

WELCOME

To the C-470 Express Lanes Open House

Please Sign In

Why is a Revised Environmental Assessment Being Prepared?

FUNDING – The 2006 EA was approved but funding was not available to implement improvements

TIME – 8 years have passed so various forecasts and analyses are now out of date

PROJECT CHANGE –The current Proposed Action differs slightly from 2006

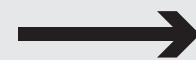
NEW TOOLS – Analytical procedures have changed. Examples include air quality, noise analysis, and wetlands impacts

NEW DATA – 2010 Census, 2035 DRCOG traffic projections

2006 EA Element

2014 Revised EA Approach

Purpose and Need



Same Purpose and Need with updated 2035 traffic projections

Alternatives Considered



Previous analysis and alternative screening remains applicable

Preferred Alternative has been updated

Affected Environment



Status of resources updated to 2013 conditions

Environmental Consequences



EA will present impacts of the current Proposed Action using latest available data and current analysis guidelines

What is the Project Purpose?

The purpose of this project is to **address congestion** from Kipling Parkway to I-25, **reduce traveler delay**, and **improve reliability** for corridor users. The project seeks to select an implementable transportation alternative that provides reliability, maintains travel times; provides reliable travel choices to accommodate an expected increase in the intensity and duration of congestion forecasted for the design year 2035.

The project need is based on:

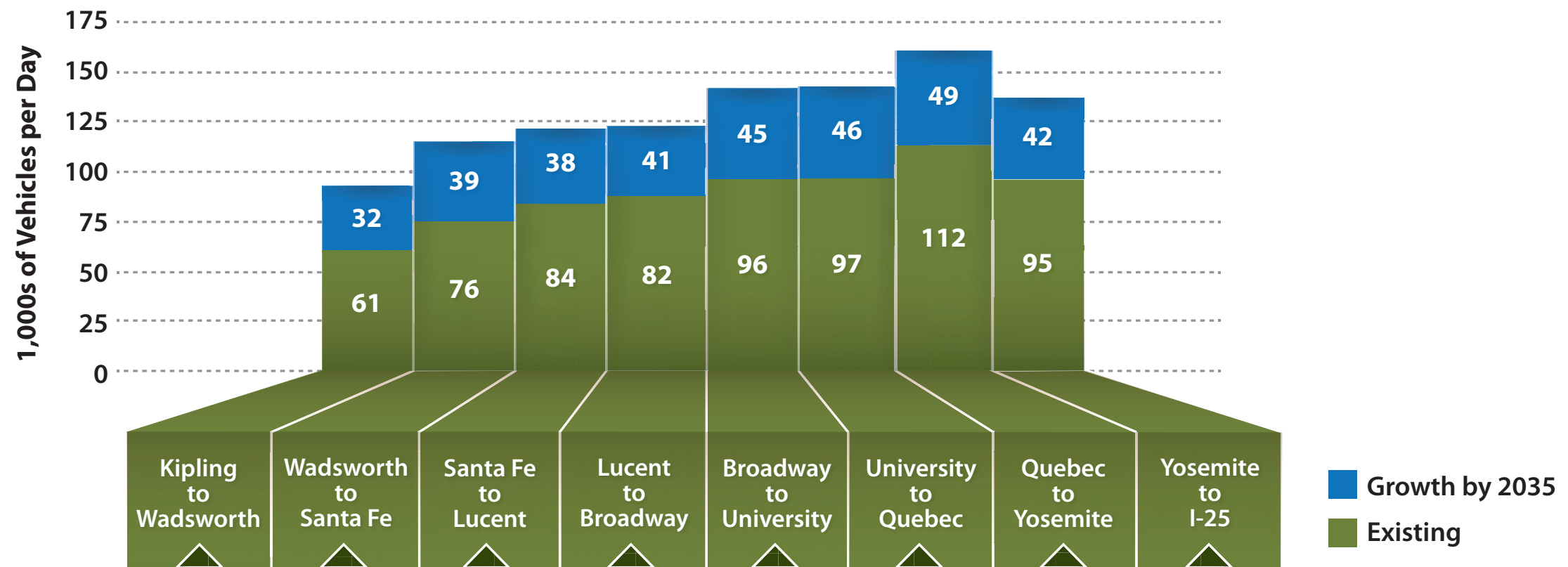
- Population and employment growth
- Congestion
- Delay
- Travel Time Reliability

What is the Current and Projected Traffic?

Over the 13.75-mile C-470 segment between I-25 and Kipling Parkway, average daily traffic is lowest at the western end (about 61,000 vehicles per day), and highest (112,000 vpd) near the eastern end (Quebec-Yosemite).

Between 2013 and 2035 (a span of 22 years) average weekday traffic demand is expected to increase by 44 to 52 percent, depending on location.

C-470 Average Weekday Traffic Volumes, by Location



What Alternatives Were Considered?

The formal evaluation process examined highway alternatives, transit alternatives, and mobility enhancements.

Highway alternatives included combinations of added general purpose lanes, toll lanes, auxiliary lanes, HOV lanes and reversible lanes.

Transit alternatives included RTD bus service, light rail, and other transit technologies.

Mobility enhancements included system management, demand management, motorist information systems, and bicycle/pedestrian accommodations.

The 2006 EA concluded that feasible alternatives were adding toll or general purpose lanes. Due to lack of funding, toll lanes were the implementable, Preferred Alternative.

During 2012 and 2013 the C-470 Corridor Coalition refined the 2006 alternative, with input from the public, and recommended the current Proposed Action in February 2013. The current Proposed Action is shown in greater detail in this meeting.

What Environmental Resources are Being Examined

- New analysis of traffic operations, safety, noise, air quality, and wetlands
- New analysis and design for water quality treatment features
- New analysis for right-of-way needs
- Updated review and documentation of historic resources, wildlife, trail impacts, and hazardous materials
- Brief discussion of other topics – visual resources, land use, floodplains, archaeological and paleontological resources



How does the Project Fit in the Regional Transportation System

RTD BUSES – Current bus routes do not use C-470 because of a lack of travel time reliability. Tolloed express lanes could make bus service feasible by providing travel time reliability

EXISTING RTD LIGHT RAIL – C-470 is a key travel route to light rail on the Southeast Corridor (Park Meadows Mall and Lincoln Station) and the Southwest Corridor (Mineral Station)

PLANNED RTD LIGHT RAIL – In the future, RTD plans to extend the Southwest Corridor eastward along C-470 to Lucent Boulevard; further extension is not precluded by the C-470 project

RTD PARK-N-RIDE LOTS – Lots exist at C-470/University and another at Highlands Ranch Parkway, west of Broadway

C-470 TRAIL – Adjacent/nearby paved C-470 trail serves entire corridor

TRANSPORTATION SYSTEM MANAGEMENT – Ramp metering and variable message signs

TOLL COMPATIBILITY – C-470 will use same billing technology as other state-owned toll facilities and existing E-470



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What About High-Occupancy Vehicles?

CDOT has not made a final decision on the use of HOV's in the C-470 Corridor.

Allowing HOV vehicles to travel in the express lanes without paying tolls is referred to as HOV exempt. If CDOT were to allow HOV exempt on C-470, the requirement would be for 3 or more passengers to be in the vehicle, or referred to as HOV3+.

Initial plans for the operation of the C-470 Express Lanes did not include HOV3+ exempt when estimating toll revenues.

Some People Say

The project should allow HOV3+ vehicles to be exempt from paying tolls to remove additional vehicles from the road and encourage carpooling, thereby reducing congestion.

Others Believe

Every vehicle that benefits from using the Express Lanes should pay tolls regardless of the number of occupants within the vehicle. That allowing an HOV3+ exemption could possibly reduce the toll revenues needed to finance the project.

CDOT wants to hear from you regarding HOV's tonight.



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Noise Analysis and Mitigation

How does CDOT/FHWA determine if I am impacted?

Preliminary findings suggest that various residential areas along C-470 are impacted by C-470 traffic noise and that some of these areas are expected to be recommended for noise abatement.

CDOT is currently analyzing noise levels along C-470 for today's traffic and for 2035 forecasted traffic. If the analysis determines that forecasted noise levels for residences along the corridor exceed CDOT criteria, noise abatement will be evaluated at those locations.

CDOT Noise Abatement Criteria

Activity Category	Activity Leq(h)*	Evaluation Location	Activity Description
A	56	Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B ¹	66	Exterior	Residential
C ¹	66	Exterior	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studio, recording studios, recreational areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.

¹Includes undeveloped lands permitted for this activity category

*Hourly A-weighted sound level in dBA

Will CDOT construct noise barriers along the highway where I live?

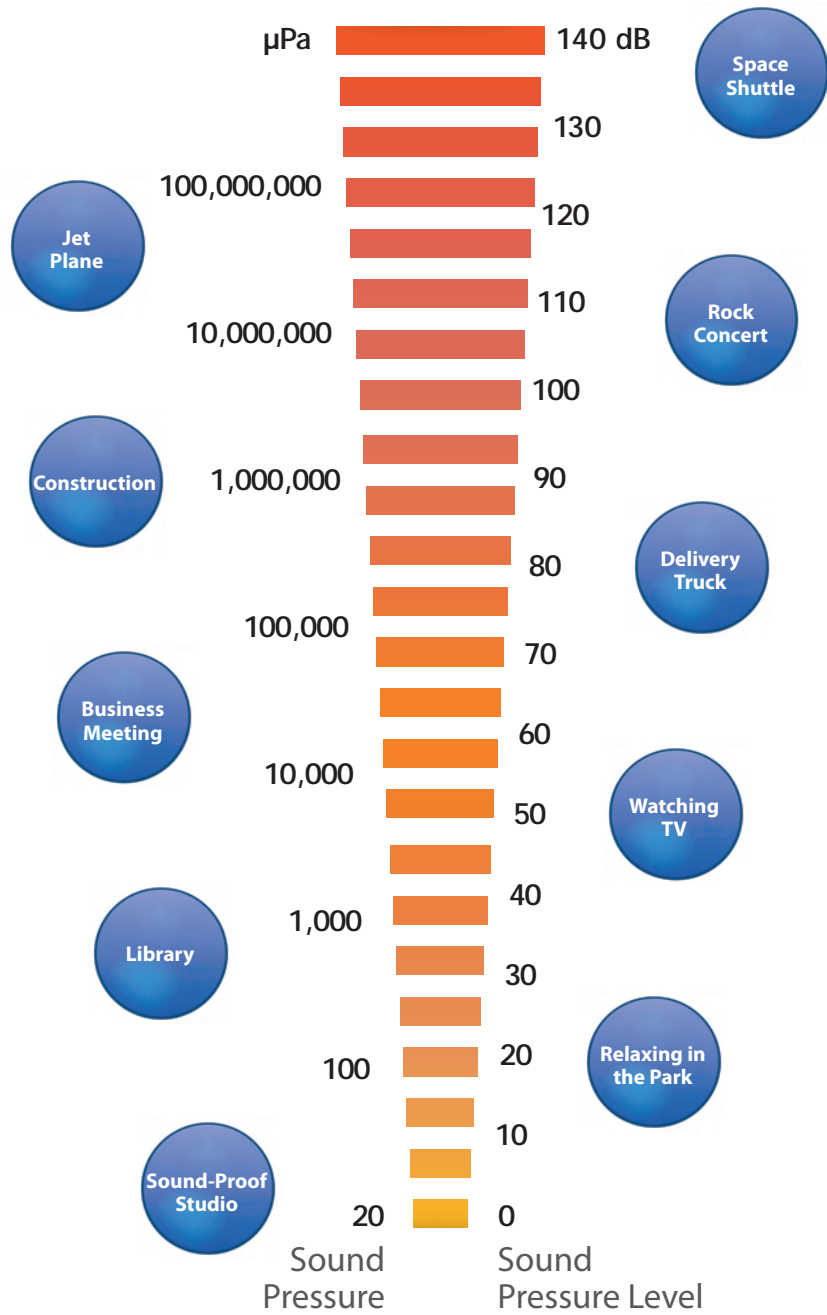
If the analysis determines that forecasted noise levels for residences along the corridor meet CDOT criteria, noise abatement will be evaluated using the following steps:

- **Is it Feasible?** Can an effective noise barrier can be constructed to reduce forecasted noise levels?
- **Is it Reasonable?** Is noise abatement cost effective?
- **Does the community want it?** If both the above requirements are met, CDOT will recommend noise abatement. Noise impacted residents will then vote to determine if a noise barrier will be constructed at their location.

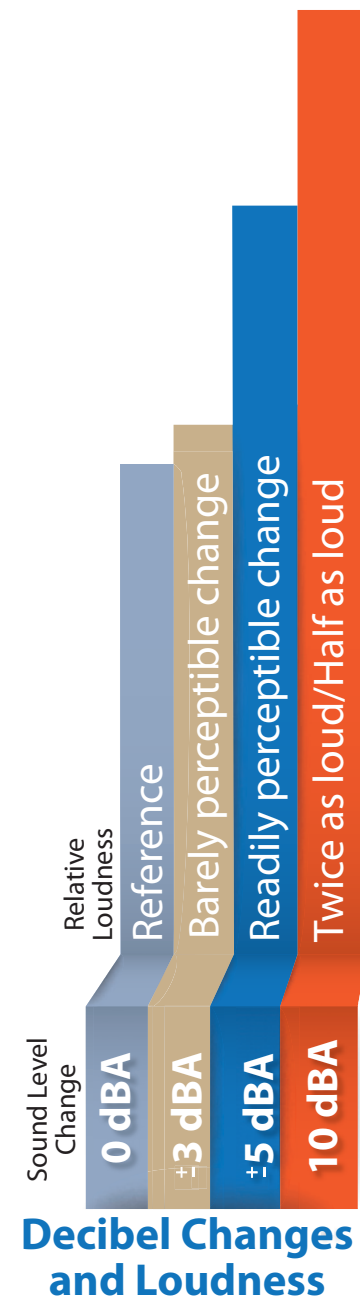
If noise abatement is recommended what are the options?

Noise barriers are commonly constructed as walls, earthen berms, or a combination of the two. Walls are most common, and are usually constructed out of dense materials such as concrete or masonry block. Earth berms are a natural alternative to walls, but require much more land to construct. Walls can be constructed on top of berms in order to raise the overall height of the barrier.

What are some common noise values?

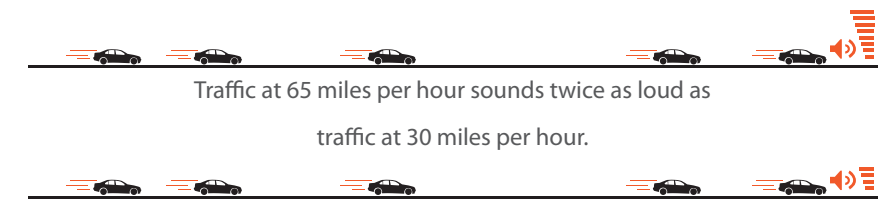


How is a change in sound level perceived?

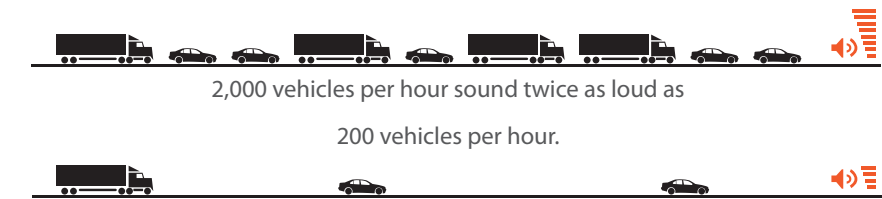


Noise Information

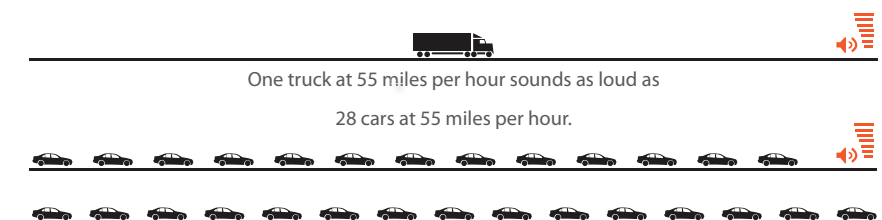
Traffic and Noise



How Speed Affects Traffic Noise



How Traffic Volume Affects Noise

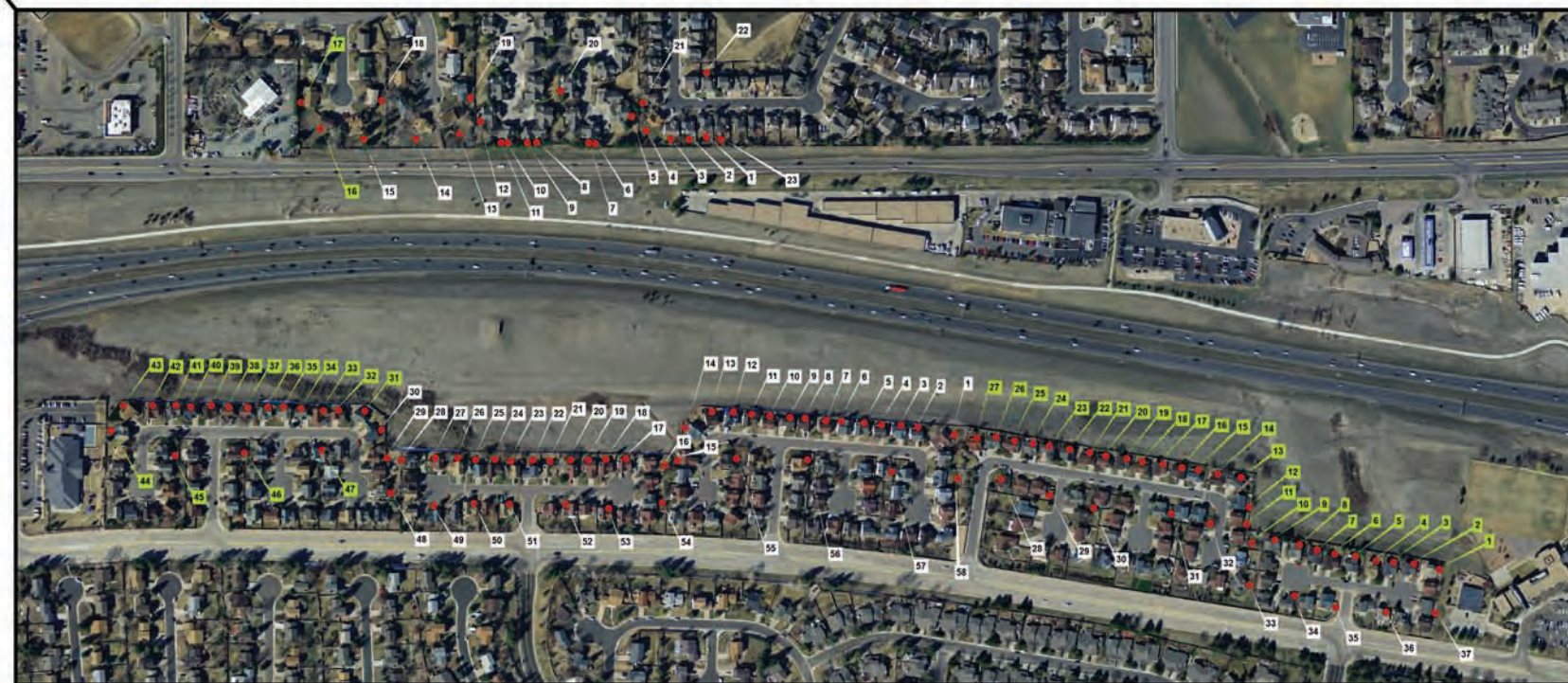


How Trucks Affect Traffic Noise



C-470 - Broadway to University

Preliminary Analysis



Legend

- # Less than 66 dB
- # Equal to or greater than 66 dB
- Receptor Location

Highlands Ranch-Single Family Residences
 Receptors North of C-470: HBUN1-HBUN23
 Receptors South of C-470: HBUS1-HBUS 37
 & HBUSW1-HBUSW58

* Other land uses such as parks and trails are also to be evaluated.



Palomino Park-Townhome Apartments
Receptors PAL1-PAL29



Shadow Canyon Condominiums
Receptors SC1-SC61



Province Center/Gleneagle-Single Family Residences
Receptors PGE1-PGE44

Legend

- # Less than 66 dB
- # Equal to or greater than 66 dB
- Receptor Location



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* Other land uses such as parks and trails are also to be evaluated.





Redstone Ranch - Three Story Condominiums & Deer Creek Pool
Receptors RR1-RR42
 * Only 2nd & 3rd Floor Receptors 66+ dB



Wingate - Single Family Homes
Receptors W1-W36



Chatfield Bluffs - Single Family Homes
Receptors CB1-CB48



Meadowbrook - Single Family Homes
Receptors M1-M61

Legend

- # Less than 66 dB
- # Equal to or greater than 66 dB
- Receptor Location



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C-470 - Lucent to Broadway

Preliminary Analysis



Bluffs at Highlands Ranch -Apartments
Receptors BHR1-BHR38

Legend

- # Less than 66 dB
- # Equal to or greater than 66 dB
- Receptor Location



* Other land uses such as parks and trails are also to be evaluated.

C-470 - Platte Canyon to Santa Fe

Preliminary Analysis



Wolhurst - Single Family Homes
Receptors WO1-WO23

Legend

- Less than 66 dB
- Equal to or greater than 66 dB
- Receptor Location



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* Other land uses such as parks and trails are also to be evaluated.





Villas at Verona - Condominiums
 (Currently Under Construction, Locations Approximated From Site Plan)
 Receptors V1-V30

Legend

- # Less than 66 dB
- # Equal to or greater than 66 dB
- Receptor Location
- Four Story Residences
- Club House
- Three Story Parking Structure
- Single Story Parking Structure



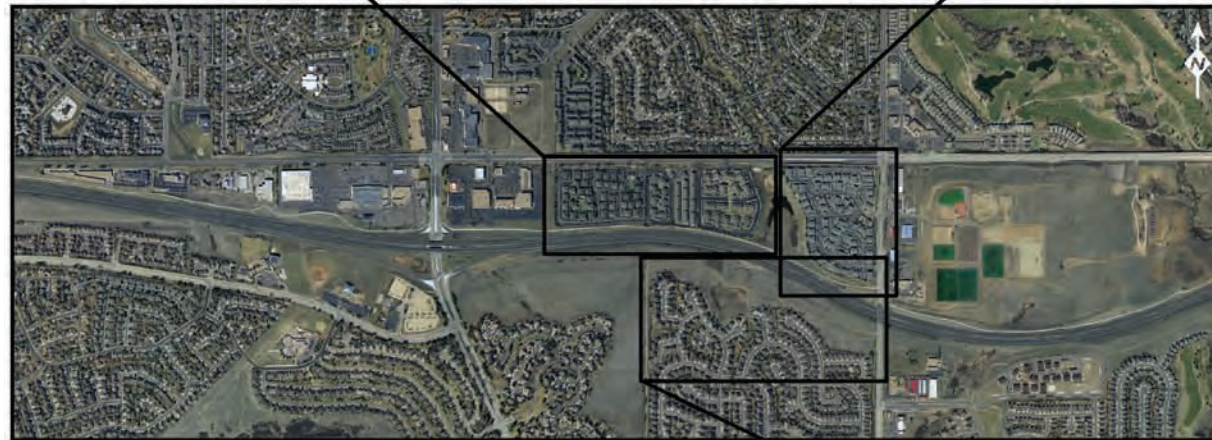


Copper Canyon-Two Story Apartments
Stone Bridge Villas-Townhouses
Receptors CSB1-CSB27

Autumn Chase-Two and Three Story Apartments
Receptors AC1-AC50



Canyon Ranch-Apartments
Receptors CR1-CR36



Highlands Ranch-Single Family Residences
Receptors HRUC1-HRUC44

Legend

- # Less than 66 dB
- # Equal to or greater than 66 dB
- Receptor Location



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* Other land uses such as parks and trails are also to be evaluated.



C-470 - Wadsworth to Platte Canyon

Preliminary Analysis



Columbine Hills - Single Family Homes
Receptors CH1-CH40



Chatfield Avenue - Single Family Homes
Receptors CHAV1-CHAV62

Legend

- # Less than 66 dB
- # Equal to or greater than 66 dB
- Receptor Location



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* Other land uses such as parks and trails are also to be evaluated.



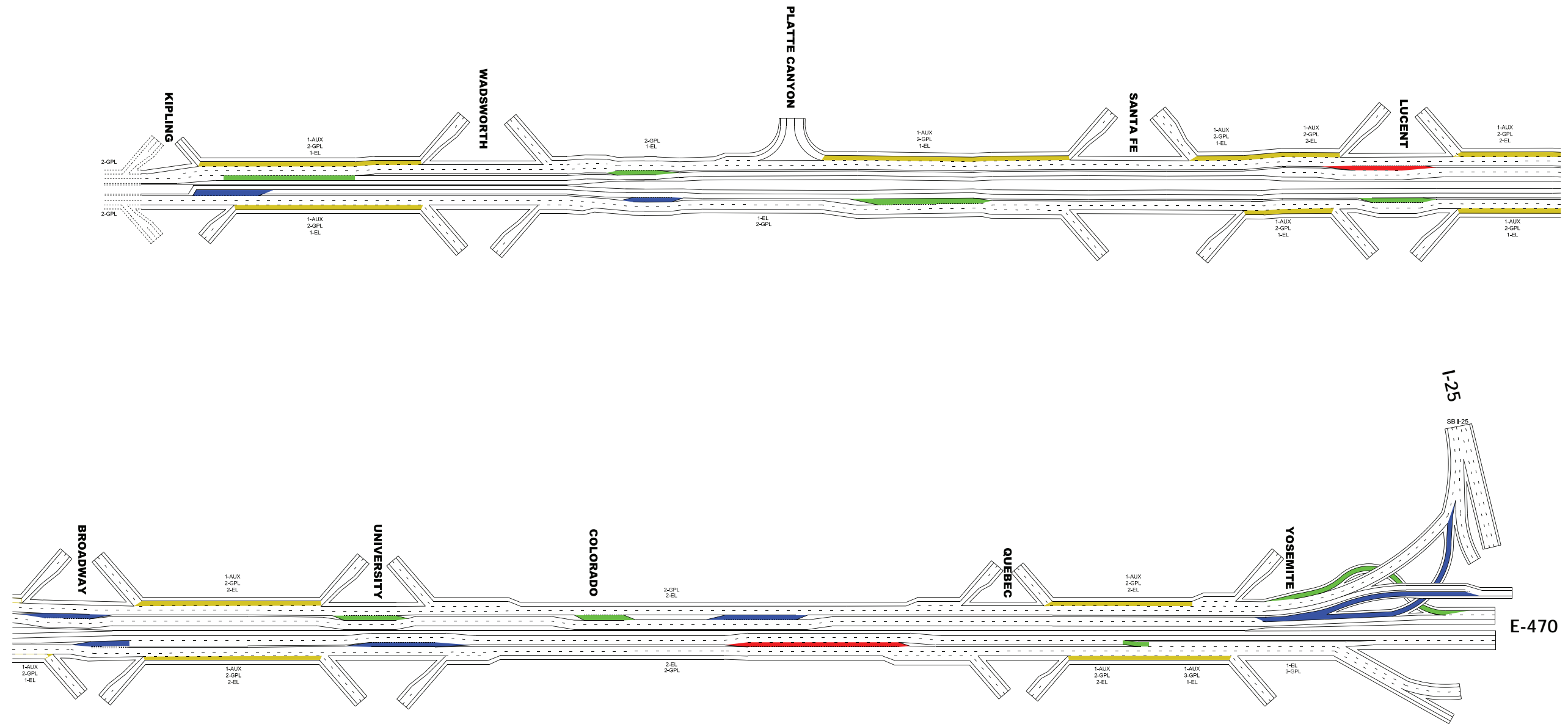
Proposed Action - Ultimate Design for 2035



The Ultimate Design for 2035 Includes:

- Westbound - two tolled express lanes from I-25 to Lucent; one tolled express lane from Lucent to Kipling
- Eastbound - one tolled express lane from Kipling to Broadway; two tolled express lanes from Broadway to I-25
- Auxiliary lanes in required select locations
- Direct connection ramps from I-25 to the westbound express lanes
- Water-quality features and noise barriers
- Reconstruction of:
 - Bridges over the South Platte River
 - Westbound bridge over Wadsworth
 - Realignment of substandard curves
 - C-470 Trail with added grade separations at Quebec and Colorado

C-470 Corridor Access Schematic - Ultimate



Ingress

From these locations vehicles may enter the tolled express lanes from the general purpose lanes

Egress

From these locations vehicles may exit the tolled express lanes to the general purpose lanes

Combined Ingress / Egress

From these locations vehicles may enter or exit the tolled express lanes to/from the general purpose lanes

Auxiliary Lanes

Additional lanes that are continuous from one interchange on-ramp to the next interchange off-ramp



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Draft - Final Ingress/Egress locations subject to further study





How is the Proposed Action different from the 2006 Preferred Alternative

Typical Section – The 2006 Preferred Alternative design separated the tolled express lanes from the general purpose lanes with a physical concrete barrier. The Proposed Action today utilizes a painted 4-foot buffer to separate the lanes.

Number of Tolled Express Lanes – The number of eastbound tolled express lanes has been adjusted between Wadsworth and Broadway.

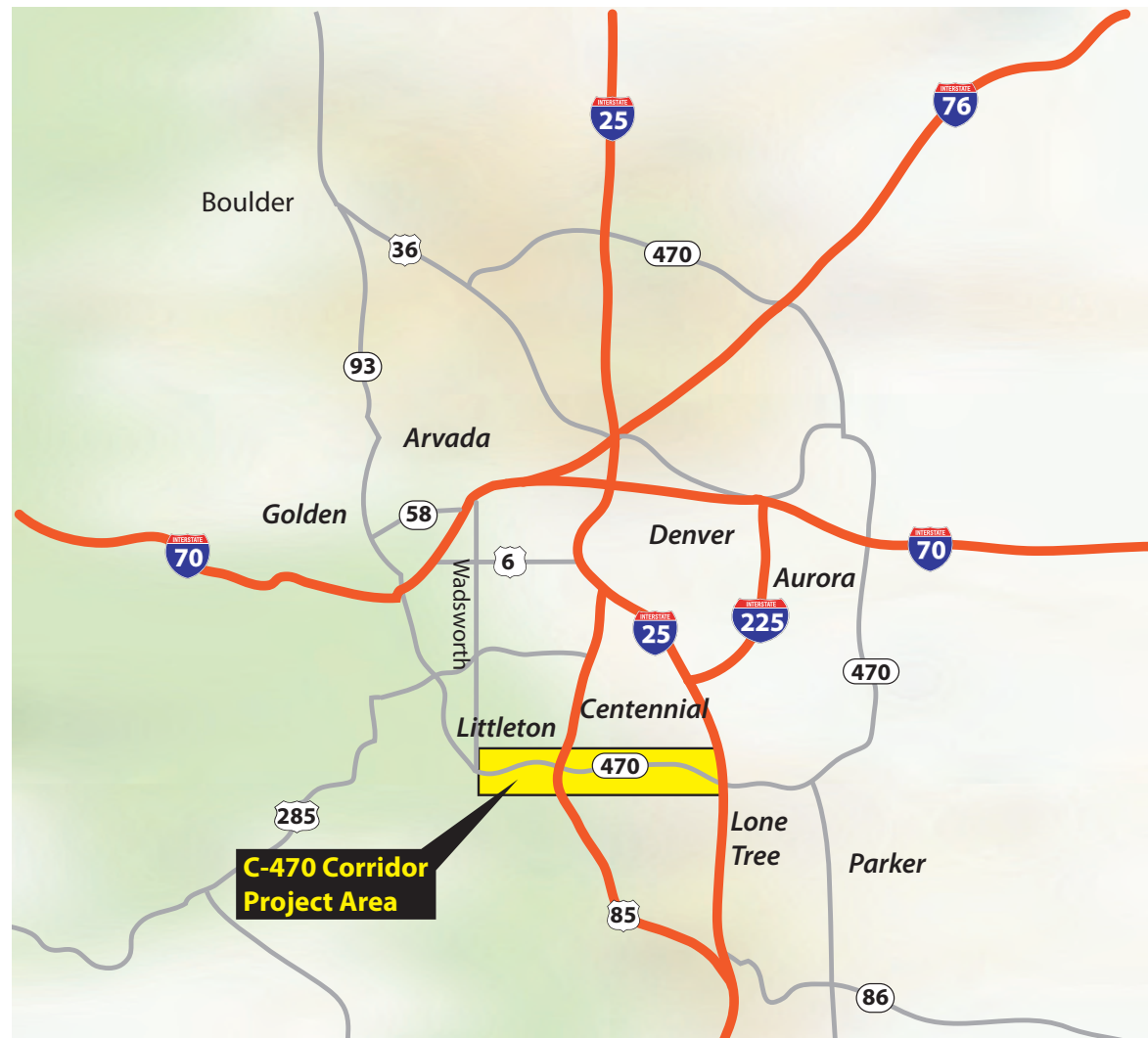
Access – The design today changes how and where access is provided to the tolled express lanes.

Auxiliary Lanes – The design today adds Auxiliary lanes at select locations to improve traffic flow entering and exiting C-470 at the interchange ramps.

I-25 Ramp Connections – Ramp connections to and from I-25 have been revised.

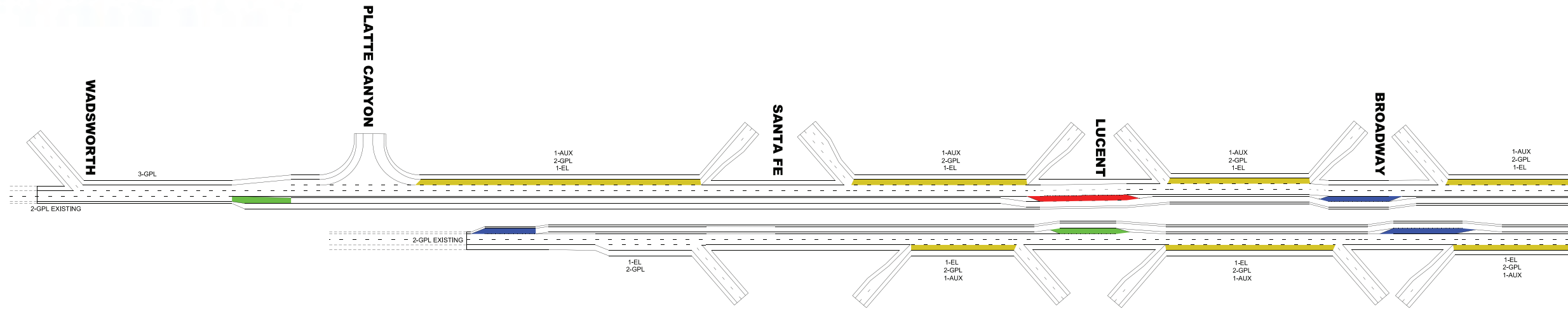
Santa Fe Interchange – The 2006 Preferred Alternative design included major improvements to the interchange at C-470 and Santa Fe. The Proposed Action today **does not** include major improvements to the interchange at C-470 and Santa Fe.

Project Overview - 2016 Construction

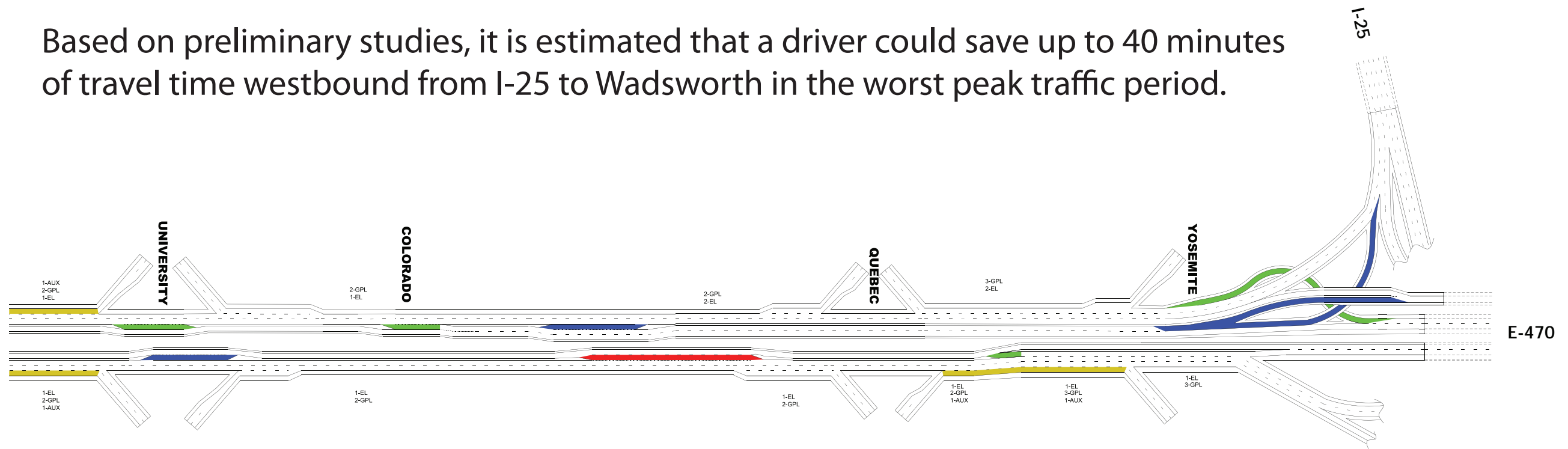


- Interim Construction:**
- Westbound – two tolled express lanes from I-25 to Colorado; one tolled express lane from Colorado to Wadsworth
 - Eastbound – one tolled express lane from west of the Platte River to I-25
 - Auxiliary lanes where warranted in select locations
 - Direct connection ramps from I-25 to the westbound express lanes
 - Water-quality features and noise barriers
 - ITS elements and tolling equipment
- Reconstruction of:
 - Bridges over the South Platte River
 - Existing pavement, and realignment of substandard curves
 - C-470 Trail with added grade separations at Quebec and Colorado

C-470 Corridor Access Schematic - Interim



Based on preliminary studies, it is estimated that a driver could save up to 40 minutes of travel time westbound from I-25 to Wadsworth in the worst peak traffic period.



Ingress

From these locations vehicles may enter the tolled express lanes from the general purpose lanes

Egress

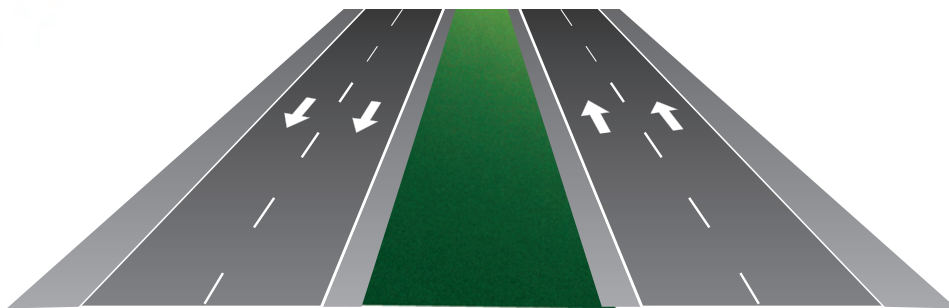
From these locations vehicles may exit the tolled express lanes to the general purpose lanes

Combined Ingress / Egress

From these locations vehicles may enter or exit the tolled express lanes to/from the general purpose lanes

Auxiliary Lanes

Additional lanes that are continuous from one interchange on-ramp to the next interchange off-ramp



Existing C-470
2 General Purpose Lanes in each direction



Proposed C-470 Interim - 1 Tolled Express Lane in each direction plus 2 General Purpose Lanes in each direction with Auxiliary Lanes (select locations)



Proposed C-470 Ultimate - 2 Tolled Express Lanes in each direction plus 2 General Purpose Lanes in each direction with Auxiliary Lanes (select locations)

General Purpose Lanes - Continuous lanes that do not require the user to pay a toll, consistent with the two existing lanes on C-470.

Tolled Express Lanes - Continuous lanes that require the user to pay a toll. These lanes are separated from the General Purpose Lanes by a painted buffer.

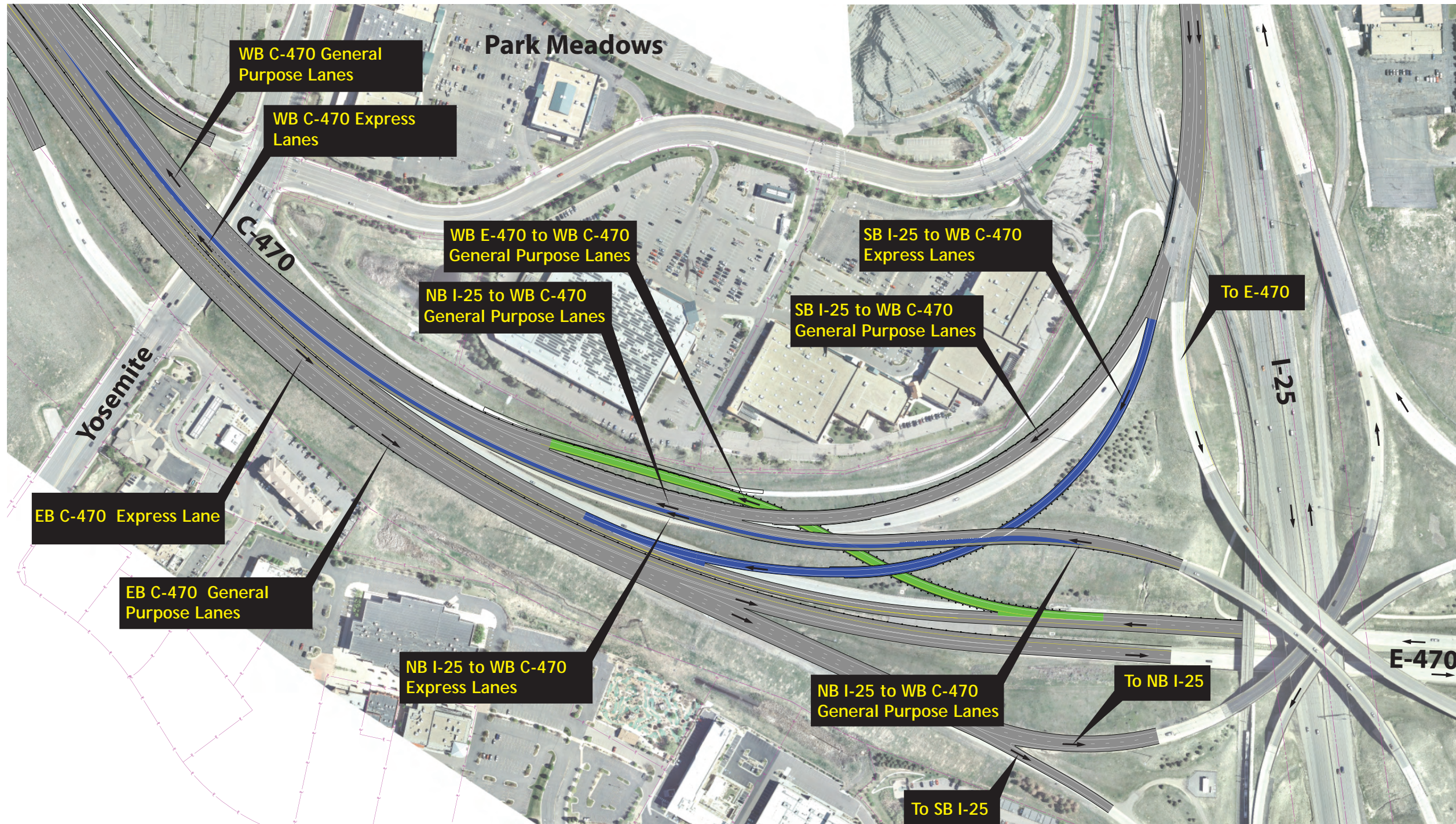
Auxiliary Lanes - Lanes added to the right of the General Purpose Lanes connecting the on-ramp at one interchange to the off-ramp at the next interchange. Auxiliary lanes will improve safety and traffic performance. Proposed locations include:

Westbound:

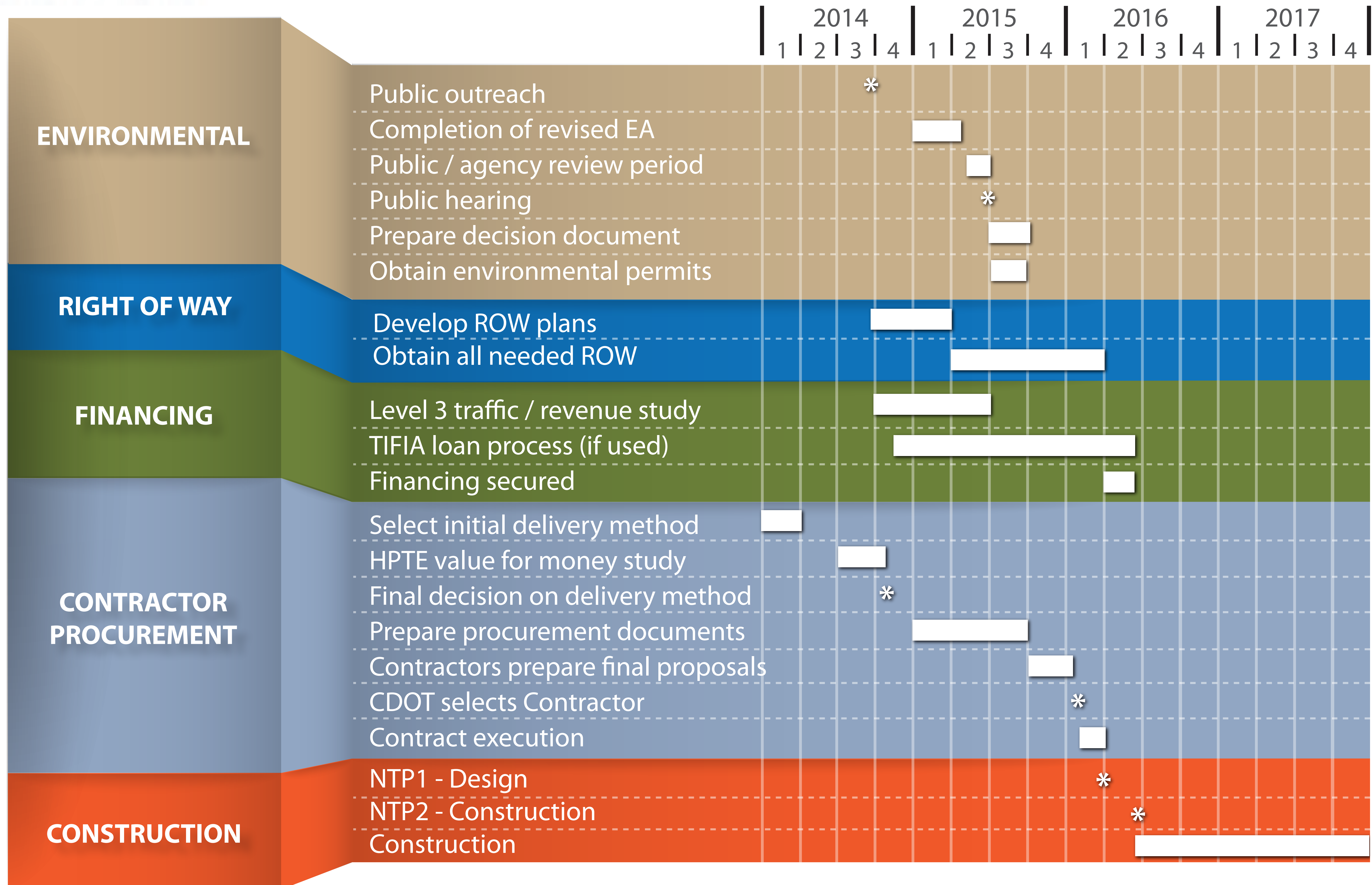
- University to Broadway
- Broadway to Lucent
- Lucent to Santa Fe
- Santa Fe to Platte Canyon

Eastbound:

- Santa Fe to Lucent
- Lucent to Broadway
- Broadway to University
- Quebec to Yosemite



Project Schedule Overview



Funding and Contracting - 2016 Interim Construction

\$230M Project Estimate

Proposed Funding Sources

- \$102M – Federal and State
- \$103M – Projected via toll revenues
- \$10M – Douglas County (construction)
- In progress application for \$15M Tiger VI Grant

Contracting Method Options

- Design-Build
- Public-Private Partnership (P3)
(Preliminary studies suggest P3 is not a viable option)



The High Performance Transportation Enterprise (HPTE), a part of CDOT, is responsible for managing toll facilities on state-owned highways in Colorado. HPTE sets the final toll rates and has the authority to change the rates as necessary to manage the use of the tolled express lanes.

Tolls will be collected electronically via the same transponder currently in use in Colorado on E-470 and other facilities. License plate tolling for drivers without a transponder will be included, but will increase the toll.

Preliminary studies estimate toll prices could range between \$4 and \$6 to travel in the tolled express lane westbound from I-25 to Wadsworth. It is estimated a driver could save up to 40 minutes of travel time westbound from I-25 to Wadsworth during the worst peak traffic period.

Only the added tolled express lanes will be tolled. The existing two general purpose lanes in each direction will not be tolled. Added auxiliary lanes will not be tolled.

2003 to 2006 - CDOT completed an Environmental Assessment (EA)

- **Newsletters** - 22,000 business and households were on the mailing database for newsletters mailed at each step in the EA process
- **Website** - 100,000 visitors viewed the EA website
- **Media** - Multiple press releases and articles in major and local newspapers and local television
- **Small Group Meetings** - 44 meetings
- **Open Houses** - A total of 17 open houses
- **November 2006** - EA Public Hearing

2012 to 2013 - C-470 Corridor Coalition selects a preferred funding option

- **Telephone Town Halls** - The Coalition solicited input from the public through 5 telephone Town Hall Meetings in the fall of 2012 on alternative improvements to the corridor, 21,552 residents were connected
- **Public Presentations** - 12 separate presentations were held in the fall of 2012
- **Open Houses** - Four open houses were held during fall 2012
- **Website** - The Coalition created a website
- **Social Media** - A Facebook page was created
- **Citizens Advisory Committee** - A committee was formed with input from the Coalition members; met 5 times
- **Media** - 14 media articles July and August of 2012
- **Citizen Opinion Survey** - Completed in November 2012
- **C-470 Coalition Policy Committee was formed**
 - o Includes Local Agencies, multiple Community Partnerships & Organizations, Colorado Department of Transportation (CDOT), High Performance Transportation Enterprise (HPT), Denver Regional Council of Governments (DRCOG), Regional Transportation District (RTD), and the Federal Highway Administration (FHWA)
 - o **February 2013 - Selected Express Tolloed Lanes as the preferred funding option**
 - o Continues to meet bi-monthly

2013 to Today - CDOT and the C-470 Corridor Coalition completing a Revised Environmental Assessment

CDOT Project Website - <http://www.coloradodot.info/projects/c470ExpressLanes>

HPT Outreach Meeting - **August 19th, 2014**

Telephone Town Hall Meetings (Live Telephone Broadcasts from 7 pm to 8 pm)

Tuesday, Sept. 9 @ 7-8 pm - Outreach focus area: Jefferson County and Lakewood

Wednesday, Sept. 10 @ 7-8 pm - Outreach focus area: Arapahoe County, Centennial and Littleton

Thursday, Sept. 11 @ 7-8 pm - Outreach focus area: Douglas County, Lone Tree and Highlands Ranch

Current Public Open House Meetings

Monday, Sept. 15 @ 6-8 pm - Ken Caryl Ranch House, 7676 South Continental Divide Road, Littleton, CO 80127

Tuesday, Sept. 16 @ 6-8 pm - Highlands Ranch Metro District Office, 62 Plaza Drive, Highlands Ranch, CO 80129

Wednesday, Sept. 17 @ 6-8 pm - Lone Tree Arts Center, 10075 Commons Street, Lone Tree, CO 80124

Thursday, Sept. 18 @ 6-8 pm - Homestead Elementary School, 7451 South Homestead Parkway, Englewood, CO 80112

Upcoming Corridor Noise Meetings - being planned for October/November 2014 - small group and HOA meetings
Environmental Assessment Public Hearing - Planned for June 2015



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What About C-470 north of Kipling?



C-470 Corridor Project Area

- Segment 1
- Segment 2

Segment 2 – North of Kipling

- Local Governments in Jefferson County are currently working to form a Coalition and to determine the limits of a Planning and Environmental Linkage Study (PEL Study) on C-470 North of Kipling.
- CDOT would be an affiliate member of the Coalition. CDOT has also committed to help fund and manage the PEL Study.
- The PEL Study would consider future traffic demands, environmental resources, and potential improvement alternatives to C-470 north of Kipling.

THANK YOU

Please Fill Out a Comment Page