

## 2.0 ALTERNATIVES

The I-70/32<sup>nd</sup> Avenue Interchange improvement process began with the development of a broad range of alternatives. The *I-70/32<sup>nd</sup> Avenue Interchange System Level Feasibility Study* (FHU 2005) examined 21 alternatives and nine sub-alternatives. The System Level Feasibility Study, which was approved by the Colorado Transportation Commission in September 2005, advanced three alternative packages for further study in the EA. Technical screening, detailed evaluation and public involvement narrowed down the list of alternatives and resulted in the identification of the Proposed Action, which is further evaluated in this EA.

This chapter summarizes the range of alternatives developed, details the screening process conducted that eliminated alternatives from further study, and presents the Proposed Action. This chapter is organized as follows:

- ▶ The development and screening of alternatives benefited from an extensive and valuable public and agency involvement program, which is summarized in **Section 2.1 *Public and Agency Involvement***.
- ▶ **Section 2.2 *Alternatives Considered*** summarizes the screening analysis performed to identify the Proposed Action.
- ▶ The No-Action Alternative is discussed in **Section 2.3 *No-Action Alternative***. The No-Action Alternative serves as a benchmark for comparison with other alternatives.
- ▶ The Proposed Action is described in detail in **Section 2.4 *Proposed Action***.

### 2.1 *Public and Agency Involvement*

An extensive public and agency involvement program has been conducted to provide updates on process, design, and analysis, and to receive input on the development and screening of alternatives. In accordance with CDOT Policy Directive 1601 – Interchange Approval Process (CDOT 2005a), the public and agency involvement programs for the System Level Feasibility Study and the EA process were integrated. The program included community presentations to local neighborhood groups, meetings with local, state, and federal agencies, and a series of open houses with the general public.

This section summarizes the public and agency involvement conducted to date. **Chapter 6 *Public and Agency Involvement*** provides a detailed discussion of the public and agency involvement program. There will be additional opportunity for public and agency participation following the release of this EA. This will include a public hearing and the opportunity to review the EA and provide comments.

Key elements of the public and agency involvement program included:

- ▶ Four open houses were held with the general public at key points in the process to provide information on the alternatives development and screening process. Notification of the meetings was provided through a variety of methods, including invitation letters, a press release to local media outlets in Denver and Jefferson County, direct phone calls, project flyers, and paid advertisements in local media outlets. The August 17, 2005 open house served as the public scoping meeting for the EA.

- ▶ A series of agency scoping meetings were held with local, state, and federal resource agencies, local municipalities, and CDOT Environmental Programs Branch. A project scoping meeting was held on July 26, 2005, and a supplemental project scoping meeting was held on August 11, 2005. A separate scoping meeting was held on August 29, 2005 with the CDOT Environmental Programs Branch, and a scoping and data gathering meeting with Jefferson County staff was held on September 15, 2005.
- ▶ Numerous community presentations and meetings with local neighborhood associations and business groups were held to address concerns and field questions on the project status.
- ▶ A telephone project hotline at (303) 376-8394 was established in March 2005 to provide individuals and groups with the opportunity to leave a message for the project team. All messages were recorded and responded to with a goal of two working days response time.
- ▶ A website was established on March 29, 2005 to provide public access to information on the project, including questions and answers, alternatives development, screening, refinement, and changes made based on public comment. The website address is [www.cabwheatridge.com](http://www.cabwheatridge.com).
- ▶ Regular coordination/progress meetings were held approximately every four weeks with the Project Committee to provide a forum for discussion and guidance in the decision-making process. The Project Committee included representatives from the FHWA, CDOT Region 6, CDOT Environmental Programs Branch, Colorado Governor's Office, Jefferson County, City of Arvada, City of Lakewood, City of Wheat Ridge, Coors Brewing Company, and Cabela's.
- ▶ Many small group meetings were held with neighborhood groups, school groups, and other interested parties to discuss various aspects of the project.

## *2.2 Alternatives Considered*

A broad range of alternatives were developed and examined for interchange improvements. This section summarizes the alternatives developed and presents the screening of alternatives. The intent of developing numerous alternatives is to identify the full range of alternatives to address system deficiencies relative to function and design as they relate to the purpose and need of the project. Each alternative was developed with a goal of accommodating traffic volumes identified with the traffic analysis prepared using year 2030 traffic projections, including traffic associated with regional growth and the planned development (FHU 2005, FHU 2006a).

In accordance with CDOT Policy Directive 1601 – Interchange Approval Process (CDOT 2005a), the System Level Feasibility Study and EA processes for alternatives development were integrated. The System Level Feasibility Study (FHU 2005) examined alternatives to address operational deficiencies of the existing I-70/32<sup>nd</sup> Avenue interchange and to accommodate year 2030 traffic projections, including traffic generated by the proposed development. Alternatives were developed to address operation and safety needs while responding to input from a variety of sources including CDOT, Jefferson County, FHWA, City of Wheat Ridge, City of Lakewood, neighborhood associations, schools, and the public. As some alternatives were screened out during the process, others were added as the analyses provided additional insights to potential solutions.

As part of the System Level Feasibility Study, a series of constraints were identified that affected alternative development. The constraints included:

- ▶ The location of existing interchanges within the study area (I-70/SH 58 and SH 58/McIntyre Street interchanges) limited opportunities for additional interchanges. Typically, one mile is preferred by CDOT and FHWA between interchanges to safely accommodate traffic entering and leaving the highway.
- ▶ The close proximity and parallel nature of Youngfield Street and associated commercial development to I-70 creates design challenges relative to locating new ramps or interchanges along I-70.
- ▶ SH 58 and I-70 have few crossing roadways, which limits traffic flow across these major corridors.
- ▶ Residential land use along 32<sup>nd</sup> Avenue and a series of former aggregate pits (some converted to water storage) west of I-70 and south of SH 58 limit roadway connections within the study area.

Twenty-one alternatives for the I-70/32<sup>nd</sup> Avenue interchange were initially developed as part of the System Level Feasibility Study (FHU 2005). Various alternatives were also considered for new access onto SH 58 and/or a connection with 44<sup>th</sup> Avenue. Other study area improvements were considered for portions of Youngfield Street and 32<sup>nd</sup> Avenue. The alternative screening process and results are presented below.

### **2.2.1 Alternatives Screening**

The goal of the screening process was to identify and refine the transportation improvements that best meet the purpose and need of the project, as described in **Chapter 1 Purpose and Need**, while protecting the human and natural environment. Alternatives were evaluated with respect to the transportation benefits provided, public input, and environmental consequences. The fundamental philosophy in the screening process involved identifying notable positive and negative characteristics of the alternatives, and screening the alternatives one-by-one as these determinations were made. If a certain attribute (or attributes) of an alternative showed promise, an attempt was made to retain the individual attribute as part of an alternative package.

A four-level screening process was employed. The initial, second-level, and third-level screenings were conducted during the System Level Feasibility Study. Additional detail related to the initial, second-level, and third-level screening is included in the *I-70/32<sup>nd</sup> Avenue Interchange System Level Feasibility Study* (FHU 2005). The initial screening was primarily a fatal flaw analysis. The second-level screening focused on projected year 2030 peak hour traffic operations using LOS measures for freeway operations and study area intersections. The third-level screening evaluated the remaining alternatives relative to design, traffic, and environmental consequences and incorporated additional public input from the open houses and community presentations in considering specific improvement components.

The No-Action Alternative was included in the screening process and has been carried through this EA to serve as a benchmark against which the other alternatives are compared. The No-Action Alternative will not address the purpose and need for the project but is being carried through the analysis for comparison in accordance with Council on Environmental Quality (CEQ) requirements and to preserve the option not to adopt the Proposed Action if the studies warrant such a decision. Traffic volumes and levels of service of the No-Action Alternative were prepared for all major intersections and selected minor intersections. **Chapter 3 Transportation Analysis** discusses the No-Action Alternative and the Proposed Action with regard to traffic operations, traffic safety, access, school safety, and bicycle/pedestrian facilities.

### **2.2.2 Initial Screening**

The initial screening analysis was primarily intended to serve as a fatal flaw analysis relative to design, driver expectancy, and safety. The initial twenty-one alternatives were broadly assessed relative to several criteria. The criteria used included:

- ▶ Ramp and roadway geometric standards (safety and operations consideration)
- ▶ Provision of full direction interchange (driver confusion/safety consideration)
- ▶ Proximity of a ramp with its “reflection” movement ramp or ramp pair (driver confusion consideration)
- ▶ Compatibility with the I-70/SH 58 EA/FONSI (safety and operations consideration)
- ▶ Adequacy of interchange ramp spacing (safety and operations consideration)
- ▶ Nature of interchange cross-street; local versus regional (transportation network consideration)
- ▶ Effect on other transportation projects planned or being considered in the vicinity, such as alternatives being considered as part of the Northwest Corridor EIS process
- ▶ Need for hook-style ramps (acceptable but not a FHWA and CDOT preferred ramp design)
- ▶ Impact on localized circulation (mobility and emergency response)
- ▶ Preliminary construction costs
- ▶ Other miscellaneous considerations

Eleven of the original 21 alternatives were screened out in the initial screening. Alternatives 5A, 5B, 7, 10, 11A, 11B, 12, 14, 15, 16, and 19 were eliminated in the initial screening.

### 2.2.3 Second-Level Screening

Year 2030 PM peak hour traffic projects were used to evaluate each of the ten remaining alternatives. The analysis focused on freeway operations, ramp operations, and intersection operations within the immediate study area. Potential traffic impacts from the alternatives being considered as part of the Northwest Corridor EIS were included as appropriate.

Of the 10 remaining alternatives, seven alternatives were eliminated, resulting in three alternatives retained for further consideration. Alternatives 2, 6, 8, 9, 13, 17 and 18 were eliminated in the second-level screening.

### 2.2.4 Third-Level Screening

Following the March 23 and April 21, 2005 public meetings, an additional six sub-alternatives were developed for the three remaining alternatives. This made a total of nine alternatives for the third-level screening, which focused on traffic operations, environmental consequences, and design considerations. An environmental overview study (EOS) was prepared as part of the System Level Feasibility Study (FHU 2005) in accordance with CDOT Policy Directive 1601 (CDOT 2005a). The objectives of the EOS were to identify critical environmental issues that may affect potential alternatives and to identify environmental resources that require further evaluation in this EA. Based on the EOS, traffic operations, and design considerations, the nine sub-alternatives were assessed relative to the following criteria:

- ▶ Traffic operations at the I-70/32<sup>nd</sup> Avenue cross-street intersections
- ▶ Achievement of design criteria/geometric considerations (safety and operations considerations)
- ▶ Right-of-way impacts
- ▶ Potential business and residential relocations
- ▶ Relative cost for the I-70/32<sup>nd</sup> Avenue interchange improvements
- ▶ Environmental sensitivity
  - Wetlands and aquatic resources
  - Wildlife habitat
  - Special status species
  - Water resources
  - Air quality
  - Environmental contamination issues (hazardous materials)
  - Noise
  - Cultural resources
  - Parks and recreational trails
  - Socio-economics

The third-level screening resulted in three alternatives being retained for further consideration. Alternatives 1, 1B, 4, 4B, 4D, and 4E were eliminated in the third-level screening.

The results and rationale for elimination of alternatives during the initial, second-level and third-level screening are presented in **Table 2-1**.

**Table 2-1 Initial, Second-Level and Third-Level Screening Results**



Alternatives <sup>1</sup>	Alternative Characteristics	Screening Summary and Results
<p><b>Alternative 1</b></p> 	<p><b>32<sup>nd</sup> Ave. Interchange and Eldridge St. Extension</b></p> <ul style="list-style-type: none"> <li>▶ New diamond interchange at 32<sup>nd</sup> Ave.</li> <li>▶ Widen 32<sup>nd</sup> Ave. from Alkire St. to Xenon St.</li> <li>▶ Realigned Youngfield St. to the east at 32<sup>nd</sup> Ave.</li> <li>▶ New Cabela Dr. from 32<sup>nd</sup> Ave. to McIntyre</li> <li>▶ New 40<sup>th</sup> Ave. underpass of I-70</li> <li>▶ Widened Youngfield St. from 40<sup>th</sup> Ave. to 44<sup>th</sup> Ave.</li> <li>▶ New Eldridge overpass of SH 58 connection to Cabela Dr.</li> </ul>	<p><b>Eliminated</b> in the third-level screening due to additional right-of-way and relocation impacts, including 14 residential and 22 business relocations.</p>
<p><b>Alternative 1B *</b></p> 	<p><b>32<sup>nd</sup> Ave. Interchange and Eldridge St. Extension Sub-Alternative</b></p> <ul style="list-style-type: none"> <li>▶ Includes an I-70/32<sup>nd</sup> Avenue diamond interchange like Alternative 1 but also incorporates a new interchange onto SH 58 near Eldridge Street</li> </ul>	<p><b>Eliminated</b> in the third-level screening due to additional right-of-way and relocation impacts, including 14 residential and 22 business relocations.</p>



Table 2-1 Initial, Second-Level and Third-Level Screening Results (Continued)




Alternatives <sup>1</sup>	Alternative Characteristics	Screening Summary and Results
<p><b>Alternative 2</b></p> 	<p><b>32<sup>nd</sup> Ave. Offset Urban Interchange</b></p> <ul style="list-style-type: none"> <li>▶ New offset single point urban interchange at 32<sup>nd</sup> Ave.</li> <li>▶ Widened 32<sup>nd</sup> Ave. from Alkire St. to Xenon St.</li> <li>▶ New Cabela Dr. from 32<sup>nd</sup> Ave. to McIntyre St.</li> <li>▶ New 40<sup>th</sup> Ave. underpass of I-70</li> <li>▶ Widened Youngfield St. from 40<sup>th</sup> Ave. to 44<sup>th</sup> Ave. and through the 32<sup>nd</sup> Ave. intersection</li> </ul>	<p><b>Eliminated</b> in the second-level screening because this alternative would operate poorly due to three very closely spaced intersections along 32<sup>nd</sup> Avenue (LOS F at the Youngfield Street/32<sup>nd</sup> Avenue and 32<sup>nd</sup> Avenue/I-70 westbound on and off-ramp intersections). The poor operations of these intersections cannot be overcome with lane additions.</p>
<p><b>Alternative 3</b></p> 	<p><b>32<sup>nd</sup> Ave. Urban Interchange</b></p> <ul style="list-style-type: none"> <li>▶ New single point urban interchange at 32<sup>nd</sup> Ave.</li> <li>▶ Widened 32<sup>nd</sup> Ave. from Alkire St. to east of realigned Youngfield St.</li> <li>▶ Realigned Youngfield St. to the east at 32<sup>nd</sup> Ave.</li> <li>▶ New Cabela Dr. from 32<sup>nd</sup> Ave. to McIntyre St.</li> <li>▶ New 40<sup>th</sup> Ave. underpass of I-70</li> <li>▶ Widened Youngfield St. from 40<sup>th</sup> Ave. to 44<sup>th</sup> Ave.</li> </ul>	<p><b>Advanced</b> for further analysis in fourth-level screening.</p>
<p><b>Alternative 3B *</b></p> 	<p><b>32<sup>nd</sup> Ave. Urban Interchange Sub-Alternative</b></p> <ul style="list-style-type: none"> <li>▶ Includes an I-70/32<sup>nd</sup> Avenue urban interchange like Alternative 3 but also incorporates a new interchange onto SH 58 near Eldridge Street</li> </ul>	<p><b>Advanced</b> for further analysis in fourth-level screening.</p>

Table 2-1 Initial, Second-Level and Third-Level Screening Results (Continued)


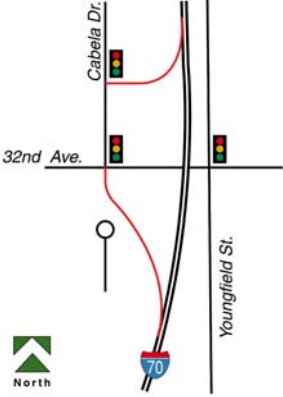
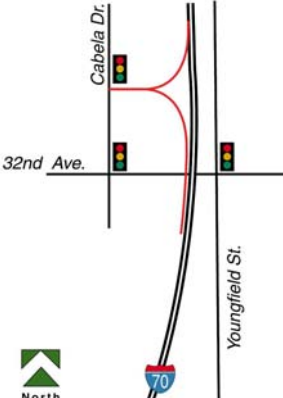
Alternatives <sup>1</sup>	Alternative Characteristics	Screening Summary and Results
<p><b>Alternative 4</b></p> 	<p><b>Offset Hook Ramp Access</b></p> <ul style="list-style-type: none"> <li>▶ New 32<sup>nd</sup> Ave. interchange concept</li> <li>▶ Offset hook ramp connections eastbound I-70 south of 32<sup>nd</sup> Ave.</li> <li>▶ Westbound I-70 hook ramp north of 32<sup>nd</sup> Ave.; realigned westbound I-70 on-ramp at 32<sup>nd</sup> Ave.</li> <li>▶ New Cabela Dr. from 32<sup>nd</sup> Ave. to McIntyre St.</li> <li>▶ New 40<sup>th</sup> Ave. underpass at I-70</li> <li>▶ Widened Youngfield St. from 40<sup>th</sup> Ave. to 44<sup>th</sup> Ave. and through the 32<sup>nd</sup> Ave. intersection.</li> </ul>	<p><b>Eliminated</b> in the third-level screening due to additional right-of-way and relocation impacts, including five residential properties and a church property, and proximity of westbound I-70 on-ramp to adjacent residential properties west of I-70 along Zinnia Street.</p>
<p><b>Alternative 4B*</b></p> 	<p><b>Offset Hook Ramp Access Sub-Alternative</b></p> <ul style="list-style-type: none"> <li>▶ Includes hook ramps at I-70/32<sup>nd</sup> Avenue like Alternative 4 but also incorporates a new interchange onto SH 58 near Eldridge St.</li> </ul>	<p><b>Eliminated</b> in the third-level screening due to impact to church property and proximity of westbound I-70 on-ramp to adjacent residential properties west of I-70 along Zinnia Street.</p>
<p><b>Alternative 4C*</b></p> 	<p><b>Offset Hook Ramp Access Sub-Alternative</b></p> <ul style="list-style-type: none"> <li>▶ Is similar to Alternative 4A with the exception of the I-70 westbound on-ramp. Rather than being located on the southwest quadrant of the interchange, the westbound on-ramp is located north of 32<sup>nd</sup> Ave. adjacent to the off-ramp. An overpass structure across 32<sup>nd</sup> Ave. adjacent to I-70 would accommodate the on-ramp to westbound I-70.</li> </ul>	<p><b>Advanced</b> for further analysis in fourth-level screening.</p>



Table 2-1 Initial, Second-Level and Third-Level Screening Results (Continued)

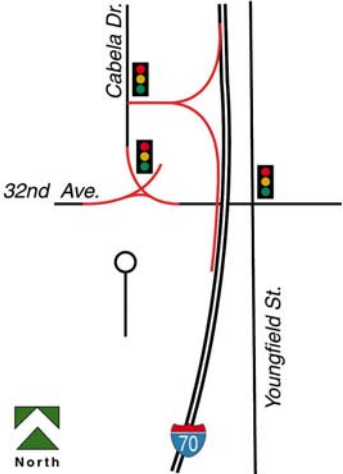
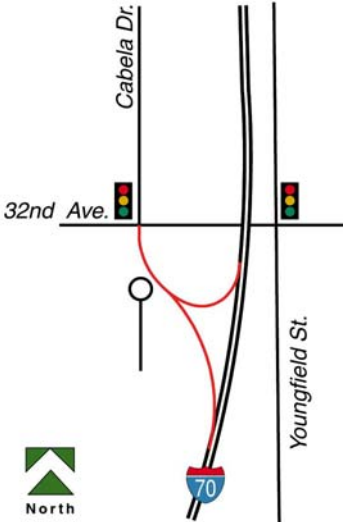
Alternatives <sup>1</sup>	Alternative Characteristics	Screening Summary and Results
<p><b>Alternative 4D*</b></p> 	<p><b>Offset Hook Ramp Access Sub-Alternative</b></p> <ul style="list-style-type: none"> <li>▶ Is similar to Alternative 4C with the exception of the 32<sup>nd</sup> Avenue/Cabela Dr. intersection configuration. Rather than Cabela Dr. “teeing” into 32<sup>nd</sup> Ave., the west leg of 32<sup>nd</sup> Ave. would “tee” into a continuously curved Cabela Dr. directly connecting with the east leg of 32<sup>nd</sup> Ave.</li> </ul>	<p><b>Eliminated</b> in the third-level screening. The 32<sup>nd</sup> Avenue/Cabela Drive intersection being located along a sharp curve would compromise the intersection’s safety.</p>
<p><b>Alternative 4E*</b></p> 	<p><b>Offset Hook Ramp Access Sub-Alternative</b></p> <ul style="list-style-type: none"> <li>▶ Is similar to Alternative 4A except that the I-70 westbound off-ramp is located in the southwest quadrant of the I-70/32<sup>nd</sup> Ave. interchange. With this, the westbound ramps would be adjacent to each other and connect to 32<sup>nd</sup> Ave. opposite of Cabela Dr.</li> </ul>	<p><b>Eliminated</b> in the third-level screening due to inability to achieve minimum design speed for the I-70 westbound off-ramp. A substandard ramp speed would cause safety and operational problems.</p>

Table 2-1 Initial, Second-Level and Third-Level Screening Results (Continued)



Alternatives <sup>1</sup>	Alternative Characteristics	Screening Summary and Results
<p><b>Alternative 5A</b></p> 	<p><b>Offset Hook Ramp Access – Realigned 32<sup>nd</sup> Ave.</b></p> <ul style="list-style-type: none"> <li>▶ New 32<sup>nd</sup> Ave. interchange concept</li> <li>▶ Offset westbound I-70 hook ramp north of 32<sup>nd</sup> Ave. with collector-distributor road</li> <li>▶ Offset eastbound I-70 hook ramp south of 32<sup>nd</sup> Ave. at 27<sup>th</sup> Ave.</li> <li>▶ New Cabela Dr. from 32<sup>nd</sup> Ave. to McIntyre St.</li> <li>▶ Widened Youngfield St. from 40<sup>th</sup> Ave. to 44<sup>th</sup> Ave. and through the 32<sup>nd</sup> Ave. intersection south to 27<sup>th</sup> Ave.</li> <li>▶ Westbound I-70 traffic exits to 32<sup>nd</sup> Ave. via one-way collector-distributor road near SH 58. Traffic enters westbound I-70 from one-way collector-distributor road crossing 32<sup>nd</sup> Ave. on an overpass.</li> </ul>	<p><b>Eliminated</b> in the initial screening due to the following unique requirements along westbound I-70 at SH 58 with this alternative: the westbound I-70 exit to 32<sup>nd</sup> Avenue would be located at the SH 58 interchange, thus precluding the safe merging of SH 58 traffic onto westbound I-70 at this location. This would necessitate a merging of the eastbound SH 58 on-ramp to westbound I-70 and the westbound I-70 off-ramp to 32<sup>nd</sup> Avenue, which would be a low-speed facility, with traffic arriving from SH 58 at a high speed, which would be a safety issue.</p>
<p><b>Alternative 5B</b></p> 	<p><b>Offset Hook Ramp Access – Realigned 32<sup>nd</sup> Ave. and McIntyre St.</b></p> <ul style="list-style-type: none"> <li>▶ Variation on Alternative 5A</li> <li>▶ Offset westbound I-70 hook ramp north of 32<sup>nd</sup> Ave. with collector-distributor road</li> <li>▶ Offset eastbound I-70 hook ramp south of 32<sup>nd</sup> Ave. at 27<sup>th</sup> Ave.</li> <li>▶ New Cabela Dr. from 32<sup>nd</sup> Ave. to McIntyre St.</li> <li>▶ Realign intersections at 32<sup>nd</sup> Ave./Cabela Dr. and McIntyre St./32<sup>nd</sup> Ave.</li> <li>▶ New 40<sup>th</sup> underpass of I-70</li> <li>▶ Widened Youngfield St. from 40<sup>th</sup> Ave. to 44<sup>th</sup> Ave. and through the 32<sup>nd</sup> Ave. intersection</li> <li>▶ Westbound I-70 traffic exits to 32<sup>nd</sup> Ave. via one-way collector-distributor road near SH 58. Traffic enters westbound I-70 from one-way collector-distributor road crossing 32<sup>nd</sup> Ave. on an overpass.</li> </ul>	<p><b>Eliminated</b> in the initial screening due to the following unique requirements along westbound I-70 at SH 58. The westbound I-70 exit to 32<sup>nd</sup> Avenue would be located at the SH 58 interchange, thus precluding the safe merging of SH 58 traffic onto westbound I-70 at this location. This would necessitate a merging of the eastbound SH 58 on-ramp to westbound I-70 and the westbound I-70 off-ramp to 32<sup>nd</sup> Avenue, which would be a low-speed facility, with traffic arriving from SH 58 at a high speed, which would be a safety issue.</p>

Table 2-1 Initial, Second-Level and Third-Level Screening Results (Continued)




Alternatives <sup>1</sup>	Alternative Characteristics	Screening Summary and Results
<p><b>Alternative 6</b></p> 	<p><b>Parallel One-Way Frontage Roads</b></p> <ul style="list-style-type: none"> <li>▶ Parallel one-way frontage roads on either side of I-70 from 44<sup>th</sup> Ave. to 32<sup>nd</sup> Ave.</li> <li>▶ Bypass turn-around at 44<sup>th</sup> Ave. and 32<sup>nd</sup> Ave.</li> <li>▶ 40<sup>th</sup> Ave. underpass of I-70</li> <li>▶ Connections from Ward Rd. and I-70 interchange</li> <li>▶ New Cabela Dr. from 32<sup>nd</sup> Ave. to McIntyre St.</li> <li>▶ Westbound I-70 slip ramp to frontage road</li> </ul>	<p><b>Eliminated</b> in the second-level screening since 32<sup>nd</sup> Avenue would continue to have three closely spaced intersections as exist today, albeit with slightly different traffic dynamics given the one-way roadways on either side of I-70. 32<sup>nd</sup> Avenue would not function well due to this close spacing (LOS F at the Youngfield Street/32<sup>nd</sup> Avenue and 32<sup>nd</sup> Avenue/I-70 westbound on and off-ramp intersections).</p>
<p><b>Alternative 7</b></p> 	<p><b>SH 58 Replacement Access to 32<sup>nd</sup> Ave</b></p> <ul style="list-style-type: none"> <li>▶ Close the 32<sup>nd</sup> Ave./I-70 interchange</li> <li>▶ New diamond interchange at SH 58 east of Eldridge with connection to Cabela Dr. and 44<sup>th</sup> Ave.</li> <li>▶ New Cabela Dr. from 32<sup>nd</sup> Ave. to SH 58/44<sup>th</sup> Ave.</li> <li>▶ New intersection at Cabela Dr. and existing frontage road</li> </ul>	<p><b>Eliminated</b> in the initial screening due to the new SH 58 interchange's close proximity to the I-70/SH 58 interchange. This close proximity would cause safety problems due to the limited merge distance.</p>
<p><b>Alternative 8</b></p> 	<p><b>Eldridge St./SH 58 Diamond Interchange</b></p> <ul style="list-style-type: none"> <li>▶ 32<sup>nd</sup> Ave. interchange remains as today</li> <li>▶ New diamond interchange on SH 58 west of Eldridge St. with connection to Cabela Dr. and 44<sup>th</sup> Ave.</li> <li>▶ New Cabela Dr. from 32<sup>nd</sup> Ave. to McIntyre St.</li> </ul>	<p><b>Eliminated</b> in the second-level screening since a SH 58 interchange <u>alone</u> would not adequately address traffic needs. 32<sup>nd</sup> Avenue would not function adequately if no improvements are made (LOS F at the Youngfield Street/32<sup>nd</sup> Avenue and 32<sup>nd</sup> Avenue/I-70 westbound on and off-ramp intersections).</p>

Table 2-1 Initial, Second-Level and Third-Level Screening Results (Continued)




Alternatives <sup>1</sup>	Alternative Characteristics	Screening Summary and Results
<p><b>Alternative 9</b></p> 	<p><b>32<sup>nd</sup> Ave./Youngfield St. Grade Separation</b></p> <ul style="list-style-type: none"> <li>▶ 32<sup>nd</sup> Ave. interchange remains as today</li> <li>▶ Grade separate Youngfield St. and 32<sup>nd</sup> Ave. with reconnection through shopping center</li> <li>▶ New Cabela Dr. from 32<sup>nd</sup> Ave. to McIntyre St.</li> <li>▶ New 40<sup>th</sup> Ave. underpass of I-70</li> <li>▶ Widened Youngfield St. from 40<sup>th</sup> Ave. to 44<sup>th</sup> Ave. and through the 32<sup>nd</sup> Ave. intersection</li> </ul>	<p><b>Eliminated</b> in the second-level screening since this alternative results in a LOS E at the Youngfield/eastbound I-70 intersection given the 2030 traffic forecasts. The existing on-ramp intersection at 38<sup>th</sup> Avenue is one of the highest accident locations. This alternative would be expected to exacerbate the intersection's accident experience.</p>
<p><b>Alternative 10</b></p> 	<p><b>32<sup>nd</sup> Ave. Roundabouts</b></p> <ul style="list-style-type: none"> <li>▶ Roundabout intersections along 32<sup>nd</sup> Ave. at Cabela Dr., westbound I-70 ramps, and Youngfield St.</li> <li>▶ New Cabela Dr. from 32<sup>nd</sup> Ave. to McIntyre St.</li> <li>▶ New 40<sup>th</sup> Ave. underpass of I-70</li> <li>▶ Widened Youngfield St. from 40<sup>th</sup> Ave. to 44<sup>th</sup> Ave.</li> </ul>	<p><b>Eliminated</b> in the initial screening due to poor anticipated traffic operations. Roundabouts at the I-70/32<sup>nd</sup> Avenue interchange would not function adequately in the future.</p>
<p><b>Alternative 11A</b></p> 	<p><b>SH 58 Diamond/Offset Hook Ramps at 32<sup>nd</sup> Ave.</b></p> <ul style="list-style-type: none"> <li>▶ Combination of Alternatives 5 and 8</li> <li>▶ Offset westbound I-70 hook ramp north of 32<sup>nd</sup> Ave.</li> <li>▶ Offset eastbound I-70 hook ramp south of 32<sup>nd</sup> Ave. at 27<sup>th</sup> Ave.</li> <li>▶ Diamond interchange at SH 58 west of Eldridge St. with connection to 44<sup>th</sup> Ave. and Cabela Dr.</li> <li>▶ New Cabela Dr. from 32<sup>nd</sup> Ave. to McIntyre St.</li> <li>▶ Westbound I-70 traffic exits to 32<sup>nd</sup> Ave. via one-way collector-distributor road near SH 58. Traffic enters westbound I-70 from one-way collector-distributor road crossing 32<sup>nd</sup> Ave. on an overpass</li> </ul>	<p><b>Eliminated</b> in the initial screening due to the following unique requirements along westbound I-70 at SH 58. The westbound I-70 exit to 32<sup>nd</sup> Avenue would be located at the SH 58 interchange, thus precluding the safe merging of SH 58 traffic onto westbound I-70 at this location. This would necessitate a merging of the eastbound SH 58 on-ramp to westbound I-70 and the westbound I-70 off-ramp to 32<sup>nd</sup> Avenue which would be a low-speed facility, with traffic arriving from SH 58 at a high speed, which would be a safety issue.</p>

Table 2-1 Initial, Second-Level and Third-Level Screening Results (Continued)

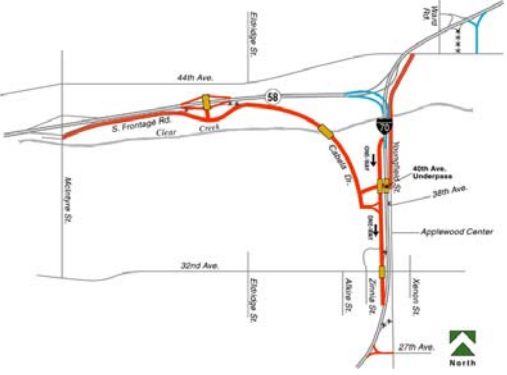

Alternatives <sup>1</sup>	Alternative Characteristics	Screening Summary and Results
<p><b>Alternative 11B</b></p> 	<p><b>SH 58 Diamond/Offset Hook Ramps at 32<sup>nd</sup> Ave.</b></p> <ul style="list-style-type: none"> <li>▶ Variation on Alternative 11A without connection to 32<sup>nd</sup> Ave. or 44<sup>th</sup> Ave.</li> <li>▶ Offset westbound I-70 hook ramp north of 32<sup>nd</sup> Ave.</li> <li>▶ Offset eastbound I-70 hook ramp south of 32<sup>nd</sup> Ave. at 27<sup>th</sup> Ave.</li> <li>▶ Diamond interchange at SH 58 with connection to Cabela Dr. only</li> <li>▶ New Cabela Dr. from westbound I-70 ramps to McIntyre St.</li> <li>▶ No connection to 32<sup>nd</sup> Ave.</li> <li>▶ New 40<sup>th</sup> Ave. underpass of I-70</li> <li>▶ Widened Youngfield St. from 40<sup>th</sup> Ave. to 44<sup>th</sup> Ave.</li> <li>▶ Westbound I-70 traffic exits to 32<sup>nd</sup> Ave. via one-way collector-distributor road near SH 58. Traffic enters westbound I-70 from one-way collector-distributor road crossing 32<sup>nd</sup> Ave. on an overpass</li> </ul>	<p><b>Eliminated</b> in the initial screening due to the lack of local circulation and due to the following unique requirements along westbound I-70 at SH 58. The westbound I-70 exit to 32<sup>nd</sup> Avenue would be located at the SH 58 interchange, thus precluding the safe merging of SH 58 traffic onto westbound I-70 at this location. This would necessitate a merging of the eastbound SH 58 on-ramp to westbound I-70 and the westbound I-70 off-ramp to 32<sup>nd</sup> Avenue, which would be a low-speed facility, with traffic arriving from SH 58 at a high speed, which would be a safety issue.</p>
<p><b>Alternative 12</b></p> 	<p><b>SH 58/I-70 Flyover to Cabela Dr.</b></p> <ul style="list-style-type: none"> <li>▶ 32<sup>nd</sup> Ave. interchange remains as today</li> <li>▶ Flyover ramps to Cabela Dr. at SH 58 and I-70</li> <li>▶ New Cabela Dr. from 32<sup>nd</sup> Ave. to McIntyre St.</li> </ul>	<p><b>Eliminated</b> in the initial screening because full movement would not provided and the new ramps would be too close to the I-70/SH 58 interchange. This close ramp spacing would cause safety problems.</p>



Table 2-1 Initial, Second-Level and Third-Level Screening Results (Continued)

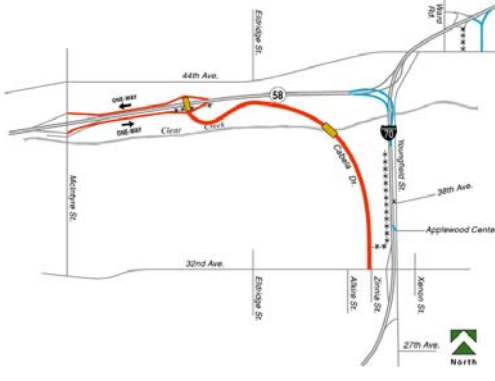


Alternatives <sup>1</sup>	Alternative Characteristics	Screening Summary and Results
<p><b>Alternative 13</b></p> 	<p><b>SH 58 Split Diamond Interchange</b></p> <ul style="list-style-type: none"> <li>▶ 32<sup>nd</sup> Ave. interchange remains as today</li> <li>▶ Split diamond interchange on SH 58</li> <li>▶ New Cabela Dr. from 32<sup>nd</sup> Ave. to SH 58 interchange</li> </ul>	<p><b>Eliminated</b> in the second-level screening since a SH 58 interchange <u>alone</u> would not adequately address traffic needs. 32<sup>nd</sup> Avenue would not function adequately if no improvements are made (LOS F at the Youngfield Street/32<sup>nd</sup> Avenue and 32<sup>nd</sup> Avenue/I-70 westbound on and off-ramp intersections).</p>
<p><b>Alternative 14</b></p> 	<p><b>SH 58/Cabela Dr. Loop Ramps</b></p> <ul style="list-style-type: none"> <li>▶ 32<sup>nd</sup> Ave. interchange remains as today</li> <li>▶ Loop ramp access to Cabela Dr. from westbound SH 58; return move at same location</li> <li>▶ New Cabela Dr. from 32<sup>nd</sup> Ave. to SH 58</li> <li>▶ New intersection at Cabela Dr. and existing frontage road</li> </ul>	<p><b>Eliminated</b> in the initial screening due to deficient geometry associated with the ramps, lack of full movement accommodation, and poor spacing with the I-70/SH 58 interchange. The close spacing would cause safety problems.</p>
<p><b>Alternative 15</b></p> 	<p><b>Eldridge S. Connection; Urban Interchange</b></p> <ul style="list-style-type: none"> <li>▶ 32<sup>nd</sup> Ave. interchange remains as today</li> <li>▶ Single point urban interchange at Eldridge St. and SH 58</li> <li>▶ New Cabela Dr. from 32<sup>nd</sup> Ave. to Eldridge St. /44<sup>th</sup> Ave.</li> <li>▶ New intersection at Cabela Dr. and existing frontage road</li> </ul>	<p><b>Eliminated</b> in the initial screening due to geometric impossibility related to the proximity of the urban interchange to the rail crossing, which would create multiple structure levels within a relatively confined area. It would not be possible to construct such a structure within the area available.</p>



Table 2-1 Initial, Second-Level and Third-Level Screening Results (Continued)





Alternatives <sup>1</sup>	Alternative Characteristics	Screening Summary and Results
<p><b>Alternative 16</b></p> 	<p><b>Westbound Flyover to Cabela Dr.</b></p> <ul style="list-style-type: none"> <li>▶ 32<sup>nd</sup> Ave. interchange remains as today</li> <li>▶ Westbound I-70 direct flyover ramp to Cabela Dr. at SH 58; return move via 32<sup>nd</sup> Ave. or McIntyre St. interchanges</li> <li>▶ New Cabela Dr. from 32<sup>nd</sup> Ave. to McIntyre St.</li> <li>▶ New 40<sup>th</sup> Ave. underpass of I-70</li> <li>▶ Widened Youngfield St. from 40<sup>th</sup> Ave. to 44<sup>th</sup> Ave.</li> </ul>	<p><b>Eliminated</b> in the initial screening because full movement is not being provided and the new ramps would be too close to the I-70/SH 58 interchange. This close spacing would cause safety problems (LOS F at the Youngfield Street/32<sup>nd</sup> Avenue and 32<sup>nd</sup> Avenue/I-70 westbound on and off-ramp intersections).</p>
<p><b>Alternative 17</b></p> 	<p><b>McIntyre St./Cabela Dr. Connection with 32<sup>nd</sup> Ave. Hook Ramps</b></p> <ul style="list-style-type: none"> <li>▶ Westbound I-70 off-ramp realigned as a hook ramp north of 32<sup>nd</sup> Ave.; existing westbound on-ramp to remain</li> <li>▶ Offset eastbound I-70 hook ramp south of 32<sup>nd</sup> Ave. at 27<sup>th</sup> Ave.</li> <li>▶ New Cabela Dr. from 32<sup>nd</sup> Ave. to McIntyre St.</li> <li>▶ Cabela Dr. intersection with McIntyre St. realigned south of SH 58 ramps</li> <li>▶ New 40<sup>th</sup> Ave. underpass of I-70</li> <li>▶ Widened Youngfield St. from 40<sup>th</sup> Ave. to 44<sup>th</sup> Ave. and through 32<sup>nd</sup> Ave. to 27<sup>th</sup> Ave.</li> </ul>	<p><b>Eliminated</b> in the second-level screening because this alternative would result in four closely-spaced signalized intersections along the 32<sup>nd</sup> Avenue/Cabela Drive alignment. Analysis shows that it is not anticipated to function adequately given 2030 traffic demands (LOS F at the Youngfield Street/32<sup>nd</sup> Avenue and 32<sup>nd</sup> Avenue/Cabela Drive intersections).</p>

Table 2-1 Initial, Second-Level and Third-Level Screening Results (Continued)

Alternatives <sup>1</sup>	Alternative Characteristics	Screening Summary and Results
<p><b>Alternative 18</b></p> 	<p><b>Local Street Improvements</b></p> <ul style="list-style-type: none"> <li>▶ 32<sup>nd</sup> Ave. interchange remains as today</li> <li>▶ New Cabela Dr. from 32<sup>nd</sup> Ave. to McIntyre St.</li> <li>▶ Widening of 32<sup>nd</sup> Ave. from Alkire St. to Xenon St.</li> <li>▶ Double left turns at Youngfield St. and 32<sup>nd</sup> Ave.</li> <li>▶ Double left turns at westbound I-70 on-ramp and 32<sup>nd</sup> Ave.</li> <li>▶ New 40<sup>th</sup> Ave. underpass of I-70</li> <li>▶ Widened Youngfield St. from 40<sup>th</sup> Ave. to 44<sup>th</sup> Ave. and through 32<sup>nd</sup> Ave. intersection south to I-70 off-ramp</li> <li>▶ Eastbound I-70 off-ramp lane addition at Youngfield St.</li> </ul>	<p><b>Eliminated</b> in the second-level screening because the Youngfield St./32<sup>nd</sup> Ave. intersection is not projected to accommodate future traffic demands even with the recommended improvements (LOS F). This would result in congestion.</p>
<p><b>Alternative 19</b></p> 	<p><b>38<sup>th</sup> Ave. Offset Urban Interchange</b></p> <ul style="list-style-type: none"> <li>▶ New offset single point urban interchange at 38<sup>th</sup> Ave.</li> <li>▶ Existing freeway ramps connecting to 32<sup>nd</sup> Ave. and Youngfield St. closed</li> <li>▶ Underpass of I-70 part of new interchange complex</li> <li>▶ New Cabela Dr. from 32<sup>nd</sup> Ave. to McIntyre St.</li> <li>▶ Widened Youngfield St. from 38<sup>th</sup> Ave. to 44<sup>th</sup> Ave. and through the 32<sup>nd</sup> Ave. intersection</li> </ul>	<p><b>Eliminated</b> in the initial screening due to proximity to the I-70/SH 58 interchange, which would create an unsafe traffic weave section along I-70, particularly in the eastbound direction. Adequate merge lengths are needed to produce safe conditions.</p>
<p>(1) CDOT-previously planned I-70/SH 58 improvements are identified in blue on the figures and are not part of this action. The alternative being described is denoted in red.</p> <p>* Sub-alternative added prior to third-level screening</p>		

### 2.2.5 Fourth-Level Screening

Based on the third-level screening conducted and public input received, the System Level Feasibility Study repackaged the three alternatives and recommended three alternative packages for further evaluation. The three alternative packages are briefly described as follows:

- ▶ **Alternative Package 1** – (formerly Alternative 3) includes a single point urban interchange at the I-70/32<sup>nd</sup> Avenue interchange, which would require the relocation of Youngfield Street at 32<sup>nd</sup> Avenue to the east to allow for adequate space to construct the urban interchange and improve traffic signal/intersection spacing. This package also includes the realignment of the SH 58 frontage road (proposed Cabela Drive) intersection with McIntyre Street.
- ▶ **Alternative Package 2** – includes portions of Alternative 3B and Alternative 4C. This alternative incorporates off-set hook ramps at the I-70/32<sup>nd</sup> Avenue interchange. This configuration incorporates westbound hook ramps into Cabela Drive north of 32<sup>nd</sup> Avenue and eastbound hook ramps into Youngfield Street at 27<sup>th</sup> Avenue. Cabela Drive would be aligned with a new SH 58/Cabela Drive interchange and would connect with 44<sup>th</sup> Avenue.
- ▶ **Alternative Package 3** – (formerly Alternative 4C) incorporates off-set hook ramps at the I-70/32<sup>nd</sup> Avenue interchange. This configuration incorporates westbound hook ramps into Cabela Drive north of 32<sup>nd</sup> Avenue and eastbound hook ramps into Youngfield Street at 27<sup>th</sup> Avenue. This package also includes the realignment of SH 58 frontage road (proposed Cabela Drive) intersection with McIntyre Street.

The fourth-level screening analysis was conducted as part of the EA process to evaluate the remaining alternatives and sub-alternatives. These alternatives were “repackaged” to include beneficial and/or preferred features from those alternatives that did not survive the first three screenings. The fourth-level screening compared the three alternative packages, with each other and the No-Action Alternative. The intent of the screening was to identify, if possible, a Proposed Action to be presented with the No-Action Alternative in the EA. A screening matrix was developed to assist in analyzing and comparing the alternatives. The screening matrix is included in **Appendix C**.

A range of measures were considered during the screening. The screening measures included traffic operations, engineering design considerations, environmental consequences, public acceptance, and opinion of probable cost. Traffic influence/impacts from the “Combined Alternative” being considered as part of the Northwest Corridor EIS were included in the traffic analysis. The Northwest Corridor Combined Alternative includes improvements to McIntyre Street north of the SH 58/McIntyre Street interchange.

The screening matrix (see **Appendix C**) was analyzed to identify differences and similarities between the alternative packages. This analysis indicated that many of the screening criteria did not show substantial differences in benefits or impacts and were not major differentiators between the alternative packages.

Screening measures that did not show a difference between the alternative packages included:

- ▶ Traffic Operations - System vehicle-hours of travel (Measure of local street system's functionality)
- ▶ Traffic Operations - Freeway traffic operations (Functionality of I-70 and SH 58)
- ▶ Engineering Considerations - Compatibility with the I-70/SH 58 interchange design
- ▶ Traffic Operations - Improvement of safety and reduction of conflicts along freeways (Predicted annual accidents)
- ▶ Socio-economics - Avoidance of disproportionately high and adverse affects on minority and low income populations (Environmental justice)
- ▶ Water Resources - Ability to incorporate appropriate stormwater discharge systems
- ▶ Visual/Aesthetics - Preservation of Front Range mountain backdrop/foreground
- ▶ Hazardous Materials - Number of contaminated sites acquired
- ▶ Construction Impacts - Compatibility with planned transportation projects
- ▶ Construction Impacts - Maintenance of auto and pedestrian access to residences and businesses

Screening measures that showed only minimal differences between the alternative packages included:

- ▶ Engineering Considerations - Achievement of desired design criteria (Assessment of each layout as to "driveability")
- ▶ Traffic Operations - Achievement of operational local street objectives (Level of Service D or better for local street intersections)
- ▶ Traffic Operations - Limit traffic diversion onto streets near residential areas (Measured in vehicles per day)
- ▶ Traffic Operations - Improves safety and reduces conflicts along local streets (Predicted annual accidents)
- ▶ Engineering Considerations - School safety along 32nd Avenue
- ▶ Traffic Noise - Locations where CDOT Noise Abatement Criteria (NAC) may be exceeded
- ▶ Air quality - Local and regional conformity
- ▶ Historic Preservation - Number of potential National Register of Historic Places (NRHP) eligible sites impacted
- ▶ Parks and Recreation - Acres of public parks or linear feet of recreational trails impacted
- ▶ Water Resources - Minimization of impacts to floodplains
- ▶ Visual/Aesthetics - Maintenance of community character and aesthetics
- ▶ Bicycle/Pedestrian Connectivity - Maintenance of or enhancement of bicycle/pedestrian connectivity

- ▶ Wetlands - Acres of wetlands impacted
- ▶ Vegetation and Wildlife - Acres of potential threatened and endangered species habitat impacted
- ▶ Vegetation and Wildlife - Maintenance of habitat connectivity and wildlife corridors

Screening measures that displayed notable differences between the alternative packages included:

- ▶ Traffic Operations - Emergency vehicle access
- ▶ Engineering Considerations - Consistency with drivers expectancy (Assessment of each layout relative to its “standardization” that drivers are used to)
- ▶ Socio-economics – Consistency with local and regional plans; maintenance of community commercial centers; Maintenance of community access and cohesion
- ▶ Right-of-way and Displacements - Number of ownerships affected; number of residences and businesses relocated
- ▶ Utilities - Impacts to existing utilities
- ▶ Public Acceptance – Based on comments received from the public

#### *2.2.5.1 Summary of Screening of Alternative Package 1*

Alternative Package 1 includes a single point urban interchange, while Alternative Packages 2 and 3 include off-set hook ramps. The primary advantage associated with Alternative Package 1 is that it is a standardized design, which has the benefit of being a familiar configuration for drivers. This benefit was identified in the screening matrix as “is consistent with drivers’ expectancy.” The negative impacts of Alternative Package 1 include:

- ▶ Inconsistency with the objectives of the City of Wheat Ridge Comprehensive Plan, as amended
- ▶ Impacts to community commercial centers
- ▶ Residential and business relocations
- ▶ Impacts to community cohesion and access,
- ▶ Utility impacts
- ▶ Negative public comments due to impacts
- ▶ Substantially higher cost

The objectives of the City of Wheat Ridge Comprehensive Plan that are not met by Alternative Package 1 include:

- ▶ Transportation Goals - Develop a transportation network that will protect the City's residential neighborhoods and serve commercial and industrial areas and other land uses.
  
- ▶ Economic Development Goals:
  - Preserve and enhance the tax base needed to support desired government services and facilities in the community
  - Continue to ensure that maintaining a healthy business climate for existing businesses is as important as attracting new firms by making revitalization a continuing priority (City of Wheat Ridge 2000)

The single point urban interchange would require the full or partial acquisition of 39 properties and the relocation of 14 residences and 22 businesses, which does not meet the transportation goal of protecting the City's residential neighborhoods and serving its commercial areas. Approximately 725,000 square feet or 16.6 acres of right-of-way would be required, primarily from the community commercial center located near the I-70/32<sup>nd</sup> Avenue interchange. As stated in the City of Wheat Ridge Comprehensive Plan, the community commercial centers along I-70 generate a substantial amount of revenue for the City, and it is important that the viability and attractiveness of the community commercial centers be maintained (City of Wheat Ridge 2000). The acquisition of a large portion of the community commercial center for right-of-way does not meet the City of Wheat Ridge's economic development goals. In addition, the realignment of Youngfield Street to the east would require the relocation of the existing utilities underneath the street to the new alignment.

In summary, the fourth-level screening results indicated that Alternative Package 1 (with the single point urban interchange at I-70/32<sup>nd</sup> Avenue) would provide advantages in terms of driver expectancy, but would have substantially greater impacts on the surrounding community than Alternative Packages 2 and 3, and is not generally supported by the public.

Based on these negative effects, minimal benefits, and public comments on the impacts of this alternative package, Alternative Package 1 with a single point urban interchange at the I-70/32<sup>nd</sup> Avenue interchange was eliminated from further consideration.

#### ***2.2.5.2 Summary of Screening of Alternative Packages 2 and 3***

Based on the evaluation described above, the Proposed Action would include the offset hook ramp configurations for the I-70 /32<sup>nd</sup> Avenue interchange, which are included in both Alternative Packages 2 and 3. What then remained for consideration was the west end of the study area. The fundamental choice was between a new interchange onto SH 58 (included in Alternative Package 2) or a formal roadway connection of the SH 58 frontage road (proposed Cabela Drive) to McIntyre Street (included in Alternative Package 3).




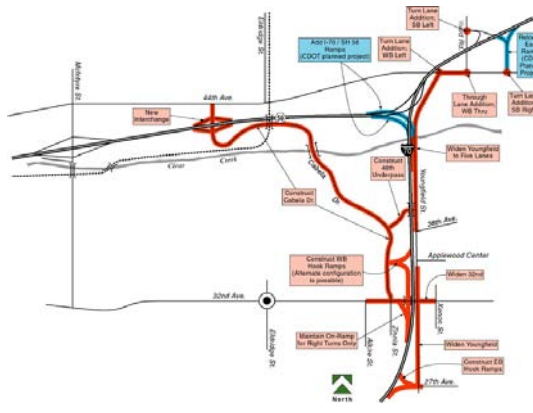
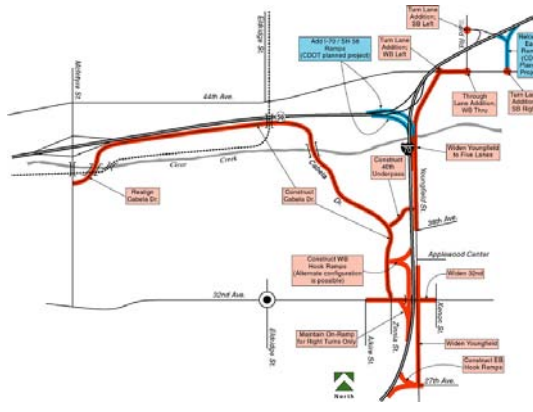
Of the screening measures that displayed differences between Alternative Packages 2 and 3, Alternative Package 2 provides:

- ▶ Enhancement of bicycle/pedestrian connectivity across SH 58
- ▶ Better emergency vehicle access across SH 58
- ▶ Better maintenance of community access and cohesion

Screening revealed very little other difference between these two configurations other than public acceptance. Public comments provided at the various forums have displayed a clear public preference for a new interchange onto SH 58 as part of the study area's transportation system although there is concern about additional traffic on 44<sup>th</sup> Avenue that may result from the connection of Cabela Drive with 44<sup>th</sup> Avenue. Public comments also showed support for the new SH 58/Cabela Drive interchange as a means for drawing regional traffic to that entrance of the proposed development instead of the local street network bearing the burden of the proposed development's induced traffic. With only minor differentiation between Alternative Packages 2 and 3, public acceptance became a key measure that would suggest that the Proposed Action should include a SH 58/Cabela Drive interchange, as included in Alternative Package 2.

Alternative Package 2 was, therefore, identified as the Proposed Action to be presented in detail with the No-Action Alternative in this EA. The fourth-level screening results are summarized in **Table 2-2**. Additional detail is provided in **Appendix C**.

Table 2-2 Fourth-Level Screening Results

Alternative	Alternative Characteristics	Screening Summary and Results
<p><b>Alternative Package 1</b></p> 	<ul style="list-style-type: none"> <li>▶ New single point urban interchange at 32<sup>nd</sup> Ave.</li> <li>▶ Widened 32<sup>nd</sup> Ave. from Alkire St. to east of realigned Youngfield St.</li> <li>▶ Realigned Youngfield St. to the east at 32<sup>nd</sup> Ave.</li> <li>▶ New Cabela Dr. from 32<sup>nd</sup> Ave. to McIntyre St</li> <li>▶ Realigned SH 58 frontage road (proposed Cabela Dr.) intersection with McIntyre St.</li> </ul>	<p><b>Eliminated</b> due to inconsistency with the objectives of the City of Wheat Ridge Comprehensive Plan, as amended; would require the full or partial acquisition of 39 properties and the relocation of 14 residences and 22 businesses; impacts the community commercial center located northeast of the Youngfield St./32<sup>nd</sup> Ave intersection; does not improve emergency vehicle access to the area southwest of the I-70/SH 58 interchange; and does not improve community cohesion across SH 58.</p>
<p><b>Alternative Package 2</b></p> 	<ul style="list-style-type: none"> <li>▶ New Cabela Drive interchange onto SH 58 near Eldridge Street</li> <li>▶ Offset hook ramp connections westbound I-70 north of 32<sup>nd</sup> Ave. at about 35<sup>th</sup> Ave.</li> <li>▶ Offset hook ramp connections eastbound I-70 south of 32<sup>nd</sup> Ave. at 27<sup>th</sup> Ave.</li> <li>▶ Widened 32<sup>nd</sup> Ave. from Alkire St. to east of realigned Youngfield St.</li> <li>▶ New Cabela Dr. from 32<sup>nd</sup> Ave. to new SH 58/Cabela Drive interchange connecting to 44<sup>th</sup> Ave.</li> <li>▶ Replace pedestrian bridge at 26<sup>th</sup> Avenue.</li> </ul>	<p><b>Advanced</b> and additionally modified as the Proposed Action because public comments provided at the various open houses have displayed a clear public preference for the new interchange onto SH 58, although there is concern in relation to the connection of Cabela Dr. with 44<sup>th</sup> Ave. with regard to local traffic.</p> <p>The alternative enhances bicycle/pedestrian connectivity across SH 58; impacts fewer acres of potential threatened and endangered species habitat; improves emergency vehicle access across SH 58; and better maintains community access and cohesion.</p>
<p><b>Alternative Package 3</b></p> 	<ul style="list-style-type: none"> <li>▶ Offset hook ramp connections westbound I-70 north of 32<sup>nd</sup> Ave. at about 35<sup>th</sup> Ave.</li> <li>▶ Offset hook ramp connections eastbound I-70 south of 32<sup>nd</sup> Ave. at 27<sup>th</sup> Ave.</li> <li>▶ Widened 32<sup>nd</sup> Ave. from Alkire St. to east of realigned Youngfield St.</li> <li>▶ New Cabela Dr. from 32<sup>nd</sup> Ave. to McIntyre St.</li> <li>▶ Realigned SH 58 frontage road (Cabela Dr.) intersection with McIntyre St.</li> <li>▶ Replace pedestrian bridge at 26<sup>th</sup> Avenue.</li> </ul>	<p><b>Eliminated</b> because the alternative does not include a new interchange on SH 58.</p> <p>Public comments provided at the various open houses have displayed a clear public preference for a new interchange onto SH 58 as a means for drawing regional traffic to that entrance of the proposed development instead of the local street network bearing the burden of the proposed development's induced traffic.</p>

## **2.3 No-Action Alternative**

The No-Action Alternative would not provide any improvements beyond the existing transportation system. The No-Action Alternative is the alternative that would be selected if the lead agency, FHWA, chooses not to select the Proposed Action as the Preferred Alternative. This alternative is fully assessed as an alternative and is used as a baseline comparison for environmental analysis purposes. The No-Action Alternative would not address the purpose and need for the Proposed Action but is being carried through the analysis in accordance with CEQ requirements. The No-Action Alternative includes safety and maintenance activities that are required to sustain an operational transportation system but does not include any capacity improvements.

For the purpose of travel demand forecasting and identifying resource impacts that are directly related to traffic volume, such as air quality and noise, transportation projects currently planned in the vicinity of the interchange are included along with the No-Action Alternative. These other transportation improvement projects have committed or identified funds for construction and will be made regardless of whether or not any other improvements are made to the I-70/32<sup>nd</sup> Avenue Interchange. Travel demand forecasting predicts traffic conditions that are expected to occur on the transportation system in the design year (2030). The traffic analysis is further discussed in **Chapter 3 Transportation Analysis**. **Figure 2-1** shows the transportation improvements included in the travel demand forecasting for the No-Action Alternative.

Committed projects that are included in the travel demand forecasting for the No-Action Alternative include:

- ▶ City of Wheat Ridge planned local agency projects
- ▶ Jefferson County planned McIntyre Street improvements
- ▶ CDOT planned I-70/SH 58 interchange improvements
- ▶ Regional Transportation District (RTD) planned Gold Line transit facility

The City of Wheat Ridge submitted an application to CDOT for construction of a series of local agency projects that are common to each of the three alternative packages presented in the System Level Feasibility Study and that would be independent and stand on their own merits should no other improvements take place. The local agency projects do not preclude any of the alternatives evaluated in this EA. The local agency projects include:

- ▶ Construction of the 40<sup>th</sup> Avenue underpass of I-70
- ▶ Widening of Youngfield Street from 38<sup>th</sup> Avenue to 44<sup>th</sup> Avenue
- ▶ Construction of Cabela Drive from 40<sup>th</sup> Avenue to the proposed development just north of Clear Creek

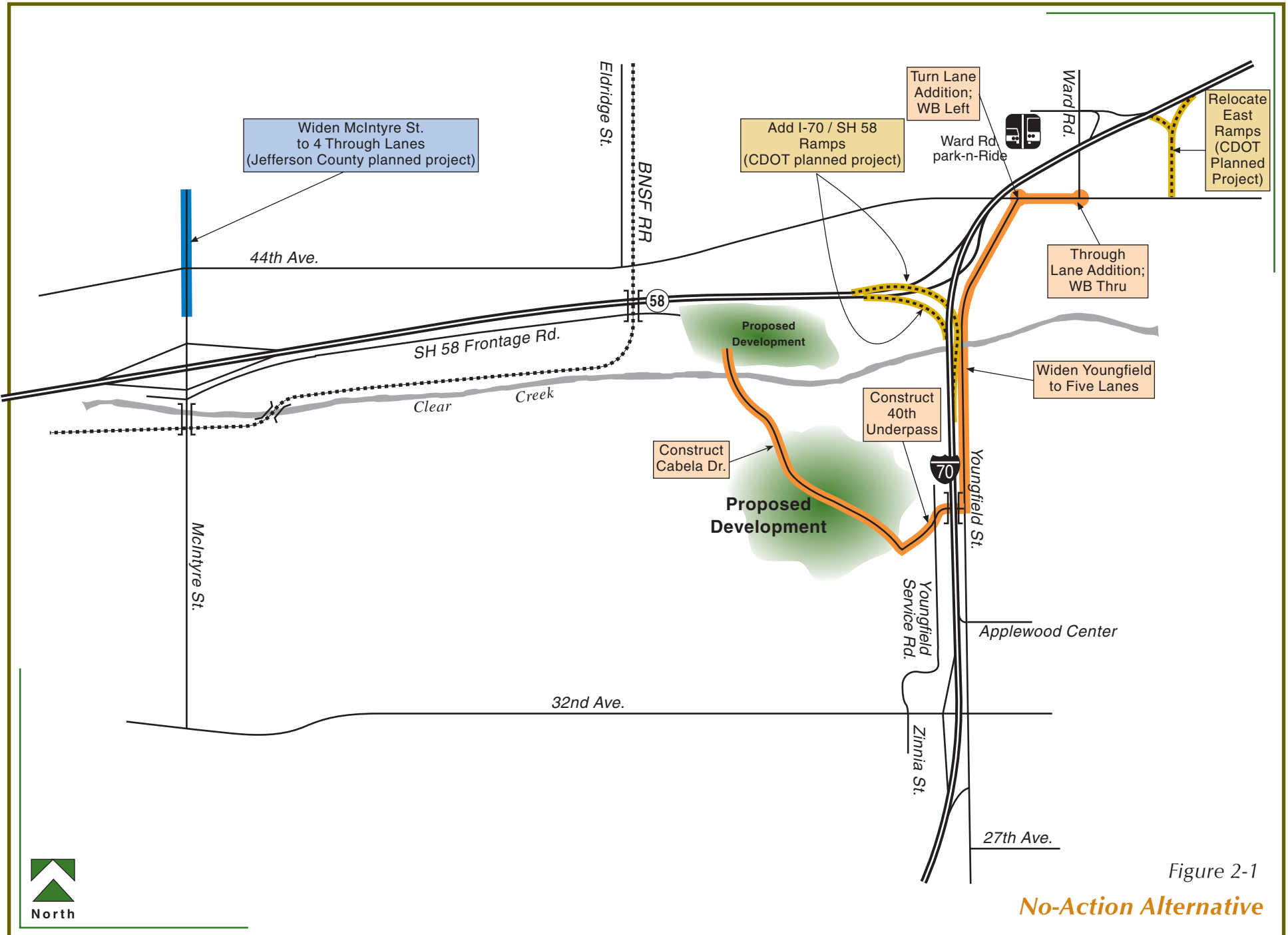


Figure 2-1

**No-Action Alternative**

These local agency projects are to be completed by the City of Wheat Ridge as separate projects that are not dependent on the interchange improvements or on federal funding and thus are included in the travel demand forecasting for the traffic analysis. Access approval through a Categorical Exclusion allowed access to interstate right-of-way to accommodate the 40<sup>th</sup> Avenue underpass of I-70 and the widening of Youngfield Street from 38<sup>th</sup> Avenue to 44<sup>th</sup> Avenue. Cabela Drive from 40<sup>th</sup> Avenue to the proposed development just north of Clear Creek is a local agency project and can proceed without FHWA and CDOT approval. As a local agency action not requiring CDOT right-of-way, FHWA/CDOT approval for construction of Cabela Drive from 40<sup>th</sup> Avenue to the proposed development just north of Clear Creek is not required; however, environmental permitting for these projects such as the Clean Water Act and other relevant environmental regulations will be the responsibility of the local agency or developer.

Improvements to McIntyre Street between approximately SH 58 and 45<sup>th</sup> Avenue are planned by Jefferson County and are included in the travel demand forecasting. These improvements consist of the widening of McIntyre Street to two through lanes in either direction from SH 58 to south of 45<sup>th</sup> Avenue and associated bicycle/pedestrian improvements. FHWA/CDOT approval is not required.

Construction of the I-70/SH 58 interchange improvements, in accordance with the EA conducted by CDOT for the I-70/SH 58 Interchange (CDOT 2002a), is included in the travel demand forecasting. The FONSI for the I-70/SH 58 Interchange project was signed in August 2004 (FHWA 2004). This CDOT project includes the addition of two new ramp connections between I-70 west and SH 58 west. The I-70/SH 58 interchange improvements also include the relocation of the I-70/Ward Road east ramps further east along I-70 to increase spacing between the on-ramp from SH 58 and the 44<sup>th</sup> Avenue eastbound off-ramp. The relocation of the existing I-70 eastbound on-ramp from the Youngfield Street/38<sup>th</sup> Avenue intersection south to the Youngfield Street/35<sup>th</sup> Avenue intersection is also included in the I-70/SH 58 interchange improvements. The Proposed Action in this I-70/32<sup>nd</sup> Avenue Interchange EA would relocate the I-70 eastbound on-ramp from the Youngfield Street/35<sup>th</sup> Avenue intersection south to the Youngfield Street/27<sup>th</sup> Avenue intersection.

The Regional Transportation District (RTD) has initiated the preparation of an EIS for the Gold Line transit facility. The Gold Line is an 11.2 mile light rail transit project that generally follows the railroad right-of-way from Union Station in downtown Denver to Pecos Boulevard and continues west to the intersection of I-70 and Ward Road. The Gold Line transit facility is planned for implementation by RTD and has been included in the travel demand forecasting.

Phase I of the Gold Line extends from Union Station to Ward Road with Phase II of the Gold Line ultimately extending to the City of Golden (Phase II) (CH2MHILL 2002). The Ward Road park-n-Ride facility could serve as the end of the line, although the final station locations will be identified during the EIS process. Phase I of the Gold Line is part of the metro-wide FasTracks system, which was approved by voters in November 2004. The FasTracks system is planned to be completed between 2013 and 2016. Phase II is unfunded at this time and consequently was not included in the travel demand forecasting.

CDOT is currently preparing a Draft Environmental Impact Statement (EIS) for the proposed Northwest Corridor project. Four “build” alternatives and the “no-action” alternative are being analyzed as part of the Draft EIS process. One of the four “build” alternatives, the Combined Alternative, includes a four-lane principal arterial along McIntyre Street to SH 58 with a regional arterial/tollway along SH 93 and US 6 through Golden. The Northwest Corridor is not currently a committed project. However, as a maximum traffic scenario, the Northwest Corridor Combined Alternative traffic forecasts were included in the travel demand forecasting for this I-70/32<sup>nd</sup> Avenue Interchange EA.

## **2.4 Proposed Action**

The Proposed Action (Alternative Package 2 from **Table 2-2**) consists of the following elements:

### ▶ **New I-70/32<sup>nd</sup> Avenue Interchange Hook Ramps**

- Construction of off-set hook ramps at the I-70/32<sup>nd</sup> Avenue interchange with the westbound hook ramps located north of 32<sup>nd</sup> Avenue at approximately 35<sup>th</sup> Avenue and the eastbound hook ramps located at Youngfield Street and 27<sup>th</sup> Avenue
- Construction of a third bridge over 32<sup>nd</sup> Avenue for the I-70 westbound ramp traffic
- Closure of the existing westbound I-70 off-ramp that exits to 32<sup>nd</sup> Avenue. The existing westbound I-70 on-ramp would remain open but access would be limited to eastbound 32<sup>nd</sup> Avenue traffic only
- Reconstruction and restriping of Youngfield Street between 27<sup>th</sup> Avenue and approximately 30<sup>th</sup> Avenue to achieve a 5-lane roadway section

### ▶ **32<sup>nd</sup> Avenue Improvements**

- Widening of 32<sup>nd</sup> Avenue between approximately Alkire Street and approximately Xenon Street and the widening of Youngfield Street between approximately 35<sup>th</sup> Avenue and 30<sup>th</sup> Avenue in the vicinity of the I-70/32<sup>nd</sup> Avenue interchange
- Connection of Cabela Drive with 32<sup>nd</sup> Avenue west of I-70 (40<sup>th</sup> Avenue to 32<sup>nd</sup> Avenue)

### ▶ **New SH 58/Cabela Drive Interchange**

- Construction of a new diamond interchange on SH 58 west of Eldridge Street and connection of Cabela Drive to this interchange
- Connection of Cabela Drive with 44<sup>th</sup> Avenue north of the new interchange on SH 58

### ▶ **I-70/Ward Road Interchange**

- Restriping of the Ward Road and westbound I-70 on-ramp intersection to add an additional southbound left turn lane onto the ramp and widen the ramp to receive this lane
- Addition of a second right-turn lane for the eastbound I-70/Ward Road off-ramp



► **Bicycle/Pedestrian Improvements**

- Relocation of the Jefferson County Open Space Clear Creek trail in the vicinity of the new SH 58/Cabela Drive interchange
- Replacement of the 32<sup>nd</sup> Avenue trail detached sidewalk along the south side of 32<sup>nd</sup> Avenue from Alkire Street to Cabela Drive with an attached sidewalk
- Improvements to pedestrian and school safety along 32<sup>nd</sup> Avenue
- Construction of an Americans with Disabilities Act (ADA)-compliant pedestrian bridge at 27<sup>th</sup> Avenue to replace the existing pedestrian bridge at 26<sup>th</sup> Avenue as part of the eastbound I-70 hook ramps
- Provisions for Jefferson County Open Space Clear Creek Trail access through the development site from 32<sup>nd</sup> Avenue
- Wider sidewalks under I-70 on the south side of 32<sup>nd</sup> Avenue to better accommodate bicycles and pedestrians

Figure 2-2 depicts the Proposed Action. Elements of the Proposed Action are described below.

2.4.1 **New I-70/32<sup>nd</sup> Avenue Hook Ramps**

Full interchange access with I-70 at 32<sup>nd</sup> Avenue would be provided via offset hook ramp connections north and south of 32<sup>nd</sup> Avenue. The eastbound I-70 on- and off-ramps would be located at 27<sup>th</sup> Avenue on the east side of I-70. The westbound ramps would be located at approximately 35<sup>th</sup> Avenue on the west side of I-70.

Hook ramps connect the highway with local streets when the two roadways are generally parallel to each other resulting in a 90 degree turn. Hook ramps for this project have been designed to achieve at least a 30 mile per hour (mph) design speed with appropriate acceleration and deceleration lengths to allow motorists to transition to/from interstate speeds.

The use of off-set hook ramps was deemed appropriate at this location because of environmental constraints. CDOT and FHWA allowed this alternative as a compromise to total interchange reconstruction which had much more substantial impacts to existing residential and business properties. This alternative does, however, offer some substantial operational, safety, and standardization benefits over the existing configuration, as follow:

- **Paired ramp-connections** -The off and on-ramp connections to I-70 occur in the same location. As an example, a motorist getting off eastbound I-70 can get back on eastbound I-70 at the same location. This is consistent with a driver's expectation to return to where they got off the highway to get back on.
- **Improved speeds and safety** -The existing eastbound I-70 ramps, including the relocated eastbound I-70 on ramp at 35<sup>th</sup> Avenue (being constructed as part of the I-70/SH 58 project), have very tight radii that reduce speed at which they can be traveled. The new ramps allow for larger radii that provide for operation at a more reasonable speed (30 mph).

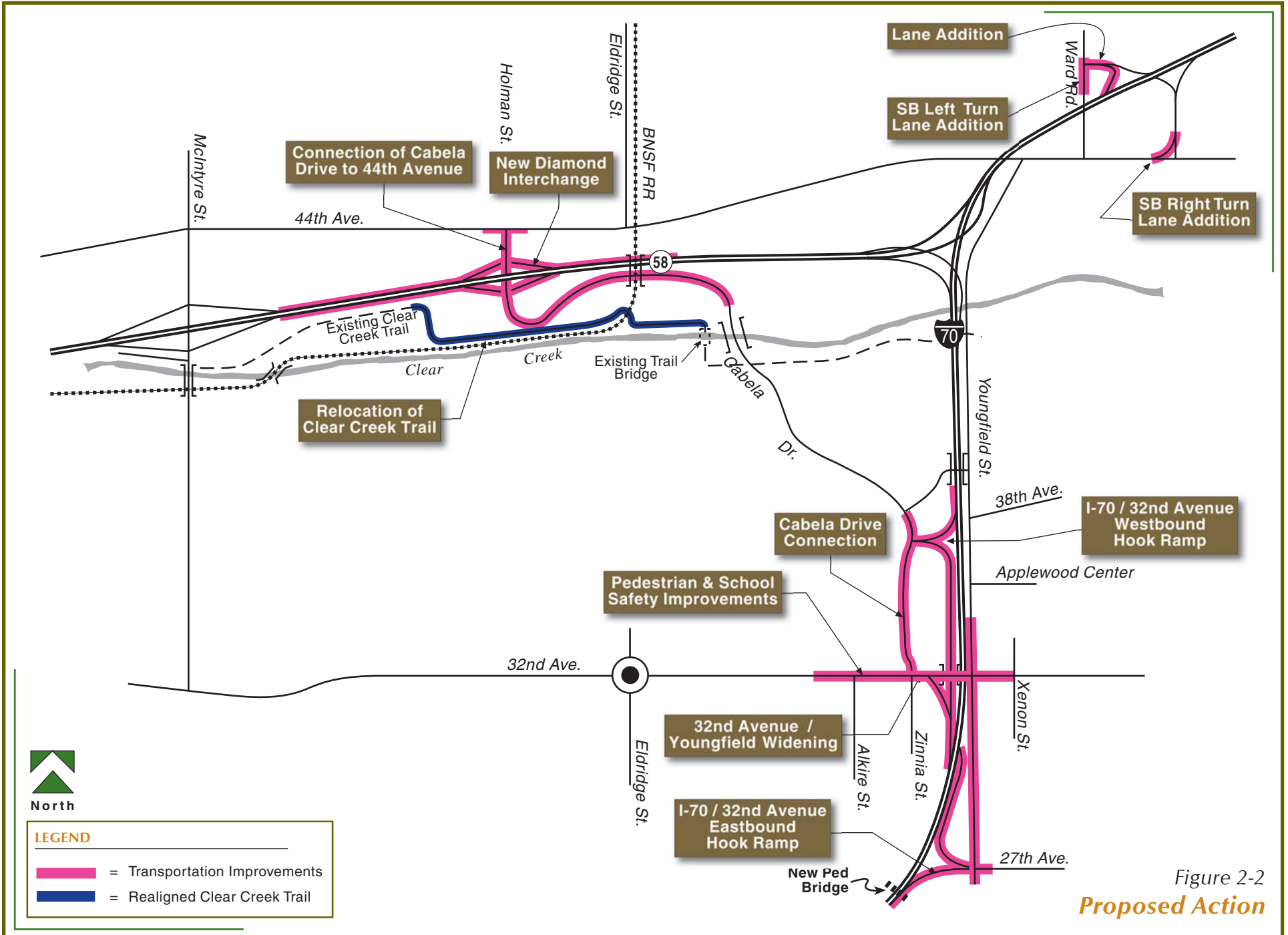


Figure 2-2  
Proposed Action

- ▶ **Diverts traffic from 32<sup>nd</sup> Avenue** -The public expressed concern that direct connections of the ramps to 32<sup>nd</sup> Avenue will increase traffic through their neighborhoods. This alternative, specifically in the westbound direction, offered segregation of I-70 traffic destined for the proposed development and traffic destined for 32<sup>nd</sup> Avenue.
- ▶ **Elimination of traffic signal** - The existing traffic signal at 32<sup>nd</sup> Avenue for the I-70 westbound ramps would be eliminated, which will improve traffic operations along 32<sup>nd</sup> Avenue.

#### 2.4.1.1 Eastbound I-70 Hook Ramps

The eastbound hook ramps would be aligned with 27<sup>th</sup> Avenue and would complete the fourth leg of the existing three legged intersection with Youngfield Street. The intersection would be modified to allow for proper alignment of lanes and the addition of turn lanes along Youngfield Street. **Figure 2-3** shows the new intersection configuration. Access to 32<sup>nd</sup> Avenue from these ramps would come via Youngfield Street.

During refinement of the Proposed Action, a series of alternate locations for the eastbound I-70 hook ramps were assessed. The alternative locations were evaluated based on the operational and geometric requirement of a CDOT-required desirable ramp design speed of 35 mph with a minimum acceptable design speed of 30 mph. **Table 2-3** summarizes the hook ramp location screening, which is also depicted on **Figure 2-4**. Traffic concerns related to the location of the 27<sup>th</sup> Avenue hook ramps are discussed in **Chapter 3 Transportation Analysis**.

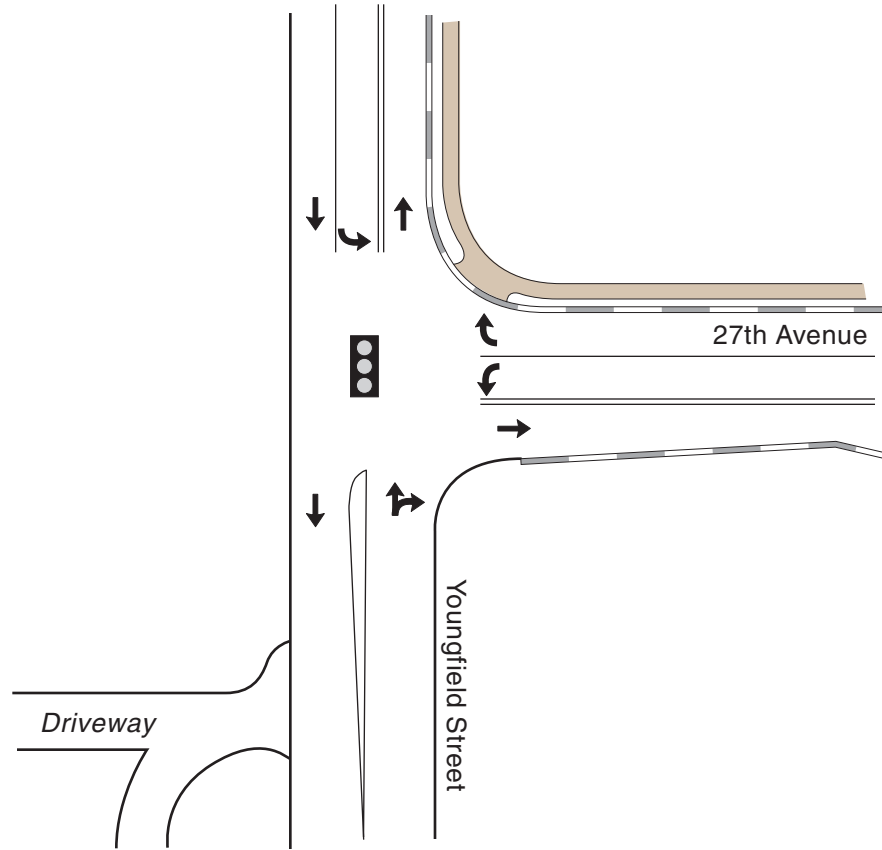
**Table 2-3 27<sup>th</sup> Avenue Hook Ramp Location Screening Summary**

Location Description <sup>1</sup>	Screening Summary and Results
"Green Location" – At this location the hook ramps just meet the desirable design ramp speed of 35 mph.	<b>Eliminated</b> because a second signal would be introduced on Youngfield Street and the ramps would go through the multistory office building at 2801 Youngfield, thus requiring full acquisition of the property and relocation of the tenants.
"Blue Location" – At this location, the minimum design ramp speed of 30 mph is met.	<b>Eliminated</b> because a second signal on Youngfield Street would be introduced and requires the eastbound I-70 bridge over 32 <sup>nd</sup> to be widened to provide for required acceleration distance.
"Black Location" – At this location, opposite 27 <sup>th</sup> Avenue, the hook ramps meet the desirable design ramp speed of 35 mph.	<b>Advanced</b> as part of the Proposed Action because location would not introduce a new signal on Youngfield Street and would not involve additional bridge structure for eastbound I-70.
(1) Ramp locations are depicted on <b>Figure 2-4</b> .	

The existing pedestrian bridge crossing of I-70 at 26<sup>th</sup> Avenue would be affected by this new ramp and would be replaced as part of the Proposed Action. A conceptual layout of the new bridge is shown in **Figure 2-5**.

Retaining walls would be required on the outside of the ramps to limit toe-of-slope impacts to adjacent properties and noise walls would be replaced and/or added in accordance with recommendations in **Section 4.5 Traffic Noise and Vibration**.

**EXISTING**



**PROPOSED**

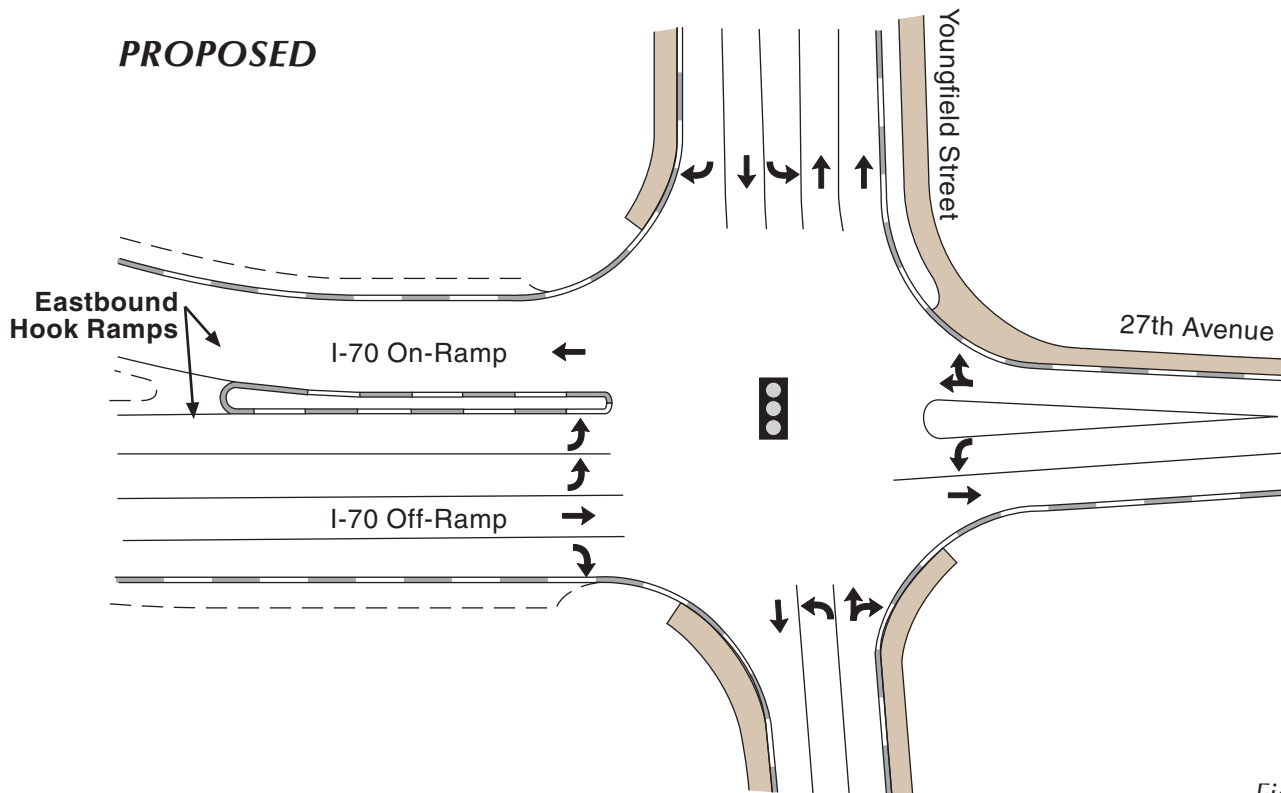


Figure 2-3

**Eastbound Hook Ramps  
& Youngfield Street Intersection Detail**





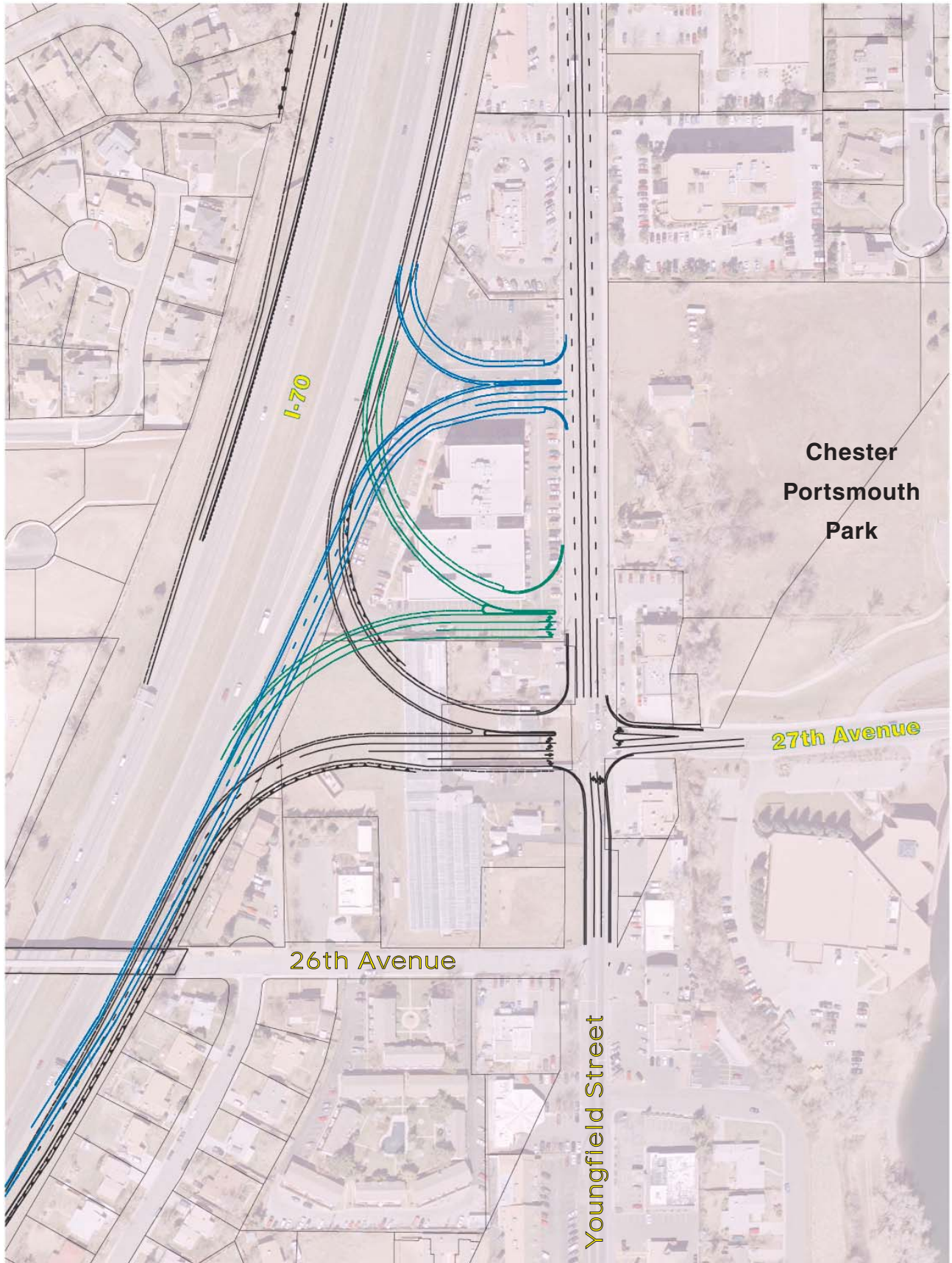


Figure 2-4

**27th Avenue Hook Ramp Location Screening**

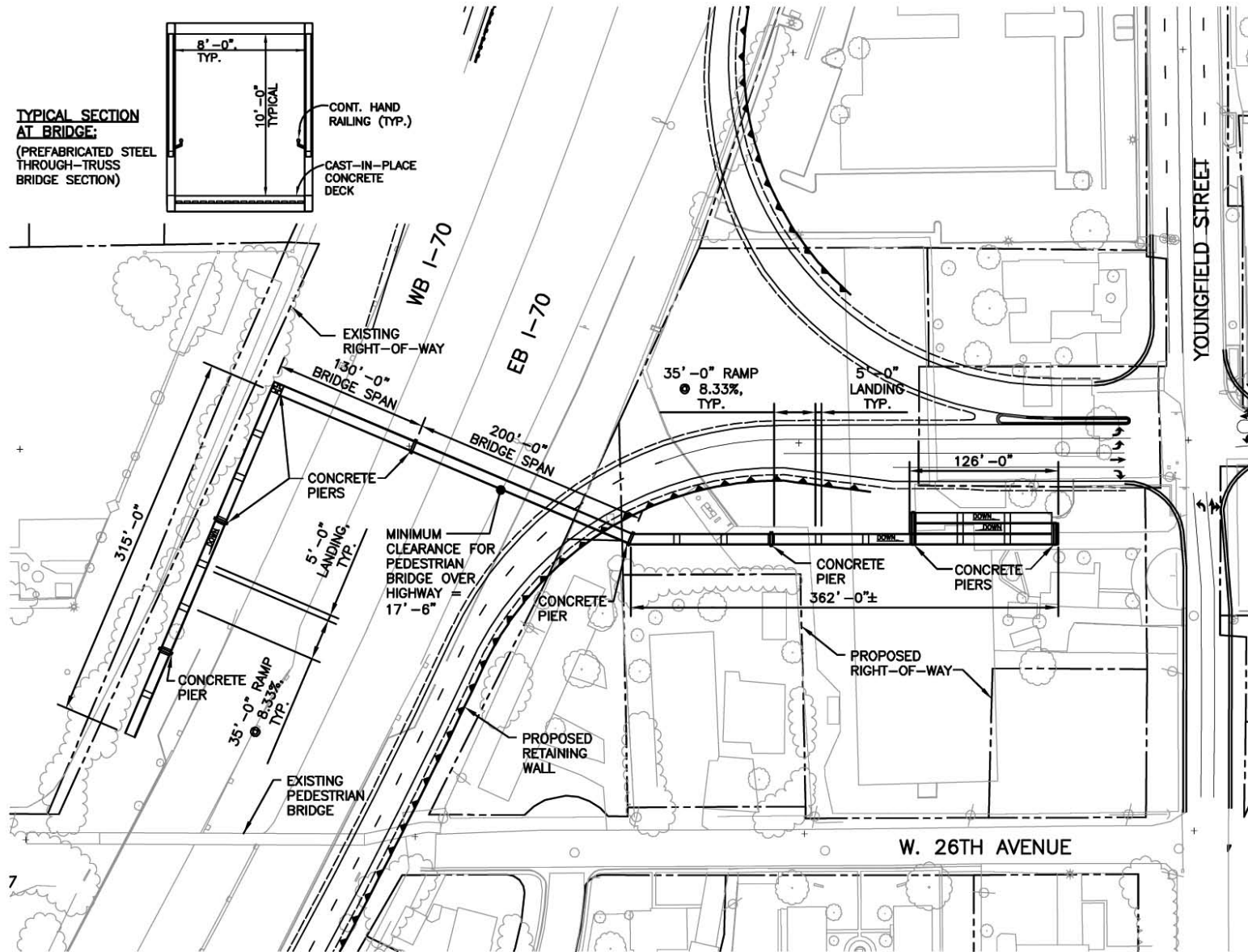


Figure 2-5  
**Proposed Pedestrian Bridge Alignment**



### **2.4.1.2 Westbound I-70 Hook Ramps**

The westbound hook ramps would be aligned to maximize the distance from the planned eastbound SH 58 to westbound I-70 ramp. This distance is approximately 2150 feet (ft), which exceeds the AASHTO minimum desirable distance of 2000 ft. Maximizing this distance was balanced against a desire to avoid the National Register of Historic Places (NRHP)-eligible Salter property located just north of the La Quinta hotel and to allow for an acceptable distance from the I-70/32<sup>nd</sup> Avenue intersection.

The westbound off-ramp would connect to the proposed Cabela Drive. Cabela Drive would provide a southerly connection to 32<sup>nd</sup> Avenue and a northerly connection to the development and ultimately to the SH 58/Cabela Drive interchange and 44<sup>th</sup> Avenue.

The westbound on-ramp would parallel I-70 from 35<sup>th</sup> Avenue to south of 32<sup>nd</sup> Avenue where it would merge with I-70 (see **Figure 2-6**). This would require construction of a new bridge for the ramp over 32<sup>nd</sup> Avenue. The existing westbound on-ramp from 32<sup>nd</sup> Avenue would be retained and merge with this new ramp prior to I-70. It would be restricted to serving only eastbound 32<sup>nd</sup> Avenue traffic – no westbound 32<sup>nd</sup> Avenue left turns from 32<sup>nd</sup> Avenue would be allowed to the existing ramp.

### **2.4.2 32<sup>nd</sup> Avenue Improvements**

32<sup>nd</sup> Avenue would be widened to accommodate traffic needs between Alkire Street and Xenon Street to facilitate improved east/west traffic flow on 32<sup>nd</sup> Avenue. These improvements would include removal of the existing traffic signal at the westbound I-70 on-ramp intersection with 32<sup>nd</sup> Avenue. (see **Figures 2-6 and 2-7**). A new lane in each direction would be added to 32<sup>nd</sup> Avenue between Alkire Street and Cabela Drive. **Figure 2-7** shows the typical section along this reach. The existing I-70 bridge over 32<sup>nd</sup> Avenue would be modified to allow for eastbound 32<sup>nd</sup> Avenue widening as it approaches Youngfield Street. This would require removal of the existing paved slopes under the bridge, construction of a new retaining wall on the south side, relocation of the sidewalk, and widening the road into the space vacated by the existing sidewalk. A typical section of the roadway section and this bridge modification is shown in **Figure 2-7**.

The Youngfield Street / 32<sup>nd</sup> Avenue intersection would be modified to improve the operations of the intersection, which would include construction of additional lanes and resignalization. The proposed intersection configuration is shown in **Figure 2-8**. Transitions to match this new intersection would require widening of 32<sup>nd</sup> Avenue to the east to approximately Xenon Street, to the north along Youngfield Street to approximately 35<sup>th</sup> Avenue and to the south along Youngfield Street to the current I-70 off-ramp.

### **2.4.3 Youngfield Street Improvements**

Youngfield Street would be restriped and widened in some locations to accommodate traffic needs between 35<sup>th</sup> Avenue and 27<sup>th</sup> Avenue resulting in a uniform five lane wide road. The 32<sup>nd</sup> Avenue/Youngfield Street intersection includes two left turn lanes and a right turn lane for northbound and southbound with four through lanes (see **Figure 2-8**).

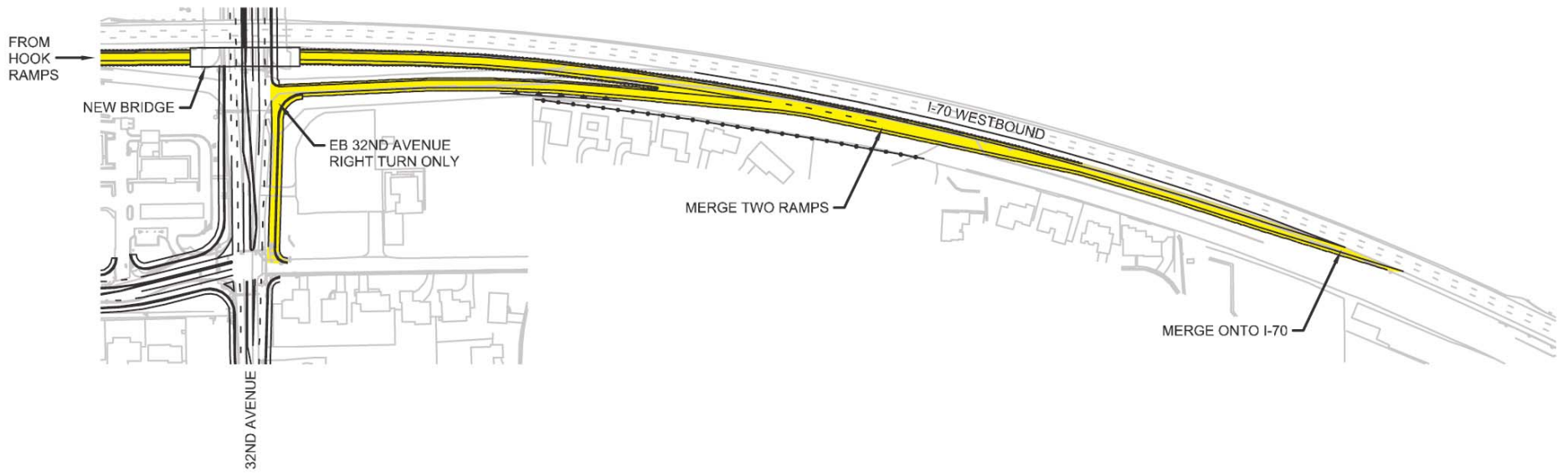
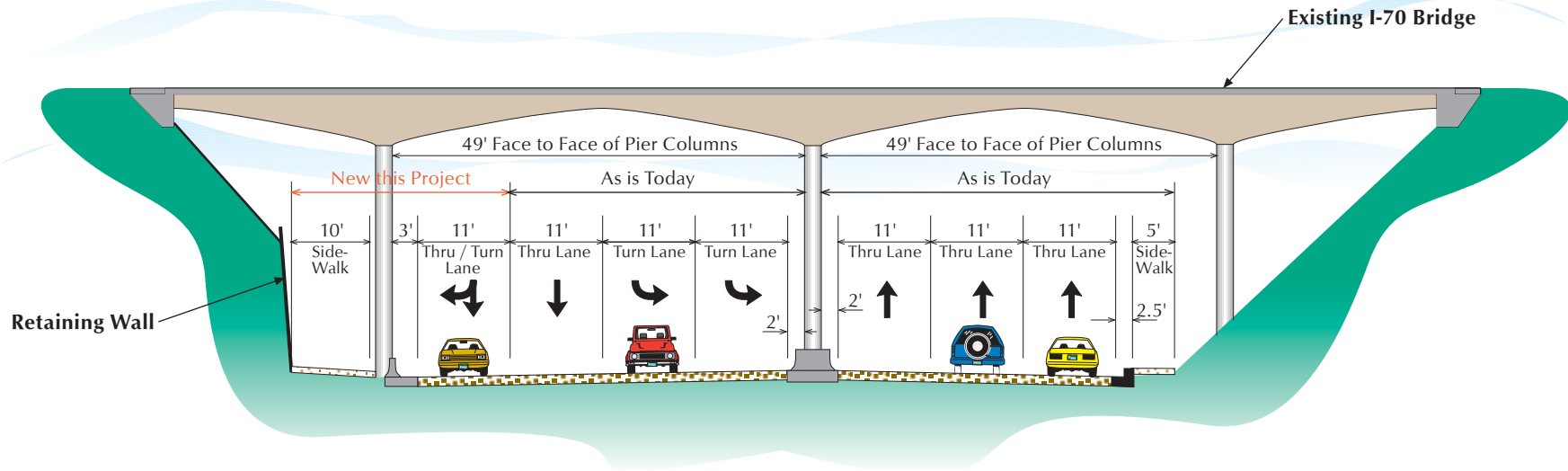
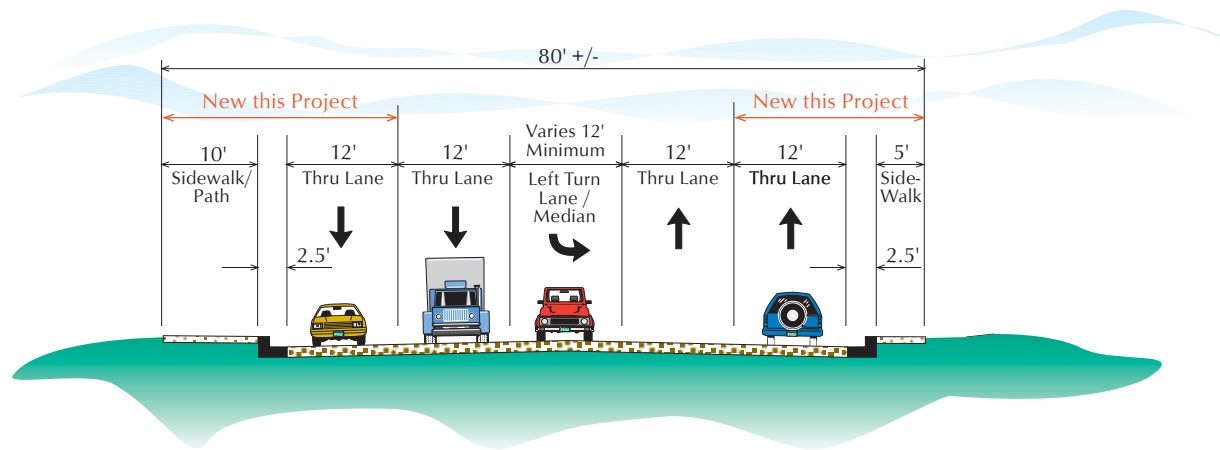


Figure 2-6  
**Proposed Westbound I-70 On-Ramp**



32nd Avenue under I-70  
(Looking West)

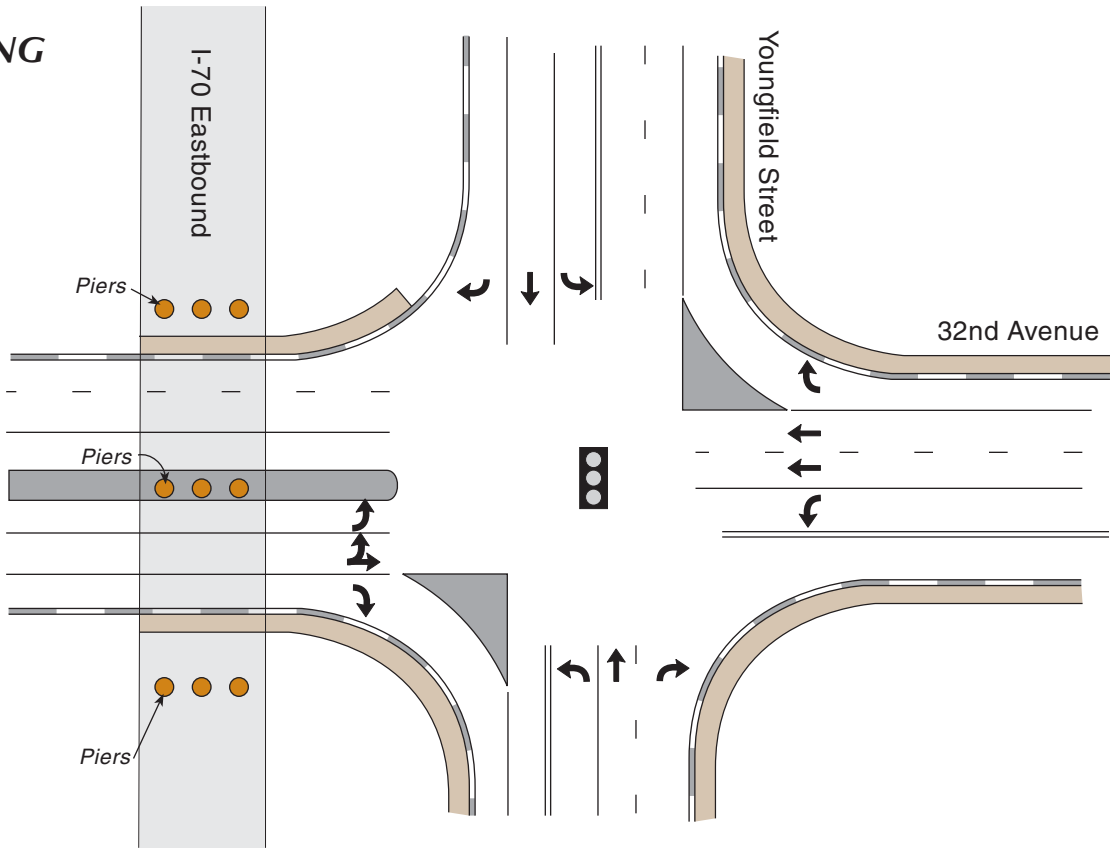


32nd Avenue  
Alkire Street to Cabela Drive  
(Looking West)

Figure 2-7  
*Proposed 32nd Avenue Typical Sections*



**EXISTING**



**PROPOSED**

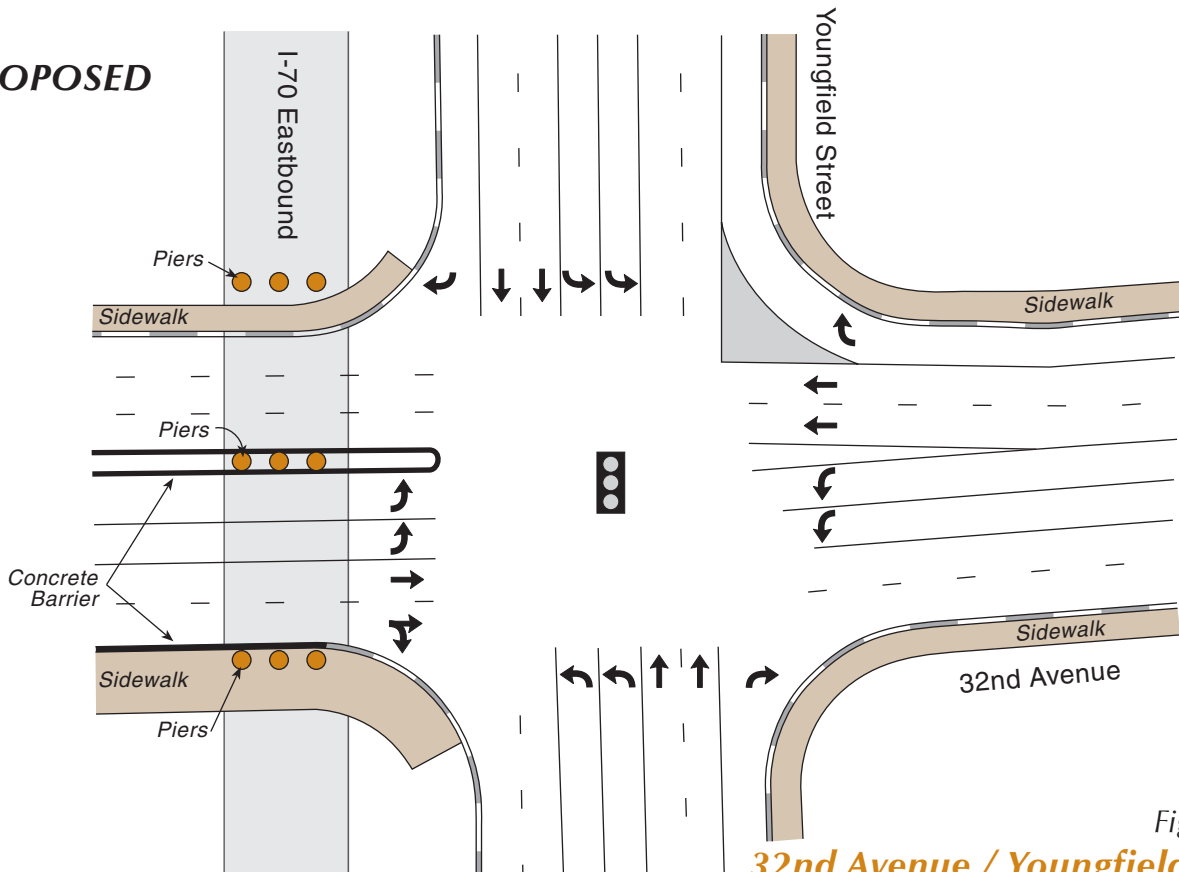


Figure 2-8  
**32nd Avenue / Youngfield Street  
Intersection Detail**

#### 2.4.4 New Cabela Drive

Cabela Drive is a new north-south roadway connection on the west side of I-70. A portion of Cabela Drive from 40<sup>th</sup> Avenue to the proposed development just north of Clear Creek, which includes a new four-lane bridge over Clear Creek, is planned to be constructed as a separate local agency project. Cabela Drive will serve the proposed development, and as part of the Proposed Action, to provide a connection to SH 58 and 44<sup>th</sup> Avenue at a new diamond interchange. The roadway typical section varies as traffic demands (see **Figure 2-9**). From 32<sup>nd</sup> Avenue to approximately Clear Creek the roadway would be a five-lane facility with two through lanes in each direction and a center turn lane. From Clear Creek to the new SH 58/Cabela Drive interchange the roadway would be a four-lane facility with two southbound lanes, a single northbound lane, and a left turn lane.

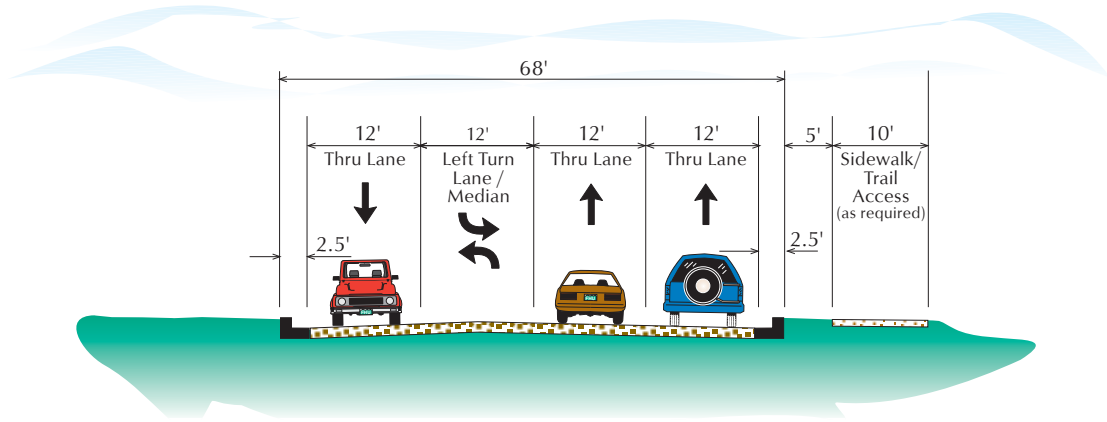
The existing Clear Creek trail that parallels the SH 58 frontage road today would be realigned to provide for the new road connection to the new SH 58/Cabela Drive interchange as part of the Proposed Action. The existing railroad bridge at SH 58 would remain and the new roadway would pass under it. **Figure 2-10** shows how this would be accomplished.

#### 2.4.5 New SH 58/Cabela Drive Interchange

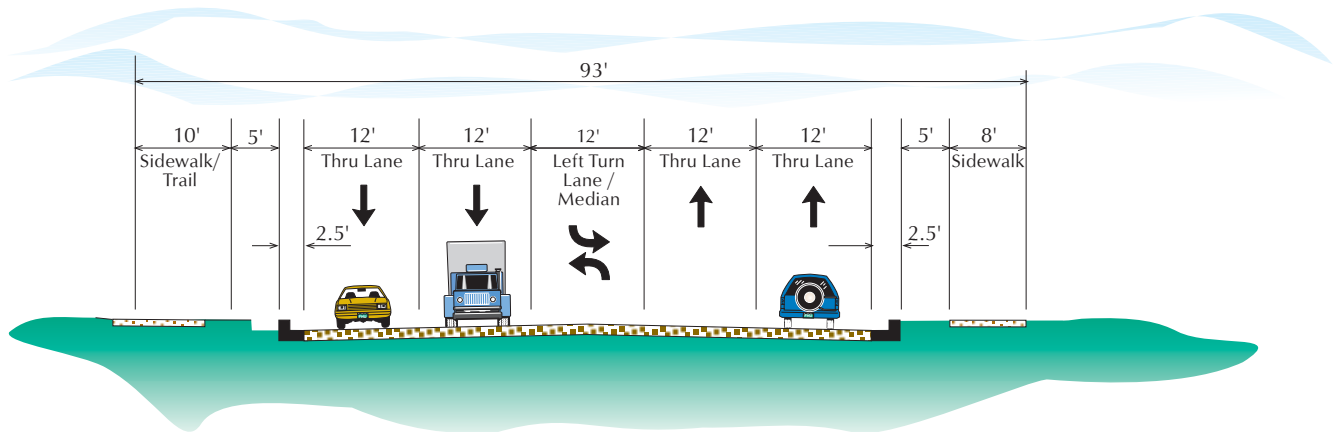
A new diamond interchange would be constructed at SH 58 between McIntyre Street and I-70 with SH 58 crossing under at this interchange. Continuous auxiliary lanes would be added to SH 58 in both directions between McIntyre Street and the new interchange and between westbound I-70 and the new interchange. These lanes would be provided to help motorists manage the weave created when traffic entering the highway at one interchange competes with traffic leaving the highway at the next interchange. Some retaining walls would be required to minimize ramp embankment impacts to adjacent businesses.

The interchange would be aligned to provide a connection to 44<sup>th</sup> Avenue to the north at the intersection with Hollman Street. This intersection would be modified to align roadway lanes and add for turn lanes along 44<sup>th</sup> Avenue. The new SH 58/Cabela Drive interchange would be located at Holman Street and not further to the west at Indiana Street due to the proximity of the SH 58/McIntyre Street interchange, which would create safety issues for vehicles merging and exiting SH 58 between the two interchanges. The proposed reconstructed intersection layout is shown in **Figure 2-11**. Reconstruction along 44<sup>th</sup> Avenue would be primarily on the south side, with limited reconstruction anticipated on the north side of 44<sup>th</sup> Avenue.

Cabela Drive would connect with the interchange via a sweeping alignment to the south and east. The existing SH 58 frontage road would be severed with this construction and would require that a cul-de-sac be placed at the end.



**4 Lane Section**  
**From SH 58 to Clear Creek**  
(Traveling South / East from SH 58)



**5 Lane Section**  
**32nd Avenue to Clear Creek**  
(Looking North)

Figure 2-9  
**Proposed Cabela Drive Typical Sections**



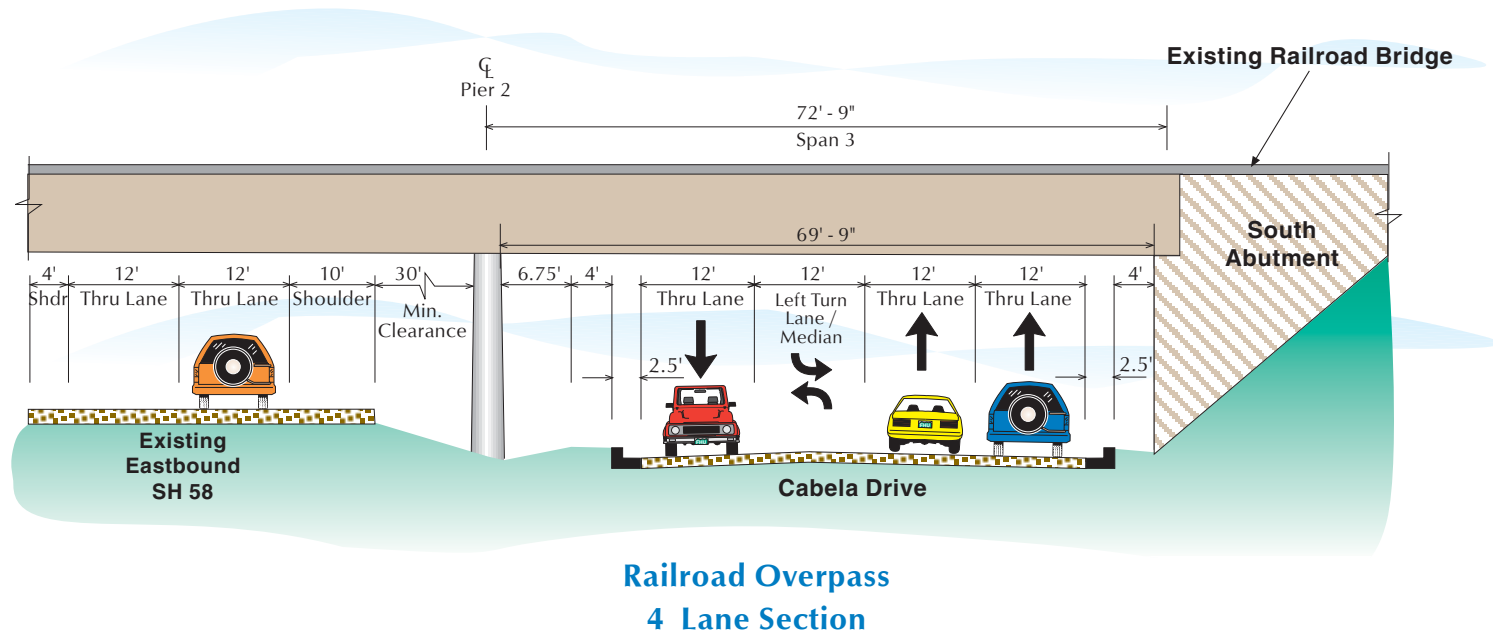
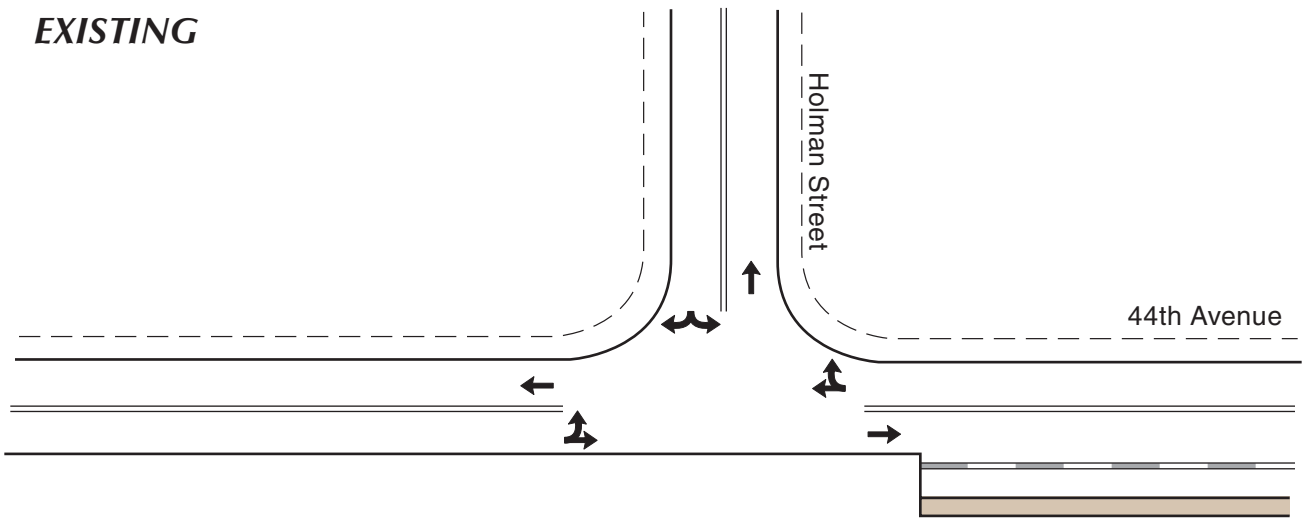


Figure 2-10  
Cabela Drive at Railroad Bridge  
(Looking East)

**EXISTING**



**PROPOSED**

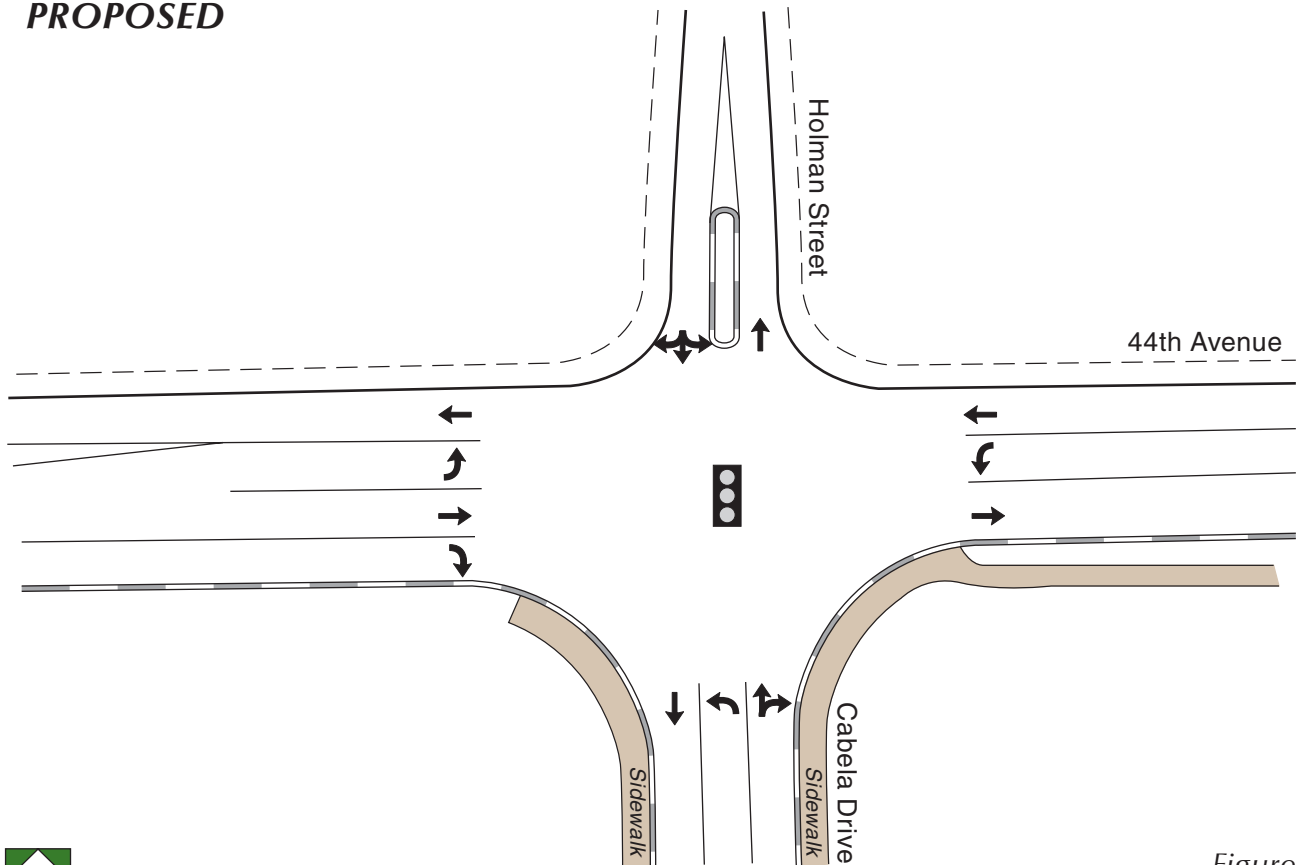


Figure 2-11

**44th Avenue / Cabela Drive Intersection Detail**

#### **2.4.6 44<sup>th</sup> Avenue and Ward Road**

Improvements at the interchange with 44<sup>th</sup> Avenue/Ward Road/I-70 are proposed as a part of this action as well. These improvements are primarily a result of regional growth (updated from 2025 to 2030 forecasted traffic). They include the addition of a second southbound left turn lane from Ward Road to westbound I-70 along with the necessary widening of the ramp to reserve this turn lane. An additional (second) right turn lane is proposed from the eastbound I-70 off-ramp to westbound 44<sup>th</sup> Avenue. These right turn lanes would be traffic signal controlled, such that traffic could only turn on a green light.

#### **2.4.7 Bicycle and Pedestrian Improvements**

Pedestrian and bicycle facilities exist within the corridor, although they are not always continuous or constructed in compliance with ADA. This project would replace facilities affected by construction in accordance with City of Wheat Ridge and/or Jefferson County criteria, which meet ADA requirements. Improvements are described below (see **Figure 2-12**).

##### **2.4.7.1 Pedestrian facilities**

- ▶ Replacement of the pedestrian bridge at 26<sup>th</sup> Avenue with a new ADA-compliant structure (see **Figure 2-5**)
- ▶ Construction of new sidewalk along the north side of 32<sup>nd</sup> Avenue from Braun Court to Xenon Street to improve pedestrian access to The Manning School and Maple Grove Elementary and to replace sidewalk affected by reconstruction of 32<sup>nd</sup> Avenue
- ▶ Construction of new sidewalk along Youngfield Street at 32<sup>nd</sup> Avenue and 27<sup>th</sup> Avenue to replace existing sidewalk affected by reconstruction of the intersections
- ▶ Construction of new multi-use sidewalk from 44<sup>th</sup> Avenue to the Clear Creek Trail at the new SH 58/Cabela Drive interchange and along Cabela Drive to the proposed development
- ▶ Cabela Drive from 32<sup>nd</sup> Avenue north to approximately Clear Creek will have sidewalk on both sides of the street. One may be dedicated as a multi-use sidewalk as discussed below.

Other facilities are planned with the local agency projects along 40<sup>th</sup> Avenue and Youngfield Street from 38<sup>th</sup> Avenue to 44<sup>th</sup> Avenue. Further pedestrian modifications/improvements related to school safety along 32<sup>nd</sup> Avenue are discussed in **Section 2.4.8 School Safety Improvements**.

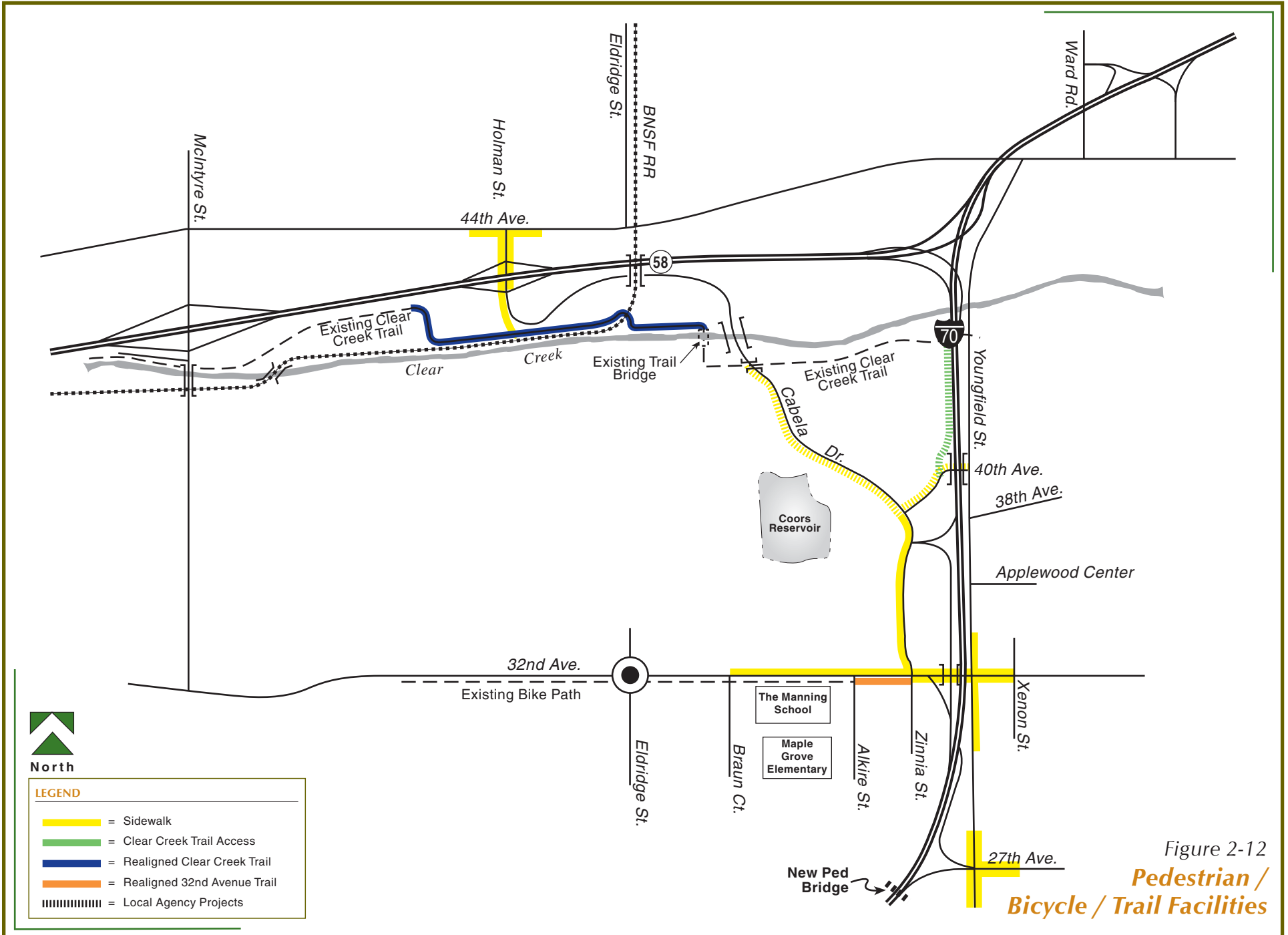


Figure 2-12  
**Pedestrian /  
Bicycle / Trail Facilities**

### **2.4.7.2 Bicycle/Trail/Trail Access Facilities**

- ▶ Replacement of the 32<sup>nd</sup> Avenue trail, which consists of a detached sidewalk along the south side of 32<sup>nd</sup> Avenue from Alkire Street to Cabela Drive, with an attached sidewalk.
- ▶ Realignment of the Jefferson County Open Space Clear Creek trail from east of the railroad bridge at SH 58 and approximately Eldridge Street to west of the new SH 58/Cabela Drive interchange (see **Figure 2-12**)
- ▶ Replacement of the existing Jefferson County Open Space Clear Creek Trail access from 32<sup>nd</sup> Avenue with a 10 ft detached multi-use sidewalk on the west side of Cabela Drive that would connect to the Jefferson County Oper Space Clear Creek Trail at the bridge crossing of Clear Creek, and a 10 ft detached multi-use sidewalk along the north side of 40<sup>th</sup> Avenue that would connect to the existing trailhead immediately southwest of the I-70/SH 58 interchange (see **Figure 2-12**).
- ▶ Provisions for Clear Creek Trail access through the development site from 32<sup>nd</sup> Avenue
- ▶ Wider sidewalks under I-70 on the south side of 32<sup>nd</sup> Avenue to better accommodate bicycles and pedestrians

### **2.4.8 School Safety Improvements**

School zone safety improvements are planned along 32<sup>nd</sup> Avenue adjacent to the Manning and Maple Grove Elementary schools. Improvements include contiguous sidewalks/bike paths, upgraded signing and traffic signal pedestrian actuation. **Figure 2-13** shows these improvements.

### **2.4.9 Drainage Improvements**

In accordance with current Colorado Department of Public Health and Environment (CDPHE) Water Quality Control Division (WQCD) requirements for CDOT, the Cities of Wheat Ridge and Lakewood, and Jefferson County, drainage improvements, including water quality measures, will be incorporated into the Proposed Action. These improvements are described in **Section 4.10 Water Resources, Floodplains, and Water Quality**.

### **2.4.10 Interstate Guide Signage**

To help motorists find their way within the interchange complex, supplemental guide signing is proposed along I-70. These signs would make it clear that the new SH 58/Cabela Drive interchange is the appropriate route for accessing the planned development southwest of the I-70/SH 58 interchange. This would be accomplished through advance signing along both westbound and eastbound I-70 (see **Figure 2-14**).

This signing concept is consistent with similar applications where two major freeways diverge and advance clarification is required to help motorists find the appropriate route. Considering the multiple access options available along I-70 and SH 58 (at I-70/32<sup>nd</sup> Avenue, at I-70/Ward Road, and at SH 58/Cabela Drive) in this area and public concerns regarding increased traffic along 32<sup>nd</sup> Avenue, this guide signing is included as part of the Proposed Action.

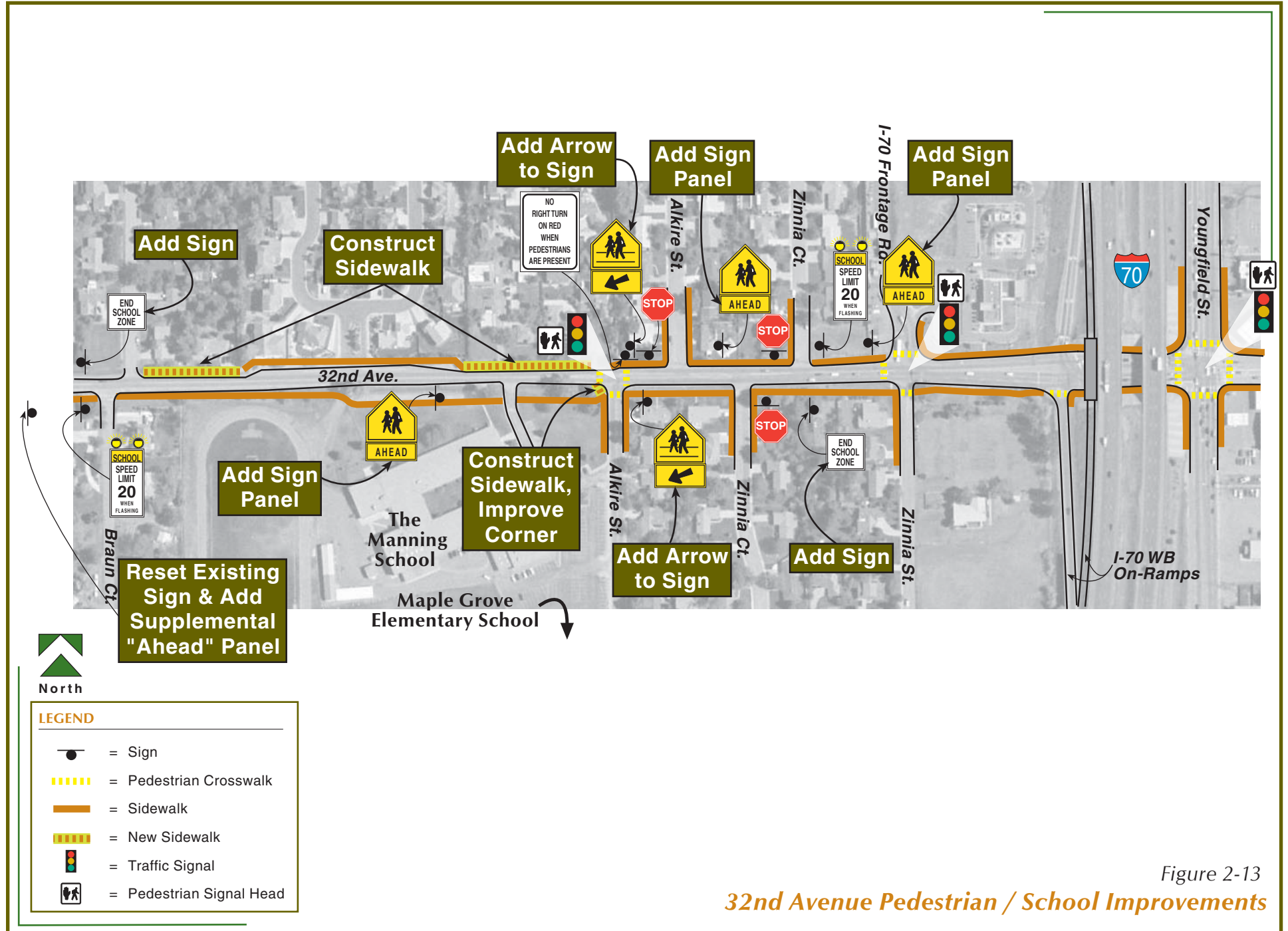


Figure 2-13

32nd Avenue Pedestrian / School Improvements





## 2.5 Funding and Phasing

### 2.5.1 Proposed Action Construction Cost

Estimates of the probable construction costs for the various transportation improvements have been prepared as part of the EA to evaluate the alternatives considered and to establish project implementation requirements. Unit prices from recent and historical data for similar projects have been used, along with quantity estimates for major work items.

**Figure 2-15** illustrates the Proposed Action and other transportation improvements and their associated 2006 construction cost. The total transportation improvements are projected, in 2006 dollars, to cost approximately \$113.7 million.

### 2.5.2 Funding Plan

The City of Wheat Ridge, Jefferson County and CDOT are committed to the funding and implementation of these transportation improvements (see **Table 2-4**). This commitment can be demonstrated by the following facts:

- ▶ Some of the improvements have been approved and cleared for construction under separate EA or Categorical Exclusion processes (I-70/SH 58 interchange; access for Youngfield widening, and 40<sup>th</sup> Avenue underpass in I-70 right-of-way)
- ▶ Funding has been obligated per the current Statewide Transportation Program (STIP) for portions of these improvements (I-70/SH 58 interchange)
- ▶ Youngfield widening is currently under construction
- ▶ I-70/SH 58 interchange with the 40<sup>th</sup> Avenue underpass is currently being advertised for construction bids

In addition, funding commitments have been obtained from the developer(s) by the City of Wheat Ridge to assist the City in the implementation and cost of the Proposed Action improvements.

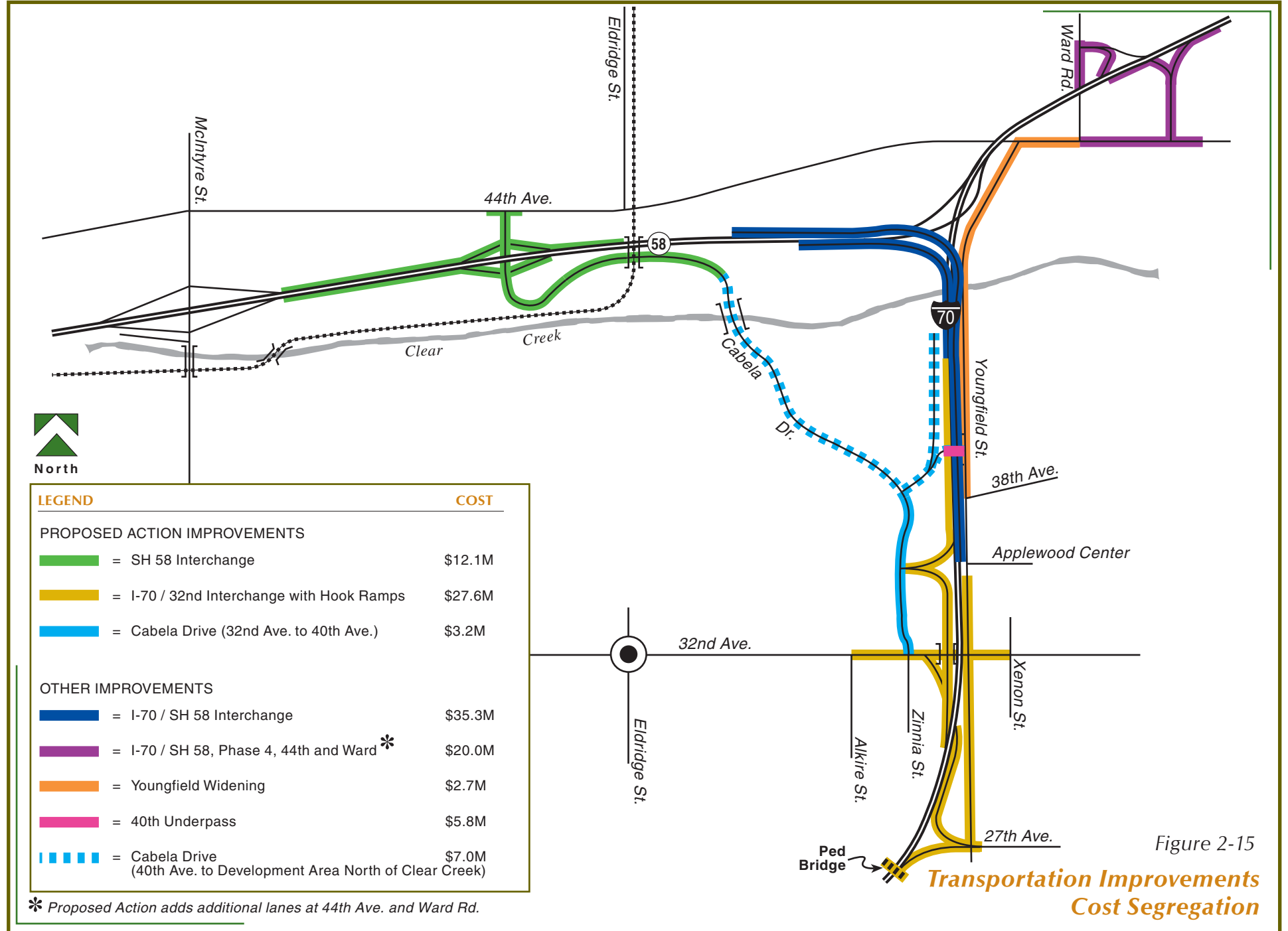


Figure 2-15

**Transportation Improvements  
Cost Segregation**

Table 2-4 Project Implementation Responsibilities

Improvement	Responsibility
SH 58/Cabela Drive Interchange*	Developer(s)
I-70 / 32 <sup>nd</sup> Interchange*	Wheat Ridge, Jefferson County, Developer(s) and CDOT
Cabela Drive, 32 <sup>nd</sup> to 40 <sup>th</sup> Avenue*	Wheat Ridge
I-70 / SH 58 Interchange	CDOT and Jefferson County
I-70 / SH58 Phase IV, 44 <sup>th</sup> and Ward Road	CDOT
Youngfield widening	Wheat Ridge
40 <sup>th</sup> Underpass at I-70	Wheat Ridge
Cabela Drive, 40 <sup>th</sup> Avenue to the proposed development north of Clear Creek	Wheat Ridge

\* Proposed Action improvements

### 2.5.3 Construction Schedule / Timeline

During the EA process, commitments have been made to the public and local agencies that the necessary improvements as required for opening day traffic will be in place prior to the opening of the development. In support of this commitment, the City of Wheat Ridge City Council, as part of the development plan approval process, has stipulated that the I-70 westbound hook ramps, the 40<sup>th</sup> Underpass, widening of 32<sup>nd</sup> Avenue, Cabela Drive and the SH58 Interchange improvements must be in constructed prior to Wheat Ridge issuing a Certificate of Occupancy.

**Figure 2-16** illustrates the anticipated construction phasing, and the improvement of the Proposed Action and other transportation improvements. The Youngfield widening project is scheduled for completion by November 2006. The I-70/SH 58 Interchange is anticipated to be under construction by January 2007, with the majority of the work completed by the end of 2007. The eastbound I-70 to westbound SH58 Flyover ramp however, which will require up to 2 years to construct, will not be in service until fall 2008. The proposed I-70/SH 58 improvements by CDOT at 44<sup>th</sup> Avenue and Ward Road (which would include the Proposed Action land additions at 44<sup>th</sup> Avenue and Ward Road), and the Proposed Action improvements for the I-70 eastbound hook ramps at 27<sup>th</sup> Avenue, are not currently required and will be delayed until no later than 2030.

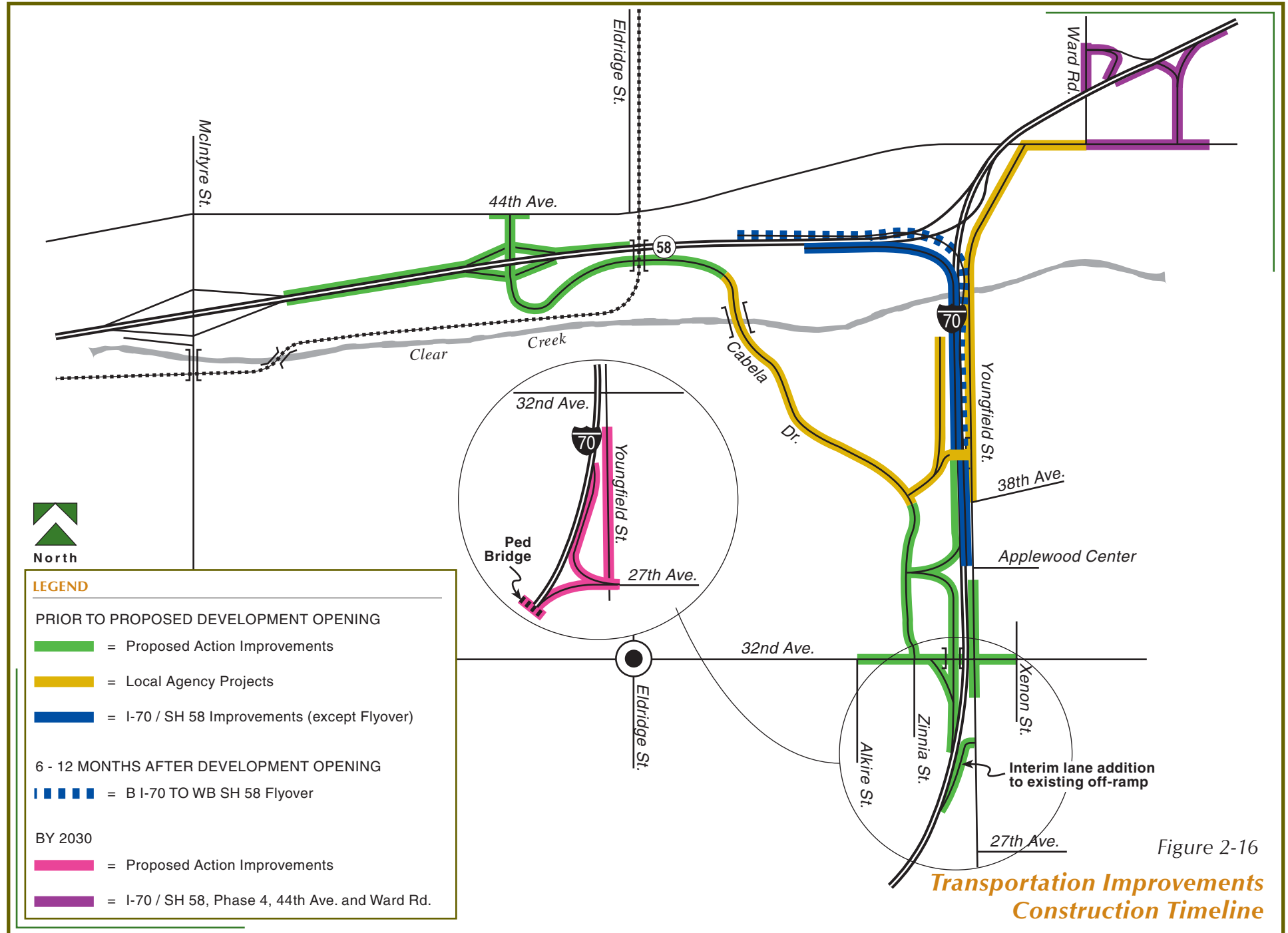


Figure 2-16

**Transportation Improvements Construction Timeline**