



# WELCOME

**CITY AND COUNTY OF DENVER**  
**BROADWAY ARIZONA TO EXPOSITION &**  
**I-25 INTERCHANGE**  
**PUBLIC OPEN HOUSE**

AUGUST 24, 2010





# **CITY AND COUNTY OF DENVER** **BROADWAY ARIZONA TO EXPOSITION** **& I-25 INTERCHANGE**

**Denver City Council President – Chris Nevitt**

City Project Manager – Michael Harmer, PE

Consultant Team Project Manager – Jeanne Sharps, PE

City and County of Denver  
201 W. Colfax Avenue  
Denver, CO 80202



## PURPOSE OF MEETING

- Reintroduce the project to the public.
- Summarize current design activities.
- Let you know what the next steps are.

SOUTH BROADWAY



ARIZONA TO EXPOSITION & I-25 INTERCHANGE

## CONSULTANT TEAM



## DESIGNWORKSHOP



**Hermsen Consultants**



# SOUTH BROADWAY



ARIZONA TO EXPOSITION & I-25 INTERCHANGE

## ENVIRONMENTAL ASSESSMENT PREFERRED ALTERNATIVE





## PROJECT PURPOSE

The project purpose is to create a South Broadway Corridor that provides safe and efficient multi-modal mobility which:

- 1) Accommodates the transportation needs of the area neighborhoods, existing businesses, planned developments and the I-25 & Broadway Station area.
- 2) Promotes the development and use of transit-oriented, civic and neighborhood spaces.





## **PROJECT NEED**

**The major needs of the South Broadway Corridor include:**

- 1) The Corridor currently experiences peak hour congestion that is expected to worsen.**
- 2) Projected regional and local traffic growth will result in increased congestion in the Corridor; this may increase the likelihood of traffic cutting through area neighborhoods.**
- 3) Existing conditions lack connectivity and adequate width of bicycle and pedestrian facilities in the South Broadway Corridor.**



## COORDINATING AGENCIES

- **Federal Highway Administration**
- **Federal Transit Authority**
- **Colorado Department of Transportation**
- **Regional Transportation District**



## UTILITY AGENCIES

- **XCEL (gas & electric)**
- **QWEST**
- **Metro Wastewater Reclamation District**
- **Denver Wastewater (storm and sanitary sewer)**
- **Denver Water**

# SOUTH BROADWAY



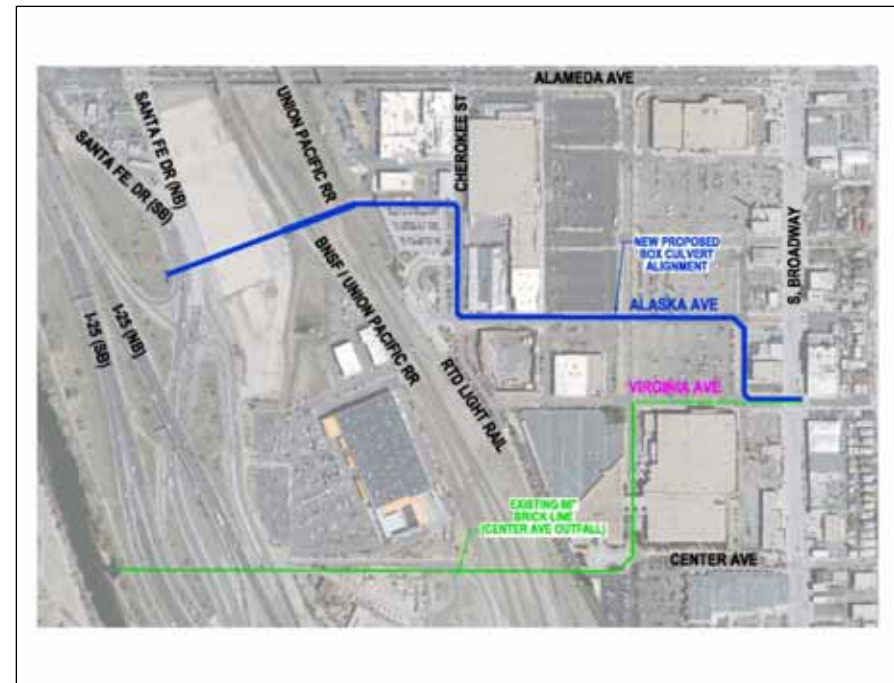
ARIZONA TO EXPOSITION & I-25 INTERCHANGE

## ADJACENT ON-GOING PROJECTS



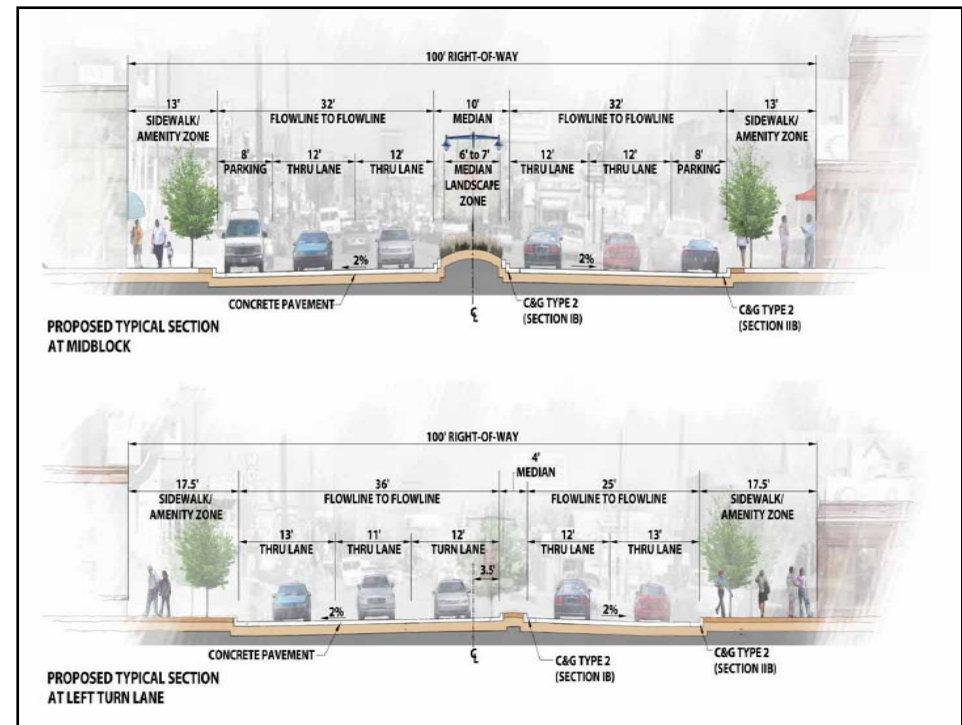
## ADJACENT ON-GOING PROJECTS

- **CCD Center Avenue Outfall**  
(design)



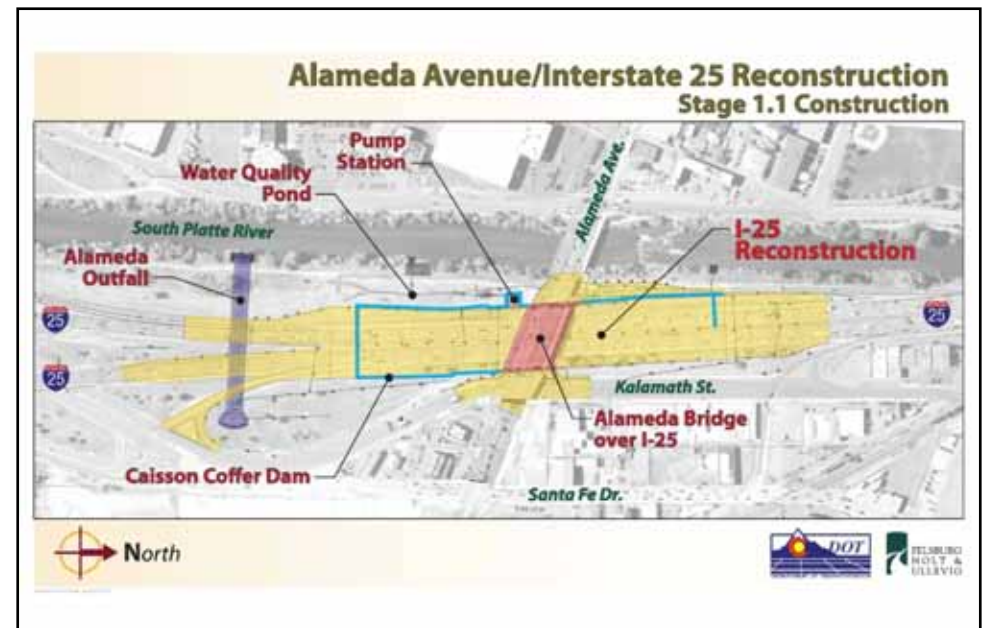
## ADJACENT ON-GOING PROJECTS

- **CCD Center Avenue Outfall**  
(design)
- **CCD South Broadway I-25 to Arizona** (construction)



## ADJACENT ON-GOING PROJECTS

- **CCD Center Avenue Outfall** (design)
- **CCD South Broadway lowa to Arizona** (construction)
- **CDOT I-25 Santa Fe / Alameda Interchange Stage 1.1** (construction)



## ADJACENT ON-GOING PROJECTS

- **CCD Center Avenue Outfall**  
(design)
- **CCD South Broadway I-25 to Arizona** (construction)
- **CDOT I-25 Santa Fe / Alameda Interchange Stage 1.1**  
(construction)
- **CDOT I-25 Santa Fe / Alameda Interchange Stage 1.2/1.3**  
(design)



## GENERAL DEVELOPMENT PLANS

- **Denver Design Center GDP**
- **Cherokee GDP** (Gates & Cherokee Denver Sites)
- **Gates East GDP**



SOUTH BROADWAY EA PREFERRED ALTERNATIVE

## PREVIOUS STUDIES

- **South Broadway and I-25 System Level Study & Interstate Access Request** (January 2008)
- **South Broadway Environmental Assessment & Section 4(f) Evaluation** (March 2008)
- **South Broadway Finding of No Significant Impact** (November 2008)



SOUTH BROADWAY EA PREFERRED ALTERNATIVE



## CCD COMPLETED ENVIRONMENTAL ASSESSMENT & SECTION 4(f) EVALUATION

- Used for planning of the infrastructure needs of the South Broadway Study Area
- Followed National Environmental Policy Act (NEPA) Process
- Characteristics of an EA include :
  - Screening of alternatives
  - Identification / mitigation of environmental impacts
  - Identification of historic features
  - Traffic impacts
  - Estimates of ROW requirements



SOUTH BROADWAY EA PREFERRED ALTERNATIVE

## EA KEY PROVISIONS FOR FUTURE CONDITIONS

- **Interim Parking**
  - Interim parking along Broadway until traffic warrants 4<sup>th</sup> through lane
- **Cut-Through Traffic**
  - 4<sup>th</sup> through lane in each direction will be added when congestion causes neighborhood cut-through traffic

## EA COMMENTS & RESPONSES

**Comment:** In section 4.3.1.3, the assessment reads: Channelization prevents westbound Ohio Avenue access from the neighborhood street. Access to the interstate is from the arterials only. The island barrier provides opportunity for ground level signs reinforcing the turn restriction. WWPNA would prefer this read: Channelization prevents westbound Ohio Avenue access from the neighborhood street. Access to the interstate is from the arterials only, by preventing a left hand turn from westbound Ohio onto the NB I-25 onramp. The island barrier provides opportunity for ground level signs reinforcing the turn restriction. (also on page 2-38).

**Response:** This change to the text of the EA is acceptable and is addressed in Section 3.1 Clarifications to the Description of the Preferred Alternative of this FONSI.

**Comment:** The right yield turn from the NB I-25 off-ramp onto Ohio was to be removed, squaring the intersection. This does not appear in the text or drawings (4.9).

**Response:** This change to the text modifying the EA is included in Section 3.1 Clarifications to the Description of the Preferred Alternative of this FONSI.

## EA COMMENTS & RESPONSES

**Comment:** There should be a traffic signal at Ohio and the NB I-25 off-ramp.

**Response:** This signal is included in the list as the 6th bullet, “Ohio Avenue/ I-25 northbound off/on-ramp.”

**Comment:** The VHEIS included provisions for nuisance noise mitigation on the Broadway Bridge. This allowed CDOT to use the quiet pavement on the bridge surface and allowed for higher than average jersey barriers which provided safety, given the level of truck traffic on I-25, plus provided additional noise protection. We would like to see this incorporated into the NEPA final report.

**Response:** The VHEIS included provisions for noise mitigation on the Broadway Bridge related to the estimated future truck traffic associated with I-25 improvements not implemented with the South Broadway EA. Therefore, noise mitigation on the I-25 bridge over Broadway would be constructed as part of the future Valley Highway improvements along I-25.

## EA COMMENTS & RESPONSES

**Comment:** We included additional alternatives, such as an additional NB I-25 onramp on the west side of Broadway for future contemplation without requiring another study. Where are these identified in the document?

**Response:** These are included in Section 6.2.1 as items related to future conditions received through the collaborative public and agency process that were not associated with the project purpose and need.

**Comment:** As part of this project there was agreement by the City and County of Denver Public Works (DPW) to alter the stop sign at Ohio and Grant to force traffic to stop on Grant St. versus Ohio. Plus there would be the addition of a stop light at Ohio and Logan. Where are these documented?

**Response:** As the project moves forward and is implemented, DPW agreed to consider modifications to stop sign patterns and signalization. A signal was not agreed to as the modeling for the South Broadway EA did not show the need for a signal at Ohio and Logan. DPW would be willing to evaluate the need for a revised stop sign pattern or for a signal in the future based on a typical City Traffic Investigation/Warrant analysis.

## EA COMMENTS & RESPONSES

**Comment:** The “Yoga Ramp” configuration was not included in the document as an alternative that was eliminated.

**Response:** The “Yoga ramp” is the Diverging Diamond interchange configuration and is listed as Option 8 in Section 2.6.1 Interchange Screening Process.

**Comment:** On page 1-6 the table indicates the 2030 traffic projections for Broadway/Lincoln north of I-25 as 57,700, while the Denver Regional Council of Governments (DRCOG) figure in the appendix figure 4, page A-7 shows the corresponding traffic counts as 64,700. These should match.

**Response:** The DRCOG model forecasts presented in the appendix are based on region wide modeling, while the forecasts presented in Table 1-2 are based on updated traffic counts, more specific operations, and more localized modeling techniques. Some discrepancies are to be expected.

## 30% DESIGN PROJECT COMPONENTS

- Reconstruct Broadway from Arizona to Exposition
- Reconstruct Mississippi between the CML and Logan
- Reconstruct Ohio between Broadway and SB I-25 Off-Ramp
- Extend Exposition
- Realign SB I-25 On-Ramp
- Modify NB I-25 On-Ramp
- Modify NB I-25 Off-Ramp
- RTD Broadway Station Access Modification
- Widen Sidewalks and Multi-Use Trails



SOUTH BROADWAY EA PREFERRED ALTERNATIVE

## 30% DESIGN PROJECT COMPONENTS

- Reconstruct Broadway from Arizona to Exposition
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- Reconstruct Ohio between Broadway and SB I-25 Off-Ramp
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SOUTH BROADWAY EA PREFERRED ALTERNATIVE



## 30% DESIGN PROJECT TASKS

- **30% Design**
  - Roadway, structures, lighting, streetscape, drainage, water quality, utilities
- **Topographical Survey**
  - Right-of-entry letters sent to area property owners
- **ROW**
  - Refine impacts identified in the EA
  - Prepare plans identifying full and partial takes
- **Geotechnical & Environmental Subsurface Investigations**
- **Utility Clearances & Agreements**
- **Multi-Modal Connectivity Analysis & Recommendations**

## 30% DESIGN PROJECT TASKS

- **Project Phasing Analysis & Recommendations**
  - Logical construction sequencing
  - Independent utility
  - Multi-modal traffic operation improvements
  - Available funding



## 30% DESIGN PROJECT TASKS

- **Project Delivery Method Analysis & Recommendations**
  - Design Bid Build
  - Alternative Bidding
  - Design Build
  - Construction Manager at Risk
  - Construction Manager / General Contractor
  - Public-Private Partnerships

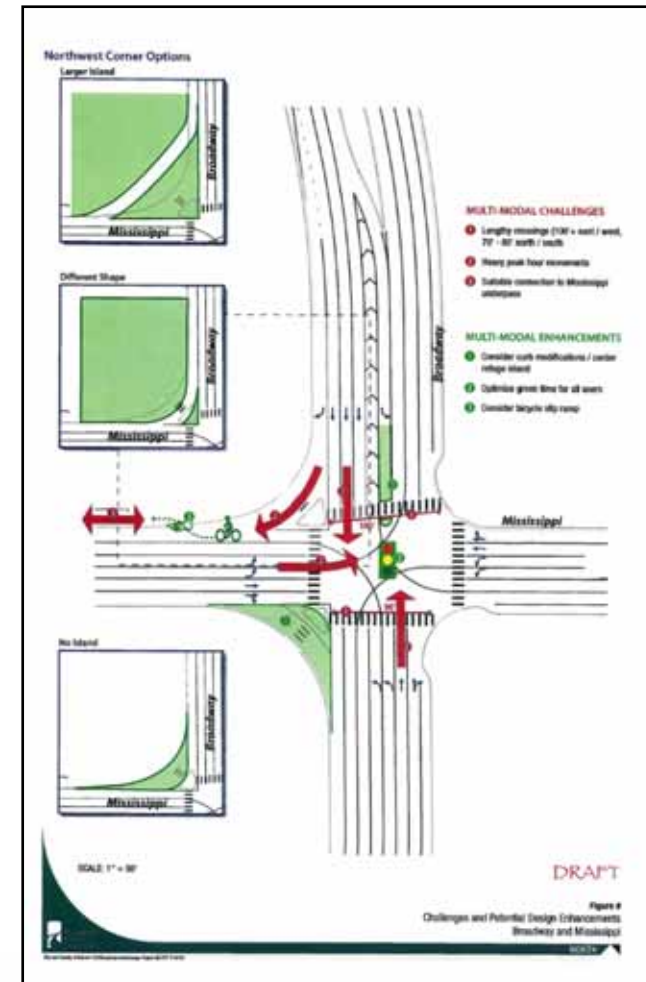
# SOUTH BROADWAY



ARIZONA TO EXPOSITION & I-25 INTERCHANGE

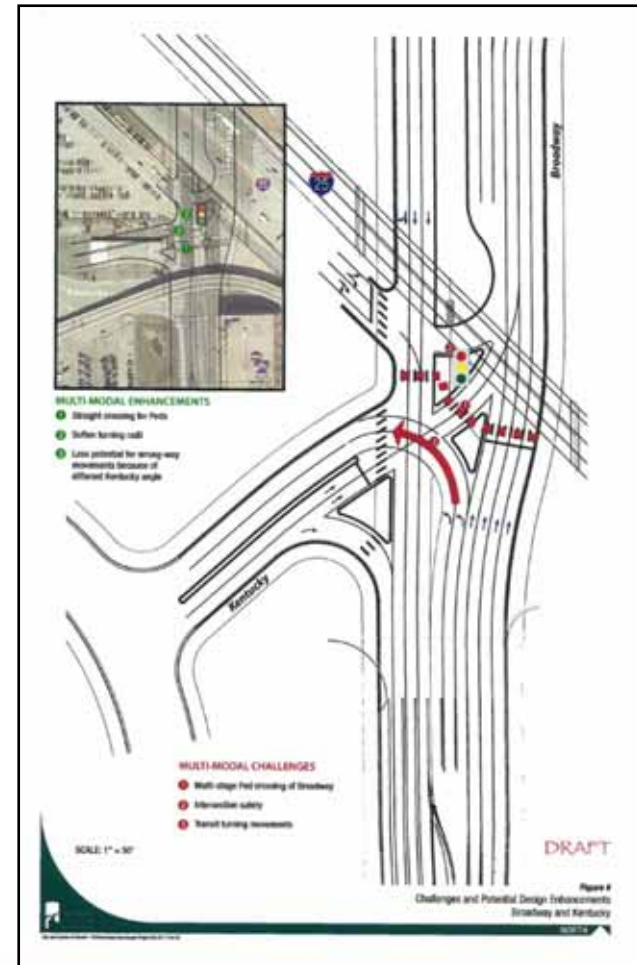
## DESIGN ALTERNATIVES

- EA Design Refinement
  - Broadway / Mississippi



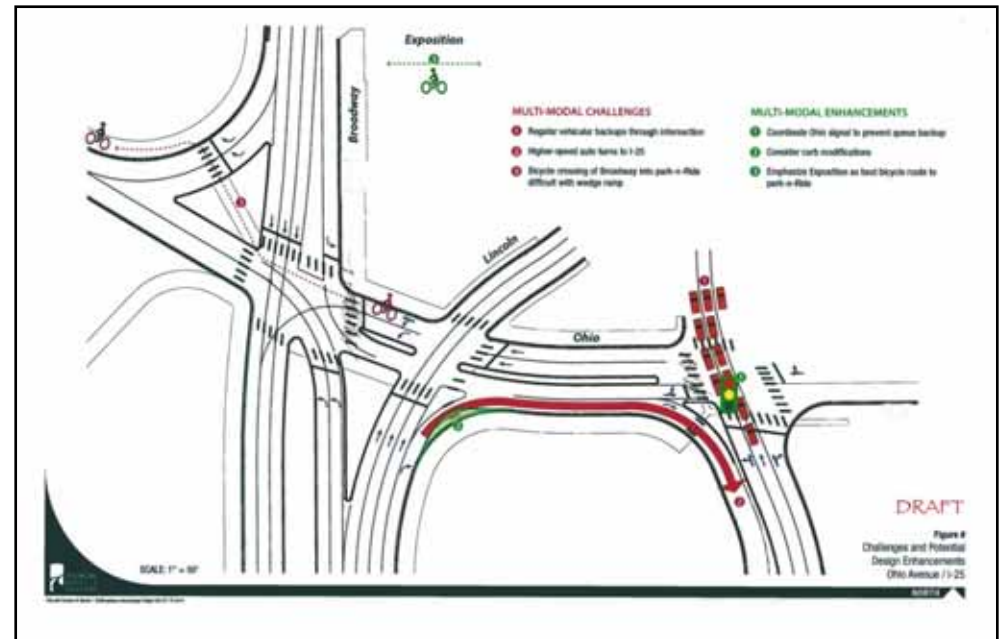
## DESIGN ALTERNATIVES

- **EA Design Refinement**
  - Broadway / Mississippi
  - Broadway / Kentucky



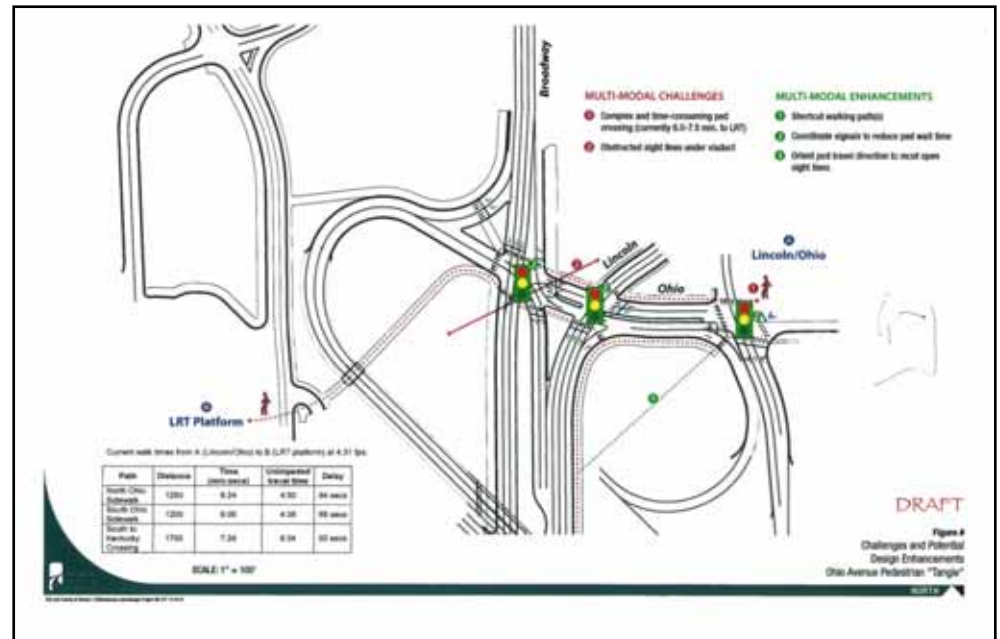
## DESIGN ALTERNATIVES

- **EA Design Refinement**
  - Broadway / Mississippi
  - Broadway / Kentucky
  - Ohio / Vehicles



## DESIGN ALTERNATIVES

- **EA Design Refinement**
  - Broadway / Mississippi
  - Broadway / Kentucky
  - Ohio / Vehicles
  - Ohio / Pedestrians / Bikes



## DESIGN ALTERNATIVES

- **Roadway**
  - Angled parking along Broadway
- **RTD I-25 & Broadway Station**
  - Alternative entrance at Tennessee
  - Alternative to Exposition extension bus only access road
  - Replacement parking / parking mitigation





## OPEN HOUSE SURVEY

- **Help us understand:**
  - Your use of project area infrastructure
  - Modes of transportation you use to travel through the project area
  - Infrastructure improvements you would like to see to encourage use of alternate forms of transportation
  
- **Complete tonight or take home and mail back to team**



**Open House Survey Form**  
August 24, 2010



Name \_\_\_\_\_ Organization \_\_\_\_\_

Address \_\_\_\_\_ E-mail Address \_\_\_\_\_

City, State, Zip \_\_\_\_\_ Phone Number \_\_\_\_\_

1. What is your personal connection to this project? Check all that apply.

<input type="checkbox"/> Resident	<input type="checkbox"/> Bicyclist
<input type="checkbox"/> Business owner	<input type="checkbox"/> Public Agency
<input type="checkbox"/> Work in the area	<input type="checkbox"/> Other _____
<input type="checkbox"/> Commuter	

2. If you live in the area, in what neighborhood do you live? \_\_\_\_\_

3. Did you participate in any past South Broadway Environmental Assessment (EA) public meetings/workshops?  
 Yes  No  
 If yes, what were the EA commitments you are most interested in?  
 \_\_\_\_\_  
 \_\_\_\_\_

4. What is your most frequent destination when you pass through the South Broadway-I-25 corridor?

<input type="checkbox"/> Light Rail station	<input type="checkbox"/> Parks
<input type="checkbox"/> Broadway Retail	<input type="checkbox"/> South Platte River Trail
<input type="checkbox"/> Downtown Denver	<input type="checkbox"/> Other _____

5. If you use public transportation (bus or Light Rail), how do you get to stops/stations in the South Broadway-I-25 corridor?

<p><u>Mode of Transportation</u></p> <input type="checkbox"/> Car <input type="checkbox"/> Bike <input type="checkbox"/> Walk <input type="checkbox"/> Other _____	<p><u>Most Frequent Point of Crossing</u></p> <input type="checkbox"/> Broadway at Exposition <input type="checkbox"/> Broadway/Lincoln at Ohio <input type="checkbox"/> Broadway at Kentucky <input type="checkbox"/> Broadway at Tennessee <input type="checkbox"/> Other _____
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6. When traveling by automobile through the South Broadway corridor, where do you experience the most traffic congestion?  
 \_\_\_\_\_  
 \_\_\_\_\_

7. What kinds of improvements would you like to see in the South Broadway corridor that would encourage you to use public transportation, walk or bike more often?  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

You may fill and return this form by mail by August 30, 2010 CENR07 808R001 - OPEN HOUSE AUG. 24, 2010

## SUSTAINABILITY

“Cities have a significant environmental footprint: They cover just two percent of the world’s surface, but they accommodate 50 percent of the world’s population and consume 75 percent of its resources.”

Greenprint Denver





## SUSTAINABILITY



Greenprint Denver sustainability areas:

- Energy
- Air and Emissions
- Water
- Land
- Transportation
- Waste
- Community
- + Art

## SUSTAINABILITY – SAMPLE PROJECT GOALS

Greenprint Denver Sustainability Area	Project Goal	Strategies
Energy	Reduce energy use	<p>Specify durable materials with a long life cycle</p> <p>Utilize materials with low maintenance requirements</p>
Air & Emissions	Design and/or construct corridor and intersection facilities to accommodate multi-modal balance	<p>Synchronize traffic signals and configure traffic lanes to reduce idling of vehicle engines</p> <p>Improve sidewalk continuity and increase sidewalk and pedestrian refuge areas</p>
Water	Utilize alternative materials to decrease impervious surfaces within the project footprint	Where possible, use pervious surfaces such as porous pavements on low-volume roadways such as local streets, multi-use trails and sidewalks

## SUSTAINABILITY – SAMPLE PROJECT GOALS

Greenprint Denver Sustainability Area	Project Goal	Strategies
Land	Avoid remnant parcels.	Modify intersection designs to minimize remnant parcels
Transportation / Community	Decrease cut through traffic in adjacent neighborhood.	Decrease cut through traffic by: <ul style="list-style-type: none"> <li>•Incorporation of signage</li> <li>•Reconfiguration of westbound Ohio to not allow access onto northbound I-25 ramp</li> </ul>
Waste	Reduce the consultant team's impact on the environment.	<ul style="list-style-type: none"> <li>•Minimize use of paper</li> <li>•Carpool to meetings</li> <li>•Provide / use EcoPass</li> <li>•Provide conference call alternatives to physically attending meetings</li> </ul>

# SOUTH BROADWAY



ARIZONA TO EXPOSITION & I-25 INTERCHANGE

## SCHEDULE / NEXT STEPS

	2010			2011			
	APRIL - JUNE	JULY - SEPT	OCT. - DEC.	JAN. - MARCH	APRIL - JUNE	JULY - SEPT	OCT. - DEC.
30 % DESIGN							
FINAL DESIGN FIRST PROJECT							
ADVERTISE FIRST PROJECT						★	

SOUTH BROADWAY



ARIZONA TO EXPOSITION & I-25 INTERCHANGE

# QUESTIONS





## PROJECT CONTACT INFORMATION

### **Michael Harmer, PE**

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Phone: 303.721.1440

Email: [Jeanne.Sharps@fhueng.com](mailto:Jeanne.Sharps@fhueng.com)

Project Website: [www.sobroi25.com](http://www.sobroi25.com)







# THANK YOU

**CITY AND COUNTY OF DENVER**  
**BROADWAY ARIZONA TO EXPOSITION &**  
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**PUBLIC OPEN HOUSE**

AUGUST 24, 2010

