



WestConnect Coalition PEL

## **Technical Working Group**

**Thursday, December 15, 2016, 8:30 am – 10:30 am**  
**Jefferson County Admin Building, Quad Room**

### **Agenda**

1. Introductions and Agenda Review
2. Presentation and Discussion: Overview of Public Meetings and Key Themes
3. Presentation and Discussion: Draft Level 1 Screening
4. Briefing: Environmental Scan Report
5. Closing and Next Steps
  - Steering Committee #3 – Monday, December 19
  - TWG Meeting #9 – January 19<sup>th</sup>



# PUBLIC OUTREACH SUMMARY

## NOVEMBER 2016

### Outreach Overview

The first major phase of public outreach for the WestConnect Coalition Planning and Environmental Linkages (PEL) Study was conducted in November 2016. This consisted of a telephone town hall meeting and three public open house meetings. The outreach served to introduce the study and present existing and forecasted conditions information. Public input was solicited regarding the draft Purpose and Need, and suggestions for transportation improvements along study area roadways were requested.

The outreach was advertised in many ways. Due to the study corridor length, hard copy mailings to individual properties were not feasible. A news release was provided to the media and electronic project mailing list. Calls were made to many individuals representing groups and major employers near the study area, and the individuals agreed to distribute the electronic advertisements and project updates. CDOT, local agencies, and neighborhood and group representatives posted to social media, including Facebook, Twitter, and NextDoor. Variable message signs were placed by local agency representatives the week prior to/of the meetings. A video was produced and available on the project and Coalition web pages to introduce the PEL Study and advertise the meetings.

A telephone town hall meeting was held the evening of November 9<sup>th</sup>. Calls were made to 50,000 phone numbers near the study area. Nearly 800 people participated during the peak attendance, and over 150 callers stayed engaged for the duration of the call. The call was successful in informing and engaging a wide range of people who may not have otherwise heard about the study. The voicemail message left for those unable to answer generated many follow-up calls and discussions with project team members, and helped build the project mailing list.

An online option was available beginning November 9<sup>th</sup>. A video containing all of the public meeting wall graphic displays, with accompanying summary of each graphic in text and voiceover, was made available on the project web page. Full-resolution graphics were available for download. Comments were requested through the comment form on the project web page.

Public meetings were held in open house format from 4:30 – 6:30 PM on three consecutive days. Meetings were held at various locations along the study corridor to provide people with choices to attend the meeting most convenient for them:

- Tuesday, November 15<sup>th</sup> at the Rocky Mountain Metropolitan Airport in Broomfield (approximately 15 members of the public attended)
- Wednesday, November 16<sup>th</sup> at the Ken Caryl Ranch House in Littleton (approximately 30 members of the public attended)
- Thursday, November 17<sup>th</sup> at the Community Center in Golden (approximately 85 members of the public attended)

This document includes a record of all comments submitted during this initial outreach period, through December 6, 2016. Comments were received through the project web page comment form, emails to project team members, telephone conversations, telephone town hall, comment sheets and recorded by project team staff at the open house meetings.



## Comment Summary

**Do you agree with the Draft Purpose and Need for projects along the corridor? What do you think the purpose of any transportation improvements recommended by this study should be?**

- Purpose and need seem good. Devil will be in the details.
- Agree with purpose and need.
- We like the direction the plan is taking.
- Yes. The purpose is solid, the need apparent – some of the traffic volume projections with the Jefferson County Parkway are too low.
- The corridor needs safety improvements.
- Safety should be #1 goal. Speed of traffic is not a priority of this study. Capacity of traffic is not a critical purpose. This study should observe and maintain (or improve) the look/feel/environment of Golden and US 93 (which is a beautiful highway).
- Improving safety, enhancing multiple modes, meeting projected traffic volumes to mitigate congestion, ensuring that newer linkages across the corridor are enhanced and work easier.
- Improve driver and passenger safety. Reduce traffic congestion.
- The purpose should be safety improvement as well as more efficient flow of traffic.
- To ease traffic, including the introduction of public transportation, to increase safety.
- I agree that we need more lanes. However, I would hold my decision until I know how much money it will cost us.
- The widening of the corridor needs to be uniform in nature to diminish confusion for drivers that don't normally travel through the corridor. Overall the study is needed to address this growing area of the Denver Metro Region.

**Please share your thoughts regarding existing transportation conditions and/or issues along C-470 between Kipling and I-70, and along the US 6/SH 93 corridor between Golden and Boulder.**

### Safety

- SH 93 north of Golden can be pretty crazy with lots of aggressive driving.
- Concerned about traffic speed and truck volumes along C-470 south of I-70. This is a safety hazard that will increase disproportionately with volume increases.
- I've been waiting 45 years for this stretch of road to improve and not be such a safety hazard for the many, many folks that drive it. I would certainly utilize businesses in Golden and Lakewood if easier to drive Route 93 as it's only about 15-20 miles from Boulder. I generally use Indiana Street instead or stay within Boulder.



## Congestion

- I drive from Arvada to Highlands Ranch every weekday, and generally the traffic moves fairly well between I-70 and the Kipling exit on C-470 in the direction I am headed. I cannot speak for commuters going the opposite direction, but my daily observation is that they generally spend the morning barely moving. I am curious as to why you end the study at Kipling? The bulk of my every day frustration is between Wadsworth and Lucent on C-470. There doesn't appear to be a reason why I halt to stop every morning.
- I live in West Arvada and every week I pick up my Dad from an elderly facility in Golden and take him to dinner between 4:00pm-6:00pm. Most of the time I have to go miles out of my way to pick him up or drop him off because the traffic on SH 93 is idling and standing still miles from the intersection at SH 93 & US 6. At times I've counted between 10 and 20 cycles of the light to get through that intersection alone. On Sundays with minimal traffic I can make that same drive in 15 minutes and most other times it's 30 minutes or longer.
- There is a great amount of traffic coming out of Boulder that needs 93 widened.
- C-470 is way too small to accommodate the increasing population and construction of housing. There is always backup from Kipling area.
- I drive C-470 between Bowles and Alameda every weekday and often on weekends. In the morning, it seems that the traffic stoppage (even at moderate traffic levels) is mainly due to the bridge over Morrison road, and NOT the merge of people coming on from US 285. Every day I witness people merging in fine from US 285, only to be stopped for what I would call 'mysterious reasons' on the bridge over Morrison Road. It consistently causes sudden stops and rear-end accidents before the bridge and after the US 285 merge. The road expands to three lanes immediately after the bridge, so the reason for the slow down can only be the bridge itself, which I don't understand, but is certainly the case. Thus it seems that the 1st order of business for C-470 seems to be to expand C-470 to three lanes going over Morrison Road. However, I'm sure that this will just make matters worse at the C-470/I-70 interchange, so the efficiency of that needs to be addressed as well.
- All of this corridor is congested – mostly with “thru” commuter traffic. Honor and serve those that live in the areas that these commuters travel through with mitigation of noise, pollution, visual effects, etc.

## Geometrics/Configurations/Facilities

- Hill blocks visibility at the C-470 and West Belleview Avenue interchange, east side of C-470.
- US 285/northbound C-470 weave distance a problem.
- Seems okay heading north except for US 285 on/off ramp activity. I get off at Morrison Road or Alameda so can't speak to that except where C-470/I-70/US 6 meet was not well planned when it was built – awkward or confusing (in case future plans).
- Coming westbound on US 6 to eastbound on I-70 is a big problem – is there going to be an interchange here?
- The intersection at 19th & Heritage is a major wildlife crossing and the fencing and flashing lights don't work as well as they used to. This should be considered.
- It is really, really dark between SH 72 and 64<sup>th</sup>.



## Multimodal Conditions

- US 6/SH 93 thru Boulder and Golden is scary for bikes (I'm looking forward to an off-street Front Range Trail) and I'm hopeful for would-be transit riders.
- Limited transit service corridor - Boulder C-470 to SH 93.

## Environmental Resources

- We need wildlife crossings on the C-470 section. In the last three years, I have not seen the three young bull elk (no longer so young) that used to hang around the Bowles-to-Chatfield, C-470-to-Wadsworth area. They would cross over C-470 from time to time and graze in our various neighborhoods. Were they killed? Deer fences just move the problem down the road.
- Saw an animal get hit between SH 72 and 64<sup>th</sup> and it was really dark, totaled the car.
- The noise sensitivity appears to be inconsistent, especially in Golden. Why does the shading extend beyond the red line to the north and east of Golden but doesn't extend for neighborhoods on the west side?
- There are approximately 50 Ute Ladies' tresses orchids along Clear Creek, this should be marked on your T&E map. Review the Peaks to Plains project currently occurring along Clear Creek.

## General Comments

- C-470 Kipling/I-70 only bad during rush hour – seems like a lot of money for four hours a day. Could stagger work hours which is what was done in Washington D.C.
- The biggest issue with SH 93 is weather. How is weather being considered into the alternatives discussion?
- Blowing snow can be a big problem (worst between SH 72 and SH 128).
- It is a beautiful stretch of road from Golden to Boulder. It is dangerous though. Small improvements could go long way. Golden is perfect for look/feel.

**What ideas do you have to improve safety for all users, reduce recurring congestion, and improve existing and future operational performance along the corridor roadways?**

## C-470 Segment

### Highway

- Expand both ways to be at least three lanes wide. It is very dangerous now with drivers merging from three to two lanes.
- Widen between US 285 and SH 74 by one lane each way. This is a bottleneck at the Soda Lakes daily during rush hour. Widening will enable a smooth transition to/from US 285...lessening accident and improving flow. [One other person agreed]



- Add two additional lanes to C-470 between US 285 and Morrison Road. It is confusing and dangerous especially for northbound traffic.
- Widening up to Morrison is a no brainer.
- In the evening, expanding C-470 to three lanes over the Morrison Road bridge and to US 285 interchange (to Bowles would be better) would help alleviate stops and slowdowns between US 285 and Alameda.

## Intersections/Interchanges

- Existing earthwork for flyover - merge/weave problem at peak (south of Turkey Creek Road).
- Ramps from West US 6 to East I-70 and from W I-70 to E US 6, eliminate Indiana detour.
- Traffic flow signals on ramps to highway.

## Multimodal Elements

- Sterling Ranch will add hundreds of commuters to C-470. Establish and promote small luxury van service to feed the Mineral park-n-ride site from park-n-rides located at the various intersections, i.e., (Bowles, Ken Caryl, Kipling).
- With increased vehicular traffic on cross streets, consider overpasses for C-470 bikeway at Kipling, Ken Caryl, Bowles, and Morrison.
- C-470 bike trail north of Quincy bike trail not clear. Wayfinding is hard. Move bike trail closer to C-470 on west side between Quincy and US 285.
- Light Rail service needed to Golden/DIA, limited bus service too (at West Bowles Avenue).

## Corridor Management

- Install wildlife crossings on C-470. When you try to sell this project to the public, the legislature, the feds, please consider the very important wildlife asset that many of us cherish. Make it possible for us to retain a bit of our "wild Colorado." Make sure to include the \$\$-value and safety benefits of fewer car-animal collisions as well as the beauty and the contribution to the environment.
- Consider wildlife crossing along C-470 segments (not just along SH 93) - not just wildlife fencing as this concentrates the wildlife to cross at one location.
- Frontage road between US 285 and Bandimere.
- Connect Kipling Parkway to Wadsworth Blvd (south of the C-470 interchange).
- Use policy incentives to work from home.

## Technology

- Consider autonomous vehicle technology.

## General Comments

- Rooney Road Hill weather maintenance should use salt, not mag chloride.



- Better sound wall/noise mitigation needed between South Kipling Parkway and West Ken Caryl Avenue.

## Golden Segment

### Highway

- US 6/SH 93 between Golden and Boulder should be four lanes, separate bike lane, and extend turn/merge lanes. This alone would be drastic improvement. Median would be a plus.

### Intersections/Interchanges

- Bridge across option to facilitate cars, peds, and bike traffic. Lots of bikes go up Pine Ridge Road.
- Bridge or underpass to original SH 93 catamount not conducive to increased access traffic to White Ranch and residential homes.
- Heritage Road and Jefferson County Parkway intersection must be like improvements at US 6 & 19th.
- Consider a lid “parking” lot on top of the US 6/Highway 93/Highway 58 interchange for access to Clear Creek and for noise mitigation.
- Concerned for residents like myself living near proposed interchanges. Don’t want highway even closer to my home. Don’t want to lose views with noise walls. Jake breaking is incessant now – would love to see the use of Jake break prohibited in my area [Golden].
- People will hit the riprap at the wildlife crossing in Golden.
- Need a longer right turn lane at Iowa northbound and at SH 58 southbound.

### Golden Plan

- Implement the Golden Plan to get through traffic through Golden faster (might reduce driver frustration and calm drivers to the north).
- Very glad that the Golden Plan will be strongly held and enforced over the long term. Expected to account for cross-corridor human linkages. Then study needs to prepare solutions that improves these linkages.
- Follow the Golden Plan as displayed. Lobby the Colorado Legislature to raise more money and provide it to CDOT.
- You now have little choice but to put in overpass/below grade road at SH 93/Washington, SH 93/Iowa, SH 93/SH58, SH 93/Heritage (or flyover to C-470). Absent that, and the ridiculous unsupported growth allowed, you’ve [expletive] yourselves and everyone else.

## Multimodal Elements

### Transit

- More GS service would be great to have on the weekends.



- Need to have more frequent route GS service, including the weekend. Portland has a great service. Need to have a screen that tells you when the next bus is coming.
- Greatly improved [bus route] GS service should be considered.
- I think we need buy-in from RTD for (at the very least) a better schedule and more frequency for the GS route. Best case scenario is light rail or commuter rail between the Taj and Boulder.
- Light rail anywhere along corridor.
- Light rail to Boulder?
- At light rail stations: Implement UBER and Lyft to give people a ride for the last mile(s) travelled.
- Add park-n-Rides.

### ***Bike Connections***

- Bike path along roadway.
- At the existing Mt. Galbraith Trailhead, consider additional trailhead access like off of US 6 in Clear Creek Canyon or near the SH 58/93/US 6 Interchange.
- Missing bike path between 56<sup>th</sup> and Table Mountain to allow access into Golden from neighborhoods.
- Bike connection needed at SH 93 and West 56th Avenue.
- Off-roadway separated bike path needed between Boulder and Golden. (one other person agreed)
- Separate bike path off roadway to Boulder.

### ***Pedestrians***

- Need continuous sidewalk at SH 93 and Iowa Street.

### ***Crossings***

- Consider overpass for Chimney Gulch Trail and lower the grade of US 6.
- Box culvert needs improvement to allow better/safer pedestrian access between Chimney Gulch Trail and School of Mines.
- Bike/ped crossings at Iowa and Washington need help in the short term
- Need safe bike/ped crossing to connect trail from Cannonball Creek Brewery and Starbucks along 93. Right now it is unsafe for people trying to cross Washington. Especially kids trying to get to Mitchell from North Golden.

### **Corridor Management**

- An underground or over the highway wildlife crossing is needed here.
- Keep slower parkway speeds throughout Golden with traffic speed calming for construction (between south of 19th Street and Golden Gate Canyon Road).
- Speed limit reduction on US 6 needed through Golden.



## General Comments

### *Ideas*

- Landscape to soften the US 6/SH 58 Interchange with native, low water shrubs, trees, etc.
- Consider a lower grade for this area (19th Street and Washington Avenue).
- US 6 and SH 58 must be like US 6 & 19th.
- Bury SH 93 as far as possible.
- US 6 and Iowa Street must be like US 6 & 19th.

### *Noise*

- Loud vehicles going uphill against the hogback will be amplified.
- Add noise barriers for neighborhood north of US 6 and Pine Ridge Road.
- Add noise barriers for neighborhood north of US 6 and SH 58.
- Add noise barriers south of West 56th Avenue to the north of West 58th Avenue.
- For neighborhood to the north of the US 6 and SH 59 intersection, a natural noise berm is preferred to a wall.
- Sound travels straight across roadway south of West 56th Avenue to the north of West 58th Avenue.
- Regardless of final design/concept, please build in noise barriers along 93 to areas where houses back up to the road.

## SH 93 Segment

### Highway

- Would be great to have two lanes in each direction with divided highway.
- I believe that SH 93 needs to be widened to four lanes between Boulder and Golden (one other person agreed).
- Widen SH 93 to four lanes/lane balance.
- Slow SH 93 down and make it a four lane parkway.
- Put opposing traffic barriers along SH 93 to prevent head-on crashes.
- Add median on SH 93.
- If nothing else, widen shoulders on SH 93.
- SH 93 needs to be widened enough to allow for both vehicles and bicycles to feel comfortable on the roadway.
- Please carry three through lanes up the hill with a dedicated turn lane.
- Add extending turn and merge lanes for trucks and traffic between SH 72 and Boulder. Four lanes would be great too, but trucks are currently forced to slow and cut off traffic to merge.



- Possible center turn lane for vehicles pulling into/out of businesses and residential buildings along SH 93 (such as the Hogan Ranch, The Sawmill, and Rocky Flats Lounge). Even a flashing light or rumble strips alerting motorists of possibly slower/turning vehicles, including buses, would make the corridor safer.
- Make it four lanes all the way.

## Intersections/Interchanges

- Improve confusing laneage around SH 72.
- Good to have access to Rocky Flats from SH 93 and through Rocky Flats.
- Advanced detection at SH 93 and SH 170?
- I would like to suggest roundabouts at some of the major SH 93 intersections (Hwy 128, Hwy 72, 64th Avenue).
- Is there a possibility for a future signal at West 82nd Avenue/Indian Head Drive and SH 93?
- Pull out lane for trucks leaving the Trinity plant starts on a hill. Most motorists race to pass one another in the short stretch of two lane (southbound) which ends (back to a single lane southbound), which backs up traffic tremendously causing accidents. Any way to extend the two lanes further south of make the entire highway two lanes would help greatly.

### *Extend turn and merge lanes*

- Extend turn/merge lanes along SH 93, this will help trucks. Grade into intersection to north at SH 93 and SH 170.
- The northbound right turn lane to 82nd Avenue is not long enough and the deceleration taper is not long enough, so cars back into SH 93.
- Extend the merge lane at SH 93 and SH 128.

## Multimodal Elements

### *Transit*

- Pedestrian crosswalks are needed at 68th Avenue. People are dropped off by the RTD bus on the west side of SH 93 and try crossing the busy, high-speed SH 93 to get to the east side and to the informal park and ride on the south side of 68th Avenue. Have seen some near misses and folks waiting in the narrow painted median to cross while vehicles are passing by them on both sides.
- Is a Light Rail line between Boulder and Golden a consideration?
- Somewhere near the intersection of West 64th and SH 93, examine the feasibility of Park and Ride lots to accommodate patrons of bus lines running between Boulder and Golden.

### *Bike Connections*

- Need off-highway hard surface bike path the entire route between Boulder and Golden.
- Add independent bike lane on SH 93.
- Bicyclist should be on separated path (not shoulder) along SH 93.



- Between SH 72 and SH 128, please consider adding a separated bike/ped facility.
- Need to have a separated bike facility on SH 93. Would be good to have a hard surface. C-470 bikeway and US 36 bikeways is a good example.
- Consider adding an underpass at Milepost 272 for bikers/peds.

## Corridor Management

- Signal timing, continuous green T at SH 93 and SH 128.
- Consider some form of berm or snow fence along this stretch of highway (between SH 72 and SH 128). In the winter, the wind can pick up snow from the ground and lay down a 100'-200' stretch of snow/ice on another usually dry highway. (Four people agreed). Record wind was 200+ mph out on SH 93.

## General Comments

- Corridor lighting needed along SH 93.
- Fill in rumble strips in sections where shoulder is less than five feet wide between 64th Parkway and SH 128.
- Please suggest add transverse rumble strips.
- I travel Indiana Street every day. The bad spots south of 86th are 72nd, 64th, and 80th in that order. North of 86th is easy and should be four lane/60 mph. If we fix those places, we don't need the Jeffco Parkway/470 extension. Stay off/don't risk releasing radiation from Rocky Flats.

## Corridor-Wide / Multi-Segment

### Highway

- Six lanes from Morrison to Lucent.
- Additional lanes.

### Multimodal Elements

- To the degree they haven't yet, CDOT and partner jurisdictions should collaborate on additional ride share opportunities within the corridor. I'm not sure what the optimal treatments or services would be but we suggest looking at what other DOTs have done to reduce or maintain current levels of congestion along multi-jurisdictional corridors. This could include privatized van pools, car pools, new park & ride lots at key intersections (i.e. 72nd Avenue).

### Transit

- Be creative with the Park-n-ride space and parking (RTD has the infrastructure and Lyft/Uber has the software so need to work together). Need coffee shop at Park-n-ride. Need to have heating. Wi-Fi is needed here. Emergency ride home needed.
- Improving Lakewood-Boulder transit service would be good to help long distance commuters who live on the west side of metro Denver.



- Identify key transit hubs along the C-470/US 6/SH 93 corridor and work with RTD and local jurisdictions to program more regional transit with BRT, shared mobility and robust one-mile radius for active transportation.
- Please improve the transit service on this corridor (Golden Study, Golden to Boulder). Currently the limited span of service makes it useless for people who work late and the non-existent weekend service makes it useless for recreational purposes. CDOT's Bustang will eventually serve Denver recreators going to mountains. Would be great for Boulderites to be able to ride GS to Bustang.
- If current RTD bus lines serving the corridor (between Boulder & Golden) are not operating at capacity, are there incentives that can be offered to major employers (i.e. NREL, Coors, Mines, etc.) to encourage bus ridership?
- Light rail through corridor.
- Run light rail from the Taj Mahal station to Boulder.
- Bus stop infrastructure should be comfortable for people to actually wait at. Lights, seating, heat, etc.
- Would be great to have rail from Golden to Red Rocks and then down to Ken Caryl. Would be great for tourism and access. Bus would be good too.
- Bustang service from Boulder to mountains needed.
- Work with major employers and employment centers within five miles [Molson/Coors, School of Mines, CU, Ball Corp, Lockheed, St. Anthony] for dedicated circulator shuttles from transit hubs.

### ***Bike Connections***

- Bike facilities should be in the form of separate paths, not shoulders/on street lanes. Shoulders on roads with 20,000+ ADT and 50+ mph are too intimidating for the majority of people to ever consider using.
- More dedicated bike and pedestrian lanes plus roundabouts instead of traffic lights.
- Separate completely bikes and pedestrians from cars. Given the possibilities of negative interaction and the recreational opportunities available to cyclists and pedestrians in the area, how can you, in good conscience, do otherwise?
- Bicycle paths needed to remove cyclists from congested or narrow roads.
- Would be great to have separate bike facility like US 36 bikeways.
- This project should build to Colorado Front Range Trail.
- More bike facilities and separated bike facility desired.
- Short term signal adjustments and turning behavior modifications should include bike signals and pedestrian timing.

### **Corridor Management**

- Limit large commercial vehicles to non-commuter hours.
- Need wildlife crossing over the roadway that would be grassy.
- Increased number of wildlife crossings/fencing.



- Please consider for certain sections of the corridor congestion/demand pricing for peak hour travel.

## Technology

- I know there aren't many viable alternatives to SOVs just yet. I still hope, though, that this project does NOT enable the flow of any more SOVs through this corridor. I certainly appreciate CDOT's current emphasis on mobility, as evidenced by the past three CDOT Summits that I've attended. I know RoadX and similar efforts will start closer to central Denver, but I hope to see this corridor is at least "made ready" for similar mobility technologies to be adapted quickly and easily.

## General Comments

- Do nothing.
- Cell phone use while driving should be completely banned.
- Stagger work hours.
- Require alternate drive days.
- Start ticketing texters (drivers).

## Outside of Study Area

- It would be really nice to have a safe bicycle and pedestrian crossing of Hwy 93 to connect to Marshall Road which leads Boulder's wonderful off-street paved bike paths. Luckily, we have the South Boulder Creek bridge that could easily accommodate an underpass! A bike/pedestrian bridge would have to be built crossing the creek just on the east side of the Hwy 93 bridge. The whole neighborhood should benefit.
- Need Morrison to DTC transit service.
- Park-n-ride in Lakewood or Federal would be great. Have limited service with limited stops to provide express service from the area to DTC. Would be good to go south on Kipling to hook on to C-470 and then access DTC.
- Why is the toll road from Wadsworth to I-25 only one extra lane? You could build two for not much more money.
- Widen SH 72.
- The study needs to include the expansion of SH 72 since it intersects SH 93 in a fast growing area of Arvada and Jefferson County. The corridor needs to have as few access points and traffic signals as possible since that's what causes congestion and accidents.
- Could we look at widening Leyden Road (West 82nd Avenue)?



## Please provide general suggestions and comments regarding this transportation study.

### Improvements

- Adding capacity should be done only to accommodate a dedicated lane for shared mobility/transit/active transportation.
- Concern about cost of the improvements.
- The construction/addition of new (motorized) lane capacity should be a last resort in examining options for congestion mitigation. While 'spot' improvements may be the optimal treatment at select (intersection) locations (i.e. the addition of a new turn lane) but the addition of new lane miles along main line sections is not the answer. Simply, CDOT and partnering jurisdictions can't afford it and the old adage applies to this study area: 'You can't build your way out of congestion' despite what model runs may say.
- Thank you for the opportunities for comment and suggestions. No one wants a highway in their community. Roads don't serve the community, they separate the community and separate those in vehicles from the community.

### Multimodal

- Multimodal and bike should be priority over cars only. Make it hard to drive; get people out of their single occupancy vehicles.
- 100L is great service.
- Issue of final mile.
- Public commentary and viewing seems a good idea involving RTD for new bus routes; for example, from the Federal Center Park-N-Ride to Kipling (south) to C-470 to DTC would be great.

### Golden Plan/Other Studies & Roadways

- Relying on Golden's Plan to do grade separated interchanges (which are not funded) makes the whole process "putting cart before horse".
- Given what's been started at US 6 & 19<sup>th</sup>, your only real hope for success is a series of similar projects at other identified intersections, else all you've done is make bigger backups there.
- The comment was made that covering extended sections of US 93 near Mitchell Elementary would be "too expensive". How much? Golden home prices continue to sky rocket because people want to live here. What if we make it great the first time? Think of all the additional services from property tax, home sales, etc.
- Are there any good ideas that were left over from the northwest trans. study done approximately 10 years ago?
- Too much focus on US 36. Look at opportunity for development by connectivity to Jefferson Parkway. We need to look "uphill".
- Why does 470 "loop" expansion use 93? Why not more interior to Denver?
- This has been studied to death and it's just another excuse to stall and stall some more. It would be nice if someone at CDOT would take the bull by-the-horns and execute what should have



been done long before and finish the original concept of a complete continuous highway around our entire city. No Parkways with lights and intersections but a continuous Highway!

- What are CDOT plans for completing the beltway? How will connection be made from 120<sup>th</sup> north to Northwest Parkway? Don't agree with a private enterprise with foreign equity funding the tollway. If the connection is needed, should be funded with United States based funds.
- Live in Superior. Worried about exit to Indiana and traffic increase with going to McCaslin that would occur with the creation of Jefferson Parkway. McCaslin was not made for high traffic use that would occur with the Jefferson Parkway.

## General Comments

- I believe that keeping SH 93 aesthetically pleasing with a "rural" feel is important. It keeps the character of Colorado. It would be a shame to lose the views of the surrounding mountains, etc. (three other people agreed)
- Make sure to integrate all the adjacent agencies transportation and zoning plans into the study to have cohesion among the entire corridor.
- Thank you for allowing input. Now please implement the 6 and 19<sup>th</sup> model elsewhere, and tax like hell for it – particularly developers who build and bring the people.
- The PEL travel forecast period is only measured in summer months - why not 12 months?
- Who is driving purpose/need/goals? It doesn't appear to be public.
- Growth requires SH 93 improvements. Golden has a good plan to get SH 93 through town. What's worse, the traffic south or north? I fear there is too much to do. SH 93 is the orphan road – I vote fix it first.
- I suggest improvements to SH 93, especially in Golden. Main route would be down Indiana to 86<sup>th</sup>, then west to SH 93.
- Concerned about connection to I-25 on C-470.
- Issues with drivers texting.
- I take 93 to 6<sup>th</sup> to Downtown Denver because it is faster than US 36.
- Consider advertising future telephone town hall and public meetings in local newspapers and include a graphic as this is what will get attention.
- We need a solution to the traffic congestion. However, the foot hills of the Dakota Ridge should be preserved and not commercially developed, especially between Ken Caryl Ave and I-70.
- Do not waste any more money on the Jefferson Parkway Toll Highway.
- Do not show Jefferson Parkway on maps. McCaslin Boulevard is the most important corridor.
- Show bike/ped connections on maps.
- On maps mislabeled parks (per Jefferson County Open Space rep.): Mt. Galbraith Park north of US 6, and Windy Saddle/Clear Creek Canyon Park south of US 6.
- Add 72<sup>nd</sup> widening to existing plans.

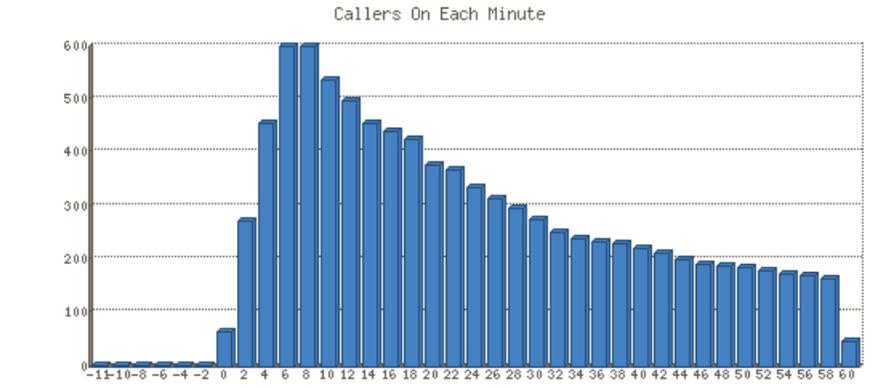
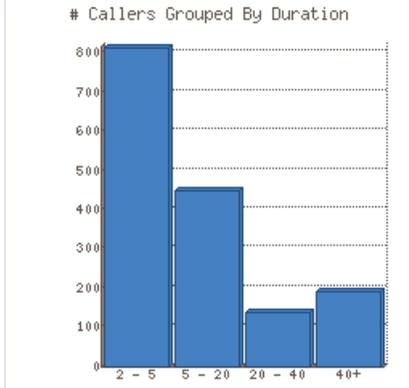
Colorado Department of Transportation, WestConnect Coalition (website)

2,721 Attendees

Attendees	Peak Attendees	Entered Queue	Screened	Contributed	Went Live	Voicemails
2,656 (Outbound) 58 (Inbound) 4 Hosts 3 Screeners	786	44	35	0	28	7

Minutes and Totals

TeleForum Length	Type	Total Minutes	Avg Minutes
60 minutes	Direct Connect	22,344 (2,354 Inbound)	14



Colorado Department of Transportation, WestConnect Coalition

Polls

Question	Time Asked	Responses																												
#1 - Do you agree or disagree with the Draft Project Purpose and Need?	19:07	<table border="1"> <thead> <tr> <th>Answer</th> <th>Key</th> <th>Votes</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Strongly agree</td> <td>1</td> <td>89</td> <td>45%</td> </tr> <tr> <td>Somewhat agree</td> <td>2</td> <td>64</td> <td>32%</td> </tr> <tr> <td>Disagree</td> <td>3</td> <td>44</td> <td>22%</td> </tr> <tr> <td colspan="2"><b>Total Votes:</b></td> <td><b>197</b></td> <td></td> </tr> </tbody> </table>	Answer	Key	Votes	%	Strongly agree	1	89	45%	Somewhat agree	2	64	32%	Disagree	3	44	22%	<b>Total Votes:</b>		<b>197</b>									
Answer	Key	Votes	%																											
Strongly agree	1	89	45%																											
Somewhat agree	2	64	32%																											
Disagree	3	44	22%																											
<b>Total Votes:</b>		<b>197</b>																												
#2 - What portion of the WestConnect corridor do you travel on most often?	19:17	<table border="1"> <thead> <tr> <th>Answer</th> <th>Key</th> <th>Votes</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>C-470 from Kipling to I-70</td> <td>1</td> <td>66</td> <td>30%</td> </tr> <tr> <td>Us 6 from 1-70, through Golden, and a portion of CO 93 to 64th A</td> <td>2</td> <td>25</td> <td>11%</td> </tr> <tr> <td>64th Avenue to Marshall Road</td> <td>3</td> <td>30</td> <td>14%</td> </tr> <tr> <td>Travel multiple segments or the entire corridor</td> <td>4</td> <td>83</td> <td>38%</td> </tr> <tr> <td>Rarely or never travel the corridor</td> <td>5</td> <td>17</td> <td>8%</td> </tr> <tr> <td colspan="2"><b>Total Votes:</b></td> <td><b>221</b></td> <td></td> </tr> </tbody> </table>	Answer	Key	Votes	%	C-470 from Kipling to I-70	1	66	30%	Us 6 from 1-70, through Golden, and a portion of CO 93 to 64th A	2	25	11%	64th Avenue to Marshall Road	3	30	14%	Travel multiple segments or the entire corridor	4	83	38%	Rarely or never travel the corridor	5	17	8%	<b>Total Votes:</b>		<b>221</b>	
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<b>Total Votes:</b>		<b>221</b>																												
#3 - How important do you think it is for the study to plan for future and emerging technology that may impact transportation but is not yet fully developed or available, such as self-driving vehicles?	19:39	<table border="1"> <thead> <tr> <th>Answer</th> <th>Key</th> <th>Votes</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Very important</td> <td>1</td> <td>38</td> <td>39%</td> </tr> <tr> <td>Somewhat important</td> <td>2</td> <td>41</td> <td>42%</td> </tr> <tr> <td>Not important</td> <td>3</td> <td>18</td> <td>19%</td> </tr> </tbody> </table>	Answer	Key	Votes	%	Very important	1	38	39%	Somewhat important	2	41	42%	Not important	3	18	19%												
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Very important	1	38	39%																											
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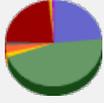
Total Votes: 97

### Broadcasts

TeleForum Broadcast (id 470911) - TeleForum: WestConnect PEL TeleForum 11/9 (ID 11457) (xx) (Direct Connect)

Status: Archived

Graph



Code	Result	Count	Percent
1002	Live Answer	11,665	23 %
1009	Answering Machine	23,279	47 %
1006	Busy	854	2 %
1005	No Answer	1,359	3 %
1008	Fax	640	1 %
1003	Operator Intercept	11,292	23 %
1004	No Ring	27	0 %
1998	After Call Deadline	429	1 %
1995	Outside of Curfew	370	1 %
<b>Total</b>		<b>49,915</b>	



**Telephone Town Hall - Questions Submitted During Call  
November 9, 2016**

<b>Name</b>	<b>Question</b>
Betsie	Are any of these proposed routes tollways?
Eric	Are there plans to put in a berm or soundwall along 93 at West 58th along those two neighborhoods close to 93?
Kathy	Bike Lanes planning on adding bike lanes like US 36?
Josh	Does this include public transit as well?
Fred	Hi 72 between 93 along Hi 72 over to connection at Stanley Lake -- why are there only 2 lanes between 93 and Indiana?
Rob	Hi 93 section will snow/wind closures be taken into consideration?
Con	How do you determine when to overlay existing road?
Kurt	How does the development of Jefferson Parkway affect the improvements of 93 up to Marshall Road?
Douglas	How is this project being funded? Is it going to be a toll road?
Bob	How many impact and environmental studies have been done on this project causing delay?
John	Is 93 going to be incorporated in the completion of 470?
Charlise	Is foreign investment being investigated?
Dan	Is there going to be any kind of mitigation for high winds and snow?
Nancy	Is this public/private partnership is going to preclude fixing other roads?
Judy	Looking into roadway initiatives further north on 93 to connect to e470 to Leyden Rock and Candellas?
Lori	Missed information on telephone number and website?
Julie	North of Golden could become toll. How would residence of Cold Creek Canyon get to Golden?
Vicky	Re: Wildlife mitigation. Planning on providing overpass or underpass for wildlife?
Anita	The noise along 470 is terrible. Are there plans to fix this?
Ronald	Wants to say use of roundabouts very beneficial. One problem in CO - sometimes they plant trees in middle of roundabout and you can't see across -- not good.
Beth	Was a citizen who attended meetings while building C470 (Lives near SW Green Mountain Area). Knows they paid attention and gave safe routes in increment weather. What are plans for safety alternatives with this project?
Christopher	What about weather delays? 93 is mess during bad weather.
Alex	What are the plans to protect the beauty?
John	What improvements at Sawmill Rd turnoff? 2nd Q.
Arell	What is preventing CO from using similar procedures as other places?
Jan	What is status of widening of C470 to include toll lane? What is current projection of start/completiion? Plan of action once completed knowing it will be insufficient to resolve the problem?
Paul	What kind of timeframe are you looking at for this project?
Hank	What roads are you talking about on this call?
Kim	When are each of the projects on the map to be completed? Can't find it on website.
Frank	Where would he find information on the changes that are being planned (map layout info needed)?
Susan	While doing construction are you going to be disrupting wildlife and deer habitat?
Katherine	Why Kipling instead of Wads or Santa Fe?
Lois	Will there be a toll on road?
Joelle	Will there be any studies be conducted at the intersection of 82nd and 93?



December 9, 2016

## DRAFT Concept Development

### C-470 Segment

#### *Highway*

- Six General Purpose Lanes
- Four General Purpose Lanes with Managed Lanes
- Four/Six Lanes with Bus-on-Shoulder Lanes
- Four/Six Lanes with Peak Period Shoulder Lanes
- Auxiliary Lanes between Interchanges
- Increased Capacity/Operational Improvements of Local Roadways

#### *Intersections/Interchanges*

- Braided Ramps
- Diverging Diamond Interchange
- Roundabouts Interchange
- Ramp Reconfiguration

#### *Multimodal Elements*

- Pedestrian/Bicyclist Grade Separations at Interchanges
- Improved Crossings for Pedestrians/Bicyclists at Ramp Traffic Signals
- Improved C-470 Trail Connections to Neighborhoods
- Improved C-470 Trail Continuity through Bear Creek Lake Park
- C-470 Trail Signage/Wayfinding Improvements
- New/Improved Park-n-Ride Facilities
- Improved Transit Service

#### *Corridor Management*

- Travel Demand Management Strategies
- Incident Management
- Event Traffic Management
- Wildlife Crossings
- Snow Fence

#### *Technology*

- Autonomous Vehicle Lanes
- Variable Speed Limits
- Dynamic Lane Use
- Speed Harmonization
- Queue Warnings
- Ramp Metering
- Wildlife Detection and Alert Systems
- Enhanced Communications Infrastructure
- Improved Traveler Information Signs
- Enhanced Lane Markings



## Golden Segment

### *Highway*

- Six General Purpose Lanes
- Four General Purpose Lanes with Managed Lanes
- Bus-on-Shoulder Lanes
- Four Lanes with Peak Period Shoulder Lanes
- New Alignment with Widening
- Cable Rail Barrier Median
- Widened Shoulders

### *Intersections/Interchanges*

- Additional Turn Lanes at Intersections
- Grade-Separated Interchanges
- Frontage Road Connections
- Light Rail Grade Separation at Intersection

### *Multimodal Elements*

- Pedestrian/Bicyclist Grade Separations
- Improved Crossings for Pedestrians/Bicyclists at Traffic Signals
- Separated Trail Improvements/Extension
- Improved Transit Service
- Bus Queue Jump Lanes

### *Corridor Management*

- Travel Demand Management Strategies
- Enhanced Maintenance Program
- Access Management
- Incident Management
- Wildlife Crossings

### *Technology*

- Adaptive Traffic Signals
- Variable Speed Limits
- Queue Warnings
- Wildlife Detection and Alert Systems
- Enhanced Communications Infrastructure
- Improved Traveler Information Signs



December 9, 2016

## Potential Improvements not included in Study Concepts

There are general ideas and potential improvement concepts identified by the public and/or attendees at the Alternatives Workshop that will not be evaluated with this study because they do not meet the project Purpose and Need, they would require programmatic or policy decisions, or they are outside CDOT and local agency control. These concepts, listed below, may be considered with future studies or other projects or programs.

### General

- Increased enforcement for texting/distracted driving
- Commercial vehicle hour limitations
- Law restricting cell phone use while driving

### C-470 Segment

- Better driver education
- Add wings to plow trucks for snow removals
- Solar pavement on shoulders
- Managed lane enforcement
- Corridor-wide land use management
- Debris removal along C-470 Trail
- Vehicle-to-vehicle technology
- Vehicle-to-infrastructure technology
- In-vehicle head-up information for traveler information/weather/incidents
- Autonomous vehicles
- Noise barrier

### Golden Segment

- Gateway feature
- Trail maintenance
- Corridor-wide land use management
- Noise barrier
- Additional landscaping
- Additional trailhead access off US 6
- Prohibit use of jake braking along US 6

### CO 93 Segment

- High resolution mapping of roadway features
- New roadway connection and access through Rocky Flats



## CO 93 Segment

### *Highway*

- Four General Purpose Lanes
- Bus-on-Shoulder Lanes
- Two Lanes with Additional Passing Lanes
- New Split Alignment with Widening
- Widened Shoulders
- Increased Capacity/Operational Improvements of Local Roadways

### *Intersections/Interchanges*

- Additional Turn Lanes at Intersections
- Grade-Separated Interchange
- Roundabout
- Channelized T Intersection
- Median U-Turn Intersection
- Continuous Flow Intersection
- Grade-Separated Turning Movement

### *Multimodal Elements*

- Pedestrian/Bicyclist Grade Separations
- Improved Crossings for Pedestrians/Bicyclists at Traffic Signals
- Separated Trail
- Improved Pedestrian/Bicyclist Connections to Other Trails
- Improved Transit Service
- Bus Queue Jump Lanes
- Improved Bus Stop Facilities
- New/Improved Park-n-Ride Facilities

### *Corridor Management*

- Travel Demand Management Strategies
- Enhanced Maintenance Program
- Access Management
- Incident Management
- Wildlife Crossings
- Additional Snow Fence

### *Technology*

- Advanced Signal Warning Flashers
- Adaptive Traffic Signals
- Variable Speed Limits
- Queue Warnings
- Wildlife Detection and Alert Systems
- Enhanced Communications Infrastructure
- Improved Traveler Information Signs
- Enhanced Lane Markings
- Road/Weather Information Systems

## DRAFT Level 1 Screening

The purpose of the Level 1 screening is to eliminate fatally flawed concepts or concepts that do not meet the project Purpose and Need. Some concepts may only meet a portion of the Purpose and Need and will be evaluated for further consideration as an element of a corridor-wide alternative. The initial concepts were developed from reasonable options focused on addressing the project's Purpose and Need and issues identified in the evaluation of existing conditions with input from the project team, the Technical Working Group (TWG), and general public. The concepts are categorized by highway cross-section, intersections/interchanges, multimodal elements, corridor management, and technology.

Concepts are intended to be potential components to a comprehensive alternative for each corridor segment. Concepts will be evaluated with a "Yes" or "No" answer to the following questions to demonstrate each concept's ability to meet the project Purpose and Need:

- Safety Concerns
  - » Does the concept provide safety improvements along the WestConnect corridor?

- Recurring Congestion
  - » Does the concept reduce current and future delays and queuing experienced along the WestConnect corridor?
- Operational Performance
  - » Does the concept improve geometric characteristics that create traffic disruptions?
  - » Does the concept improve existing and future multimodal operations along the WestConnect corridor?
  - » Does the concept reduce multimodal conflicts and disruptions?

The questions represent the general ability of the concepts to meet the individual needs. If a concept could not meet any of the criteria, it was eliminated from further consideration. However, if a concept was able to meet most of the needs, it was retained for further consideration in Level 2 screening. Retained concepts will not necessarily be appropriate for the entire length of the corridor segment and some concepts may be considered for only a short section of the corridor.

### Level 1 Screening Matrix

CONCEPTS	SAFETY CONCERNS	RECURRING CONGESTION	OPERATIONAL PERFORMANCE			SUMMARY OF RESULTS	ADDITIONAL COMMENTS
	DOES THE CONCEPT PROVIDE SAFETY IMPROVEMENTS ALONG THE WESTCONNECT CORRIDOR?	DOES THE CONCEPT REDUCE CURRENT AND FUTURE DELAYS AND QUEUING EXPERIENCED ALONG THE WESTCONNECT CORRIDOR?	DOES THE CONCEPT IMPROVE GEOMETRIC CHARACTERISTICS THAT CREATE TRAFFIC DISRUPTIONS?	DOES THE CONCEPT IMPROVE EXISTING AND FUTURE MULTIMODAL OPERATIONS ALONG THE WESTCONNECT CORRIDOR?	DOES THE CONCEPT REDUCE MULTIMODAL CONFLICTS AND DISRUPTIONS?		
<b>C-470 Segment - Kipling to I-70/US 6</b>							
No Action	No	No	No	No	No	Retained	Retained to evaluate as baseline condition for comparison
<b>HIGHWAY</b>							
Six General Purpose Lanes	Yes	Yes	Yes	No	No	Retained	
Four General Purpose Lanes with Managed Lanes	Yes	Yes	Yes	No	No	Retained	
Four/Six Lanes with Bus-on-Shoulder Lanes	No	Yes	No	Yes	No	Retained	Retained as an element to enhance improved transit service
Four/Six Lanes with Peak Period Shoulder Lanes	No	Yes	No	No	No	Retained	Retained as an element to reduce congestion during peak hours
Auxiliary Lanes between Interchanges	Yes	Yes	Yes	No	No	Retained	
Increased Capacity/Operational Improvements on Local Roadways	No	No	No	No	No	Eliminated	Does not provide additional capacity or safety or operational improvements along C-470
<b>INTERSECTIONS/INTERCHANGES</b>							
Braided Ramps	Yes	Yes	Yes	No	No	Retained	
Diverging Diamond Interchange	Yes	Yes	Yes	No	No	Retained	
Roundabouts Interchange	Yes	Yes	Yes	Yes	No	Retained	
Ramp Reconfiguration	Yes	Yes	Yes	No	No	Retained	

CONCEPTS	SAFETY CONCERNS	RECURRING CONGESTION	OPERATIONAL PERFORMANCE			SUMMARY OF RESULTS	ADDITIONAL COMMENTS
	DOES THE CONCEPT PROVIDE SAFETY IMPROVEMENTS ALONG THE WESTCONNECT CORRIDOR?	DOES THE CONCEPT REDUCE CURRENT AND FUTURE DELAYS AND QUEUING EXPERIENCED ALONG THE WESTCONNECT CORRIDOR?	DOES THE CONCEPT IMPROVE GEOMETRIC CHARACTERISTICS THAT CREATE TRAFFIC DISRUPTIONS?	DOES THE CONCEPT IMPROVE EXISTING AND FUTURE MULTIMODAL OPERATIONS ALONG THE WESTCONNECT CORRIDOR?	DOES THE CONCEPT REDUCE MULTIMODAL CONFLICTS AND DISRUPTIONS?		
<b>MULTIMODAL ELEMENTS</b>							
Pedestrian/Bicyclist Grade Separation at Interchanges	Yes	No	No	Yes	Yes	Retained	Retained as an element to enhance multimodal safety and operational improvements
Improved Crossings for Pedestrians/Bicyclists at Ramp Traffic Signals	Yes	No	No	Yes	Yes	Retained	Retained as an element to enhance multimodal safety and operational improvements
Improved C-470 Trail Connections to Neighborhoods	No	No	No	No	No	Eliminated	Does not provide additional capacity or safety or operational improvements along C-470
Improved C-470 Trail Continuity through Bear Creek Lake Park	No	No	No	Yes	No	Eliminated	Major infrastructure with substantial impacts that does not provide additional capacity or safety improvements along C-470
C-470 Trail Signage/Wayfinding Improvements	No	No	No	Yes	No	Retained	Retained as an element to enhance multimodal operations along the C-470 Trail
New/Improved Park-n-Ride Facilities	No	No	No	Yes	No	Retained	Retained as an element to increase transit use and carpooling along the corridor
Improved Transit Service	No	Yes	No	Yes	No	Retained	Retained as an element to increase transit use and to reduce volumes on C-470
<b>CORRIDOR MANAGEMENT</b>							
Travel Demand Management Strategies	No	Yes	No	Yes	No	Retained	Retained as a system management element to reduce congestion and enhance operations
Incident Management	Yes	No	No	Yes	No	Retained	Retained as a system management element to enhance safety and operations during freeway incidents
Event Traffic Management	Yes	No	No	No	No	Retained	Retained as a system management element to enhance safety and reduce congestion during events that create increased traffic on C-470
Wildlife Crossings	Yes	No	No	No	No	Retained	Retained as an element to mitigate crashes related to wildlife crossings
Snow Fence	Yes	No	Yes	No	No	Retained	Retained as an element to mitigate crashes and issues related to blowing, drifting snow
<b>TECHNOLOGY</b>							
Autonomous Vehicle Lanes	Yes	Yes	Yes	No	No	Retained	Retained as future technology to improve safety, reduce freeway congestion, and enhance operations along C-470
Variable Speed Limits	Yes	Yes	No	No	No	Retained	Retained as a technology element to improve safety and reduce congestion related to speed
Dynamic Lane Use	Yes	Yes	Yes	No	No	Retained	Retained as a technology element to improve safety and reduce congestion related to lane drops and merging issues
Queue Warnings	Yes	No	No	No	No	Retained	Retained as a technology element to mitigate rear end crashes related to unexpected queues
Ramp Metering	Yes	Yes	Yes	No	No	Retained	Retained as a technology element to enhance safety and operations at ramp merge areas
Wildlife Detection and Alert Systems	Yes	No	No	No	No	Retained	Retained as a technology element to mitigate crashes related to wildlife crossings
Enhanced Communications Infrastructure	Yes	Yes	No	No	No	Retained	Retained as a technology element to enhance safety and reduce congestion
Improved Traveler Information Signs	Yes	Yes	No	No	No	Retained	Retained as a technology element to enhance safety and reduce congestion
Enhanced Lane Markings	Yes	No	Yes	No	No	Retained	Retained as a technology element to mitigate crashes related to distracted driving and lane visibility

CONCEPTS	SAFETY CONCERNS	RECURRING CONGESTION	OPERATIONAL PERFORMANCE			SUMMARY OF RESULTS	ADDITIONAL COMMENTS
	DOES THE CONCEPT PROVIDE SAFETY IMPROVEMENTS ALONG THE WESTCONNECT CORRIDOR?	DOES THE CONCEPT REDUCE CURRENT AND FUTURE DELAYS AND QUEUING EXPERIENCED ALONG THE WESTCONNECT CORRIDOR?	DOES THE CONCEPT IMPROVE GEOMETRIC CHARACTERISTICS THAT CREATE TRAFFIC DISRUPTIONS?	DOES THE CONCEPT IMPROVE EXISTING AND FUTURE MULTIMODAL OPERATIONS ALONG THE WESTCONNECT CORRIDOR?	DOES THE CONCEPT REDUCE MULTIMODAL CONFLICTS AND DISRUPTIONS?		
<b>Golden Segment - US 6 from C-470 to CO 58 and CO 93 from CO 58 to 64<sup>th</sup> Avenue</b>							
No Action	No	No	No	No	No	Retained	Retained to evaluate as baseline condition for comparison
<b>HIGHWAY</b>							
Six General Purpose Lanes	Yes	Yes	Yes	No	No	Retained	Retained within constraints of the volume threshold identified in the <i>Golden Plan Memorandum of Understanding</i>
Four General Purpose Lanes with Managed Lanes	Yes	Yes	Yes	No	No	Retained	Retained within constraints of the volume threshold identified in the <i>Golden Plan Memorandum of Understanding</i>
Four Lanes with Bus-on-Shoulder Lanes	No	Yes	No	Yes	No	Retained	Retained as an element to enhance improved transit service
Four Lanes with Peak Period Shoulder Lanes	Yes	Yes	No	No	No	Retained	Retained as an element to reduce congestion during peak hours
New Alignment with Additional Lanes	Yes	Yes	Yes	Yes	Yes	Retained	Retained as identified in the <i>Golden Plan</i>
Widened Shoulders	Yes	No	Yes	Yes	Yes	Retained	Retained as a design element to enhance safety, operations, and multimodal conflicts
<b>INTERSECTIONS/INTERCHANGES</b>							
Additional Turn Lanes at Intersections	Yes	Yes	Yes	No	No	Retained	
Grade Separated Interchange	Yes	Yes	Yes	Yes	Yes	Retained	Retained as identified in the <i>Golden Plan</i>
Frontage Road Connections	Yes	Yes	Yes	No	Yes	Retained	Retained as identified in the <i>Golden Plan</i>
Light Rail Grade Separation at Intersection	Yes	Yes	Yes	Yes	Yes	Retained	Retained for consideration at Johnson Road light rail crossing
<b>MULTIMODAL ELEMENTS</b>							
Pedestrian/Bicyclist Grade Separations	Yes	No	No	Yes	Yes	Retained	Retained as an element to enhance multimodal safety and operational improvements
Improved Crossings for Pedestrians/Bicyclists at Traffic Signals	Yes	No	No	Yes	Yes	Retained	Retained as an element to enhance multimodal safety and operational improvements
Separated Trail Improvements/Extension	Yes	No	No	Yes	Yes	Retained	Retained as an element to improve multimodal safety and operational improvements
Improved Transit Service	No	Yes	No	Yes	No	Retained	Retained as an element to increase transit use and to reduce volumes on US 6/CO 93
Bus Queue Jump Lanes	No	Yes	Yes	No	No	Retained	Retained as an element to enhance improved transit service
<b>CORRIDOR MANAGEMENT</b>							
Travel Demand Management Strategies	No	Yes	No	No	No	Retained	Retained as a system management element to reduce congestion and enhance operations
Enhanced Maintenance Program	Yes	Yes	No	No	No	Retained	Retained as a system management element to enhance safety and operations
Access Management	Yes	Yes	Yes	No	No	Retained	Retained as a system management element to enhance highway safety and operations
Incident Management	Yes	No	No	No	No	Retained	Retained as a system management element to enhance safety and operations during highway incidents
Wildlife Crossings	Yes	No	No	No	No	Retained	Retained as an element to mitigate crashes related to wildlife crossings

CONCEPTS	SAFETY CONCERNS	RECURRING CONGESTION	OPERATIONAL PERFORMANCE			SUMMARY OF RESULTS	ADDITIONAL COMMENTS
	DOES THE CONCEPT PROVIDE SAFETY IMPROVEMENTS ALONG THE WESTCONNECT CORRIDOR?	DOES THE CONCEPT REDUCE CURRENT AND FUTURE DELAYS AND QUEUING EXPERIENCED ALONG THE WESTCONNECT CORRIDOR?	DOES THE CONCEPT IMPROVE GEOMETRIC CHARACTERISTICS THAT CREATE TRAFFIC DISRUPTIONS?	DOES THE CONCEPT IMPROVE EXISTING AND FUTURE MULTIMODAL OPERATIONS ALONG THE WESTCONNECT CORRIDOR?	DOES THE CONCEPT REDUCE MULTIMODAL CONFLICTS AND DISRUPTIONS?		
<b>TECHNOLOGY</b>							
Adaptive Traffic Signals	No	Yes	Yes	No	No	Retained	Retained as an element to enhance traffic signal operations
Variable Speed Limits	Yes	Yes	No	No	No	Retained	Retained as a technology element to improve safety and reduce congestion related to speed
Queue Warnings	Yes	No	No	No	No	Retained	Retained as a technology element to mitigate rear end crashes related to unexpected queues
Wildlife Detection and Alert Systems	Yes	No	No	No	No	Retained	Retained as a technology element to mitigate crashes related to wildlife crossings
Enhanced Communications Infrastructure	Yes	Yes	No	No	No	Retained	Retained as a technology element to enhance safety and reduce congestion
Improved Traveler Information Signs	Yes	Yes	No	No	No	Retained	Retained as a technology element to enhance safety and reduce congestion
<b>CO 93 Segment - 64<sup>th</sup> Avenue to Marshall Road</b>							
No Action	No	No	No	No	No	Retained	Retained to evaluate as baseline condition for comparison
<b>HIGHWAY</b>							
Four General Purpose Lanes	Yes	Yes	Yes	Yes	Yes	Retained	
Bus-on-Shoulder Lanes	No	Yes	No	Yes	No	Retained	Retained as an element to enhance improved transit service
Two Lanes with Additional Passing Lanes	Yes	Yes	Yes	No	No	Retained	
New Split Alignment with Additional Lanes	Yes	Yes	Yes	Yes	Yes	Retained	
Widened Shoulders	Yes	No	Yes	Yes	Yes	Retained	Retained as a design element to enhance safety, operations, and multimodal conflicts
Increased Capacity/Operational Improvements on Local Roadways	No	No	No	No	No	Eliminated	Does not provide additional capacity or safety or multimodal operational improvements along CO 93
<b>INTERSECTIONS/INTERCHANGES</b>							
Additional Turn Lanes at Intersections	Yes	Yes	Yes	No	No	Retained	
Grade Separated Interchange	Yes	Yes	Yes	Yes	Yes	Retained	
Roundabout	Yes	Yes	No	Yes	No	Retained	
Channelized T Intersection	Yes	Yes	Yes	No	No	Retained	
Median U-Turn Intersection	Yes	Yes	Yes	No	No	Retained	
Continuous Flow Intersection	Yes	Yes	Yes	No	No	Retained	
Grade Separated Turning Movement	Yes	Yes	Yes	Yes	Yes	Retained	
<b>MULTIMODAL ELEMENTS</b>							
Pedestrian/Bicyclist Grade Separations	Yes	No	No	Yes	Yes	Retained	Retained as an element to enhance multimodal safety and operational improvements
Improved Crossings for Pedestrians/Bicyclists at Traffic Signals	Yes	No	No	Yes	Yes	Retained	Retained as an element to enhance multimodal safety and operational improvements
Separated Trail	Yes	No	No	Yes	Yes	Retained	Retained as an element to improve multimodal safety and operational improvements

CONCEPTS	SAFETY CONCERNS	RECURRING CONGESTION	OPERATIONAL PERFORMANCE			SUMMARY OF RESULTS	ADDITIONAL COMMENTS
	DOES THE CONCEPT PROVIDE SAFETY IMPROVEMENTS ALONG THE WESTCONNECT CORRIDOR?	DOES THE CONCEPT REDUCE CURRENT AND FUTURE DELAYS AND QUEUING EXPERIENCED ALONG THE WESTCONNECT CORRIDOR?	DOES THE CONCEPT IMPROVE GEOMETRIC CHARACTERISTICS THAT CREATE TRAFFIC DISRUPTIONS?	DOES THE CONCEPT IMPROVE EXISTING AND FUTURE MULTIMODAL OPERATIONS ALONG THE WESTCONNECT CORRIDOR?	DOES THE CONCEPT REDUCE MULTIMODAL CONFLICTS AND DISRUPTIONS?		
Improved Pedestrian/Bicyclist Connections to Other Trails	No	No	No	No	No	Eliminated	Does not provide additional capacity or safety or multimodal operational improvements along CO 93
Improved Transit Service	No	Yes	No	Yes	No	Retained	Retained as an element to increase transit use and to reduce vehicle volumes on CO 93
Bus Queue Jump Lanes	No	Yes	Yes	No	No	Retained	Retained as an element to enhance improved transit service
Improved Bus Stop Facilities	Yes	No	No	Yes	Yes	Retained	Retained as an element to increase transit use along the corridor and improve safety at bus stop locations
New/Improved Park-n-Ride Facilities	No	No	No	Yes	No	Retained	Retained as an element to increase transit use and carpooling along the corridor
<b>CORRIDOR MANAGEMENT</b>							
Travel Demand Management Strategies	No	Yes	No	No	No	Retained	Retained as a system management concept to reduce congestion and enhance operations
Enhanced Maintenance Program	Yes	Yes	No	No	No	Retained	Retained as a system management concept to enhance safety and operations
Access Management	Yes	Yes	Yes	No	No	Retained	Retained as a system management concept to enhance highway safety and operations
Incident Management	Yes	No	No	No	No	Retained	Retained as a system management concept to enhance safety and operations during highway incidents
Wildlife Crossings	Yes	No	No	No	No	Retained	Retained as an element to mitigate crashes related to wildlife crossings
Additional Snow Fence	Yes	No	Yes	No	No	Retained	Retained as an element to mitigate crashes and issues related to blowing, drifting snow
<b>TECHNOLOGY</b>							
Advanced Signal Warning Flashers	Yes	No	Yes	No	No	Retained	Retained as an element to mitigate crashes related to unexpected traffic signals
Adaptive Traffic Signals	No	Yes	Yes	No	No	Retained	Retained as an element to enhance traffic signal operations
Variable Speed Limits	Yes	Yes	No	No	No	Retained	Retained as a technology element to improve safety and reduce congestion related to speed
Queue Warnings	Yes	No	No	No	No	Retained	Retained as a technology element to mitigate rear end crashes related to unexpected queues
Wildlife Detection and Alert Systems	Yes	No	No	No	No	Retained	Retained as a technology element to mitigate crashes related to wildlife crossings
Enhanced Communications Infrastructure	Yes	Yes	No	No	No	Retained	Retained as a technology element to enhance safety and reduce congestion
Improved Traveler Information Signs	Yes	Yes	No	No	No	Retained	Retained as a technology element to enhance safety and reduce congestion
Enhanced Lane Markings	Yes	No	Yes	No	No	Retained	Retained as an element to mitigate crashes related to distracted driving and lane visibility
Road/Weather Information Systems	Yes	No	Yes	No	No	Retained	Retained as technology element to mitigate crashes and operational issues related to weather conditions



WestConnect Coalition PEL

## Steering Committee Meeting

Monday, December 19, 2016

7:30 am – 9:30 am

Dakota Lodge - 14422 W. Ken Caryl Avenue Littleton, CO 80127

### Agenda

1. Introductions and Agenda Review
2. Presentation and Discussion: Overview of Public Input and Key Themes  
**Goal: Steering Committee understanding and discussion of public input**
3. Presentation and Discussion: Draft Level 1 Screening  
**Goal: Review and agreement on Draft Level 1 Screening**
4. Update: Environmental Scan Report  
**Goal: Understanding of environmental issues identified in the corridor**
5. Closing and Next Steps
  - TWG Meeting #9 – January 19, 2017
  - Steering Committee #4 – 2017