 1) Acorn Food Store (305 South 8th Street), 2) Pikes Peak Humane Society (633 South
 1409 8th Street), and and/or 3) Martin Drake Power Plant (700 South Conejos Street).

1410 A Materials Handling Plan will be prepared to address contaminated soil and groundwater that
1411 may be encountered as directed by the findings of the Phase II ESA. The plan will be prepared
1412 in accordance with CDOT's Standard Specification 250.

1413 3.11 Water Quality

1414 Transportation projects can adversely affect water quality during construction and maintenance/
1415 operation phases of a project. Soils often are exposed during construction, increasing wind and
1416 water erosion and the potential for sediment to enter water bodies. Roadways also collect
1417 pollutants, such as sediments, metals, and petroleum compounds from vehicles that can enter
1418 water bodies in the form of stormwater runoff. CDOT evaluates the potential for water quality
1419 impacts to ensure the quality of stormwater runoff is protected while its roadways are
1420 constructed, operated, and maintained.

1421 An FHWA-approved method called the mass-balance equation was used to estimate the impacts
1422 of the Proposed Action on water quality. The initial analysis included determination of existing
1423 conditions. Predicted future conditions were estimated using preliminary design layouts that
1424 incorporate water quality features and actions to avoid and minimize impacts.

1425 The study area is located in the Fountain Creek watershed of the Arkansas River Basin. Fountain
1426 Creek is the primary drainage through the study area and is intertwined with US 24. Several
1427 smaller creeks and drainages – Monument Creek, Camp Creek, Beckers Lane tributary, and
1428 Sutherland Creek – in or adjacent to the study area are tributaries to Fountain Creek, as shown
1429 in **Exhibit 3-23**.

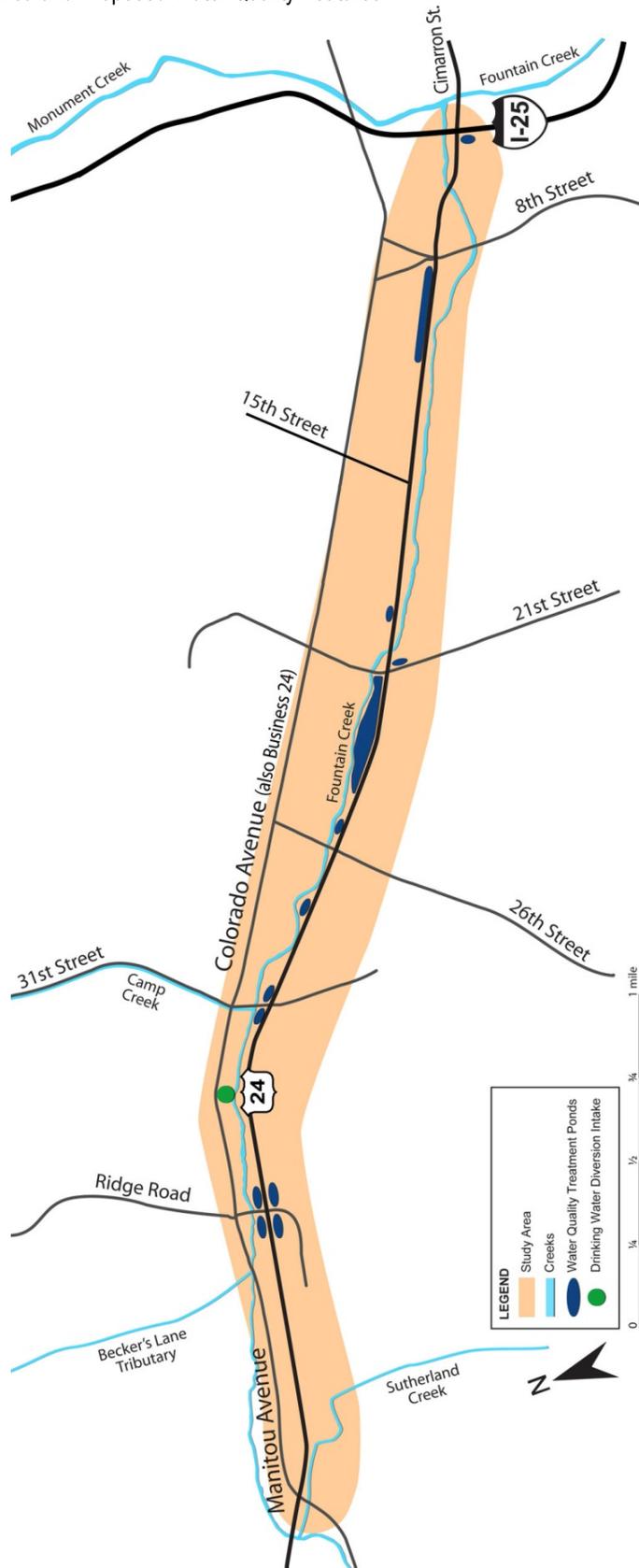
1430 Sediment and flooding are the main problems along Fountain Creek, with large flood events
1431 most recently occurring in 1999 and 2000. Near Manitou Springs, problems are accentuated
1432 because the channel is more confined than downstream and because the channel is lined with
1433 concrete on the west end of Manitou Springs, which has increased sedimentation downstream.
1434 Tributaries also contribute a high amount of sediment to Fountain Creek (PPACG, 2003).

1435 No water quality systems exist today that store and filter stormwater runoff in study area. Grass
1436 swales and small depressions currently lie along some segments of US 24 and provide minimal
1437 water quality treatment in these areas.

1438 Fountain Creek has a long history of being surrounded by various types of residential, industrial,
1439 and commercial development. The channel was realigned east of Manitou Springs by historic
1440 mining practices and road construction. East of 21st Street, Fountain Creek passes tailing
1441 deposits of a former gold milling site, and the channel is constrained between the tailings site
1442 and US 24. A project in this area – constructed in 2010 by a partnership of CDOT, City of
1443 Colorado Springs Stormwater Enterprise, and Gold Hill Mesa – removed and stabilized
1444 contaminated soils, realigned the channel and stabilized the stream banks, planted native
1445 vegetation, and improved water quality treatment features.

1446 Fountain Creek in the study area is included in the State of Colorado's 303(d) list for water
1447 quality-impaired streams due to levels of selenium and *E. coli* that exceed State standards. The
1448 selenium leaches naturally from existing shale and shale-derived soils; the source of *E. coli* has
1449 been attributed largely to birds, especially pigeons in Manitou Springs (United States Geological
1450 Survey [USGS], 2009). Fountain Creek is listed as impaired for *E. coli* (high priority) and
1451 selenium (low priority), but these were not analyzed in this study because they are not pollutants

1452 **EXHIBIT 3-23**
 1453 Water Bodies in Study Area and Proposed Water Quality Features



1454 associated with highway runoff. Designated use classifications for this segment of Fountain
1455 Creek include cold water aquatic life, recreation, water supply, and agriculture.

1456 Wellhead protection area information is classified for security reasons, but according to the
1457 District Water Commissioner, it is not likely that any municipal wellhead protection areas are
1458 designated within the study area (Sutton, 2008; Willard, 2008). Groundwater levels below ground
1459 surface range from 17.5 to 22 feet. No protected groundwater areas exist within several miles of
1460 the study area. The cities of Manitou Springs and Colorado Springs obtain most of their drinking
1461 water from reservoirs higher in the Arkansas River watershed. The City of Manitou Springs gets
1462 most of its water from the Manitou Springs Reservoir. One drinking water diversion intake,
1463 owned by the City of Colorado Springs, is located in the study area north of US 24 and west of
1464 33rd Street, as shown in **Exhibit 3-23**. It is piped to the Mesa Treatment Facility, from which it
1465 is piped to customers. Wastewater from the Mesa Treatment Facility is routed to the Las Vegas
1466 Wastewater Treatment Facility and released back to Fountain Creek downstream. There are no
1467 permitted point source discharges found along the project, although there are some downstream.
1468 The State Engineer's Office records 209 permitted wells within 1,000 feet of the study area
1469 (SEO, 2008). Most of these wells are monitoring wells at petroleum station locations, and are
1470 not used for drinking. Of these wells, 168 are designated as monitoring wells, 36 are designated
1471 for residential use, three are designated for commercial use, one is designated for crop irrigation,
1472 and one is designated for a gravel pit.

1473 Additional information about water quality monitoring, characterization, and modeling results
1474 are included in the *Water Quality Technical Memorandum* (CH2M HILL, 2009b) in **Appendix C**.

1475 **3.11.1 Impacts of the No Action Alternative**

1476 The No Action Alternative would result in continued increased highway congestion and
1477 untreated stormwater would continue to impact Fountain Creek and its tributaries. Due to
1478 regional growth, higher traffic volumes on US 24 would increase the amount of vehicle-related
1479 contaminant in future runoff. No permanent water quality best management practices (BMPs)
1480 would be implemented. The existing US 24 study area contains approximately 69 acres of
1481 impervious surface area. No systems would be constructed to filter stormwater runoff, and
1482 untreated runoff would continue to discharge into Fountain Creek and its tributaries. New
1483 impervious areas would be added under the No Action Alternative at the 8th Street and
1484 21st Street intersection widening and from the extension of the Midland trail to west of
1485 21st Street. These projects have not been designed so it is not possible to estimate the new
1486 impervious area. Higher future traffic volumes would increase pollutant concentrations in
1487 stormwater runoff and cause further water quality degradation in surrounding water bodies.

1488 **3.11.2 Impacts of the Proposed Action**

1489 The mass-balance equation modeling conducted for this EA concluded that the Proposed
1490 Action would result in a reduction of contaminants reaching Fountain Creek and its tributaries
1491 due to the implementation of the recommended detention/treatment ponds, swales, and other
1492 BMPs that would trap, treat, or remove contaminants before reaching the creek.

1493 The Proposed Action would add 42 acres of impervious surface area in the study area compared
1494 with the No Action Alternative. This increase includes additional surface area of US 24,
1495 interchanges, bridges, and side streets.

1496 Channel realignments would be necessary in three locations as discussed in **Section 3.2,**
1497 **Floodplains.** Fountain Creek would be adjusted vertically with drop structures near bridge
1498 crossings to flatten the creek's profile and slow down the stream velocity to reduce erosion.
1499 These realignments and drop structures would provide opportunities for placement of ponds
1500 and other BMPs that could minimize highway runoff contaminants reaching the creek. No
1501 channel improvements are proposed along Fountain Creek in the vicinity of the water diversion
1502 intake.

1503 During construction, soil-disturbing activities and the placement of new fill would expose
1504 surfaces subject to erosion. Other construction activities, such as the demolition of existing
1505 structures, placement of new structures, dewatering for foundations, and storage and fueling of
1506 equipment, also have the potential to release water contaminants.

1507 Channel improvements included in the Proposed Action would widen drainage areas, stabilize
1508 embankments, and add drop structures. The wider channel would provide a greater opportunity
1509 for wetlands and riparian vegetation to re-establish. The wider drainage channels and drop
1510 structures also would distribute and dissipate flows to reduce scour and erosion in the channels,
1511 which would reduce sedimentation and improve the quality of waters of the US.

1512 **3.11.3 Mitigation**

1513 The Proposed Action includes permanent water quality treatment features to filter roadway
1514 runoff and improve water quality; these features will be refined during final design. Where
1515 possible, the ponds would be placed outside of the floodplain to ensure they provide water
1516 quality treatment during flood events. Swales also would be built parallel to the roadway to
1517 prevent contaminants in highway runoff from reaching Fountain Creek. The features include
1518 detention/treatment ponds to capture and passively treat the stormwater that would run off the
1519 roadways during a 2-year storm event. The conceptual drainage design determined that water
1520 quality facilities were needed in seven segments of Fountain Creek to provide the necessary
1521 water quality capture volume. The locations of these facilities are shown in **Exhibit 3-23.**
1522 Stormwater treatment facilities could be located anywhere within the dark blue shaded areas in
1523 the exhibit; these will be designed in more detail during final design.

1524 During construction, silt fences, diversion berms, vehicle tracking control, inlet and outlet
1525 protection, street sweeping, and concrete washout locations will be established to protect
1526 streams from construction activities. Temporary stream crossings and diversion will be designed
1527 to minimize water quality and habitat impacts. Native vegetation will be installed and
1528 implemented in affected areas after construction is completed on disturbed ground.

1529 The requirements under the MS4 permit and the New Development Redevelopment Program
1530 (NDRD) will be followed during design and construction. In addition, the CDOT requirements
1531 under the "Consent Decree" (January, 2009) with the CDPHE will be implemented. CDOT will
1532 obtain a Colorado Discharge Permit System General Permit for Stormwater Discharges
1533 Associated with Construction Activities from the Water Quality Control Division of CDPHE,
1534 and a Construction Dewatering Permit will be required for this project. A Stormwater
1535 Management Plan will be developed in accordance with the conditions of the permits following
1536 practices from the *CDOT Erosion Control and Stormwater Quality Guide*. Erosion and sediment
1537 control BMPs will be implemented in accordance with *CDOT Standard Specifications for Road and*
1538 *Bridge Construction* and the revised provisions for water quality outlined in the Consent Order with
1539 CDPHE and incorporated into Section 107.25 (Water Quality) and Section 208 (Erosion
1540 Control).

1541 3.12 Wetlands and Waters of the United States

1542 Executive Order 11990, Protection of Wetlands, requires federal agencies to protect wetlands by
1543 avoiding construction in wetlands whenever possible. FHWA requirements for compliance with
1544 this Executive Order are outlined in 23 CFR 777.

1545 Wetlands provide many benefits including water quality improvements, flood control and river
1546 bank erosion control, food and habitat for fish and wildlife, and recreation. In urban areas,
1547 wetlands serve the particularly important function of controlling increases in the rate and volume
1548 of stormwater runoff.

1549 Wetlands are a valuable and declining resource and, therefore, are protected under the Clean
1550 Water Act. Section 404 of the Clean Water Act provides protection for America’s wetlands,
1551 streams, and other waters by requiring a permit from the USACE for any actions that may
1552 dredge or fill streams or wetlands. To obtain a Section 404 permit, applicants must demonstrate
1553 that dredging or filling streams or wetlands under the jurisdiction of the USACE – which include
1554 jurisdictional wetlands and other waters of the United States – would not significantly degrade
1555 the nation’s waters, and no practicable alternatives exist that are less damaging to the aquatic
1556 environment.

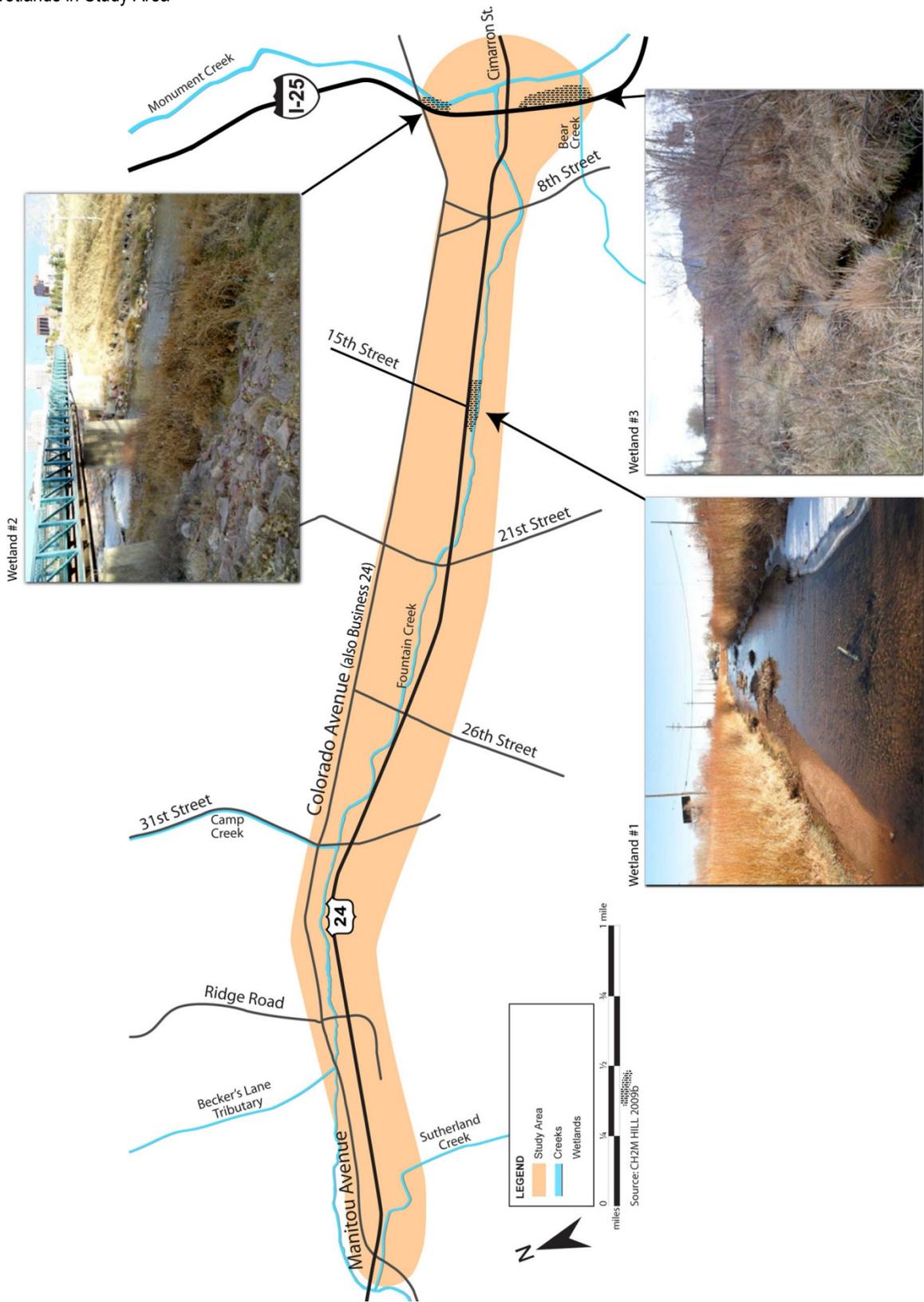
1557 Wetlands and other waters of the United States were evaluated in 2009 and 2011 in accordance
1558 with the *USACE Wetland Delineation Manual* (USACE, 1987) and the *Regional Supplement to the*
1559 *Corps of Engineers Wetland Delineation Manual: Great Plains Region* (USACE, 2010). Wetland
1560 determination was based on the presence of facultative vegetation that will only grow in a very
1561 damp environment, with hydric soils, and wetland hydrology. Waters of the United States
1562 include wetlands, lakes, rivers, and intermittent and perennial streams and their tributaries, under
1563 the jurisdiction of the United States. CDOT received a letter from the USACE concurring with
1564 the wetland delineations. The letter is included in **Appendix D**.

1565 A total of three wetlands were delineated within the proposed ROW of the project and are
1566 shown in **Exhibit 3-24**.

1567 Wetland 1 is a 0.02-acre palustrine emergent wetland located within the banks and floodplain of
1568 Fountain Creek near 13th Street. Dominant wetland vegetation includes sandbar willow (*Salix*
1569 *exigua*), reed canary grass (*Phalaris arundinacea*), and narrowleaf cattail (*Typha angustifolia*). Other
1570 plants in the wetland area include curly dock (*Rumex crispus*) and poison hemlock (*Conium*
1571 *maculatum*). This wetland location occurs near a confluence between Fountain Creek and an
1572 unnamed drainage near the southern border of US 24 in the Springs Community Improvement
1573 Program (also known as “SCIP”) Flood Management Area. The unnamed drainage is piped
1574 under US 24 from an unknown location to the north, and likely is primarily a stormwater
1575 drainage feature.

1576 Wetland 2 is a 0.04-acre palustrine emergent/scrub-shrub wetland complex located on a terrace
1577 under a pedestrian bridge along the banks and floodplain of Monument Creek. Dominant
1578 wetland vegetation includes sandbar willow, reed canary grass, and cattail (*Typha latifolia*). Other
1579 plants in the wetland area include curly dock, softstem bulrush (*Schoenoplectus tabernaemontani*),
1580 bluejoint reedgrass (*Calamagrostis canadensis*), and red top (*Agrostis gigantea*). This wetland is
1581 perched about 5 feet above the channel of Monument Creek, but is located just downstream of a
1582 rip-rap drop structure that contains a secondary channel that appears to overtop into the
1583 wetland area during high-flow events.

1584 EXHIBIT 3-24
 1585 Wetlands in Study Area



1586 Wetland 3 is a 0.13-acre palustrine emergent/scrub-shrub wetland area located on a terrace along
 1587 the banks and floodplain of Fountain Creek. Dominant wetland vegetation is sandbar willow.
 1588 Other plants in the wetland area include curly dock, Emory's sedge (*Carex emoryi*), reed canary
 1589 grass, and cattail. Like wetland 2, this wetland is perched about 5 feet above the channel of
 1590 Fountain Creek and is located just downstream of a rip-rap drop structure that contains a
 1591 secondary channel that appears to overtop into the wetland area during high-flow events.

1592 Several waters of the United States are found within the study area and are listed below and
 1593 shown on **Exhibit 3-24**:

- 1594 • **Fountain Creek** – Fountain Creek is a perennial stream that runs through developed areas
 1595 of Manitou Springs before reaching its confluence with Monument Creek just north of the
 1596 US 24 and I-25 bridge. Fountain Creek continues to the south along the I-25 corridor and
 1597 reaches its confluence with the Arkansas River near Pueblo, Colorado.
- 1598 • **Monument Creek** – Monument Creek is a perennial tributary to Fountain Creek that flows
 1599 from the north along I-25.
- 1600 • **Bear Creek** – Bear Creek is a perennial tributary to Fountain Creek. The creek flows under
 1601 I-25 via a box culvert near the southern extent of the study area.
- 1602 • **Becker's Lane Tributary** – Becker's Lane Tributary is a tributary to Fountain Creek that
 1603 flows from the north. The tributary appears as a solid blue line on topographic maps and is
 1604 likely perennial.
- 1605 • **Camp Creek** – Camp Creek is a tributary to Fountain Creek that flows from the north
 1606 along 31st Street before diverting to the southeast away from 31st Street. The creek appears
 1607 as a solid blue line on topographic maps and is likely perennial.
- 1608 • **Sutherland Creek** – Sutherland Creek is a tributary to Fountain Creek that flows from the
 1609 south. The creek appears as a solid blue line on topographic maps and is likely perennial.

1610 Fountain Creek and its tributaries are deeply incised, or they have been channelized and
 1611 redirected to accommodate past development. Erosion and sedimentation have been identified
 1612 as issues for these water resources. The riparian habitat in the study area is of low quality and
 1613 provides limited habitat for fish and wildlife. The impact analysis and mitigation analyzed in this
 1614 EA assumes that wetlands and waters of the United States within the study area are jurisdictional
 1615 and subject to Section 404 requirements of the Clean Water Act.

1616 For additional information, refer to the *Wetland Delineation Technical Memorandum* (CH2M HILL,
 1617 2010g) in **Appendix C**; correspondence with the USACE is included in **Appendix D**.

1618 **3.12.1 Impacts of the No Action Alternative**

1619 No wetlands or waters of the United States would be impacted by the No Action Alternative.
 1620 Under this alternative, conditions in Fountain Creek and its tributaries would be unchanged, and
 1621 erosion and sedimentation would continue to result in marginal conditions for wetlands and
 1622 riparian habitat.

1623 **3.12.2 Impacts of the Proposed Action**

1624 The project team has coordinated with the USACE and City of Colorado Springs throughout
1625 the project. Both have reviewed the design of the project and agree with the drainage
1626 improvements in the Proposed Action.

1627 The Proposed Action would impact Wetland 1, which is 0.02 acre. Wetland 2 and Wetland 3 are
1628 within the proposed ROW of the new alignment of I-25 but are not expected to be impacted.

1629 The area of waters of the United States that would be impacted was estimated as the area of
1630 Fountain Creek below the ordinary high water mark. A high water mark is a delineation of the
1631 highest level reached by a body of water to leave visual evidence – discoloration, destruction of
1632 land-based vegetation, or the point where land-based vegetation species shifts to water-based
1633 species. The other waters of the United States in the study area are not affected by the Proposed
1634 Action.

1635 The Proposed Action would temporarily impact a total of 5.17 acres, or 8,220 linear feet
1636 (approximately 1.5 miles) of waters of the United States. Of the 5.17 acres, 5.15 acres would be
1637 impacted along Fountain Creek and 0.02 acres would be impacted along Bear Creek. Additional
1638 temporary impacts to Monument Creek at the confluence with Fountain Creek may occur as a
1639 result of cut and fill activities within the channel from bridge/culvert upgrade and replacement
1640 work and realignment of the US 24 and I-25 bridge. No other waters of the United States that
1641 are within the study area are impacted by the Proposed Action.

1642 These areas would be disturbed during construction and the acreage of waters of the United
1643 States would be permanently enlarged as a result of widening the channel for the Proposed
1644 Action. The Proposed Action would adversely impact waters of the United States as a result of
1645 widening the channel as well as portions of the overbank floodplain of Fountain Creek. While
1646 much of the impacts to Waters of the U.S. would occur temporarily during construction,
1647 widening the channel may also potentially be considered a long-term adverse impact, because a
1648 wider channel has the potential to increase the water temperature in Fountain Creek, which
1649 could be detrimental to aquatic organisms, including fish. Limited channel widening was
1650 determined a necessary component of raising the baseflow elevation for portions of the channel,
1651 which is needed for protection of the new bridges as well as reducing the risk of excessive
1652 erosion within Fountain Creek during storm events. Channel widening would be limited to the
1653 minimum necessary to reduce potential warming effects within Fountain Creek.

1654 To attenuate the risk of long-term adverse impacts to aquatic organisms in Fountain Creek due
1655 to widening the stream, the Project would be designed with appropriate depth to width ratios to
1656 discourage the effects of warming and reduced sediment transport capacity from an excessively
1657 shallow channel. The existing channelized condition of Fountain Creek, as well as local reference
1658 stream reaches, would be considerations in new channel designs. The potential risks of lowered
1659 dissolved oxygen levels from warming would be partially mitigated with the use of rip-rap and
1660 boulders to encourage mixing within the water column. Pool and riffle habitats would be
1661 maintained and/or restored within the channel to prevent the formation of a wide, shallow run
1662 through the Project reach. After construction, inputs of riparian detritus would be restored by
1663 the replacement of riparian trees along the overbank floodplain channel, thereby reintroducing
1664 leaf litter and encouraging a return to a functional food web within Fountain Creek.

1665 These impacts would be caused by channel reconstruction upstream and downstream of bridge
1666 improvements and for flood control features to protect transportation infrastructure.

1667 **3.12.3 Mitigation**

1668 Impacted wetlands will be mitigated for at a 1:1 ratio. The mitigation will be the use of the
 1669 Limon Mitigation Bank because the project area is in the service area for this bank. Channel
 1670 improvements would widen drainage areas, stabilize embankments, and add drop structures.
 1671 Rip-rap improvements would be added to the base of the creek and the elevation of the creek
 1672 profile would be changed to accommodate adequate flood volumes under each bridge to be
 1673 improved. The wider channel would provide a greater opportunity for wetlands and riparian
 1674 vegetation to re-establish.

1675 Realignment of Fountain Creek represents a minor impact to waters of the United States,
 1676 especially when weighed against the benefits associated with improved stream function, flood
 1677 conveyance, bank stability, and riparian habitat potential. The wider drainage channels and drop
 1678 structures also would distribute and dissipate flows to reduce scour and erosion in the channels,
 1679 which would reduce sedimentation and improve the quality of waters of the United States.

1680 CDOT will obtain a Section 404 permit from the USACE for impacts to wetlands and waters of
 1681 the United States during final design. The USACE has confirmed informally that the Proposed
 1682 Action could be permitted under a combination of Section 404 General Nationwide Permits and
 1683 Individual Permits. Nationwide Permits are often issued by USACE for categories of activities
 1684 that are similar in nature and have only minimal adverse environmental effects. Final permit
 1685 applications will be filed during final design.

1686 Under Section 404 permit programs in place today, some segments of the project may qualify
 1687 for streamlined permitting under Nationwide Permit #14 for Linear Transportation Projects and
 1688 Nationwide Permit #27 for Aquatic Habitat Restoration, Establishment, and Enhancement
 1689 Activities.

1690 **3.13 Other Resources**

1691 Some resources are not addressed in detail in this EA because one of the following conditions
 1692 were met:

- 1693 • they were not present in the study area,
- 1694 • they would not be affected by the Proposed Action, or
- 1695 • they would experience negligible impacts after application of standard construction
 1696 precautions.

1697 The resources described here are Archaeological Resources, Paleontological Resources, Native
 1698 American Consultation, Air Quality, Visual Resources, Fish and Wildlife, Threatened and
 1699 Endangered Species, Vegetation and Noxious Weeds, Utilities, and Farmlands. Detailed analysis
 1700 was conducted for these resources to inform the decisions about impact analysis, and these
 1701 analyses are included in separate memoranda in **Appendix C**.

1702 **3.13.1 Archaeological Resources**

1703 A file search of the study area was conducted in August 2008, through the Colorado Historical
 1704 Society Office of Archaeology and Historic Preservation. Three previously recorded sites are on
 1705 record within 0.5 mile of the project limits. All three sites (5EP2161, 5EP2165, and 5EP365) lie
 1706 outside of the anticipated limits of construction and would not be impacted by construction.

1707 A field survey of the study area was conducted in October 2008. One isolated find, consisting of
1708 a single prehistoric artifact, was recorded in the course of the inventory. It is assessed as not
1709 eligible for listing in the National Register (Centennial Archaeology, 2009). No further work with
1710 regards to this site is necessary.

1711 In the unlikely event that cultural deposits are discovered during construction, CDOT will
1712 follow its standard practice of ceasing work, consulting with the CDOT archaeologist, and
1713 evaluating materials in consultation with the Colorado SHPO to determine if mitigation is
1714 required.

1715 **3.13.2 Paleontological Resources**

1716 The paleontological sensitivity of the study area was evaluated through a field survey conducted
1717 in December 2008 and review of scientific literature, geologic mapping, and museum records.
1718 No fossils were observed within the study area during the field survey, and no records of fossils
1719 from within the study area were found in the literature or museum record searches (RMP, 2008).
1720 However, there are numerous reports of fossils from the Colorado Springs area and elsewhere in
1721 Colorado where geology is similar to the study area. Potential impacts to fossils would be most
1722 likely to occur in the area of the large rock cut near Red Rock Canyon Open Space, southwest of
1723 the US 24 and 31st Street intersection, where numerous upturned and faulted fossiliferous rock
1724 formations, including the highly sensitive Morrison Formation, are exposed in close proximity to
1725 US 24. West of this location, it is likely that rocks of the Fountain Formation would be locally
1726 disturbed by construction; however, because this area is sparsely fossiliferous, the likelihood is
1727 low that the Proposed Action would cause adverse impacts to scientifically significant fossils.

1728 When the project design plans are finalized, the CDOT Staff Paleontologist will examine the
1729 plans and determine the extent of impact to the bedrock units in the southwest quadrant of
1730 US 24 and 31st Street, as well as the scope of paleontological monitoring, if any, that is required.
1731 If any subsurface bones or other potential fossils are found anywhere within the study area
1732 during ground disturbance, the CDOT Staff Paleontologist will be notified immediately to assess
1733 their significance and make further recommendations.

1734 **3.13.3 Native American Consultation**

1735 Section 106 of the National Historic Preservation Act (as amended) and the Advisory Council
1736 on Historic Preservation regulations (36 CFR 800.2[c][2][ii]) mandate that federal agencies
1737 coordinate with interested Native American tribes in the planning process for federal
1738 undertakings in order to protect cultural resources. Consultation with Native American tribes
1739 recognizes the government-to-government relationship between the United States government
1740 and sovereign tribal groups. In that context, federal agencies must acknowledge that historic
1741 properties of religious and cultural significance to one or more tribes may be located on
1742 ancestral, aboriginal, or ceded lands beyond modern reservation boundaries.

1743 Consulting tribes are offered the opportunity to identify concerns about cultural resources and
1744 comment on how the project might affect them. If it is found that the project would impact
1745 properties that are eligible for inclusion in the National Register and are of religious or cultural
1746 significance to one or more consulting tribes, their role in the consultation process may also
1747 include participation in resolving how best to avoid, minimize, or mitigate those impacts. By
1748 describing the proposed undertaking and the nature of any known cultural sites, and consulting
1749 with the interested Native American community, FHWA and CDOT strive to effectively protect
1750 areas important to Native American people.

1751 In November 2008, FHWA contacted 10 federally recognized tribes listed below with an
 1752 established interest in El Paso County and invited them to participate as consulting parties.
 1753 Correspondence with the tribes is included in **Appendix D**.

- 1754 • Apache Tribe of Oklahoma
- 1755 • Cheyenne and Arapaho Tribes of Oklahoma (two tribes administered by a unified tribal
 1756 government)
- 1757 • Comanche Nation of Oklahoma
- 1758 • Kiowa Tribe of Oklahoma
- 1759 • Northern Arapaho Tribe (Wyoming)
- 1760 • Northern Cheyenne Tribe (Montana)
- 1761 • Pawnee Nation of Oklahoma
- 1762 • Southern Ute Indian Tribe (Colorado)
- 1763 • Ute Mountain Ute Tribe (Colorado)
- 1764 • Ute Tribe of the Uintah and Ouray Agency (Utah)

1765 The Comanche Nation of Oklahoma replied to the solicitation by phone and indicated a desire
 1766 to participate as a consulting party. The tribe will be kept apprised of progress on the project and
 1767 provided all available documentation for review in that regard. The tribes will receive an
 1768 announcement of the Public Hearing following the publication of the EA. No additional tribal
 1769 governments responded and, therefore, only the Comanche Nation is considered a formal
 1770 consulting tribe under the auspices of the National Historic Preservation Act.

1771 **3.13.4 Air Quality**

1772 The Pikes Peak Region has not recorded a violation of National Ambient Air Quality Standards
 1773 (NAAQS) for more than two decades. The air quality analysis performed for this project
 1774 indicates that the Proposed Action would not cause or contribute to any new violations. The
 1775 project is included in the air quality conforming PPACG's *Moving Forward – 2035 Regional*
 1776 *Transportation Plan* (PPACG, 2008), which means that the project has been factored into the
 1777 larger, regional air quality conformity determination for the Pikes Peak Area. Regional
 1778 conformity indicates that transportation activities within the region would not exceed regional
 1779 emissions budgets, result in violations of NAAQS, or adversely affect the region's air quality.

1780 Project-level conformity analysis also was performed to assess localized effects of traffic growth.
 1781 Carbon monoxide (CO) concentrations were modeled for the US 24 corridor's two most
 1782 congested intersections (US 24/I-25 and US 24/8th Street). The predicted CO concentrations
 1783 for both the No Action Alternative and the Proposed Action are well within the allowable
 1784 NAAQS of 9.0 parts per million for all years modeled (2020, 2030, and 2035). The Pikes Peak
 1785 Region currently has no air quality plans in place for ozone or particulate matter less than
 1786 10 microns in diameter (PM₁₀). However, the Proposed Action is not expected to exceed
 1787 NAAQS for either of these pollutants.

1788 NAAQS exist for three additional pollutants not discussed above: lead, sulfur dioxide (SO₂), and
 1789 nitrogen dioxide (NO₂). In the past two decades of monitoring (1988 to 2007), concentrations of
 1790 these air pollutants were well below allowable levels and showed no upward trends. With the
 1791 approval of the CDPHE, monitoring of all three pollutants has recently been discontinued in the

1792 Pikes Peak Region, which has no State Implementation Plan element for any of these criteria
1793 pollutants.

1794 No appreciable difference in regional mobile source air toxics emissions is anticipated between
1795 the No Action Alternative and the Proposed Action. In both cases, emissions in 2035 would
1796 likely be lower than present levels due to United States Environmental Protection Agency (EPA)
1797 national control programs that are projected to reduce mobile source air toxics emissions by
1798 57 to 87 percent between 2000 and 2020.

1799 Emissions of particulate matter would increase temporarily during construction as a result of the
1800 operation of diesel equipment, lower traffic speed, soil disturbance and handling, and paving
1801 activities. Fugitive dust emissions during construction will be controlled by implementing BMPs,
1802 such as wetting exposed soils, covering trucks when transporting soil and other fine materials,
1803 minimizing mud tracking by vehicles, limiting vehicle speeds on construction access roads,
1804 stabilizing and covering stockpile areas quickly, and re-vegetating exposed areas. Air emissions
1805 from construction vehicles will be reduced by limiting the idling time of equipment and
1806 requiring the use of newer construction equipment or equipment with add-on emission controls.

1807 **3.13.5 Visual Resources**

1808 US 24 is a developed urban corridor, and existing views in the study area are dominated by
1809 commercial land uses, highway infrastructure, the Fountain Creek riparian corridor, and the
1810 foothills and Rocky Mountains. Although US 24 and associated improvements would be more
1811 visually apparent from surrounding land uses, the Proposed Action would improve visual
1812 consistency and quality within the US 24 corridor. Elevating the roadway in some locations
1813 would accentuate existing views of Pikes Peak and Cheyenne Mountain for motorists travelling
1814 on US 24. The Proposed Action would introduce new infrastructure components, such as
1815 retaining walls, noise walls, and jersey barriers that would obstruct views to and from the project
1816 area. However, efforts will be made to coordinate the aesthetic treatments of the retaining walls
1817 and noise barriers throughout the US 24 corridor. The expansion and improvement of Midland
1818 Trail would improve short-range views along the north and south sides of US 24. Changes to the
1819 rock face near Red Rock Canyon Open Space would not impact its function as a focal point and
1820 separation between urban and rural view sheds. Because US 24 already occurs in an urban,
1821 developed corridor, expansion of US 24 infrastructure would not be readily perceived by
1822 recreationalists at Garden of the Gods Park at that distance.

1823 The Proposed Action was developed with input from an Aesthetic Working Group that
1824 included representatives from CDOT, El Paso County, City of Colorado Springs, City of
1825 Manitou Springs, Colorado Springs Utilities, PPACG, Organization of Westside Neighbors, Old
1826 Colorado City Historical Society, Friends of Red Rock Canyon, the Trails and Open Space
1827 Coalition, and the owner of Gold Hill Mesa. The group met three times between 2008 and 2009
1828 to help develop the look and feel of the Proposed Action, and developed aesthetic guidelines
1829 that will direct final design elements of the Proposed Action. Mitigation could include
1830 coordinated architectural aesthetic treatments of new structural elements, such as bridges,
1831 retaining walls, and noise walls. CDOT will coordinate with the City of Colorado Springs'
1832 landscape architect to select replacement vegetation that is approved by the City of Colorado
1833 Springs. CDOT will look for opportunities to provide gateway monuments for city or
1834 neighborhood boundaries. Additional information on results from the Aesthetic Working Group
1835 is documented in *US 24 I-25 to Ridge Road Aesthetic Guidelines* (THK, 2009) in **Appendix F**.

1836 3.13.6 Fish and Wildlife

1837 The study area is surrounded by mature urban development, and most natural areas have been
 1838 disturbed. Red Rock Canyon Open Space provides wildlife habitat contiguous to the Pike
 1839 National Forest and is a source and destination for wildlife movement north and south across
 1840 US 24.

1841 Large mammals commonly observed in the study area include mule deer (*Odocoileus hemionus*) and
 1842 small mammals such as coyote (*Canis latrans*), raccoon (*Procyon lotor*), red fox (*Vulpes vulpes*), and
 1843 striped skunk (*Mephitis mephitis*). Bird diversity in the study area is typical of urban habitat and is
 1844 supported by the existing vegetation. No raptor nests were identified during field visits in 2006
 1845 and 2009. Nine bat species may occur within the study area: big brown bat (*Eptesicus fuscus*),
 1846 fringed myotis (*Myotis thysanodes*), hoary bat (*Lasiurus cinereus*), little brown myotis (*M. lucifugus*),
 1847 long-eared myotis (*M. evotis*), long-legged myotis (*M. volans*), pallid bat (*Antrozous pallidus*),
 1848 silver-haired bat (*Lasionycteris noctivagans*), and Townsend's big-eared bat (*Plecotustownsendii*). Brown
 1849 trout (*Salmo trutta*), brook trout (*Salvelinus fontinalis*), green sunfish (*Lepomis cyanellus*), White sucker
 1850 (*Catostomus commersonii*), Longnose sucker (*Catostomus catostomus*), and Longnose dace (*Rhinichthys*
 1851 *cataractae*), inhabit Fountain Creek in the study area (Chadwick Ecological Consultants, Inc.,
 1852 2006).

1853 The Colorado Division of Wildlife (CDOW) has recognized mule deer as the species at greatest
 1854 risk for passing through the study area. Approximately 50 percent of mule deer deaths near the
 1855 study area are due to vehicle strikes. Black bear (*Ursus americanus*) and mountain lion (*Felis*
 1856 *concolor*) also are present but less common. The primary concerns identified by CDOW in
 1857 relation to the Proposed Action are potential for increased vehicle strikes and a preference for
 1858 median design that would not trap wildlife on US 24 (SAIC, 2006a; CH2M HILL, 2010h).

1859 The Proposed Action includes a grade-separated crossing of US 24 at Ridge Road, with Ridge
 1860 Road remaining at its current level and US 24 crossing over. This underpass would improve
 1861 wildlife crossing opportunities from north to south of US 24. Jersey barriers would not be
 1862 constructed outside of the shoulder lanes so as to not trap wildlife.

1863 Adverse impacts to wildlife would include minor habitat loss as a result of vegetation removal
 1864 during construction. As detailed in the *Wetland Delineation Technical Memorandum* (CH2M HILL,
 1865 2010g) in **Appendix C**, impacts to Fountain Creek and Bear Creek would occur as a result of
 1866 the project. Impacts to Monument Creek may occur as a result of cut-and-fill activities within
 1867 the channel from bridge/culvert upgrade and replacement work and realignment of the US 24
 1868 and I-25 bridge. Riparian woodland fringes associated with these channels would also be
 1869 impacted. Project construction activities would be carried out in accordance with CDOT's
 1870 standard BMPs and re-vegetation requirements.

1871 An active nesting survey will be conducted within the study area by a qualified biologist prior to
 1872 the start of any construction activities to ensure compliance with Migratory Bird Treaty Act of
 1873 1918 (MBTA). Active bird nests, trees, grasses, and shrubs located within the limits of
 1874 construction will not be removed during nesting season (between April 1 and August 31).
 1875 Recent improvements made to Fountain Creek as part of the Fountain Creek Restoration
 1876 project (developed and funded in part by CDOT, the City of Colorado Springs and its
 1877 Stormwater Enterprise Program, and Gold Hill Mesa) may eventually create new wetlands and
 1878 increase fish populations (primarily trout) in Fountain Creek.

1879 Senate Bill 40 certification and project activities will be and carried out in compliance with
 1880 permit requirements. Under Senate Bill 40, CDOT may be required to obtain a Senate Bill 40
 1881 permit from CDOW whenever a transportation project involves impacts to any stream, river,
 1882 lake, or adjacent riparian area and the wildlife habitat those areas provide. Following final design,
 1883 an application for Senate Bill 40 Wildlife Certification may be required if the project does not fall
 1884 within CDOT's Programmatic Agreement with CDOW, including detailed plans and
 1885 specifications. Plans will be reviewed by CDOW to ensure they are technically adequate to
 1886 protect and preserve fish and wildlife species and provide recommendations or alternative plans
 1887 if the project would adversely affect a riparian area along Fountain Creek and its tributaries.
 1888 Additional information regarding fish and wildlife is included in the *Final Wildlife and Wildlife*
 1889 *Habitat – Baseline Conditions Report* (SAIC, 2006a) and in the *Supplement to the Wildlife and Wildlife*
 1890 *Habitat Baseline Conditions Report* (CH2M HILL, 2010h) in **Appendix C**.

1891 **3.13.7 Threatened and Endangered Species**

1892 Federal- or state-listed threatened and endangered species and state species of special concern
 1893 are either not present or are unlikely to occur in the study area. The study area lacks suitable
 1894 habitat to support federal or state threatened and endangered species in El Paso County. The
 1895 Preble's meadow jumping mouse (*Zapus hudsonius preblei*) is the only federally listed species with
 1896 the potential to occur in the study area, and the study area is located beyond the established
 1897 block clearance for the mouse. The United States Fish and Wildlife Service (USFWS) was
 1898 consulted regarding the potential occurrence of the mouse or its habitat in the study area. The
 1899 USFWS determined that formal trapping was not necessary due to the Proposed Action's
 1900 location within a highly urbanized region and the severely degraded condition of Fountain Creek
 1901 (SAIC, 2006b; CH2M HILL, 2010i).

1902 **3.13.8 Vegetation and Noxious Weeds**

1903 Field visits to the study area were conducted in June 2006 and July 2009. The study area is a
 1904 highly disturbed urban landscape with sparse native vegetation. Siberian elm is one of the most
 1905 common trees throughout the study area, and it appears to be out-competing native trees and
 1906 shrubs, and reducing plant diversity. Some segments of the Fountain Creek riparian area contain
 1907 small remnants of a cottonwood-dominated woodland; however, other areas are highly disturbed
 1908 with sparse native understory vegetation and non-native and weed infestations. Six species of
 1909 noxious weeds were identified in the study area: musk thistle (*Carduus nutans*), diffuse knapweed
 1910 (*Centaurea diffusa*), spotted knapweed (*Centaurea maculosa*), Canada thistle (*Cirsium arvense*), Chinese
 1911 clematis (*Clematis orientalis*), and leafy spurge (*Euphorbia esula*). Canada thistle and Chinese
 1912 clematis were the most commonly observed noxious weeds. Chinese clematis has the potential
 1913 to climb and suffocate existing or future native vegetation, including shrubs and native trees in
 1914 the riparian areas, making it an especially important weed to control. US 24 roadsides are
 1915 maintained by occasional mowing. Additional vegetation and noxious weeds information is
 1916 included in **Appendix C** (SAIC, 2006a; CH2M HILL, 2010h; CH2M HILL, 2010j).

1917 Natural vegetation and noxious weeds would be disturbed during construction of the Proposed
 1918 Action. To minimize impacts to natural vegetation and limit the spread of noxious weeds in the
 1919 construction area, areas disturbed during construction will be re-vegetated with native species.
 1920 All trees greater than 2 inches in diameter at breast height will be mitigated at a 1 to 1 basis.
 1921 Non-native trees will be replaced with native trees. Prior to construction, a noxious weeds
 1922 survey will be conducted, and an Integrated Noxious Weed Management Plan will be developed
 1923 and implemented during construction. The plan will contain specific BMPs to prevent and/or

1924 control the establishment of noxious weeds, such as appropriate herbicide application,
 1925 equipment cleaning and management, topsoil management, stakeholder coordination, the use of
 1926 weed-free materials, and prompt re-vegetation of disturbed soil surfaces. The plan should focus
 1927 on controlling Chinese clematis because it can be harmful to native vegetation.

1928 3.13.9 Utilities

1929 The project team met several times with Colorado Springs Utilities and contacted the Utility
 1930 Notification Center of Colorado to identify private utilities and facilities in the study area. The
 1931 project team also reviewed USGS topographic mapping and conducted field reviews. Utilities are
 1932 present throughout the study area, including water and wastewater mains, underground and
 1933 overhead electrical transmission lines, natural gas lines, telecommunication lines, and fiber optic
 1934 communications. **Exhibit 3-25** lists major utility lines in the study area and identifies the general
 1935 location of potential conflicts. The exact locations of utilities will be determined during the
 1936 preliminary design phase of the project. Additional information is included in the *Utilities*
 1937 *Technical Memorandum* (CH2M HILL, 2009c) in **Appendix C**.

EXHIBIT 3-25

Summary of Major Utilities and Potential Utility Conflicts in the Study Area

Owner	Utility Type	Description
City of Colorado Springs	Water	30-inch ductile iron water main. Crosses beneath West Colorado Avenue, west of Ridge Road.
	Water	36-inch steel water main. Crosses beneath US 24, east of South 8th Street.
	Wastewater	42-inch concrete wastewater pipe. Runs along the west side of Fountain and Monument Creeks north and south of the Cimarron interchange.
	Electric	Primary underground transmission lines adjacent to US 24 at 31st Street (north of US 24), east of 25th Street (north of US 24), east of 21st Street (north and south of US 24), east and west of 8th Street (south of US 24), and east of I-25 (north and south of US 24 adjacent to the railroad).
	Electric	Martin Drake Power Plant. Electrical generating station in the southeast quadrant of the Cimarron interchange. Approximately 1.9 acres of property would need to be acquired to allow for vertical clearance of the flyover ramp. Steam from the power plant could cause fog or icing at the interchange's loop ramp during certain combinations of temperature, humidity, and wind direction and speed.
Colorado Springs School District 11	Fiber Optics	Fiber optic lines cross beneath US 24.
Comcast	Fiber Optics	Fiber optic lines cross beneath US 24 near 8th Street and at 25th Street. Fiber optics also located near I-25.
Qwest	Telecom	Cable TV lines cross beneath US 24 near 8th Street and at 25th Street.

Source: CH2M HILL, 2009c

1938 Colorado Springs Utilities' Martin Drake Power Plant is located southeast of the I-25
 1939 interchange and would be affected by the Proposed Action by construction of a flyover ramp to
 1940 carry eastbound-to-northbound traffic (refer to **Section 3.3, Right-of-Way**). Alternative designs
 1941 were evaluated to avoid this aerial encroachment to the power plant. However, traffic patterns
 1942 and the proximity to the I-25 and Bijou interchange constrained design flexibility, making

1943 complete avoidance impossible. The 1.9 acres of property that would be acquired from the plant
 1944 would be purchased by CDOT and then leased back to Colorado Springs Utilities. Power plant
 1945 electrical generation would not be affected, although some activities and storage would need to
 1946 be relocated.

1947 CDOT will continue to coordinate with Colorado Springs Utilities and private utility providers
 1948 throughout project design.

1949 During final design, utilities will be avoided through design modifications or, where conflicts
 1950 cannot be avoided, utilities will be relocated. Impacts to buried utilities may be avoided by
 1951 protecting them with encasements. Utilities relocated outside of the proposed ROW will require
 1952 an easement.

1953 **3.13.10 Farmlands**

1954 No farmlands are present in the study area, which is within the urbanized area of Colorado
 1955 Springs and Manitou Springs.

1956 **3.14 Cumulative Impacts**

1957 The preceding sections of this chapter have discussed direct and indirect impacts of the
 1958 Proposed Action and the No Action Alternative. NEPA regulations also require consideration
 1959 of cumulative impacts. Cumulative impacts can result if resources affected by this project also
 1960 are affected by other past, present, or reasonably foreseeable future actions. The cumulative
 1961 impacts analysis focuses on specific resources that are directly or indirectly affected by the
 1962 Proposed Action. If an individual project has no direct or indirect impact on a resource, then it
 1963 would not contribute to cumulative impacts on that resource. According to federal guidance,
 1964 cumulative impacts analysis should focus on resources and impacts that are important – in other
 1965 words, “count what counts” (CEQ, 1997).

1966 **3.14.1 Cumulative Impacts Analysis in the Pikes Peak Region**

1967 To determine “what counts” in the Pikes Peak Region, CDOT prepared a regional cumulative
 1968 impacts analysis in 2003. This effort, conducted in
 1969 cooperation with various agencies, community groups,
 1970 and citizens, resulted in the report *Sustaining Nature and*
 1971 *Community in the Pikes Peak Region: A Sourcebook for*
 1972 *Analyzing Regional Cumulative Effects*. The report was known
 1973 informally as the Regional Cumulative Effects Analysis
 1974 (RCEA) (CDOT, 2003).

Cumulative impacts result from the incremental impact of an action when added to other past, present, and reasonably foreseeable actions, regardless of what agency or entity undertakes such actions.

1975 The RCEA examined “big-picture” environmental trends in the region based on adopted land
 1976 use and transportation plans; input from an expert panel convened for the RCEA analysis; and
 1977 data supplied by local, regional, and state agencies. Six major topics were identified by the expert
 1978 panel and confirmed by the public as indicators of the quality of life for the human and natural
 1979 environment. These topics were: Transportation Patterns, Noise, Landscape Patterns, Water
 1980 Quality and Quantity, Air Quality, and Visual Resources.

1981 Trends were examined back in time to 1955 and forward to 2025, the future long-range planning
 1982 horizon that was in effect when the RCEA was prepared. The 1955 benchmark year represented
 1983 a time just prior to the opening of Interstate 25 and the United States Air Force Academy, and
 1984 just before rapid suburbanization began in Colorado Springs.

1985 The RCEA focused on four major roadway improvement projects that were considered
 1986 imminent at that time: I-25 widening (first phase now completed); Woodmen Road widening
 1987 (eastern portion complete, western portion under construction); Milton E. Proby Parkway
 1988 (construction began in 2010); and Powers Boulevard improvements (EA completed in 2010).
 1989 US 24 was not a focus of the report, but was identified as a foreseeable future project.

1990 **3.14.2 US 24 Cumulative Impacts Analysis**

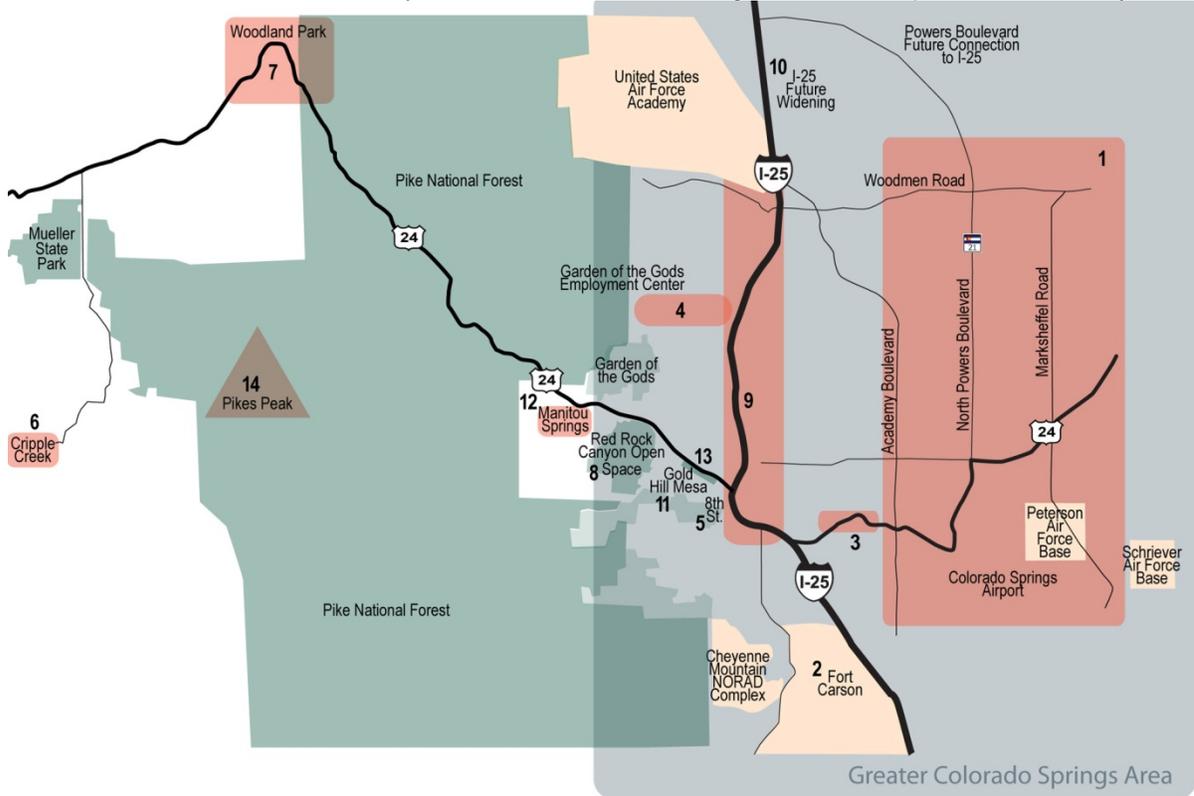
1991 The current Regional Transportation Plan adopted by PPACG has a planning horizon of 2035.
 1992 The 2035 Plan contains an extensive discussion of environmental conditions in a chapter
 1993 entitled “Regional Setting,” which provides an updated context for assessing cumulative impacts
 1994 (PPACG, 2008a). Based on this new information, an appropriate temporal scale for US 24
 1995 cumulative impacts analysis extends to the new planning horizon of 2035, a quarter century into
 1996 the future. Looking backward the same length of time, to the 1980’s, US 24 was already nearly
 1997 two decades old but still not congested.

1998 **Past, Present, and Reasonably Foreseeable Future Actions**

1999 **Exhibit 3-26** identifies the location (numbered areas) of past, present, and reasonably
 2000 foreseeable actions that are expected to contribute to cumulative impacts involving the US 24
 2001 study area. A brief explanation of each action follows the exhibit.

2002 **EXHIBIT 3-26**

2003 Location of Past, Present, and Reasonably Foreseeable Actions Contributing to Cumulative Impacts the US 24 Study Area



2004 1. **Regional growth** in the Colorado Springs metro area, totaling approximately 100,000
 2005 persons per decade, has occurred mostly east of I-25. A 40-mile pipeline from the south is
 2006 now under construction to provide water for future eastward growth. An approved EA calls
 2007 for future connection of North Powers Boulevard and I-25 to accommodate traffic from

- 2008 continued eastward growth. Another EA approved in 2010 calls for upgrading the existing
 2009 Powers Boulevard expressway to a freeway between the Colorado Springs Airport and
 2010 Woodmen Road. East-west capacity is being improved on Woodmen Road.
- 2011 2. **Fort Carson**, the region’s largest single employer, has been an important contributor to
 2012 regional growth, partly by providing stable employment through times of national recession.
 2013 The military population at Fort Carson increased from 12,600 in December 2006 to nearly
 2014 25,000 in December 2009, with another 4,000 troops expected by 2013. Adding the
 2015 associated civilian contractors and military families, the population attributable to the Army
 2016 post will be 59,000 (Fort Carson, 1986; PPACG, 2010).
- 2017 3. **US 24 Martin Luther King Bypass**, which opened in 1993, provides an additional option
 2018 for eastside residents to access US 24.
- 2019 4. **The Garden of the Gods Employment Center**, in northwestern Colorado Springs, has
 2020 been the location of high-tech industrial employers since the 1970s. Some of those
 2021 employers (e.g., Intel) are now gone but their facilities are now finding new users.
- 2022 5. **Commercial development along South 8th Street**, including a Walmart Superstore
 2023 opened in the 1990s, has dramatically increased traffic congestion at the east end of the
 2024 study area.
- 2025 6. **Cripple Creek casinos** sprang up after a 1991 state law permitted gaming in this and two
 2026 other “ghost towns” that were once busy gold-mining camps.
- 2027 7. **Woodland Park** has grown from about 2,600 residents in 1980 to more than 7,500 in 2009
 2028 (State of Colorado, 2010).
- 2029 8. **Red Rock Canyon Open Space** opened in 2004. This city-owned feature preserves a
 2030 789-acre parcel of spectacular scenery that was once proposed for residential and golf course
 2031 development.
- 2032 9. **I-25 widening**, completed in 2007 as the COSMIX project, has made it easier for traffic to
 2033 go to and from US 24. The freeway was widened to six lanes for 12 miles between exit
 2034 138 (S. Circle Drive) and exit 150 (N. Academy Boulevard).
- 2035 10. **Future I-25 widening** to four lanes each direction is planned between exit 139 (US 24
 2036 Bypass) and exit 151 (Briargate Boulevard). An approved EA also calls for widening I-25 to
 2037 six lanes southward to exit 135 (S. Academy Boulevard) and northward from exit 151 to exit
 2038 161 (Monument).
- 2039 11. **Gold Hill Mesa** is a planned mixed-use development being built on land where Cripple
 2040 Creek gold was formerly processed by the Golden Cycle Mill. A total of 600 homes on
 2041 140 acres are planned on this conveniently located “brownfield” land immediately south of
 2042 US 24 between 21st Street and 8th Street. The plan includes a 67-acre commercial village.
- 2043 12. **City of Manitou Springs Fountain Creek Restoration Project**, detailed in a 2009 Master
 2044 Plan, is in the process of upgrading Fountain Creek, ecologically and aesthetically, within
 2045 that city.
- 2046 13. **Midland Greenway** development and the associated **Colorado Springs Fountain Creek**
 2047 **Restoration Project** (13th Street to 21st Street), both adjacent to US 24, will accomplish a
 2048 number of interrelated goals, including provision for trail connections, flood control, water

2049 quality improvement and aesthetic enhancement, and removal of contaminated soils. As
 2050 previously described, some elements of the Midland Greenway will be constructed as part of
 2051 the Proposed Action. Enhancements or completion of some features would be constructed
 2052 in the future by others.

2053 14. **Pikes Peak** will become increasingly open for public recreational uses in accordance with a
 2054 Colorado Springs Utilities *Plan for Recreational Uses on Municipal Watershed Lands* (Springs
 2055 Utilities, 2010) and a related predecessor study, the 1999 *Pikes Peak Multi-Use Plan* (Springs
 2056 Utilities, 1999).

2057 Looking back, rapid growth from 1980 to the present took place largely to the east and
 2058 northeast, farther away from centrally located concentrations of employment and services. This
 2059 has increased the attractiveness of close-in redevelopment and infill opportunities such as South
 2060 8th Street, Gold Hill Mesa, and downtown loft developments. As commuting times and
 2061 distances to eastern suburbs increased, commuting from Woodland Park and other Ute Pass
 2062 communities has also become more attractive.

2063 Looking forward, reasonably foreseeable actions include near-term continued Fort Carson
 2064 growth, development of Gold Hill Mesa, and continued regional growth necessitating
 2065 improvements to I-25 and Powers Boulevard, as well as other roadways in Colorado Springs.
 2066 The region's continued population growth will increase recreational trips on US 24 to and from
 2067 the mountains, and the region's employment growth will continue to attract commuting trips by
 2068 Woodland Park residents.

2069 3.14.3 Cumulative Impacts on Transportation Patterns

2070 Transportation patterns in western Colorado Springs have been determined by long-established
 2071 development. The construction of US 24 in the mid-1960s was the most substantial change in
 2072 many years, as it provided trucks, recreational vehicles, and other through-traffic a faster, less
 2073 congested alternative to using Colorado Avenue. This enabled Old Colorado City to become
 2074 more pedestrian-oriented, as it was when streetcars used this route prior to 1930.

2075 Traffic volumes on US 24 have increased in the past and will increase in the future due to some
 2076 of the other actions presented in **Exhibit 3-27**. The effects of those actions include the
 2077 following:

- 2078 • **Regional growth** – While most of the growth has occurred to the east, these new residents
 2079 use US 24 for access to recreational opportunities around Pikes Peak and farther west into
 2080 the Rocky Mountains.
- 2081 • **Fort Carson** – The increasing number of troops at Fort Carson generates additional demand
 2082 for recreational trips into the mountains, just as with the civilian component of regional
 2083 growth.
- 2084 • **US 24 Martin Luther King Bypass** – Constructing this roadway likely did not increase
 2085 traffic on US 24, because no matter how the motorist gets there, US 24 is the only state
 2086 highway into the mountains between Pueblo and Denver.
- 2087 • **The Garden of the Gods Employment Center** – The west-side location of this center
 2088 attracts workers from western Colorado Springs, generating traffic that uses or crosses
 2089 US 24 West.

- 2090 • **Commercial development along South 8th Street** – Development since the 1990s,
2091 including a Walmart Superstore, has dramatically increased traffic congestion at the east end
2092 of the study area.
- 2093 • **Cripple Creek casinos** – Based on recent traffic data, it is estimated that gaming traffic may
2094 account for up to 2,000 vehicles per day on US 24 West.
- 2095 • **Woodland Park** – This community has become increasingly self-sufficient for employment,
2096 shopping, and services, but nevertheless generates significant vehicular traffic on US 24 in
2097 Colorado Springs. By comparison, other Ute Pass communities are smaller and have
2098 experienced modest growth.
- 2099 • **Red Rock Canyon Open Space** – The popular open space’s parking area is directly
2100 accessible from US 24. Use of this open space has increased traffic slightly on US 24.
- 2101 • **I-25 widening** – Completion of the COSMIX project in 2007 has made it easier for traffic
2102 to go to and from US 24.
- 2103 • **Future I-25 widening** – Planned future I-25 improvements, including both freeway
2104 widening and reconstruction of the I-25/US 24 interchange, will also make it easier for
2105 motorists to reach US 24.
- 2106 • **Gold Hill Mesa** – The planned 600 new homes and 67-acre commercial development
2107 immediately south of US 24 will generate increased traffic demand on US 24. That increased
2108 demand is already included in regional traffic forecasts.
- 2109 • **Midland Greenway** – Greenway development will make the US 24 corridor more attractive
2110 for non-motorized travel.
- 2111 • **Pikes Peak** – Increased recreational use of Pikes Peak, newly allowed by Colorado Springs
2112 Utilities, could increase US 24 traffic slightly.
- 2113 US 24 is the predominant east-west artery serving traffic between downtown Colorado Springs
2114 and the city’s Westside neighborhoods. The combined mobility barrier effect of this highway
2115 and Fountain Creek focus north-south traffic onto the limited number of streets (e.g., 8th Street,
2116 21st Street, 26th Street, and 31st Street) that cross. This, in turn, has affected the transportation
2117 network and land development in western Colorado Springs.
- 2118 It is important to note again that US 24 is the only major roadway into the Rocky Mountains
2119 serving the more than 600,000 residents of El Paso County. **Exhibit 3-27** indicates the amount
2120 of vehicle travel on US 24 in the study area relative to the region overall.

2121 **EXHIBIT 3-27**
 2122 Average Weekday Vehicle Miles Traveled, US 24 Study Area and Region Wide

	Baseline ¹	2035 No Action	2035 Proposed Action	Change From Baseline
US 24, I-25 to 31st Street	162,000	209,000	213,000	+29 to 31%
Pikes Peak Region	11.8 million	N/A	22.1 million	+87%
US 24 as Percent of Region	1.4%	N/A	1.0%	N/A

¹ US 24 data are for 2007; Pikes Peak Region data are for 2005.

2123 **Cumulative Impacts of the Proposed Action**

2124 The Proposed Action would reduce traffic congestion on US 24. Together with the other
 2125 improvements included in PPACG's *Moving Forward – 2035 Regional Transportation Plan* (PPACG,
 2126 2008a), the Proposed Action would result in acceptable levels of service for the US 24 corridor.
 2127 Provision of adequate roadway capacity on US 24 would help to keep traffic on US 24, rather
 2128 than on other nearby roadways that are not designed to carry large traffic volumes at speeds
 2129 compatible with regional trips.

2130 The Proposed Action would not preclude future transit alternatives and would accommodate
 2131 proposed trail development as well as a potential future park and ride lot which would be
 2132 constructed by others. The Midland Trail through the US 24 corridor is part of the region's
 2133 primary east-west trail system called the America the Beautiful Trail, designated by the White
 2134 House as Colorado's Millennium Legacy Trail in 2000.

2135 **Mitigation**

2136 No mitigation measures are required.

2137 **3.14.4 Cumulative Impacts on Noise**

2138 Human activity in an urban area generates many types of noise. Planes, trains, automobiles,
 2139 trucks, and motorcycles are transportation-related sources of noise. Urban noise also includes
 2140 contributions from non-transportation sources such as lawn mowing, leaf-blowing, and
 2141 construction activities. As the Colorado Springs metropolitan area grows, the peace and quiet of
 2142 the once-rural countryside has given way to noisier suburban development.

2143 Noise barriers have been built since 2004 along I-25 and several city streets, and more are
 2144 proposed along Powers Boulevard and Woodmen Road when roadway improvements are made.
 2145 Generally, any high-speed, high-volume roadways in the region are likely to result in noise
 2146 impacts to surrounding neighborhoods. Due to funding constraints, noise barriers are not
 2147 installed independently in the absence of a road improvement project.

2148 US 24 is the busiest roadway in western Colorado Springs, offering the highest travel speeds, and
 2149 it is also an important truck route. There are few activities in the US 24 study area that
 2150 contribute to cumulative noise impacts. For example, there are no active railroads west of I-25,
 2151 and the Colorado Springs Airport is located on the southeastern side of the metro area.
 2152 Additionally, the two closest hospitals with flight-for-life helicopters are both east of I-25.

2153 **Cumulative Impacts of the Proposed Action**

2154 The Proposed Action would accommodate higher traffic volumes, at higher speeds, compared
 2155 to current conditions, and also compared to the No Action Alternative. It would also elevate
 2156 portions of US 24 and would add on-ramps and off-ramps that are closer to adjacent properties
 2157 than the existing highway is today. As a result of these effects, highway noise would increase
 2158 from current levels, and in various locations would exceed the state threshold (66 decibels) that
 2159 triggers consideration of noise mitigation. Despite construction of noise walls as mitigation, the
 2160 US 24 corridor is expected to become somewhat noisier as the metro area continues to grow.
 2161 Noise barriers are proposed for three locations where state noise abatement criteria would be
 2162 met, as described in **Section 3.6, Traffic Noise**. Other locations along the US 24 corridor
 2163 would experience increased traffic noise for which mitigation was not found to be feasible or
 2164 reasonable according to CDOT standards.

2165 **Mitigation**

2166 The direct impacts of the Proposed Action will be mitigated to the extent that would be
 2167 considered reasonable and feasible, as described earlier in this EA. No cumulative impacts
 2168 requiring mitigation were identified.

2169 **3.14.5 Cumulative Impacts on Landscape Patterns**

2170 The RCEA indicated that both the human and natural environment are affected by landscape
 2171 patterns. The term “landscape patterns” refers to the type, size, and arrangement of land cover
 2172 and land use, which are important for such purposes as wildlife habitat and human needs. Blocks
 2173 of land and their connections within a landscape are critical to wildlife for their food, shelter,
 2174 movement, and reproduction. For people, appropriate landscape patterns provide livable
 2175 neighborhoods and efficient infrastructure. Implementation of the Proposed Action would
 2176 improve mobility, which would facilitate development at Gold Hill Mesa and redevelopment
 2177 throughout the US 24 corridor.

2178 Landscape patterns in the US 24 study area are strongly influenced by Fountain Creek, as
 2179 described in **Section 3.2, Floodplains** and elsewhere in this chapter. Several specific influences
 2180 are listed below.

- 2181 • **Aesthetics** – The creek and its riparian habitat are visible from much of US 24, and the
 2182 vegetation softens the suburban landscape (aesthetic influence).
- 2183 • **Ecology** – The creek provides a movement corridor for fish and wildlife, and US 24 is a
 2184 barrier to wildlife crossing (ecological influence).
- 2185 • **Mobility** – The creek is a barrier to north-south traffic (urban development influence).
- 2186 • **Land Use** – The creek’s floodplain limits the types of development that are suitable along
 2187 US 24 (development constraint).
- 2188 • **Floodplains** – Most of US 24 in the study area is in the 100-year floodplain of Fountain
 2189 Creek, making this highway vulnerable to flooding (safety and mobility issue).

2190 Much of the area along the US 24 corridor developed many years ago and remaining
 2191 undeveloped lands have various development constraints (topography, floodplains, designated
 2192 open space). The opening of the 789-acre Red Rock Canyon Open Space in 2004 and the

2193 140-acre Gold Hill Mesa development in 2007 largely complete the land use in-fill of this study
2194 area that is surrounded by historic Old Colorado City and historic Manitou Springs.

2195 It is noted below in the discussion of water quality that the amount of developed land in this
2196 subwatershed is not expected to increase in the next 30 years. However, within the developed
2197 areas, there is potential of redevelopment to higher land use densities. Increased population and
2198 traffic densities will place further stress on the natural resources found in the surrounding
2199 landscape.

2200 Fountain Creek and the public open space provide continuity for wildlife movement for
2201 urban-adapted species (deer, coyote, raccoon). Fountain Creek restoration efforts may eventually
2202 increase fish populations (primarily trout) in the creek.

2203 The existing US 24 roadway with its surrounding development represents a barrier to north-
2204 south movement by wildlife. The noise and lighting of the roadway and the development
2205 discourage wildlife from approaching the US 24 corridor, and vehicular traffic presents an
2206 obvious threat of animal injury or roadkill.

2207 Ongoing efforts for restoration of Fountain Creek by local groups would occur under the No
2208 Action Alternative and with the Proposed Action as well. These efforts are independent of any
2209 US 24 improvements.

2210 **Cumulative Impacts of the Proposed Action**

2211 With regard to aesthetics, the Fountain Creek restoration work and Midland Greenway work
2212 being performed by CDOT and others would improve the view from the roadway. CDOT will
2213 use aesthetic guidelines developed in coordination with local stakeholders to design the roadway
2214 improvements.

2215 With regard to ecological impacts, the Proposed Action would widen US 24, accommodating
2216 additional vehicles and pushing US 24's direct and indirect effects closer to Fountain Creek. This
2217 would increase the effect of US 24 as a barrier to wildlife crossing. An important opportunity for
2218 crossing US 24 would remain at Ridge Road. That road would remain at grade, with US 24
2219 crossing over it. Ridge Road does not carry a high volume of vehicles and is likely to be used as a
2220 wildlife crossing of US 24. Additionally, use of the Midland Trail by people and their pets would
2221 also encroach on wildlife in the US 24 corridor. Use of the Red Rock Canyon Open Space since
2222 2004 and development of Gold Hill Mesa since 2007 are making the area less attractive to
2223 wildlife.

2224 Impacts to fish in Fountain Creek would be mixed. Although channel reconstruction would be
2225 temporarily detrimental, it will be mitigated by adding rock work and natural substrates (to the
2226 bottom of box culverts), which would improve fish habitat. Stormwater mitigation measures
2227 would reduce contaminants in the runoff that is discharged into the creek. Recent improvements
2228 made to Fountain Creek as part of the Fountain Creek Restoration project (developed and
2229 funded in part by CDOT, the City of Colorado Springs and its Stormwater Enterprise Program,
2230 and Gold Hill Mesa) may eventually create new wetlands and increase fish populations (primarily
2231 trout) in Fountain Creek.

2232 With regard to mobility, no new crossings of Fountain Creek are included in the Proposed
2233 Action, but crossing US 24 itself would become easier at the several locations where at-grade
2234 intersections would be replaced with grade-separated interchanges. Traffic flow on Colorado

2235 Avenue would benefit from reducing cut-through traffic that results today from inadequate
2236 capacity on US 24.

2237 With regard to land use, the Proposed Action would result in the need for approximately
2238 78 acres of land to be acquired for ROW from more than 100 adjacent property owners. The
2239 land uses of these parcels are primarily commercial and light industrial, along with a few
2240 residential properties. They provide little or no habitat for urban wildlife. Converting these
2241 properties to highway ROW would not change the pattern of surrounding uses, or split any
2242 neighborhoods.

2243 Planned floodplain modifications as a result of the Proposed Action would reduce the risk of
2244 flooding for US 24 and a number of nearby properties. The vulnerability of the US 24 corridor
2245 to flooding became very clear during an estimated 20-year flood event that occurred in 1999.
2246 The Proposed Action is consistent with regional plans for improved stormwater management.

2247 **Mitigation**

2248 Efforts undertaken by CDOT to minimize direct and indirect project impacts with Fountain
2249 Creek restoration and Midland Greenway development were planned in consultation with local
2250 stakeholders and will be welcome improvements to the landscape of the US 24 corridor. No
2251 cumulative effects regarding landscape will need mitigation.

2252 **3.14.6 Cumulative Impacts on Water Quality and Quantity**

2253 The US 24 study area is located within the Fountain Creek watershed. Cumulative impacts of
2254 growth in this watershed include increased water import, use, and discharge by the rapidly
2255 growing population, and increased stormwater runoff due to increased impervious surface.
2256 Impervious surface is land used for roads, driveways, parking lots, and buildings that does not
2257 allow water to soak into the ground and recharge underground aquifers. Instead, the water flows
2258 to nearby drainages, carrying with it urban pollutants such as vehicle oils, lawn fertilizers, pet
2259 wastes, and debris.

2260 The regional watershed has been divided into subwatersheds that identify what areas drain into
2261 individual creeks. **Exhibit 3-28** provides PPACG's assessment of impervious surface area in
2262 2005 and 2035 as a percentage of total area within a few subwatersheds selected as illustrative
2263 examples (PPACG, 2005). The Garden of the Gods subwatershed that includes the US 24 study
2264 area contains both developed and undeveloped areas (e.g., Old Colorado City and the Garden of
2265 the Gods Park), and minimal land use change is expected. The 14 percent figure for this
2266 subwatershed suggests that about 5.5 square miles (out of 39 square miles in this drainage area)
2267 are impervious surface. Two of the examples are rapid-growth areas in eastern Colorado Springs,
2268 where the amount of impervious surface will increase substantially in the future.

2269 **EXHIBIT 3-28**
 2270 **Current and Future Impervious Surface in Selected Subwatersheds**

Subwatershed	Description	Area (sq. mi.)	Impervious Surface	
			2005	2035
Colorado Springs Composite (CSC2)	Highly urbanized portion of central Colorado Springs	45	45%	45%
Sand Creek (CSC6)	Suburban Powers Boulevard corridor in eastern Colorado Springs	59	27%	43%
Jimmy Camp Creek (CSC7)	Eastern prairie slated for Banning-Lewis Ranch urban development	69	7%	37%
Garden of the Gods Composite (FC4)	Near west side of Colorado Springs, including the US 24 study area	39	14%	14%
Manitou Reservoir Composite (FC2)	Undeveloped eastern slope of Pikes Peak	18	1%	1%

Source: PPACG, 2005

2271 Samples routinely taken at various locations along Fountain Creek are analyzed to determine
 2272 whether the water's potential uses (e.g., water supply, recreation, domestic irrigation) are
 2273 impaired by pollutants, and if so, which pollutants. High concentrations of selenium occur in
 2274 portions of Fountain Creek due to erosion of underlying shale bedrock. The bacteria *E. coli*
 2275 exceed state standards; the source of *E. coli* has been attributed largely to birds, especially
 2276 pigeons, in Manitou Springs (USGS, 2009). No segments of Fountain Creek are known to be
 2277 impaired by vehicle-generated pollutants.

2278 Much of the US 24 study area is located in Fountain Creek's 100-year floodplain and would be
 2279 inundated in the event of a storm with very heavy precipitation. A storm within the last decade
 2280 caused damage to bridges within the US 24 study area because they were not designed to convey
 2281 such flows. A major flood event in 1999 demonstrated that there are extensive drainage
 2282 problems in the areas of historic development along Fountain Creek west of I-25.

2283 Fountain Creek through the US 24 study area has been channelized and highly manipulated due
 2284 to development over many years. Near the confluence of Fountain Creek and Monument Creek,
 2285 the Fountain Creek channel passes near the tailing deposits of a former gold milling site, and the
 2286 channel is constrained between the tailings site and US 24 (PPACG, 2003). The US 24 road
 2287 embankment and other development constrain the floodplain to a narrow area.

2288 Channel alignment along most of upper Fountain Creek has not changed greatly in the recent
 2289 past because most of the channel is formed in bedrock. In the reach from Cascade to Manitou
 2290 Springs, upper Fountain Creek is confined to a channel between the two lanes of US 24.
 2291 Although this course approximates the original channel, the road embankments and riprap now
 2292 constrain the channel to a narrower width. In the City of Manitou Springs, channelization and
 2293 structures in the floodplain have straightened and confined the channel (PPACG, 2003). These
 2294 channelization effects are not conducive to the formation of wetlands, which, if more abundant
 2295 in the area, could aid in sediment deposition and in other ways improve water quality.

2296 Topographical constraints, reserved open space, limited roadway capacity, and 140 years of
 2297 development limit the amount of urban growth, traffic volumes, and increased impervious
 2298 surface that are expected in the US 24 study area. Water quality can be expected to remain stable

2299 in its current condition here, while continuing to change downstream as the result of growth
 2300 elsewhere in the region. Federal and state stormwater management requirements now applicable
 2301 to development region-wide would reduce the incremental impact of new development
 2302 compared to past development.

2303 **Cumulative Impacts of the Proposed Action**

2304 With the Proposed Action, impervious surface in the US 24 study area would increase from
 2305 about 69 acres today to 111 acres, an increase of 42 acres, or about 0.07 square mile. If not
 2306 already included in the forecast, this increment would not change PPACG's estimate of
 2307 14 percent impervious surface in the subwatershed.

2308 The increased impervious surface area and increasing traffic volumes have the potential to result
 2309 in more vehicle-generated water pollutants from the roadway, but stormwater detention features
 2310 included in the Proposed Action will capture the runoff and reduce the amount of pollution and
 2311 sediment that reaches Fountain Creek. Stormwater management features of the Proposed Action
 2312 will not only address the proposed new lanes, but will capture runoff that would normally be
 2313 generated from the existing facility, thereby improving water quality over current conditions.

2314 Regarding floodplains, the design of the Proposed Action would reduce the width of the
 2315 100-year floodplain, making the road and its users safer from potential flooding. An estimated
 2316 68 properties with residential or commercial structures in the current 100-year floodplain would
 2317 be outside the 100-year floodplain as modified by the Proposed Action.

2318 Stormwater detention areas will be created in accordance with CDOT's permit from the
 2319 CDPHE. In conjunction with ongoing creek restoration efforts and plans for the Midland
 2320 Greenway, these changes associated with the Proposed Action would help to decrease the
 2321 amount of untreated stormwater that enters Fountain Creek in the US 24 study area.

2322 CDOT's substantial water quality mitigation efforts for the US 24 corridor will meet the
 2323 requirements of its stormwater discharge permit. Municipal separate stormwater sewer system
 2324 (MS4) permit requirements apply not only to CDOT, but also to the City of Colorado Springs
 2325 and, thus, to private development in the surrounding area. These water quality safeguards were
 2326 not in place decades ago when US 24 was originally constructed and as the surrounding area
 2327 developed.

2328 **Mitigation**

2329 CDOT's project-level efforts undertaken to minimize direct and indirect impacts will be
 2330 beneficial for both floodplains and water quality. No further mitigation will be needed.

2331 **3.14.7 Cumulative Impacts on Visual Resources**

2332 The discussion of visual resources in the RCEA focuses on preserving views to attractive visual
 2333 features such as lakes, streams, mountain views, and other scenic vistas. Westbound travelers on
 2334 US 24 view Pikes Peak ahead of them. Views into Red Rock Canyon Open Space from US 24
 2335 are very limited due to landforms, the angle of the view, and the speed of the traffic. Currently,
 2336 views of Fountain Creek are not overly scenic, but stream restoration efforts and development
 2337 of the Midland Greenway have the potential to improve this situation. New home construction
 2338 and erosion control measures associated with Gold Hill Mesa will continue to transform the
 2339 appearance of the barren hillside south of US 24 and east of 21st Street. No other major actions
 2340 are expected to significantly modify existing views.

2341 North of US 24, the Old Colorado City Historic District and the city’s historic Westside
 2342 neighborhoods (bounded by US 24, 31st Street, Uintah Street, and I-25) now have a set of
 2343 voluntary Design Guidelines to help maintain the area’s historic character. Developed through
 2344 the group efforts of the City of Colorado Springs, Westside neighborhoods, and historic
 2345 preservation advocates, these guidelines were completed in 2009.

2346 **Cumulative Impacts of the Proposed Action**

2347 The Proposed Action would result in US 24 becoming a more prominent feature in the urban
 2348 landscape pattern because the roadway would be widened and it would be elevated at grade-
 2349 separated interchanges and an overpass. This impact would be more noticeable at the east end of
 2350 the US 24 corridor near I-25, with fewer impacts near the more scenic west end of the
 2351 US 24 corridor. Removal of some adjacent industrial businesses needed for highway ROW may
 2352 also enhance the aesthetic quality of the US 24 corridor. CDOT will use the Aesthetic
 2353 Guidelines that were developed with substantial community input to guide the look and feel of
 2354 highway features – as described in **Section 3.13.5, Visual Resources**.

2355 It is recognized that US 24 is an important transportation gateway for tourists and local residents
 2356 alike from downtown Colorado Springs to the city’s west side, Pikes Peak, and the mountains
 2357 beyond. CDOT’s design for the US 24 corridor was developed using a context-sensitive
 2358 solutions approach, and will incorporate aesthetic design and landscaping that support this
 2359 gateway concept.

2360 **Mitigation**

2361 CDOT’s project-level design efforts will address the direct and indirect impacts of the Proposed
 2362 Action. No further mitigation will be necessary.

2363 **3.14.8 Cumulative Impacts on Air Quality**

2364 The Pikes Peak Region has not recorded a violation of any federal air quality standard since
 2365 1989, when the region had a much smaller population and much less vehicle use than it does
 2366 today. A number of federal and state actions reduced emissions of vehicle-generated air
 2367 pollutants. Federal motor vehicle emission standards, vehicle emission inspections, cleaner-
 2368 burning fuels, and a regional carpool matching program were among these efforts.

2369 Concentrations of CO are measured at a regional monitoring site along US 24 just west of I-25.
 2370 Recorded concentrations of CO at this monitor are well within allowable national standards.
 2371 Due to continued technological improvements, CO concentrations are not expected to increase
 2372 substantially in the future, despite continued growth in regional population and vehicle use. The
 2373 *PPACG Moving Forward – 2035 Regional Transportation Plan* indicates that the amount of daily
 2374 vehicle travel in the region is expected to increase by about 87 percent between 2005 and 2035
 2375 (PPACG, 2008a).

2376 Ozone pollution is measured at a regional monitoring site in Manitou Springs. ozone is created
 2377 by chemical reactions in the atmosphere on warm, sunny days. As the air heats, it rises in
 2378 elevation. Thus, ozone concentrations measured in Manitou Springs reflect the cumulative
 2379 impact of pollutants emitted throughout the region earlier in the day. Ozone concentrations
 2380 recorded in Manitou Springs in recent years have not exceeded allowable limits but have been
 2381 close.

2382 The federal EPA ozone standard , to be reviewed again in 2013, could launch the Pikes Peak
 2383 Region and other Colorado metropolitan areas into the preparation of regional air quality plans

2384 aimed at reducing the types of emissions that result in ozone formation. These pollutants are
2385 generated not only by motor vehicles but by non-road equipment (e.g., lawnmowers, bulldozers,
2386 generators), industry, utilities, and even the use of household chemicals. Currently mandated
2387 improvements in vehicle technology offer substantial emission reductions for the long-term
2388 future.

2389 Vehicle traffic congestion results in excessive idling, which is an inefficient use of motor vehicle
2390 fuel. Persistent weekday congestion predicted for the No Action Alternative would produce
2391 more ozone-related idling emissions than would the Proposed Action.

2392 **Cumulative Impacts of the Proposed Action**

2393 The Proposed Action would accommodate higher traffic volumes with less congestion than is
2394 experienced today. At several locations along the US 24 corridor, construction of grade-
2395 separated interchanges and overpasses would allow east-west US 24 traffic to flow without
2396 stopping at cross streets. This would reduce excessive vehicle idling within the US 24 corridor
2397 and improve air quality. However, due to the short length of the Proposed Action and the
2398 modest traffic volumes involved, any congestion relief impacts of the Proposed Action would
2399 have a minimal influence on regional air quality levels.

2400 The Proposed Action for the US 24 study area has been designed to be compatible with the
2401 proposed Midland Greenway, a major east-west trail for bicyclists and pedestrians. It also will
2402 accommodate a potential future park and ride lot to be constructed by others. These alternative
2403 transportation modes help to reduce emissions, compared to driving alone.

2404 If a portion of the Pikes Peak Region becomes a nonattainment area for ozone, it can be
2405 expected that a variety of air quality improvement measures would be undertaken by federal,
2406 state, and local governments for the purpose of attaining the new ozone standard as
2407 expeditiously as practicable.

2408 The issue of global climate change is an important national and global concern that is being
2409 addressed in several ways by the federal government. The transportation sector is the second
2410 largest source of total greenhouse gases (GHGs) in the United States, and the greatest source of
2411 carbon dioxide (CO₂) emissions – the predominant GHG. In 2004, the transportation sector was
2412 responsible for 31 percent of all U.S. CO₂ emissions. The principal anthropogenic
2413 (human-made) source of carbon emissions is the combustion of fossil fuels, which account for
2414 approximately 80 percent of anthropogenic emissions of carbon worldwide. Nearly all
2415 (98 percent) transportation-sector emissions result from the consumption of petroleum products
2416 such as gasoline, diesel fuel, and aviation fuel.

2417 Recognizing this concern, FHWA is working nationally with other modal administrations
2418 through the DOT Center for Climate Change and Environmental Forecasting to develop
2419 strategies to reduce transportation's contribution to GHGs – particularly CO₂ emissions – and to
2420 assess the risks to transportation systems and services from climate changes.

2421 At the state level, there are also several programs underway in Colorado to address
 2422 transportation GHGs. The Governor’s Climate Action Plan, adopted in November 2007,
 2423 includes measures to adopt vehicle CO₂ emissions standards and to reduce vehicle travel
 2424 through transit, flex time, telecommuting, ridesharing, and broadband communications. CDOT
 2425 issued a Policy Directive on Air Quality in May 2009. This Policy Directive was developed with
 2426 input from a number of agencies, including the CDPHE, EPA, FHWA, Federal Transit
 2427 Administration (FTA), Denver Regional Transportation District (RTD), and the Denver
 2428 Regional Air Quality Council (RAQC). This Policy Directive addresses unregulated mobile
 2429 source air toxics (MSAT) and greenhouse gases (GHG) produced from Colorado’s state
 2430 highways, interstates, and construction activities.

2431 As a part of CDOT’s commitment to addressing MSATs and GHGs, some of CDOT’s
 2432 program-wide activities include:

- 2433 1. Developing truck routes/restrictions with the goal of limiting truck traffic in proximity to
 2434 facilities, including schools, with sensitive receptor populations.
- 2435 2. Continue researching pavement durability opportunities with the goal of reducing the
 2436 frequency of resurfacing and/or reconstruction projects.
- 2437 3. Developing air quality educational materials, specific to transportation issues, for citizens,
 2438 elected officials, and schools.
- 2439 4. Offering outreach to communities to integrate land use and transportation decisions to
 2440 reduce growth in vehicle miles traveled (VMT), such as smart growth techniques, buffer
 2441 zones, transit-oriented development, walkable communities, and access management plans.
- 2442 5. Committing to research additional concrete additives that would reduce the demand for
 2443 cement.
- 2444 6. Expanding Transportation Demand Management (TDM) efforts statewide to better utilize
 2445 the existing transportation mobility network.
- 2446 7. Continuing to diversify the CDOT fleet by retrofitting diesel vehicles, specifying the types of
 2447 vehicles and equipment contractors may use, purchasing low-emission vehicles such as
 2448 hybrids, and purchasing cleaner-burning fuels through bidding incentives where feasible.
 2449 Incentivizing is the likely vehicle for this.
- 2450 8. Exploring congestion and/or right-lane-only restrictions for motor carriers.
- 2451 9. Funding truck parking electrification (note: mostly via exploring external grant
 2452 opportunities)
- 2453 10. Researching additional ways to improve freight movement and efficiency statewide.
- 2454 11. Committing to incorporating ultra-low sulfur diesel (ULSD) for non-road equipment
 2455 statewide before June 2010, likely using incentives during bidding.
- 2456 12. Developing a low-VOC-emitting tree landscaping specification.

2457 Because climate change is a global issue, and the emissions changes due to project alternatives
 2458 are very small compared to global totals, the GHG emissions associated with the alternatives
 2459 were not calculated. The relationship of current and projected Colorado highway emissions to
 2460 total global CO₂ emissions is presented in **Exhibit 3-29**. Colorado highway emissions are

2461 expected to increase by 4.7 percent between now and 2035. The benefits of the fuel economy
 2462 and renewable fuels programs in the 2007 Energy Bill are offset by growth in VMT; the draft
 2463 2035 statewide transportation plan predicts that Colorado VMT will double between 2000 and
 2464 2035. This table also illustrates the size of the US 24 corridor relative to total Colorado travel
 2465 activity.

EXHIBIT 3-29**Relationship of Current and Projected Colorado Highway Emissions to Total Global Carbon Dioxide Emissions**

Global CO₂ Emissions, 2005, Million Metric Tons (MMT)¹	Colorado Highway CO₂ Emissions, 2005, MMT²	Projected Colorado 2035 Highway CO₂ Emissions, MMT²	Colorado Highway Emissions, % of Global Total (2005)²	US 24 Corridor VMT, % of Statewide VMT (2005)
27,700	29.9	31.3	0.108%	0.7%

¹ EIA, International Energy Outlook 2007

² Calculated by FHWA Resource Center

2466 A detailed discussion of the air quality analyses is provided in the *Air Quality Technical*
 2467 *Memorandum* (Wilson & Company, 2010) in **Appendix C**.

2468 Mitigation

2469 The Proposed Action meets federal conformity requirements, which take into account both
 2470 project-level and regional air quality. No mitigation measures are required.

2471 3.14.9 Cumulative Impacts on Economic Conditions

2472 Unrelated to the RCEA, economic consultants were retained by CDOT to prepare a detailed
 2473 analysis of economic impacts from the US 24 improvement alternatives. As noted in
 2474 **Section 3.7, Social Resources**, that study was entitled, *U.S. Highway 24 Alternatives Analysis*
 2475 *(Manitou Springs to Interstate 25) Market and Socio-Economic Impacts* (THK Associates, Inc., 2006).
 2476 The study identified direct economic impacts of the US 24 Preferred Alternative but also
 2477 identified how improved mobility on US 24 could result in substantial long-term economic
 2478 benefits due to indirect and cumulative effects.

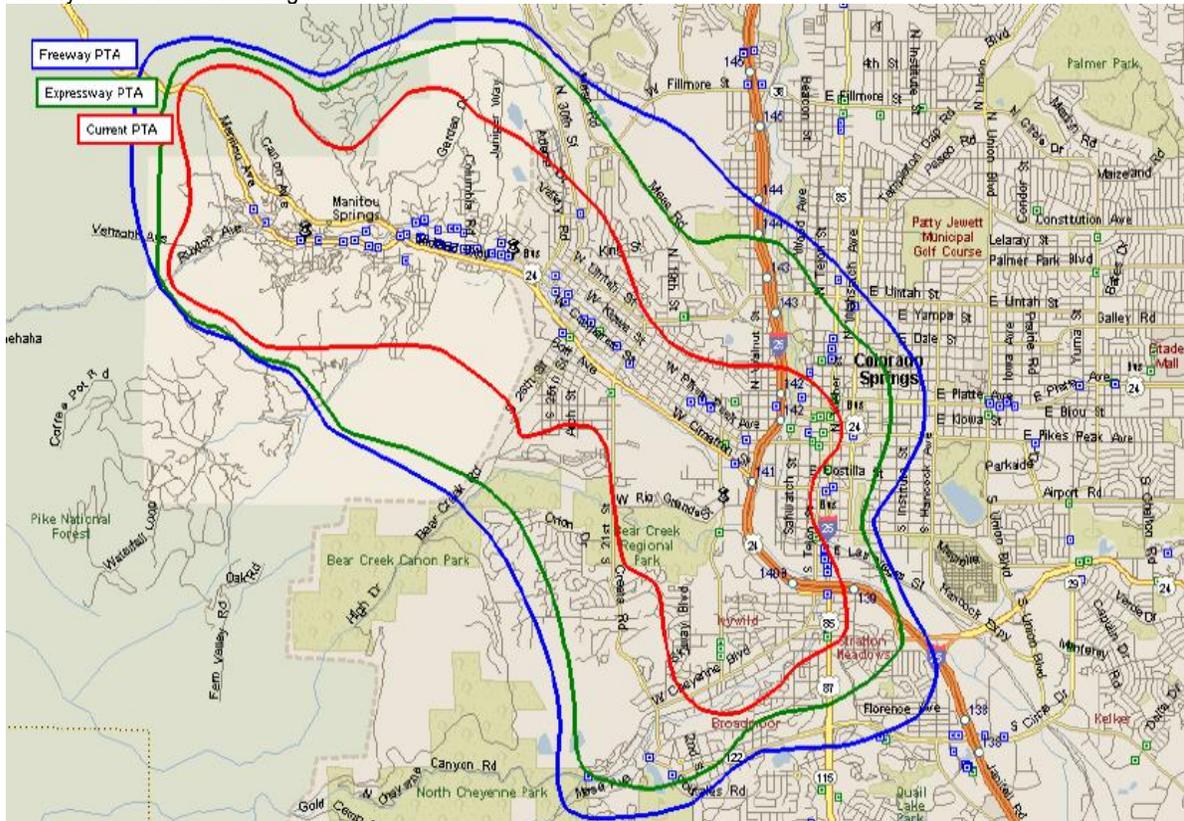
2479 In a September 2008 follow-up memorandum, the economic consultants indicated that direct
 2480 impacts of the US 24 improvements would be the displacement of 76 residents and
 2481 1,859 employees. These displacements would be due to the ROW acquisitions that are described
 2482 in **Section 3.3, Right-of-Way**. A list of the specific businesses that would be displaced can be
 2483 found in the *Right-of-Way Technical Memorandum and Acquisition Atlas* (CH2M HILL, 2010b) in
 2484 **Appendix C**. The US 24 economic study also examined the availability of undeveloped land and
 2485 areas of redevelopment opportunity and concluded that it would be feasible for most of the
 2486 displaced businesses to relocate within the US 24 study area. Some of the businesses would not
 2487 relocate in the area. Of the sales tax revenues currently generated by the businesses that would
 2488 be displaced, it was estimated that only a 25 percent reduction would occur over the long term.

2489 Offsetting direct, short-term economic losses, however, is the indirect effect that improved
 2490 mobility on the US 24 corridor would expand the primary trade area for local businesses. Based
 2491 on data available through 2005, the US 24 economic impacts study identified the geographical
 2492 area located within a 5-minute drive time from the US 24 project area, calling this the US 24
 2493 corridor's Primary Trade Area. The average distance that could be traveled during that time was

2494 estimated to be 0.7 mile, because most streets in the area are local streets with a speed limit of
 2495 25 miles per hour. It was estimated that in 2006, this Primary Trade Area included 5.9 percent of
 2496 the region's households and 4.7 percent of the region's population. The difference in these
 2497 numbers reflects the fact that west side homes tend to be older and smaller than homes in the
 2498 newer, eastern suburbs.

2499 **Exhibit 3-30**, below, depicts the Primary Trade Area for the US 24 existing roadway as well as
 2500 for an improved expressway (the Preferred Alternative) and a Freeway Alternative that was also
 2501 considered in this EA. The Freeway Alternative was not selected and is not discussed below.

2502 **EXHIBIT 3-30**
 2503 Primary Trade Areas Resulting from US 24 Alternatives



2504 The Primary Trade Area that would result due to faster average speeds on US 24 with the
 2505 Preferred Alternative is substantially larger than the current trade area. It includes 10.2 percent
 2506 of the region's population and 8.2 percent of the region's population. The average distance
 2507 traveled during the 5 minutes was 1.5 miles due to increased travel speeds on US 24. The ability
 2508 of additional customers to access the US 24 corridor would facilitate redevelopment in the
 2509 long-term and result in an economic benefit for the US 24 corridor, more than offsetting
 2510 short-term job losses. Projecting regional growth for 10 years, to 2016, the study predicted net
 2511 increases of 641 jobs and \$3.7 million in increased sales tax revenue. Due to continued
 2512 recessionary economic conditions in the US, coupled with the fact that the Preferred Action may
 2513 not be built by 2016, the important conclusion of the study is not a specific number of added
 2514 jobs by a specific year but instead the positive influence of the project on job creation in the
 2515 US 24 corridor.

2516 The predicted economic benefits of the US 24 Preferred Action would be the cumulative result
2517 of population and employment growth in the region, with individual entrepreneurs deciding to
2518 invest in the US 24 corridor because of its improved accessibility. Some of the past, present, and
2519 reasonably foreseeable actions affecting growth in the US 24 corridor were discussed earlier in
2520 **Section 3.14.2, US 24 Cumulative Impacts Analysis.**