

2.0 DESCRIPTION OF THE PREFERRED ALTERNATIVE

Five alternatives were developed based on public and agency involvement, previous planning documents, and environmental and technical considerations. Two levels of screening were applied to these five alternatives. Alternatives developed and evaluated as a part of the *I-70 East DEIS* were also reviewed in the EA. The *I-70 East DEIS* identified a diamond interchange consisting of braided ramps west of the proposed CPB as the preferred interchange concept. Variations of this concept were then developed, resulting in five alternatives studied in the EA, including: Alternative 1: No Action; Alternative 2: New Bridge with Transportation System Management (TSM); Alternatives 3A and 3B: Braided Ramp Interchange with a new Central Park Boulevard bridge over I-70; Alternatives 4A and 4B: Braided Ramp Interchange with the existing cargo bridge for CPB to cross I-70; and Alternative 5: Improve Adjacent Interchanges.

Preferred Alternative

- Conforms with DRCOG 2035 Regional Plan
- Provides multi-modal access
- Meets all City design standards
- Is within construction budget
- Impacts can be mitigated

The “A” and “B” variations of Alternatives 3 and 4 were developed to identify the best operational solution for the I-70/CPB Interchange. These concepts are variations of the ultimate braided option that were compared to each other to evaluate the operational effectiveness of the proposed interchange.

Alternative 3B: New Bridge, Braided Ramp Interchange, Consecutive On/Off-ramps was advanced from the alternatives development and screening phase of the project and was recommended as the Preferred Alternative. This alternative best meets the purpose and need of the project. Impacts and mitigation for the Preferred Alternative have been identified.

2.1 Elements of the Preferred Alternative

In the Preferred Alternative (Figure 2-1) the existing cargo bridge will be demolished and a new bridge over I-70 will be constructed immediately east of the cargo bridge site. CPB will

cross I-70 via the new bridge and access I-70 via a diamond interchange with braided ramps to the west to accommodate the I-270 ramps. Under the Preferred Alternative, eastbound I-70 will have one off-ramp to CPB, one on-ramp from I-270, and one on-ramp from CPB. Westbound I-70 will have one off-ramp to CPB, one off-ramp to I-270, and one on-ramp from CPB. Figure 2-2 illustrates a typical section of CPB on the new bridge.

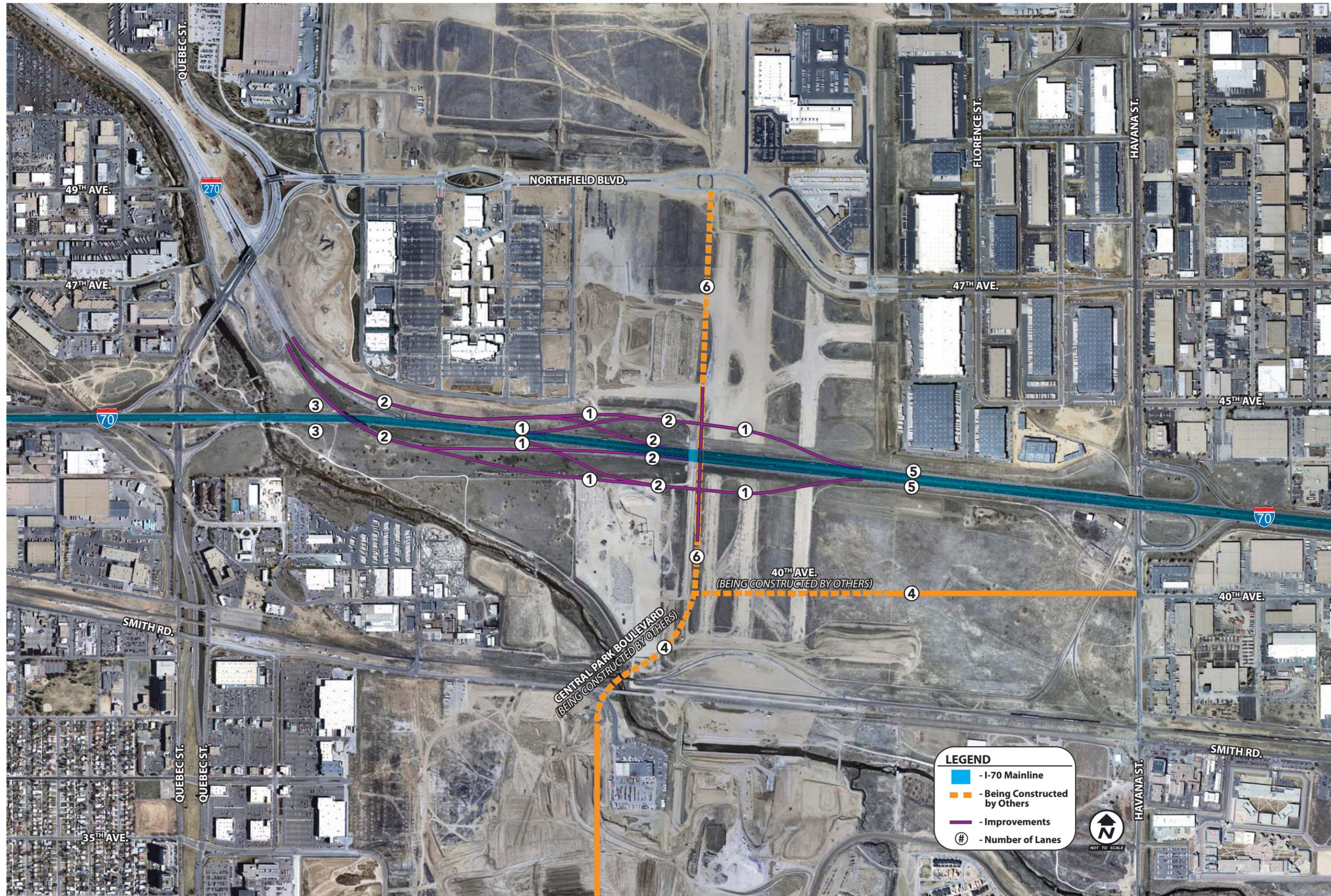
The I-70/CPB Interchange bridge over I-70 will be nine lanes wide with three through lanes in each direction and the remaining lanes used for left-turns. The CCD standard lane width is 11 feet not including gutters. Each side of the bridge will have attached sidewalks that are 10 to 12 feet in width to accommodate multi-use trail functions. Overall, the bridge will be approximately 138-feet wide to provide for lanes, curbs, gutters, medians, sidewalks, and railing.

The new bridge will be designed to span the widest I-70 lane configuration being considered in the *I-70 East DEIS*. This will make the bridge approximately 300 feet long. CPB will have a design speed of 40 miles per hour (mph) and the interchange ramps will have a design speed of 55 mph. Ramps for I-270 will be two 12-foot lanes. Ramps for CPB will be one 15-foot lane. The CPB ramps will add lanes near the ramp intersections to allow for the various turning movements to/from CPB. The ramps will not have curb and gutter but will have paved shoulders.

Ramp intersections will be signalized. Street lighting in the interchange area will be consistent with other urban interchanges with lights at the ramp intersections and along the ramps. CPB will have streetlights consistent with other segments of the road within Stapleton.

The primary reasons for identifying Alternative 3B as the Preferred Alternative include:

- The proposed improvements will provide for acceptable traffic operations when tested against forecast 2035 traffic conditions
- A six-lane cross-section of CPB over I-70 is in conformance with the Denver Regional Council of Governments (DRCOG) 2035 Regional Transportation Plan



Source: URS Corporation

FIGURE 2 - 1
 Preferred Alternative for I-70 / Central Park Boulevard Interchange: New Bridge (Two Consecutive On/Off Ramps)

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- The alternative provides for pedestrian and bicycle access in the corridor through the provision of continuous sidewalks along CPB
- Mitigation of impacts to the black-tailed prairie dog (BTPD) colonies will follow the *Impacted Black-tailed Prairie Dog Policy* (CDOT 2009) and the *Black-tailed Prairie Dog Relocation Guidelines* (CDOT 2002)
- Impacts to floodplains will be mitigated by constructing a channel adjacent to the new I-270 southeast-bound ramp to convey overland flows to the west, back to the Sand Creek channel

2.2 Funding Plan and Project Completion Schedule

2.2.1 Project Funding and Construction Cost

The following table has been updated (originally shown in Table ES-2 and Table 3-13 in the EA) to document additional funds to implement the Preferred Alternative. Funds have and will be assembled from several sources including federal transportation funds and CCD bond funding for final design, right-of-way, construction, and mitigation. The funding contribution from SAFETEA-LU has been updated from \$6.3 to \$6.5 million and an additional line for Interstate Maintenance (IM) funds has been added with an additional \$0.5 million, for a total of \$50.8 million.

**Table 2-1
Project Funding Sources**

Funding Entity	Funding Program	Funding Amount (\$ million)	Funding Availability	Order of Expenditure (1 = first; 3 = last)
Federal	American Recovery Reinvestment Act (ARRA) of 2009	12.0	FY 2009	1
Federal	SAFETEA-LU	6.5	FY 2009	2
Federal	Interstate Maintenance (IM) funds	1.8	FY 2009	2
Federal	Interstate Maintenance (IM) funds	0.5	FY 2008	2
City & County of Denver	2007 Better Denver Bond Program (designated for project)	10.0	FY 2009	3
City & County of Denver	2007 Better Denver Bond Program (supplement for project)	20.0	FY 2009	3
Total Funds:		50.8		

Notes: FY = fiscal year

SAFETEA-LU = Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users. 2005

Estimated costs to implement the Preferred Alternative (in 2009 dollars) are:

Final design, right-of-way, construction, and mitigation:	\$ 42.7 million*
Pre-design and agency costs: (including environmental clearance process; concept design; design reviews; public art; and construction oversight)	\$ 4.7 million
Other costs and contingencies:	\$ 3.4 million
Total project cost:	\$ 50.8 million

* Includes \$1.8 million for I-70 eastbound auxiliary lane and shoulder, I-270 to Havana Street

The design and construction of CPB from 36th Avenue to Northfield Boulevard (excluding the bridge over I-70 and interchange ramp intersections) is an independent, but concurrent, project to the I-70/CPB interchange. CPB from 36th Avenue to Northfield Boulevard (including the extension of 40th Avenue to CPB) will be implemented in phases to provide the required connectivity at the interchange. Funding for this project is provided through an Individual Facilities Development Agreement (IFDA IC-4) between PCMD, CCD, and Forest City Stapleton.

The preliminary funding plan for the design and construction of CPB (2008 dollars) is as follows:

- Construction of initial half (one lane in each direction) of CPB from 36th Avenue to Northfield Boulevard: \$19.1 million (programmed for completion by 2013, prior to or concurrent with the completion of the I-70/CPB interchange)
- Construction of ultimate section: \$13.0 million (approximately 2016 completion, but determined by roadway and intersection capacity needs)

2.2.2 Milestone Schedule

Although sections of the project may be opened to traffic as phases of construction are completed, the project is planned and designed to be completed by 2013 as a fully functional interchange providing for all movements described in the Preferred Alternative.

The project's milestone schedule is as follows:

- Environmental Assessment and Decision Document: EA completed June 2009; FONSI complete by 3rd Quarter 2009
- Right-of-Way Clearances: Complete by 3rd Quarter 2009 (note: right-of-way acquisition/transfer to continue through the design-build period)
- Utility Clearances: Complete by 3rd Quarter 2009 (note: utility relocations to continue through the design-build period)
- Selection/Contracting with Design-Build Contractor: Complete by 3rd Quarter 2009
- Final Design and Construction (Design-Build): From 4th Quarter 2009 to 2013
- Fully functional I-70/CPB interchange, open to traffic: By 2013
- Construction of CPB, 36th Avenue to Northfield Boulevard (connecting arterial, excluding interchange): Initial half phase programmed for 2013 completion, prior to or concurrent with the completion of the I-70/CPB interchange (by PCMD, CCD, and Forest City Stapleton)