

SH 82

GRAND AVENUE BRIDGE

Welcome

SH 82 Grand Avenue Bridge Environmental Assessment

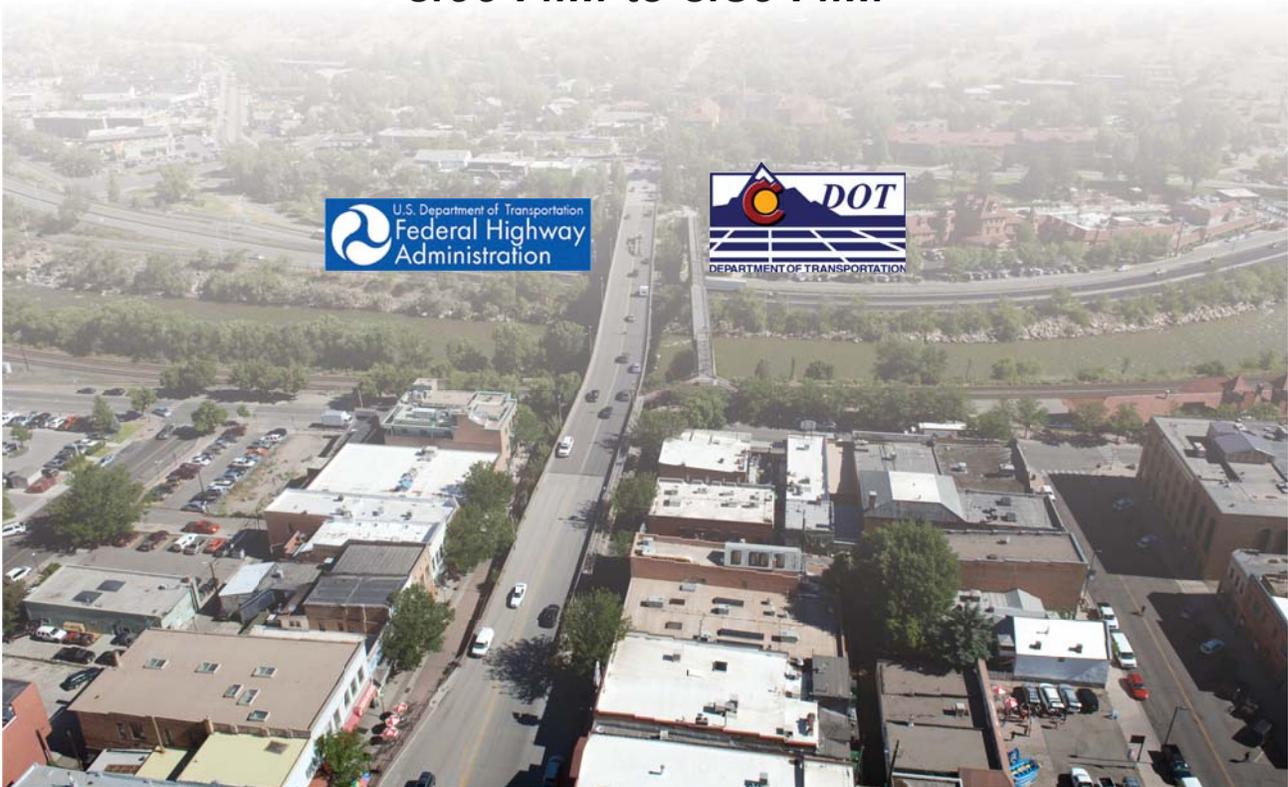
Public Open House

June 6, 2012

5:00 P.M. to 7:30 P.M.

Formal Presentation by Project Team

6:00 P.M. to 6:30 P.M.



Purpose of Tonight's Public Open House

- Provide project background information
- Present results of Level 2 evaluation and screening
- Provide new information
 - Phasing
 - Circulation
 - Travel Survey
- Ask for input on what is important to consider with the remaining alternatives

Project Overview

The Colorado Department of Transportation (CDOT) and the Federal Highway Administration (FHWA) have initiated an Environmental Assessment (EA) process to address functional, structural, and safety deficiencies of the SH 82 Grand Avenue Bridge and to bring it up to current standards for a four-lane bridge.

The EA's broad purposes are to:

- Complete and define the Purpose and Need for the project.
- Describe reasonable improvement alternatives.
- Evaluate the social, economic, historical and environmental impacts of the improvements.
- Define measures to avoid, minimize or mitigate negative impacts of the project.
- Solicit and obtain public input for the decision-making process.

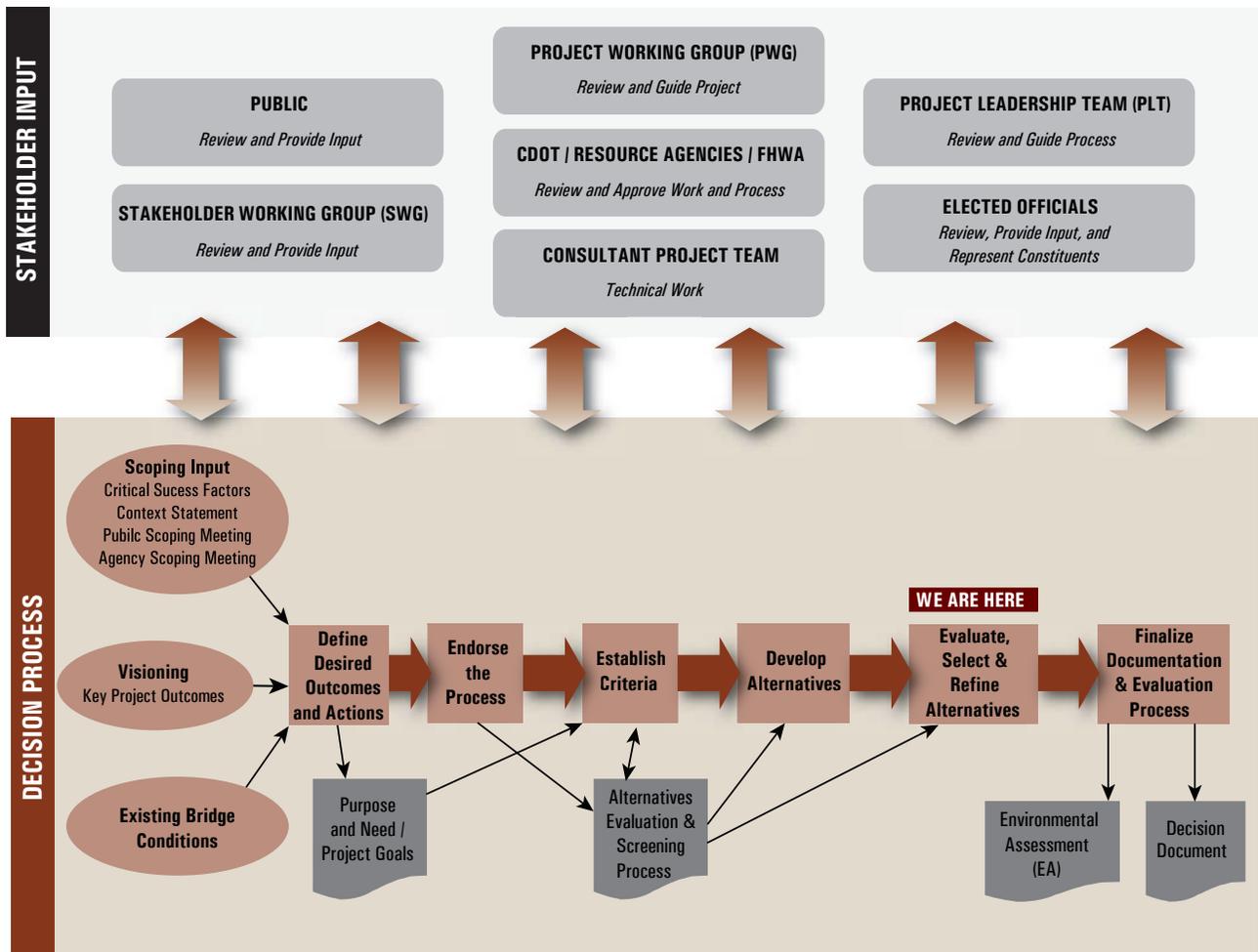
Project Background

- Improvements to the Grand Avenue Bridge will be primarily funded by the Colorado Bridge Enterprise.*
- The project team will fully consider rehabilitation options for the bridge.
- CDOT is committed to working with the Glenwood Springs community throughout this study.
- The design of any improvements will address federal, state, and local standards.

*The Colorado Bridge Enterprise (CBE) operates as a government-owned business within Colorado Department of Transportation. The purpose of the CBE is to finance, repair, reconstruct, and replace bridges designated as structurally deficient or functionally obsolete, and rated "poor".

Stakeholder Input to Decision Process

Developing a Preferred Alternative involves input from various stakeholders and the decision process summarized below.



Level 2 Screening Criteria

These criteria are based on the Project Purpose & Need and the Project Goals. They were developed with technical and public input. Each alternative was evaluated for its ability to address these criteria compared to the other alternatives.

Purpose & Need Criteria
Purpose & Need Element #1: Improve Connectivity
Between Downtown and Hot Springs
For Through Traffic
Purpose & Need Element #2: Address Functional, Structural, Emergency Service, Reliability
Relative ability to minimize risk of bridge closure
Relative ability to address structural deficiencies
Relative ability to improve emergency access
Relative ability to address functional deficiencies
Relative bridge life
Additional Criteria
Design and Feasibility
Relative cost of alternative
Relative ability of alternative to meet design standards
Relative ability to construct
Environmental
Relative impacts to historic resources
Visual/aesthetics - General-from river, pool, etc.
Visual/aesthetics - Cooper and/or Colorado
Visual/aesthetics - Grand Avenue
Relative noise and air quality impacts
Relative impacts to parks and recreation resources
Relative impacts to water and aquatic resources
Community
Relative harmony with community
Consistent with City Planning
Relative ability to reduce and minimize construction impacts
Relative ability to minimize private property impacts
Relative ability to incorporate sustainable elements into design
Transportation
Relative ability to safely accommodate transportation users
Relative ability to reduce and minimize construction impacts
Relative ability to maintain and improve multimodal connections
Relative ability to maintain or improve transportation operations

Replacement Alternatives – Screening Results

These 11 build alternatives and 3 intersection alternatives were evaluated and compared to each other using the screening criteria. Below are the results of the screening, listing the key reasons alternatives were carried forward for Level 3 screening, or screened out at Level 2A.

Alternative 1



CARRIED FORWARD

- Least amount of right-of-way as needed, least amount of impacts
- Accelerated Bridge Construction (ABC) techniques could make this option less disruptive to traffic flow than couplet construction
- Better aesthetic potential than alternatives with two bridges

Alternative 2



SCREENED OUT

- Greater impacts than Alternative 1, yet no improvement in traffic flow
- Phasing opportunities for Alternative 2 are no better than Alternative 3

Alternative 3



CARRIED FORWARD WITH INTERSECTION OPTION A

- Likely improves traffic flow near Exit 116
- Improves 6th Street pedestrian connection, an important pedestrian corridor
- Relatively good phasing, most of bridge can be built away from existing

Alternative 4



CARRIED FORWARD

- Has phasing opportunities similar to both Alternative 3 and the couplet alternatives
- Can be accomplished with limited right-of-way impacts (no full acquisitions)
- Keeps afternoon peak traffic on 6th Street (desire of businesses)

Alternative 5



SCREENED OUT

- Steep climbing grade (6%) for inbound alignment to get over I-70 and railroad
- April 4 meeting and other public input showed limited support for couplet alternatives
- Partial right-of-way impact to Shell station, more impacts than Alternative 6
- Worse traffic flow than Alternative 4

Alternative 6



CARRIED FORWARD

- Couplet alternative with the least impact compared to Alternatives 5 through 11.
- Maintains an alternative with the potential phasing advantages of couplets
- Could use Accelerated Bridge Construction for straight northbound segment

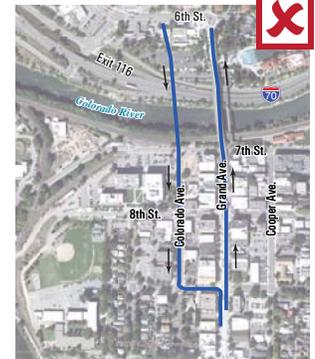
Alternative 7



SCREENED OUT

- Has greater impacts compared to Alternative 6
- No traffic flow advantages compared to Alternative 6
- April 4 meeting and other public input showed limited support for couplet alternatives

Alternative 8



SCREENED OUT

- Has greater impacts compared to Alternative 6
- Minimal traffic flow advantages compared to Alternative 6
- April 4 meeting and other public input showed limited support for couplet alternatives

Replacement Alternatives – Screening Results (continued)



SCREENED OUT

- Steep climbing grade (6%) for inbound alignment to get over I-70 and railroad
- Likely the 2nd highest cost of all the alternatives (Alternative 11 appears highest)
- April 4 meeting and other public input showed limited support for couplet alternatives



SCREENED OUT

- Both directions of traffic on SH 82 have S-curves, worst for traffic flow efficiency
- Substantial business impacts on Cooper Avenue
- Concerns for moving SH 82 closer to neighborhoods on both east and west
- Need to remove existing pedestrian bridge and rebuild or provide links to road bridges



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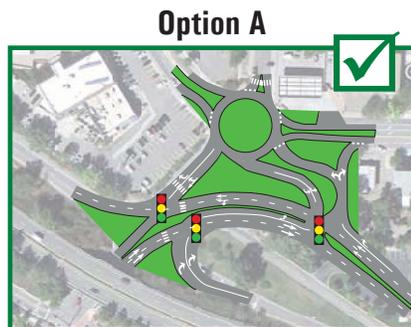
No-Action Alternative

CARRIED FORWARD

The No-Action Alternative for this EA, will be represented as the existing transportation network. The No-Action Alternative will be fully evaluated as one of the alternatives in the EA process. In addition, the No-Action Alternative serves as a baseline transportation system to compare against any Build Alternatives as they are evaluated in terms of traffic volumes, safety, and capacity.

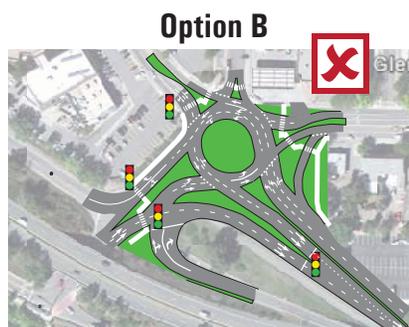
Intersection Options

For alternatives that would land near 6th and Laurel, three intersection options were evaluated.



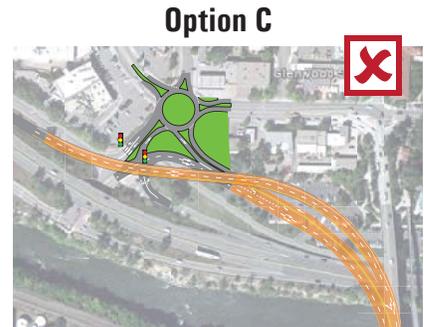
CARRIED FORWARD WITH ALTERNATIVE 3

- Provides better traffic efficiency than Option B
- Moves all SH 82 traffic away from 6th Street and pedestrian corridor
- Less impacts/detours during construction compared to Option B



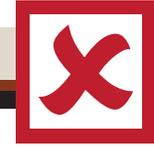
SCREENED OUT

- Having all outbound traffic go through the roundabout requires 3 lanes and heavy SH 82 traffic makes entire roundabout inefficient
- Public input stating concerns about pedestrian traffic at large roundabout
- Requirement for both pedestrian signals and metering signals on most legs of roundabout
- More difficult and impactful construction phasing and detours than Option 1

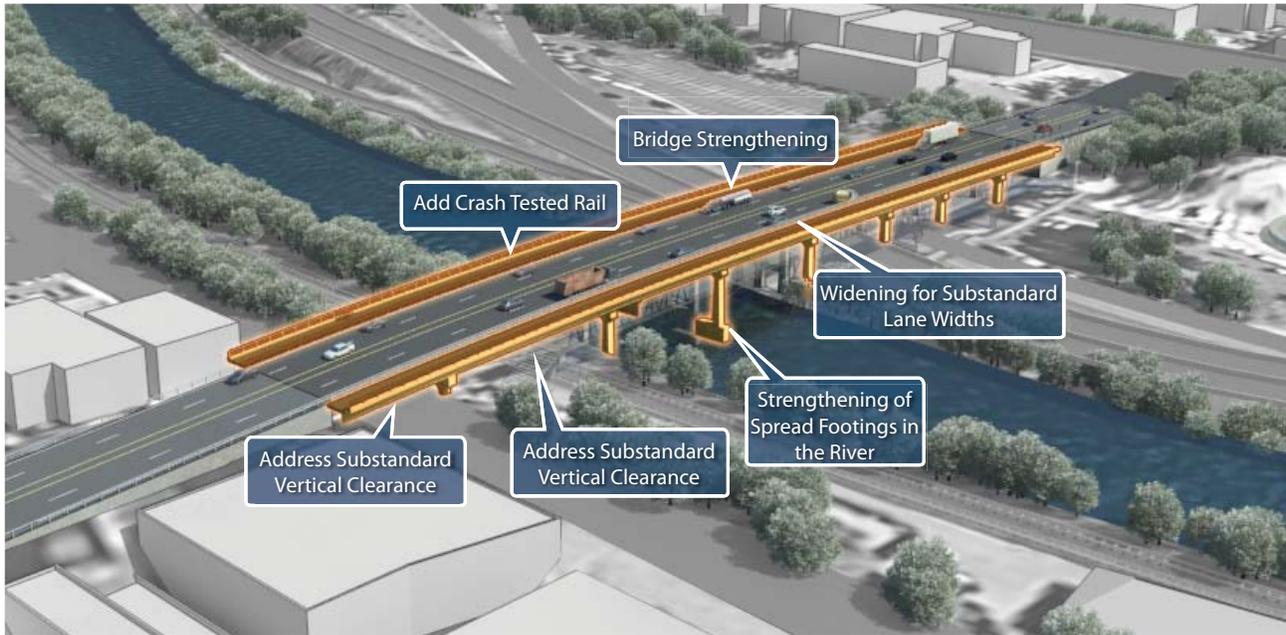


SCREENED OUT

- Likely the most expensive of all the alternatives
- Concern from public about using suburban/urban solution for Glenwood Springs
- Obvious traffic flow benefit, but Option A meets traffic flow needs.



Rehabilitation Alternative



The Rehabilitation Alternative was compared to all other alternatives and was eliminated from further study because:

- Some major issues cannot be fixed without replacing large parts or all of the bridge. For example, the piers that are safety hazards for I-70 traffic and river runners cannot be replaced without removing the piers and, therefore, the bridge.
- Rehabilitation may actually be more costly than a bridge replacement. Because so many parts of the bridge need work, the work would be complicated and time-consuming.
- Rehabilitation would be the most disruptive for traffic during construction. There are no easy ways to replace parts of the deck and some of the girders without closing lanes for long periods of time.
- Additional deficiencies could be discovered during the work, meaning the costs to fix them could be higher than estimated.
- Even after the rehabilitation, the bridge would still be old with a shorter design life than a new bridge.



Alternative 1

Single bridge at existing location aligned to Pine



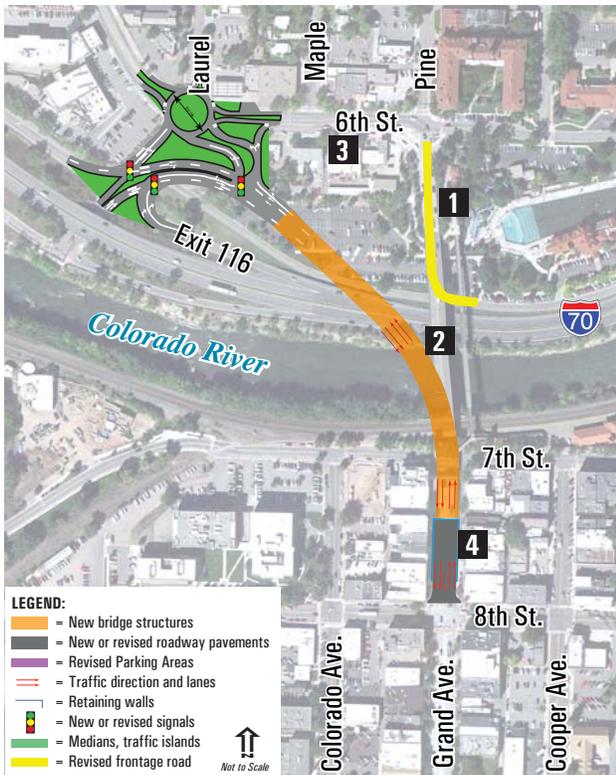
- Better downtown circulation than couplet alternatives, particularly those using Cooper.
- Fewer property impacts than alternatives using Colorado, Cooper, Maple, and Laurel.
- Less impact on noise and air quality than alternatives using Colorado and Cooper.
- Better accommodates turning for trucks and buses.
- Better aesthetic potential than alternatives with two bridges.

- 1** Keep existing intersection at 6th & Pine, possible minor improvements.
- 2** Potential for no or minimal right-of-way acquisition at north end.
- 3** Enough clearance for pool parking to remain under structures.
- 4** Would need 5th lane southbound near 8th Street for left turns.



Alternative 3 with Intersection Option A

Full bridge aligned to Exit 116/Laurel/6th with small roundabout



- 1** Potential realignment of North River Drive in location of existing bridge.
- 2** Curve would require widening of bridge for shoulder/sight distance.
- 3** Enough clearance for pool parking to remain under structures.
- 4** Would need 5th lane southbound near 8th Street for left turns.

- Better downtown circulation than couplet alternatives, particularly those using Cooper.
- Improved traffic operations on the north side.
- Fewer property impacts than alternatives using Colorado, Cooper, and Maple.
- Less impact on noise and air quality than alternatives using Colorado and Cooper.
- Better accommodates turning for trucks and buses.
- Better aesthetic potential than alternatives with two bridges.
- Intersection option at Laurel provides improved traffic operations and pedestrian movement.
- SH 82 traffic routed away from businesses on 6th Street.
- Could provide long-term land use opportunities in the 6th Street area.



Alternative 4

Two bridges, aligned to Laurel and Pine with a single connection to Grand Ave.



- 1** Keep existing intersection at 6th and Pine with possible minor improvements.
- 2** Would likely require acquisition of Shell station.
- 3** Would need 5th lane southbound near 8th Street for left turns.
- 4** Curve would require widening of bridge for shoulder/sight distance.
- 5** Enough clearance for pool parking to remain under structures.

- Better downtown circulation than couplet alternatives, particularly those that use Cooper.
- Improved traffic operations on the north side.
- Fewer property impacts than alternatives using Colorado, Cooper, and Maple.
- Less impact on noise and air quality than alternatives using Colorado and Cooper.
- Better accommodates turning for trucks and buses.
- Hot Springs Pool parking could remain under the new bridges.
- Some SH 82 traffic routed away from businesses on 6th Street.



Alternative 6

Couplet using Grand Ave. and Colorado Ave.



- 1** Keep existing intersection at 6th and Pine with possible minor improvements.
- 2** Potential for no or minimal right-of-way acquisition at north end.
- 3** Potential parking revision—diagonal parking on Grand Ave.
- 4** Parking revision between 8th and 9th—convert diagonal to parallel parking on Colorado Ave.
- 5** One lane southbound on Grand Ave. to access parking, local circulation.
- 6** Remove parking on west side of Colorado Ave. from 7th to 8th.
- 7** Curve would require widening of bridge for shoulder/sight distance.
- 8** Enough clearance for pool parking to remain under structures.
- 9** Introduces “S” curve into SH 82 traffic.

- Better downtown circulation than couplets using Cooper.
 - Circulation not as good as alternatives using Grand.
- Fewer property impacts on north side than alternatives using Maple and Laurel.
 - Greater property impacts than those using Grand.
- Less impact on noise and air quality than alternatives using Cooper.
 - Greater impacts than those using Grand.
- Better vertical profile than other alternatives using Colorado.
- Still introduces “S” curve into SH 82 traffic.
- Reduces traffic and improves parking on Grand.

Phasing Possibilities and Options

Outside - Inside Concept

Under this phasing option, new bridge supporting structures would be built to the outside of the existing bridge, leaving 4 lanes on the existing bridge during most of the construction period. Once the outer supporting structure is completed, the driving surface of the new bridge would be filled in either incrementally or during a full closure (+/- 1 month). The existing bridge would ultimately be removed.



Phasing Possibilities and Options Half-Half Concept

Phase 1



Phase 2



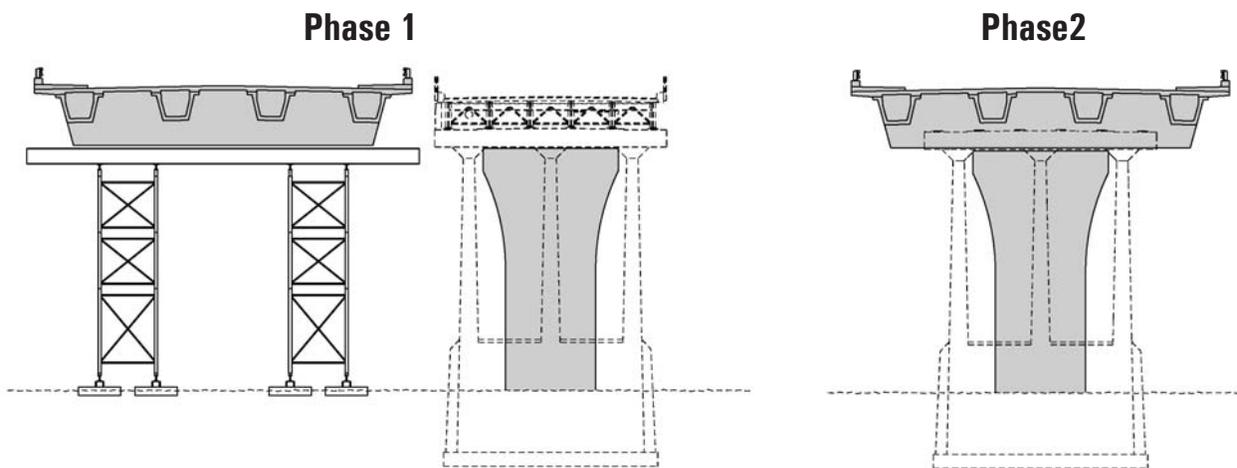
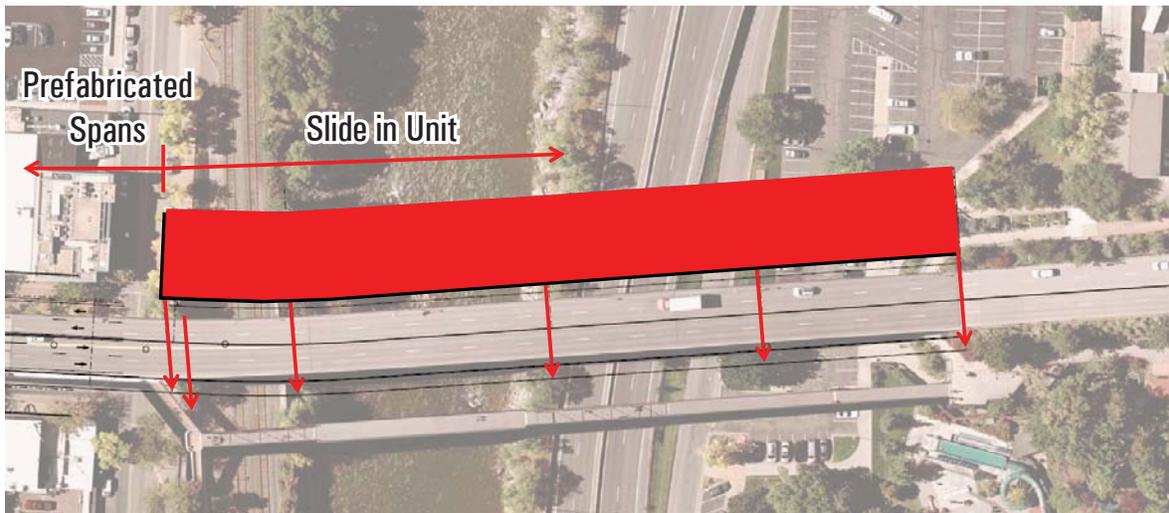
Phase 3



Phasing Possibilities and Options

Slide-in Concept

Prefabricated bridge parts are built off site but nearby, and slid into place.



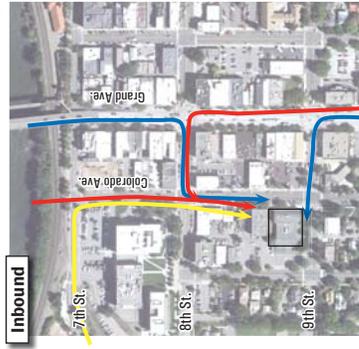
- Build superstructure to west on falsework
- Build new columns under existing bridge

- Remove existing bridge
- Slide new superstructure onto new columns

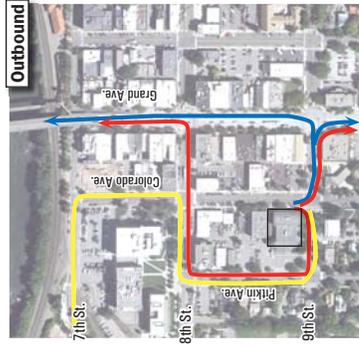
Circulation Comparison

The couplet alternative would change the way traffic now circulates through downtown, causing more out-of-direction travel.

Post Office

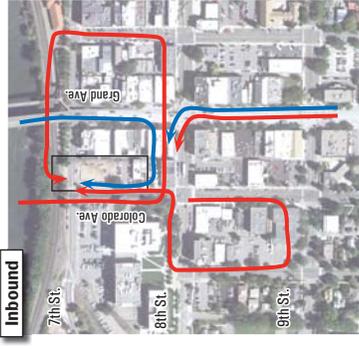


Couplet causes some Post Office trips to go an extra block on the way in.



Couplet causes Post Office trips to go around to Pitkin when leaving.

County Parking

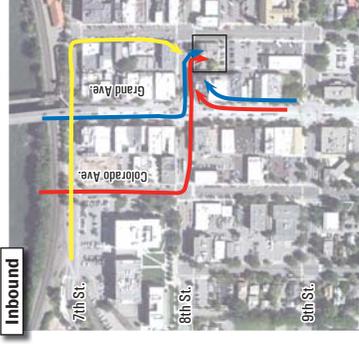


Couplet causes multiple additional turns on local roads to get into County parking area.



Couplet causes multiple additional turns on local roads to get out of County parking area and go north over the bridge.

CMC-Library Parking



Couplet does not affect access to this site much.



Couplet does not affect access to this site much.

North to West/Midland



Couplet causes multiple additional turns on local roads to cross the bridge and then go west to the Meadows.



Couplet causes some additional turns on local roads to leave the Meadows and then turn north across the bridge.

LEGEND:

- Single bridge using Grand Ave. (Existing, and Alts. 1, 3, 4)
- Using Couplet (Alt. 6)
- to/from 7th/ Meadows, west

Glenwood Springs Travel Survey Preliminary Results

Responses

- 1,063 surveys completed
- Over 70% heard about the survey via roadside sign

Overall Trip Characteristics

- More than 50% of responders used the Grand Ave. bridge on this trip
 - 20% each used Midland, 7th, and 27th
 - More than one bridge possible per trip
- 15% purposely avoid Grand Ave. Bridge
- 66% make the same trip multiple times per week
- 90% of trips in were in a car/truck
- More than 50% of trips were commuting or work-related
 - Shopping less than 20%, all other purposes 10% or less each
- Transit, walk, bike = 2% or less each
- 57% were single-occupant vehicles (SOV), almost 40% were high-occupancy vehicles (HOV)
- About 30% would consider transit for their trip

Project Schedule

If the project receives the federally required approvals, construction could begin in late 2014.

Tasks	2011	2012	2013	2014
Initiation & Feasibility				
Alternatives				
NEPA Documentation				
Design				
Construction Start				

Next Steps for the Study Team

- Level 3 Evaluation and Screening
- Value Engineering (independent peer review)
- Stakeholder Working Group meetings
- Public Open House (August)
- Identification of Environmental Assessment alternative(s) (August)
- Ongoing outreach to civic groups and organizations

How You Can Keep Informed

- Get on the project contact list (sign in tonight).
- Look for information in the newspaper.
- Visit the project website:
www.coloradodot.info/projects/sh82grandavenuebridge/.
- Sign up for GovDelivery updates on the project website.
- Attend future public meetings.
- Sign up for a group presentation (at sign-in table).



Please Give Us Your Comments

- Talk with project staff.
- Fill in a comment form (tonight) or mail to project team - address on comment form:
Joe Eisen, Program Engineer
Colorado Department of Transportation
202 Centennial St.
Glenwood Springs, CO 81601
- Fax your comments to:
Joe Eisen
Fax: 970.947.5133
- E-mail your comments to: Joseph.Eisen@dot.state.co.us
- Submit your comments via the project website:
www.coloradodot.info/projects/sh82grandavenuebridge/.

SH 82

GRAND AVENUE BRIDGE

Thank You
for Attending the
Public Open House

