COLORADO
Department of Transportation

WELCOME

to the

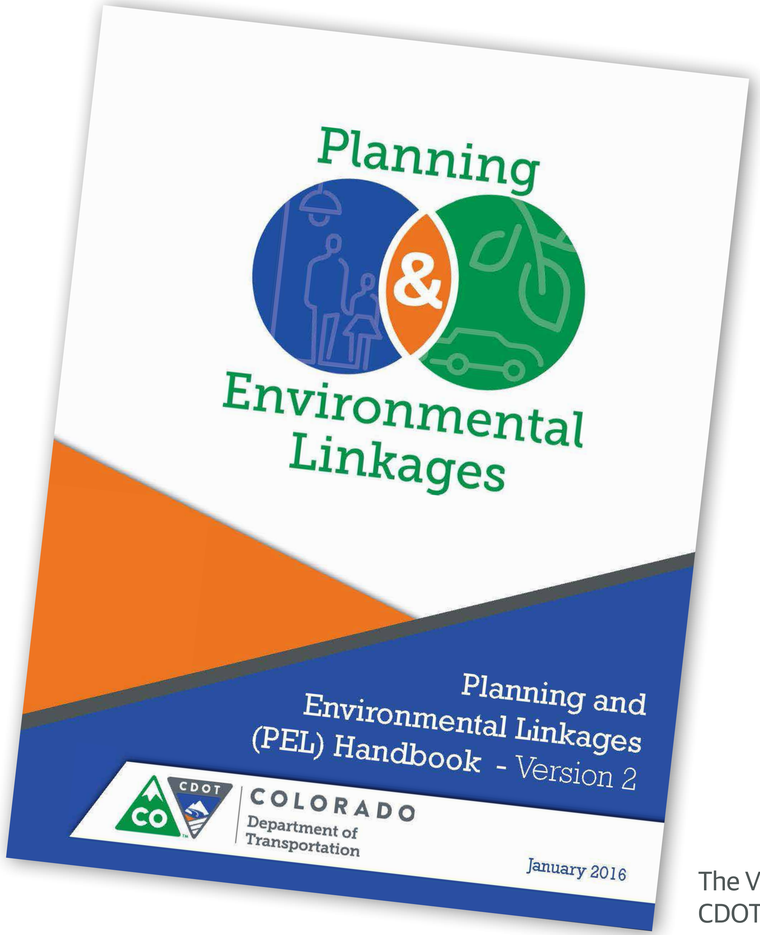
Vasquez Planning and Environmental Linkages Study

PUBLIC MEETING

Please Sign In

What is a Planning and Environmental Linkages (PEL) Study?

PEL is a study process that is typically used to identify transportation issues and environmental concerns. It can be applied to make planning decisions and for planning analysis. These decisions and analyses, for example, can be used to identify and prioritize future projects, develop the purpose and need for a project, determind project size or length, and/or develop and refine a range of alternatives. PEL studies should be able to link planning to environmental issues and result in useful information that can be carried forward in the National Environmental Policy Act (NEPA) process. The adoption and use of a PEL study in the NEPA process is subject to a determination by Federal Highway Administration (FHWA).



The Vasquez PEL will follow CDOT's PEL Handbook guidance

Purpose and Need Summary

The purpose of the project is to improve operations, mobility, and safety for vehicles and freight at the I-270/Vasquez Boulevard interchange—and its connection to the Vasquez Boulevard/56th Avenue and Vasquez Boulevard/60th Avenue intersections, on Vasquez Boulevard and the surrounding local road system—and improve transportation connectivity for all modes.

Need for Improvements

- *Operational Problems:* Substandard interchange design results in poor levels of service, queues extending across multiple intersections, weave problems, traffic flow turbulence, congestion that affects travel-time reliability.
- *Mobility problems:* Out of direction travel and congestion caused by operational problems impact the ability of users to move efficiently through the study area (especially trucks).
- *Safety problems:* Crash rates are higher in the study area than state averages for similar facility types.
- *Limited Support for Other Travel Modes:* Lack of adequate transit, pedestrian and bicycle facilities and connections in the study area leads to people without vehicles avoiding/unable to get to the study area.

Project Goals

- Balance access between transportation network and adjacent land uses
- Minimize/mitigate impacts to built environment consistent with local plans
- Effectively connect current and future travel modes and networks
- Improve ability of freight/goods to travel through and within area
- Minimize/mitigate impacts to natural environment

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PEL Project Study Area

CH082151014DEN

Related Studies

Northeast Area Transit Evaluation (NATE) II Study

The NATE II study is an update to the 2007 NATE study, which investigated right of way preservation for future, post-FasTracks, fixed guideway bus/rail transit between Denver and Brighton. The ongoing NATE II study will analyze commuter rail, light rail, and certain bus rapid transit alternatives in the northeastern metropolitan area including alternatives that run along Vasquez Boulevard or Quebec in or near the Vasquez PEL study area.

North Metropolitan Industrial Area Connectivity (NMIAC) Study

Ongoing study by Commerce City, City and County of Denver, and Adams County to assess the transportation system in the North Metro Industrial Area and provide alternatives for future connectivity projects for all transportation modes. The NMIAC study area encompasses the Vasquez PEL study area and is bounded by 72nd Avenue to the North, MLK Jr. Boulevard to the south, I-25 to the west and Quebec Street to the east. Key project recommendations are anticipated to be available by the end of 2017.

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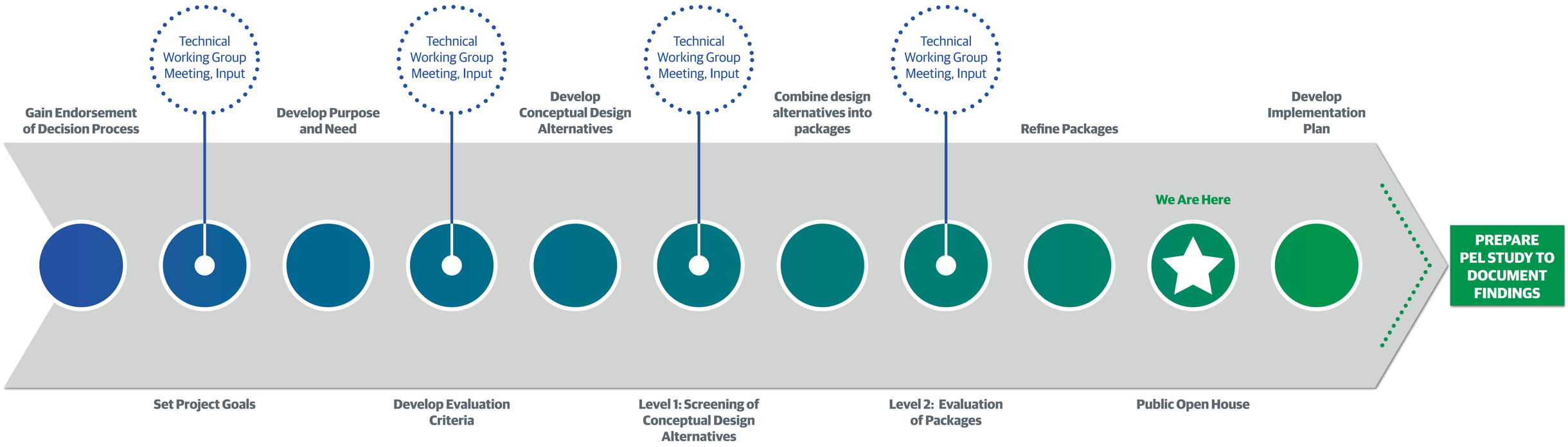
Steps in the PEL Study Process



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How Were the Alternatives Developed?

3 alternatives to be included in the Industrial Area study

Conceptual Design Alternatives

53 alternatives were screened

7 Common Elements

No Action Alternative

28 alternatives eliminated in Level 1 Screening

LEVEL 1 SCREENING

Initial evaluation of alternatives for fatal flaws and agreement with Purpose and Need

(TSM / TDM) Transportation Systems Management / Travel Demand Management

Elements combined into packages

At Grade Package

One Way Pairs Package

Viaduct Package

Carried through screening process

LEVEL 2 EVALUATION

Evaluation of packages against project goals

Results of Level 2 Evaluation allows stakeholders to consider how each package meets project goals and help differentiate between packages.

Combined with all packages

Packages Evaluated in Vasquez PEL Study

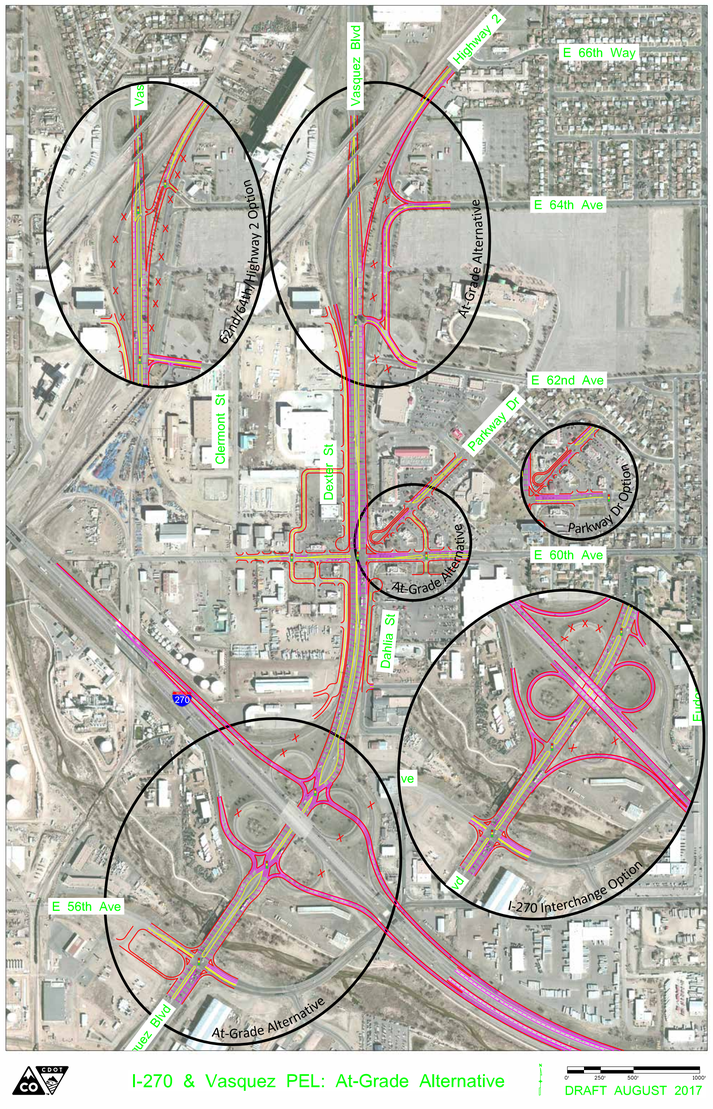
At Grade Package

One Way Pairs Package

Viaduct Package

No Action Package

At Grade Alternative



Comparative preliminary cost estimate (2017 dollars, not for construction) = $77,200,000

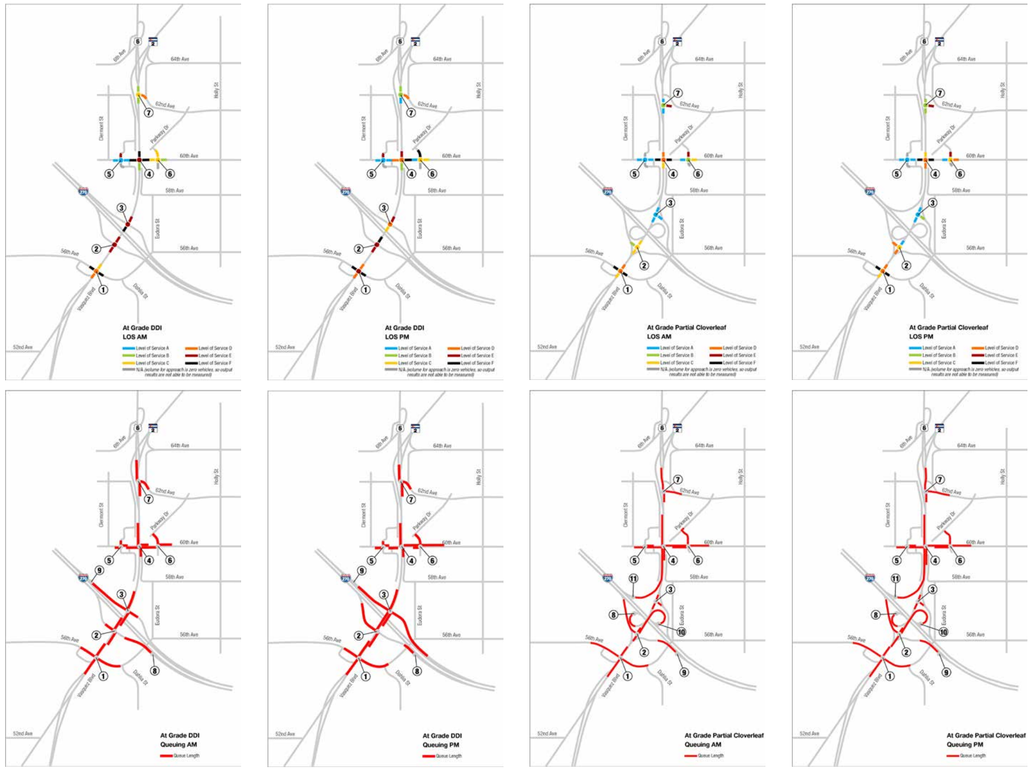
Level 2 Evaluation Results

Goal: Improve operations and provide reliability

- Improves some travel times, side street delay, and queuing due to:
  - Removal of loop off-ramps from I-270
  - Simplification of Vasquez Blvd./Parkway Dr. / 60th Ave. intersection

Corridor Travel Time Results (minutes)						
Corridor	No Action		Partial Cloverleaf (ParClo)		Diverging Diamond Interchange (DDI)	
	AM	PM	AM	PM	AM	PM
EB I-270	17.17	17.88	18.68	15.83	17.25	10.87
	% Change from No Action		8.79%	-11.47%	0.47%	-39.21%
WB I-270	9.68	19.48	10.65	12.13	8.15	8.1
	% Change from No Action		10.02%	-37.73%	-15.81%	-58.42%
NB Vasquez Blvd.	5.1	6.72	4.07	4.9	6.25	5.4
	% Change from No Action		-20.20%	-27.08%	22.55%	-19.64%
SB Vasquez Blvd.	6.27	8.15	3.98	3.48	10.4	5.9
	% Change from No Action		-36.52%	-57.30%	65.87%	-27.61%

Note: Travel times within 10% of the No Action travel time are considered to be natural variations in the model.



Note: LOS = Level of Service ① - Intersection IDs used during traffic analysis

Goal: Improve safety for all modes

- Addresses several high crash locations to improve safety
- Addition of signal at 62nd Ave. may increase intersection-related crashes.

Goal: Balance access between transportation network and adjacent land uses

- Access changes improve traffic flow/ mobility at major intersections
- Businesses will continue to have access on frontage roads, however some entrances to frontage roads moved/removed.
- Parkway Dr. will end in cul-de-sac before intersection at Vasquez, entrance will be provided via new intersection to east

Goal: Effectively connect current and future modes and networks

- Improves connectivity and eliminates out of direction travel by providing missing northbound Vasquez to eastbound I-270 movement
- Does not preclude transit improvements or bike connections

Goal: Improve ability of goods/freight to travel through and within the area

- Directness improves and eases freight movements
  - Direct access provided from eastbound I-270 to northbound Vasquez
  - Removes merge/conflicts between interchange and 56th Ave.

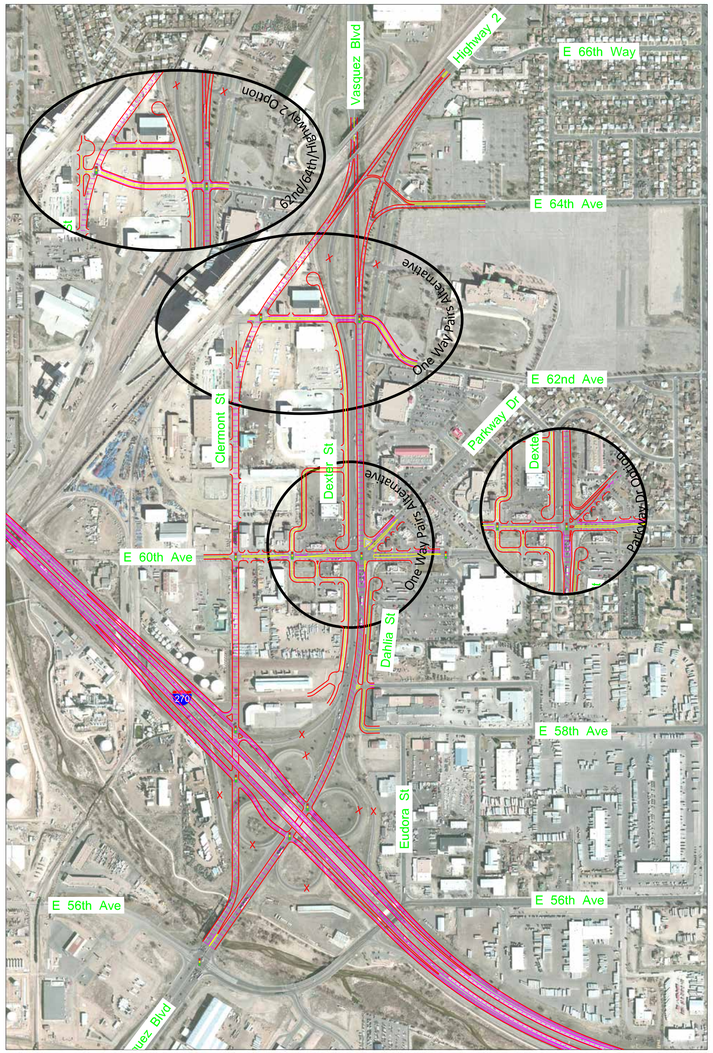
Goal: Minimize/mitigate impacts to built environment consistent with local plans

- Requires 4 acres of new right-of-way
- Improved traffic flow increases mobility within study area and access to businesses
- Sidewalk and bike path improvements would improve access to Sand Creek Greenway Trail
- Consistent with local planning goals, supports planned land use changes and redevelopment sites

Goal: Minimize impacts to natural environment

- Potential impacts to environment include:
  - Encroachment on Sand Creek Floodplain
  - Impacts to mapped wetlands/ponds in study area
  - Impacts to Veterans Memorial Park/Sand Creek Trail
- 3 eligible historic properties present, not likely to be adversely affected

One Way Pairs Alternative



Comparative preliminary cost estimate (2017 dollars, not for construction) = $157,300,000

Level 2 Evaluation Results

Goal: Improve operations and provide reliability

- Improves travel times, side street delay, and queuing due to:
  - Simplification of intersection geometry at I-270 ramps, Parkway Dr./60th Ave.
  - Fewer signal phases due to one-way approaches on Vasquez

Corridor	No Action		One-Way Pairs	
	AM	PM	AM	PM
EB I-270	17.17	17.88	18.77	15.12
	% Change from No Action		9.32%	-15.44%
WB I-270	9.68	19.48	8.73	8.58
	% Change from No Action		-9.81%	-55.95%
NB Vasquez Blvd.	5.1	6.72	3.43	6.13
	% Change from No Action		-32.75%	-8.78%
SB Vasquez Blvd.	6.27	8.15	4.48	3.82
	% Change from No Action		-28.55%	53.13

Note: Travel times within 10% of the No Action travel time are considered to be natural variations in the model.

Note: LOS = Level of Service
① - Intersection IDs used during traffic analysis

Goal: Improve safety for all modes

- Addresses several high crash locations to improve safety
- Addition of signal at 62nd Ave. may increase intersection-related crashes
- Introduction of one-way couplet will likely increase speeds on Vasquez and Clermont

Goal: Balance access between transportation network and adjacent land uses

- Access changes improve traffic flow/ mobility at major intersections
- Businesses will continue to have access on frontage roads, however some entrances to frontage roads moved/removed.
- Full access at 60th Ave./Parkway Dr. intersection will remain
- 62nd Ave. will be extended to connect to Vasquez, frontage road, and Clermont St.

Goal: Effectively connect current and future modes and networks

- Improves connectivity and eliminates out of direction travel by providing missing northbound Vasquez to eastbound I-270 movement
- Does not preclude transit improvements or bike connections
- One-way pairs may impact existing transit routing and stops

Goal: Improve ability of goods/freight to travel through and within the area

- Directness improves and eases freight movements
  - Removes interchange cloverleaf loop ramps with tight curves
  - Provides access from eastbound I-270 to northbound Vasquez frontage road
  - Removes merge conflict between I-270 ramps and left turn at 56th Ave.
  - Provides additional access to businesses along Clermont St.

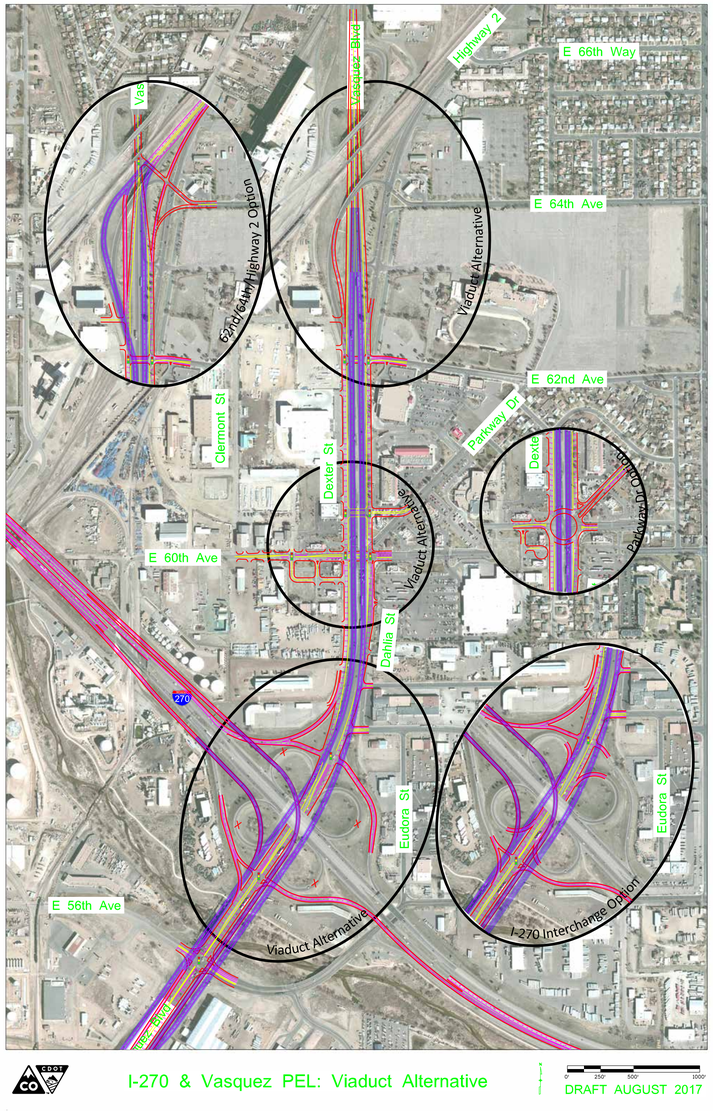
Goal: Minimize/mitigate impacts to built environment consistent with local plans

- Requires 9 acres of new right-of-way
- Improved traffic flow increases mobility within study area and access to businesses, however visibility of businesses on Vasquez reduced
- Sidewalk and bike path improvements would improve access to Sand Creek Greenway Trail, however one-way pairs would create out of direction travel for bikes/peds
- Access for some businesses in industrial area west of Vasquez improved, while others in retail area on Vasquez could be perceived as having less
- Consistent with local planning goals, supports planned land use changes and redevelopment sites

Goal: Minimize impacts to natural environment

- Evaluation results similar to those for At Grade Alternative package

Viaduct Alternative



Comparative preliminary cost estimate (2017 dollars, not for construction) = $298,800,000

Level 2 Evaluation Results

Goal: Improve operations and provide reliability

- Improves travel times, side street delay, and queuing due to:
  - Free-flow conditions on viaduct
  - Simplification of intersection geometry at I-270 ramps, Parkway Dr. / 60th Ave.
  - Fewer signal phases due to one-way approaches on Vasquez

Corridor Travel Time Results (minutes)						
Corridor	No Action		Partial Cloverleaf (ParClo)		Diverging Diamond Interchange (DDI)	
	AM	PM	AM	PM	AM	PM
EB I-270	17.17	17.88	19.07	12.65	*Viaduct Alternative Raised Portion of Vasquez*	
	% Change from No Action		11.07%	-29.25%		
WB I-270	9.68	19.48	8.65	10.05		
	% Change from No Action		-10.64%	-48.41%		
NB Vasquez Blvd.	5.1	6.72	3.67	3.45	2.05	2.33
	% Change from No Action		-28.04%	-48.66%	-59.80%	-65.33%
SB Vasquez Blvd.	6.27	8.15	3.5	3.65	2.43	4.07
	% Change from No Action		-44.18%	-55.21%	-61.24%	-50.06%

Note: Travel times within 10% of the No Action travel time are considered to be natural variations in the model.

Goal: Improve safety for all modes

- Addresses several high crash locations to improve safety
- Addition of new intersection option for Parkway, signal 62nd Ave. may increase crash potential.
- New merge/diverge west on I-270 may result in sideswipe crashes

Goal: Balance access between transportation network and adjacent land uses

- Access changes improve traffic flow/mobility at major intersections
- Business entrances on frontage roads consistent with existing access
- Additional east/west connections between frontage roads provided at 60th and 62nd Avenues
- Parkway Dr. will be realigned to connect north of 60th Ave. on Vasquez and will have right-in /right-out access

Note: LOS = Level of Service
① - Intersection IDs used during traffic analysis

Goal: Effectively connect current and future modes and networks

- Evaluation results similar to those for At Grade Alternative package

Goal: Improve ability of goods/freight to travel through and within the area

- Directness improves and eases freight movements
  - Removes interchange cloverleaf loop ramps with tight curves
  - Separates through trips from local trips

Goal: Minimize/mitigate impacts to built environment consistent with local plans

- Requires 4 acres of new right-of-way
- Improved traffic flow increases mobility within study area and access to businesses
- Sidewalk and bike path improvements would improve access to Sand Creek Greenway Trail
- Consistent with local planning goals, supports planned land use changes and redevelopment sites

Goal: Minimize impacts to natural environment

- Evaluation results similar to those for At Grade Alternative package

What's Next?

- **Develop Implementation Plan** to outline and prioritize near term, mid-term, and long term projects.
- **Prepare PEL Document** to document the findings of this study
- **Continue coordination** with the North Metropolitan Industrial Area Connectivity Study
- **Identify/secure construction funding** for proposed improvements. Funding has been identified in the DRCOG Long Range Plan, but funds have not been assigned to specific improvements.
- **Begin NEPA process** for proposed improvements

We want your input!

Ways to get involved:

- Fill out a comment form here at the meeting or mail it in to the address on the comment form
- Visit the project website at: *vasquez-pel.codot.gov*
- Send us an email at: *dot_r1_vasquez_pel@state.co.us*

Thank you!