



WESTCONNECT

The Western Beltway Connector Study

Task Order I Summary Report

December 2013





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Jefferson County



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December 2013

Executive Summary

The purpose of WestConnect - The "Western Beltway" Connector Study - is to develop a comprehensive and coordinated plan that will be used to inform Jefferson County residents of the benefits of completing segments of the "Western Beltway" to the rest of the facility, gauge support for completing these connections, determine the best way to fund the improvements, and develop a plan for implementing the improvements. The entire western corridor, connecting I-25 on the north to I-25 on the south is 61.3 miles in length and includes the following sections: Northwest Parkway; Interlocken Loop/SH-128 Extension; Jefferson Parkway; SH-93; Golden (SH-93 and US-6); C-470 Extension; and C-470. Of this total, 38.0 miles extending from SH-93 on the north to the Jefferson County/Douglas County line on the south are in Jefferson County.

The first major task of the study was to develop an Illustrative Corridor Plan. This Plan was intended to support the public outreach effort and to provide a baseline for moving forward. It reflects a compilation of the plans already completed by Jefferson County, the Jefferson Parkway Public Highway Authority, the City of Golden, and the C-470 Coalition. Once the Illustrative Corridor Plan was completed, a robust public outreach effort was initiated. The outreach effort focused on introducing the Western Beltway Connector Study to the public and educating them on issues surrounding the completion of the "Western" Beltway. A variety of tactics, including one-on-one meetings with key stakeholders and local elected officials, a project website, a series of telephone town hall meetings, an open house and a public opinion survey were used for this effort.

From the outreach effort, a majority of voters say the "Western" Beltway will "reduce traffic congestion" and "make it easier to get around". Despite broad positive implications of completing the Beltway, a majority say it will not benefit them personally. Nearly 60% of voters think of transportation as a state issue and regard CDOT very favorably. When provided with specific funding mechanisms, express lanes emerged as the preferred option. A majority say they would be willing to support express lanes.

The number one challenge for implementing the "Western" Beltway is to identify how the improvements will be funded. Based on available estimates for the various segments, the total rough order of magnitude cost for completing the "Western" Beltway is approximately \$900,000,000. As previously stated, only the express lane option garners a slight majority of support (54%). All others have only minimal support from the public. Based on all experience in the Denver region, the express lane option will not generate adequate revenue to fully fund any of the improvements so this option must be coupled with additional funds from other sources.

Building on what was learned from the public outreach and the lack of funds for construction, the next logical step in the overall process is to slowly start moving the "Western" Beltway from the planning phase to the project development phase. This would be accomplished via a **Planning and Environmental Linkage (PEL) study**. This study would provide an opportunity to partner with CDOT which could help to address some of voters' trust issues raised during the public survey. It also would build collaborative working relationships with resource agencies, FHWA, and local agencies. Finally, it could be used to identify future funding and phasing options for implementation.

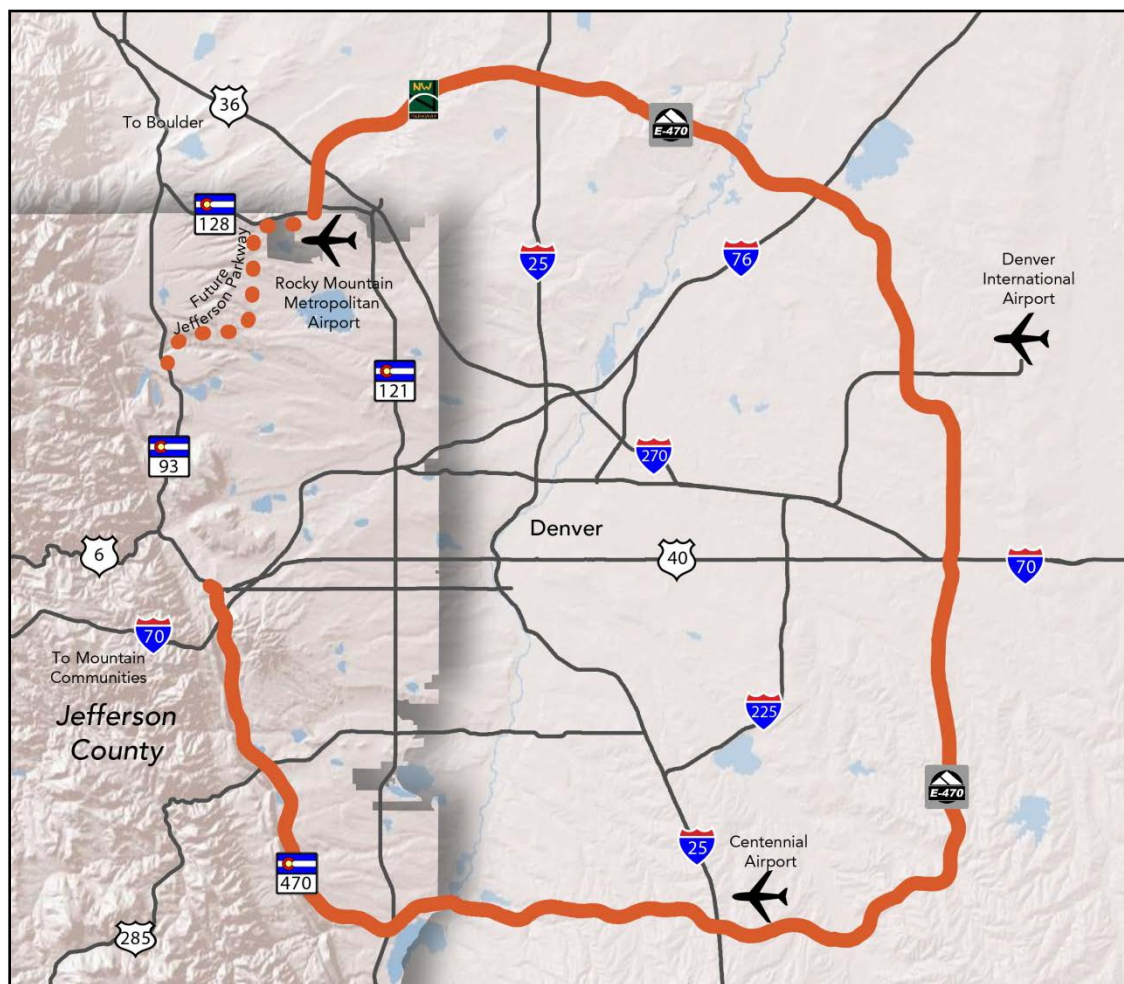
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Purpose of the Study

A circumferential highway (beltway) around the Denver metropolitan region was conceived 50 years ago. Today, almost 80 percent of this highway is complete and open to traffic via C-470, E-470 and the Northwest Parkway. The last remaining 20 percent is primarily in Jefferson County.

The purpose of WestConnect - The "Western Beltway" Connector Study - is to develop a comprehensive and coordinated plan that will be used to inform Jefferson County residents of the benefits of completing segments of the "Western Beltway" to the rest of the facility, gauge support for completing these connections, determine the best way to fund the improvements, and develop a plan for implementing the improvements. One of the most critical elements contributing to Jefferson County's quality of life is how people and goods move through the region. Improving regional mobility and connecting communities to make transportation more efficient will reduce congestion, enhance safety, improve air quality and foster economic development.



History of the Regional Beltway

The following is a summary of the key milestones in the completion of a “beltway” for the Denver metropolitan region.

- **1968** - I-470 officially approved and added to the Interstate and Defense Highway System
- **1976** - I-470 Ad Hoc Commission recommends that I-470 be withdrawn from the Interstate and Defense Highway System
- **1980** - C-470, the substitute project for I-470, begins construction
- **1985** - E-470 Authority is created
- **1987** - W-470 Authority is created
- **1990** - C-470 is completed
- **1991** - E-470 Segment 1 is completed
- **1992** - W-470 Authority suspends operations and closes
- **1999** - Northwest Parkway Authority is created
- **2000** - C-470 Extension from I-70 to US 6 in Golden is completed
- **2001** - The *Northwest Quadrant Feasibility Study*, which identified improvements to existing streets and highways, is completed. The study also recommended right-of-way preservation for major corridor improvements (200' to 300') along Indiana Street, SH-72, SH-93, and US-6 in lieu of a specific alignment for the beltway
- **2003** - E-470 Segment 2 is completed
- **2003** - Northwest Parkway is completed
- **2003** - CDOT started a formal Environmental Impact Statement process to study transportation improvements that would provide a connection between the Northwest Parkway and C-470
- **2008** - CDOT completes the Northwest Corridor Transportation and Environmental Study (TEPS). This study replaced CDOT's EIS process when it became clear funds were not available to implement any of the recommended alternatives. This study narrowed the list of alternatives for connecting Northwest Parkway to C-470 to freeway, tollway, regional arterial improvements, and combined (freeway/tollway with improvements to Indiana/McIntyre)
- **2008** - Jefferson Parkway Public Highway Authority is created
- **2013** - City of Golden completes conceptual improvement plans for US 6 and SH 93 and signs a Memorandum of Understanding with CDOT

Western Beltway Segments

The entire western corridor, connecting I-25 on the north to I-25 on the south is 61.3 miles in length and includes seven sections. Of this total, 38.0 miles extending from SH-93 on the north to the Jefferson County/Douglas County line on the south are in Jefferson County. Each segment is described below:

Northwest Parkway (7.8 Miles)

The Northwest Parkway is a four lane, controlled access all toll facility that opened to traffic in 2003. It extends from I-25 to 96th Street in the City and County of Broomfield. The facility is owned by the [Northwest Parkway Public Highway Authority](#) and is operated and maintained by Northwest Parkway LLC.

Interlocken Loop/State Hwy 128 Extension (3.0 Miles):

The Interlocken Loop extends from the 96th Street and Northwest Parkway intersection to SH-128 near the Rocky Mountain Metropolitan Airport. It is currently a four lane arterial with traffic signals at major intersections. The City and County of Broomfield and the Northwest Parkway Public Highway Authority are in the process of identifying improvements to provide free flow capacity between the Northwest Parkway and the proposed Jefferson Parkway.

Jefferson Parkway (13.5 Miles)

The Jefferson Parkway extends from SH-128 to SH-93 and is planned as a four-lane, controlled access toll facility. The [Jefferson Parkway Public Highway Authority](#) is managing the project. Preliminary engineering and right-of-way acquisition is currently under way. A Public and Private Partnership will likely be used to finance, design, build, operate and maintain the facility.

SH-93 (4.1 Miles)

The SH-93 section extends from the proposed terminus of the Jefferson Parkway to the north limits of the City of Golden. SH-93 is a two lane state highway with traffic signals and turn lanes at select intersections. The plan is to convert this section to a free flow facility that matches the proposed improvements to both the Jefferson Parkway and the Golden section so there is a consistent operating condition. SH-93 is classified as a freeway in the [Jefferson County Major Thoroughfare Plan](#) with a proposed right-of-way of between 200 and 300 feet.

Golden (5.8 Miles)

The Golden section includes both SH-93 and US-6 and extends from the north city limits at approximately 56th Avenue to the C-470 Extension. SH-93 is a two lane roadway with traffic signals and turn lanes at select intersection. US-6 is a four lane roadway with traffic signals and turn lanes at select locations. The City of Golden has recently completed a conceptual plan for both SH-93 and US-6. The design provides four lanes of free flow capacity (two lanes in each direction) for both local and through traffic with enhancements to mitigate noise impacts to adjacent Golden residents. The proposed improvements are designed to include one additional lane in each direction when certain traffic volume thresholds are met.

C-470 Extension (0.9 Miles)

The C-470 Extension is a four-lane controlled access facility under CDOT's jurisdiction that extends from I-70 to US-6. The terminus at US-6 consists of directional ramps for high volume movements and a traffic signal for local street access.

C-470 (26.2 Miles)

C-470 is a freeway mostly built to interstate standards that extends from I-70 on the north to I-25 on the south. Originally, the highway consisted of two through lanes in each direction. The section between Morrison Road and I-70 has since been widened to six lanes with three lanes in each direction. In 2011, the [C-470 Corridor Coalition](#) was formed to develop and implement a solution that improves the safety and mobility along the C-470 corridor. The C-470 corridor was divided into two segments. The first segment extends from I-25 to Kipling Parkway. A preferred funding option has been selected for this segment and the project is moving toward implementation. The second segment extends from Kipling Parkway to I-70. The C-470 Corridor Coalition plans to start studying this segment in 2014.

Illustrative Corridor Plan

The Illustrative Corridor Plan was completed to support the public outreach effort and to provide a baseline for moving forward. It reflects a compilation of the plans already completed by Jefferson County, the Jefferson Parkway Public Highway Authority, the City of Golden, and the C-470 Coalition. The improvements shown in the report represent a sketch level of design for the most part and could change as the project development process proceeds for each section. In all cases, each segment has its own complexities and will require a context-sensitive solution that responds to the unique character, demographics and topography of the area.

For presentation purposes, the “Western” Beltway corridor was divided into 17 sections, starting at the north end and proceeding to the south. With the exception of the Interlocken Loop section, each section includes both an alignment sheet and a detail sheet with interchange concepts and typical sections. A summary of the identified improvements is provided below:

Interlocken Loop

- Four lane, controlled access facility between 96th Street and SH-128
- Local access accommodated by a frontage road system

Jefferson Parkway

- Four-lane, Controlled Access, All Toll Facility
- Six Interchanges (SH-128, Simms Street, Indiana Street, Candelas, SH-72, and SH-93)
- Future Widening in the median
- Bike Path and Transit Envelope

SH-93

- Four-lane, Controlled Access Facility
- Two Interchanges (64th Parkway and 58th Avenue)
- Future Widening in the median
- Bike Path and Transit Envelope
- Right-of-way will likely be between 200 and 300 feet

Golden (SH-93 and US-6)

- Four-lane, Controlled Access Facility
- SH-93 on New Alignment from Washington Avenue to 58th Avenue
- Four Interchanges (Washington Avenue, SH-58, 19th Street, and Heritage Road)
- Future Widening to the Outside
- Extensive Mitigation Enhancements Proposed

C-470 Extension

- Possibly Add Lanes for Lane Balance

C-470

- Morrison Road to Kipling Parkway (Add One New Lane in Each Direction)
- Kipling Parkway to I-25 (Add One New Lane in Each Direction that will be Tolloed and Auxiliary Lanes between Interchanges where needed)



Public Outreach Summary

The WestConnect project conducted a robust initial public outreach effort focused on introducing the Western Beltway Connector Study to the public and educating them on issues surrounding the completion of the “Western” Beltway. A variety of tactics, including one-on-one meetings with key stakeholders and local elected officials, a project website, a series of telephone town hall meetings, an open house and a public opinion survey were used for this effort.

One-on-one Meetings

CRL Associates met with 13 key stakeholders and local elected officials early in the process to provide an overview of the study purpose and discuss desired outcomes and process. These meetings allowed the consultant team to surface and clarify any misunderstandings about the Study and set the stage for the outreach activities.

Generally, elected officials and key stakeholders were supportive of the stated purpose of the Study but wanted assurances that existing local plans would be reflected and respected. This sentiment was especially true of Golden, which has recently reached agreement with the Colorado Department of Transportation (CDOT) regarding future improvement plans for SH-93 and US-6.

The team provided regular updates to key stakeholders and local elected officials over the course of the Study.

Website

The project team developed a project website – www.WestConnectJeffco.com – which includes the background and history of the “Western” Beltway, the study purpose and process, an explanation of possible funding mechanisms, frequently asked questions, a downloadable fact sheet, corridor segment descriptions and an interactive Illustrative Plan.

The Illustrative Plan is a compilation of the plans already completed by Jefferson County, the Jefferson Parkway Public Highway Authority, the City of Golden, and the C-470 Coalition. Website visitors can “page through” the Plan, as well as download a pdf version. Residents also may view the Illustrative Plan at the Jefferson County Administrative and Court building.

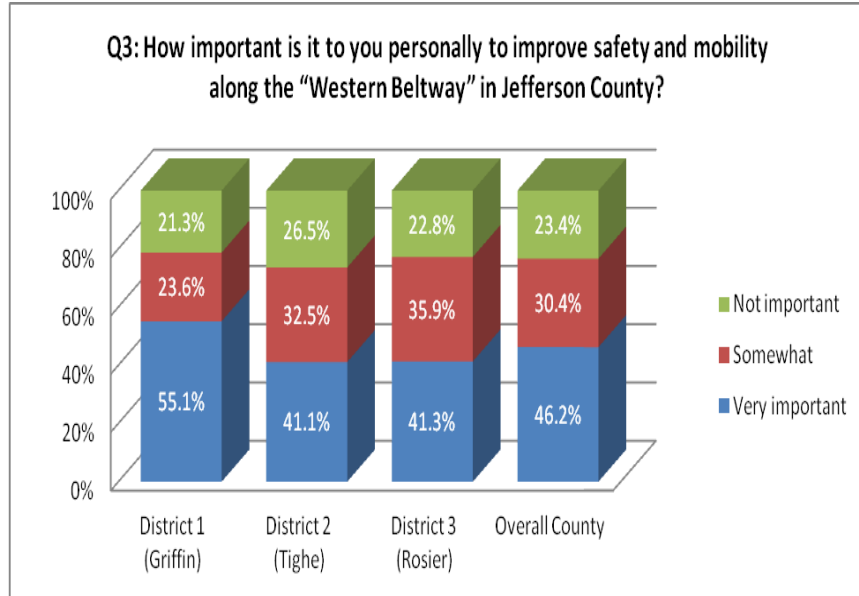
Telephone Town Hall Meetings

Over the course of three nights, Jefferson County called 111,069 randomly selected residents to invite their participation in a telephone town hall as the first step in its public outreach effort. The calls were based geographically by Commission Districts with 15,022 residents participating in the forums. In addition, 94 participants called the toll-free number, reflecting a fairly high awareness the forums were occurring.

The average “hold” time for participants was 11.4 minutes, well above the 10 minute national average. 769 participants stayed on for the full hour. Audio recordings of each telephone town hall meeting were available on the project website.

During the calls, four straw poll questions were asked on frequency of usage, frequency encountering congestion, the importance of improving mobility and safety and on various funding options. Participants provided input using their telephone key pads.

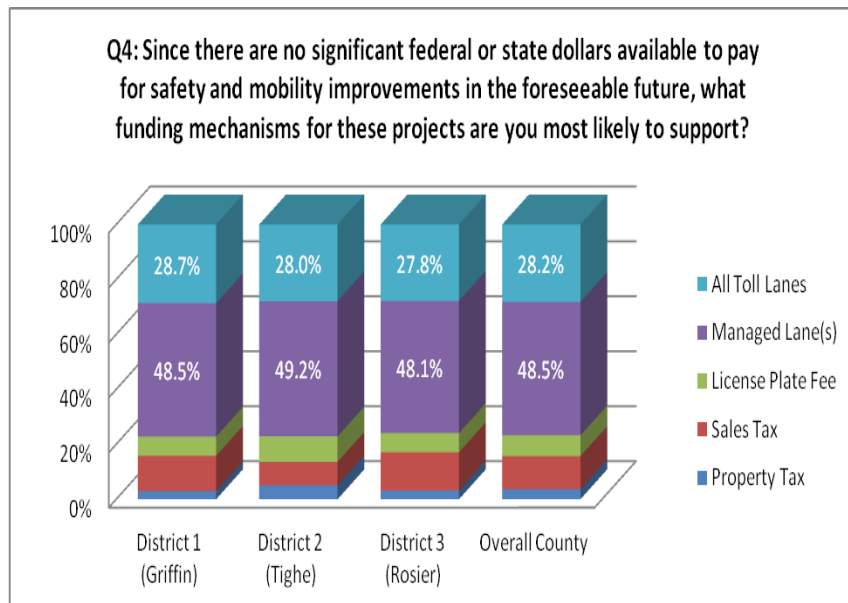
76.6% of participants indicated improving safety and mobility along the Western Beltway was somewhat or very important.



The straw poll results indicated a wide difference in both usage and how frequently respondents experienced delay and congestion on the corridor. Not surprisingly, those who drive the corridor the most experienced congestion the most.

When asked about a preferred funding method to pay for safety and mobility improvements, a clear preference for managed “express” lanes emerged. There also was some willingness to consider tolling all lanes. The preference for the managed lane funding option was consistent across all subgroups.

Increases in property taxes and license plate fees garnered the least support.



Open House

An open house was held on September 9, 2013. Nearly 70 participants viewed boards and visited individually with project consultants and Jefferson County staff. Participants were able to vote using a “dot” exercise on the four questions asked during the telephone town hall meetings – frequency of usage, frequency encountering congestion, the importance of improving mobility and safety and various funding options.

The non-scientific results of the exercise were similar, but also indicated both desire and urgency to make improvements to the “Western” Beltway varied by Commissioner Districts. Support for an express lane funding option and opposition to all-toll and property tax funding options is consistent across the county.

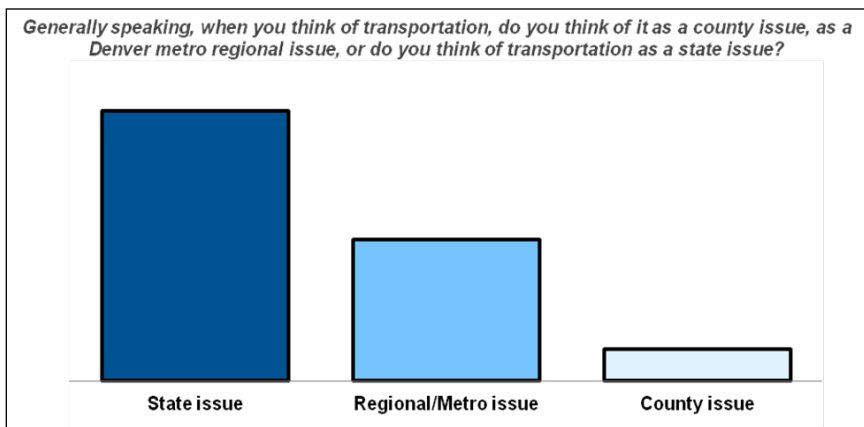
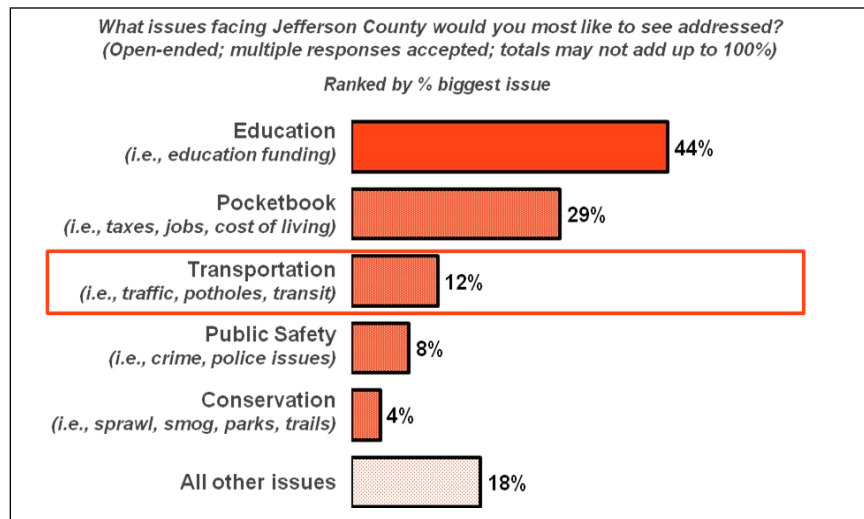
Public Opinion Survey

A live telephone poll of 455 likely 2014 voters in Jefferson County was conducted October 7-9, 2013. With a 95% confidence level, the margin of error for 455 voters is ±4.6%. Margin of error is higher for demographic subgroups. Top line results and a summary presentation were prepared and distributed.

The survey found that Jefferson County voters—particularly newer residents—are relatively content with the way things are going in Colorado; they are more positive about the direction of Jefferson County.

When asked to prioritize various issues, Jefferson County voters place the highest priority on education issues. There is less urgency around transportation issues in general. Nearly 60% of voters think of transportation as a state issue and regard CDOT very favorably.

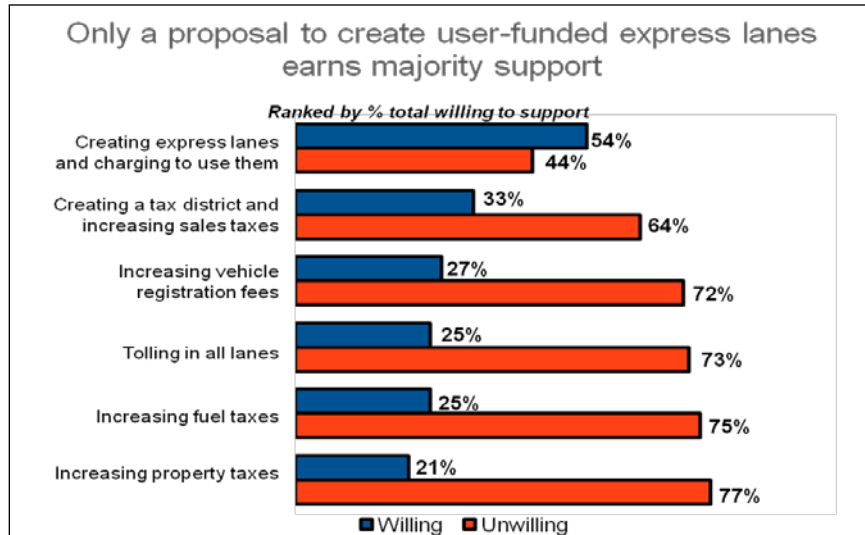
When asked about driving patterns and perceptions on traffic, one-third of all voters said they do not



commute on a regular basis; the majority of those who do commute have one-way travel times of less than 30 minutes. A majority of voters say the “Western” Beltway will “reduce traffic congestion” and “make it easier to get around”. Despite broad positive implications of completing the Beltway, a majority say it will not benefit them personally.

When provided with specific funding mechanisms, express lanes emerged as the preferred option. A majority say they would be willing to support express lanes.

It is important to note that this survey did not give voters specific dollar amounts and was not designed to gauge support for a *specific* tax proposal. Rather, it is a helpful tool for assessing voters’ appetite for a tax increase and the *relative* popularity of various funding mechanisms.

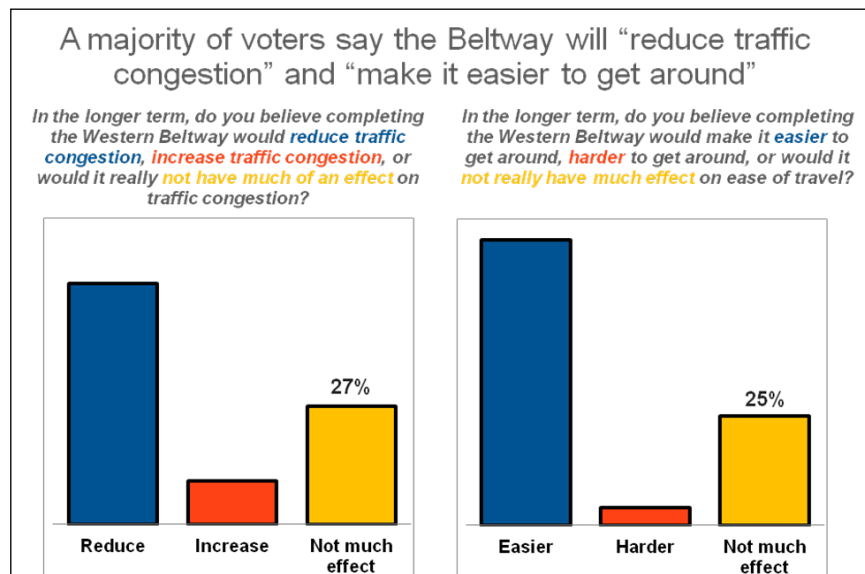


While this is a challenging climate in which to make a case for public (tax) funding, voters clearly see that the “Western” Beltway will have a positive impact on the transportation system overall.

A majority say it will reduce congestion and improve mobility. Only 21% say completing the “Western” Beltway is a “low priority”. A sizable portion of the electorate is concerned about management of tax dollars.

Providing voters with information that can show them how they will personally benefit will be a key to expanding support for public funding. Further, any opportunities available to

partner with CDOT could help to address some of voters’ trust issues. The express lane option garners a slight majority support (54%), and further public outreach and education will be necessary to see support grow beyond this mark. Such education will require specific project descriptions and cost information; data that is not presently available.



Challenges Moving Forward

The number one challenge for implementing the “Western” Beltway is to identify how the improvements will be funded. Based on available estimates for the various segments, the total rough order of magnitude cost for completing the “Western” Beltway is approximately \$900,000,000.

Historically, CDOT has used state and federal dollars to fund improvements to the state highway system. In today’s climate, these dollars are scarcer and the competition for them is greater. Consequently, alternate funding sources must be used to either supplement or replace state and federal dollars. Alternative funding mechanisms include but are not limited to increased property taxes, license plate fees, a special improvement district funded by sales tax, toll revenue generated by express/managed lanes or all lanes, or some combination of the above. As previously shown from the public survey, only the express lane option garners a slight majority of support (54%). All others have only minimal support from the public. Based on all experience in the Denver region, the express lane option will not generate adequate revenue to fully fund any of the improvements so this option must be coupled with additional funds from other sources.

The second challenge is the state’s reluctance to toll existing capacity. To date, only new capacity that is being added to the system is being considered for tolls in Colorado. Guidance for this position is provided below:

- **Federal Law (MAP-21)** – This legislation loosened restrictions on tolling. It granted explicit permission to toll all high occupancy vehicle lanes, new capacity expansion/widening, and new highway construction. It also simplified the process for implementation but performance reporting must be done annually.
- **CDOT Policy Directive 1603.0** – The Transportation Commission adopted this policy directive in 2012. It requires that managed lanes be strongly considered during the planning and development of capacity improvements on state highway facilities. The policy is limited to state highway facilities that are or will be congested.

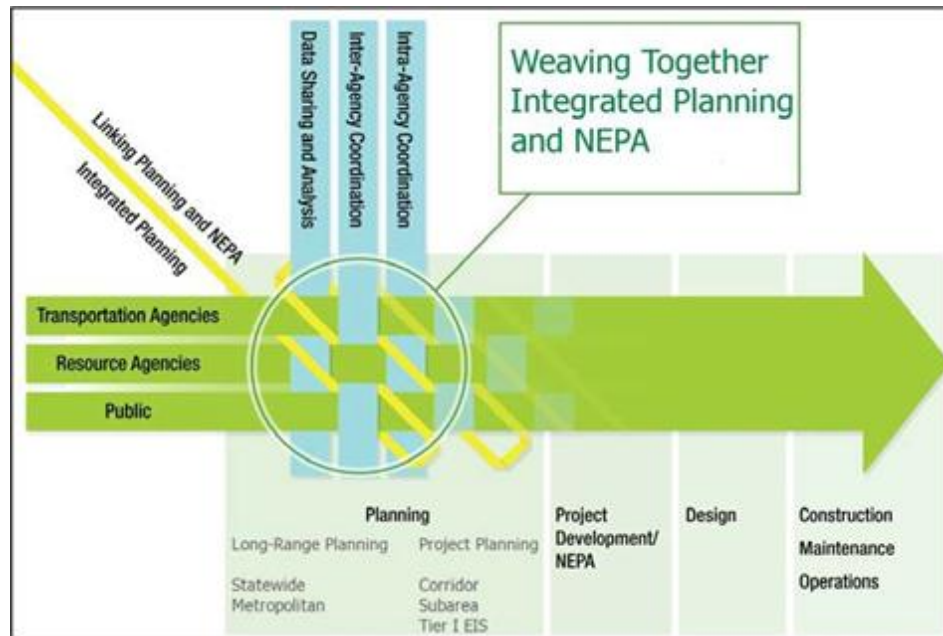
For the “Western” Beltway corridor, this means managed lanes could not be used on US-6 through Golden until traffic thresholds are met and the highway is widened to six lanes. Managed lanes could also not be used on C-470 between Morrison Road and I-70 because this section currently has six through lanes and there are no plans to add capacity. CDOT may be willing to make an exception to C-470 but US-6 through the City of Golden is governed by a signed Memorandum of Understanding.

The I-25 North project is currently considering converting two of the six existing general purpose lanes north of SH-7 to managed lanes. If this happens, there may be a precedence that can be applied to C-470 between Morrison Road and I-70. It will, however, require unanimous support from all adjacent local jurisdictions.

All of the other challenges such as possible right-of-way acquisition and environmental impacts/mitigation can be addressed during the project development process by following established federal and state guidance and procedures. Continuing and on-going public outreach will ensure any recommendations are responsive to stakeholder issues and concerns.

The Next Step

Based on what was learned from the public outreach and the lack of funds for construction, the next logical step in the overall process is to slowly start moving the “Western” Beltway from the planning phase to the project development phase. As shown in the following graphic, this is typically accomplished via a **Planning and Environmental Linkage (PEL) study**.



The PEL study would provide but is not limited to the following advantages:

1. It would provide an opportunity to partner with CDOT which could help to address some of voters’ trust issues raised during the public survey.
2. It can be started immediately and is not dependent upon construction funding.
3. It would build on decisions and information developed during the current study and previous efforts by others.
4. It would provide a clear project description and purpose and need statement for the entire Western Beltway corridor, which is invaluable if the project goes “on the shelf” for any length of time.
5. It would ensure the public and key stakeholders continue to be engaged in the study process.
6. It would build collaborative working relationships with resource agencies, FHWA, CDOT and local agencies by enhancing participation and coordination efforts.
7. It would identify qualitative and quantitative environmental impacts early in the process to help ensure that projects selected for funding are able to proceed more quickly through NEPA during the project development phase.
8. It would provide preliminary cost estimates for the proposed improvements which can then be used to identify future funding and phasing options.

If the PEL study is decided to be the next logical step, there are two options for moving forward. Each is described below:

1. Option 1 involves just proceeding with the C-470 Segment 2 PEL as originally proposed by the C-470 Coalition. The limits for this study would be from Kipling Parkway to I-70.
2. Option 2 involves conducting a PEL study for all of the state highway segments that comprise the “Western” Beltway. The limits for this study would be from Kipling Parkway to SH-93 at the proposed terminus of the Jefferson Parkway. This includes the following highway sections: C-470 (Segment 2); C-470 Extension; US-6 in Golden; SH-93 in Golden; and SH-93 from north limits of Golden to proposed terminus of Jefferson Parkway.

The cost to complete the Option 1 PEL is estimated to be between \$600,000 and \$1,000,000. The cost to complete the Option 2 PEL is estimated to be between \$1,500,000 and \$2,000,000. Both will require approximately 12 months from start to finish.

Option 1 just focuses on the C-470 corridor and leaves approximately 11 miles to the north that will have to be studied independently at a future time. While this represents a more piecemeal approach for the “Western” Beltway, it is less dependent on what ultimately happens with Jefferson Parkway moving forward and it builds on the C-470 Segment 1 plans. Option 2 continues to treat the entire corridor as a system. It would identify potential costs and risks for the corridor, making it a candidate for an unsolicited proposal and possibly a Public Private Partnership (P3) project. It should be noted Option 2 will neither change the City of Golden’s plans and subsequent Memorandum of Understanding with CDOT nor affect Golden’s schedule for improving the 19th Street and US-6 intersection.

For Option 1, the C-470 Coalition is already in place to guide the PEL process. The next step is to develop a scope of work and fee estimate for the study and then formalize the funding participation.

For Option 2, it is likely a new coalition will be formed to guide the PEL process. For this project to be successful, at a minimum CDOT, Jefferson County, Lakewood, Golden and Arvada all must support and participate in the study. Other jurisdictions that may be either directly or indirectly affected by any proposed improvements will also be given the opportunity to be involved in the study.

The first step in moving Option 2 forward is to form a managing coalition with commitments from CDOT, Jefferson County, Lakewood, Golden and Arvada. After that is completed, the next step is to develop a scope of work and fee estimate for the study. The third step is to decide which agency will manage the PEL study and formalize each funding/participation agreement through either an Intergovernmental Agreement or a Memorandum of Understanding. The final step is to select a consultant team to conduct the study.