


## Part 1

## Base Information

1. Project Title	<b>BUCHTEL TRAIL: Multimodal Network</b>	
2. Project <i>Start/End</i> points or Geographic Area <i>Provide a map with submittal, as appropriate</i>	<p>Buchtel Blvd, between University and Colorado and the following intersections: University and Buchtel; Colorado and Buchtel; Colorado and Evans; University and Evans</p> 	
3. Project Sponsor ( <i>entity that will construct/ complete and be financially responsible for the project</i> )	<b>City and County of Denver</b>	
4. Project Contact Person, Title, Phone Number, and Email	<b>Justin Begley</b> , Project Manager II, Denver Public Works, Transportation Planning, 720-913-1743, <a href="mailto:justin.begley@denvergov.org">justin.begley@denvergov.org</a>	
5. Does this project touch CDOT Right-of-Way, involve a CDOT roadway, access RTD property, or request RTD involvement to operate service?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>If yes, provide applicable concurrence documentation with submittal</i>	
6. What planning document(s) identifies this project?	<div> <input type="checkbox"/> <a href="#">DRCOG 2040 Fiscally Constrained Regional Transportation Plan (2040 FC RTP)</a> </div> <div> <input checked="" type="checkbox"/> Local plan:           <ul style="list-style-type: none"> <li><a href="#">Multi-Station Plan and Mobility Study: University and Colorado Stations</a></li> <li><a href="#">Next Steps Study</a></li> <li><a href="#">Denver Moves: Bicycle Facility Network (updated map)</a></li> </ul> </div> <div> <input type="checkbox"/> Other(s):         </div> <p><i>Provide link to document/s and referenced page number if possible, or provide documentation with submittal</i></p>	
7. Identify the project's <b>key elements</b> .		

☐ Rapid Transit Capacity (2040 FC RTP)

☒ Transit Other:

**XX** Bicycle Facility

**XX** Pedestrian Facility

**XX** Safety Improvements

☐ Roadway Capacity or Managed Lanes  
(2040 FC RTP)

☐ Roadway Operational

#### Grade Separation

☐ Roadway

☐ Railway

☒ Bicycle

☐ Pedestrian

☐ Roadway Pavement Reconstruction/Rehab

☐ Bridge Replace/Reconstruct/Rehab

☐ Study

☒ Design

☐ Transportation Technology Components

☐ Other:

8. **Problem Statement** What specific Metro Vision-related subregional problem/issue will the transportation project address?

The University Light Rail Station and the Colorado Light Rail Station both lack strong multimodal connections to and from the stations. Currently, the safest and most reliable means for accessing both stations is by vehicles that drive to and park at the station, despite there being residential areas surrounding the stations. The four major intersections that serve as critical components to the local network are all currently automobile focused making for unsafe and uncomfortable use by any mode other than a vehicle. All involve crossing busy arterial roads (Colorado, University and Evans) and are very much oriented towards drivers. However, current and anticipated surrounding land use patterns indicate pedestrians and cyclists would greatly benefit from making these intersections more pedestrian and cyclist friendly. High density development has begun and is expected to continue occurring around the Colorado Station. The University Station is adjacent to the University of Denver campus which has plans to create more multimodal connections with an eye towards a more urban-oriented campus build-out.

**This project addresses the following challenges identified in the 2040 Metro Vision Regional Transportation Plan (MVRTP)** at and between the University Light Rail Station and the Colorado Light Rail Station, which are both identified urban centers on Figure 2.5 of the MVRTP:

**Transportation Challenges:** This project will create a more transparent, safe and reliable multimodal network between two light rail stations and three major transit corridors which will address:

- **Automobile dominance** – Improvements will encourage the estimated 38,240 employees who will work within the project area by 2040 to take alternate modes instead of traveling alone in their automobiles.
- **Mobility options for persons without a car** – This project will create more reliable and safe options for people travelling to and living within the project area that do not have access to a vehicle, including the 1,527 people who live within a mile of the area that currently do not own a vehicle.
- **Traffic congestion** - Improving multimodal options to and from the light rail stations will help to mitigate the congestion around the project area and getting to and from the project area.
- **Traffic crashes** – Safety is one of the main issues this project aims to address which is why all concepts are currently designed to minimize conflicts and promote pedestrian and bicyclists protection and visibility.

**Environmental Challenges:** Considering and mitigating environmental impacts associated with the project will be an important focus of the project design. Specifically, this project will address:

- **Air quality** – Encouraging more multimodal trips will reduce SOV trips in fossil fuel dependent vehicles, which means fewer emissions per capita, ultimately helping to address Denver's air quality issues.
- **Water quality** – The majority of this project will occur within existing impervious areas and as is a new expectation with major projects throughout the City of Denver, including horizontal, this project will plan for,

design and construct water quality facilities to treat at least a portion of the runoff generated by this project area.

**Land Development Challenges:** Transit needs and land development go hand in hand. This project was identified as part of a much larger planning effort that recognized the important role growth and development play in shaping transportation needs, and vis-versa, and expects future development and transportation improvements will be collaborative in nature and considerative of the role they both play. This project will address the following challenges:

- **Location of growth** - This project helps ensure the areas around both light rail stations continue to develop into urban centers that will absorb a significant amount of growth and offer more convenient accessibility via bus or rail transit and opportunities for shorter non-motorized trips via walking and bicycling.
- **Less efficient development patterns** – This project bolsters pedestrian and bicycle connections in the areas surrounding the station so that as both continue to grow and redevelop, development can rely on a non-vehicle dependent network and continue to expand reliance on multiple modes, including bicycling, walking and transit use.
- **Lower development densities** – This project will continue to encourage high density development around this area, including transit oriented development (TOD) around the Colorado Station that is already underway and campus redevelopment around the University of Denver Station that is mapped out in the recent Campus Framework Plan, 2018. Ongoing development around both stations is already assuming reliance on an efficient and safe multimodal network.

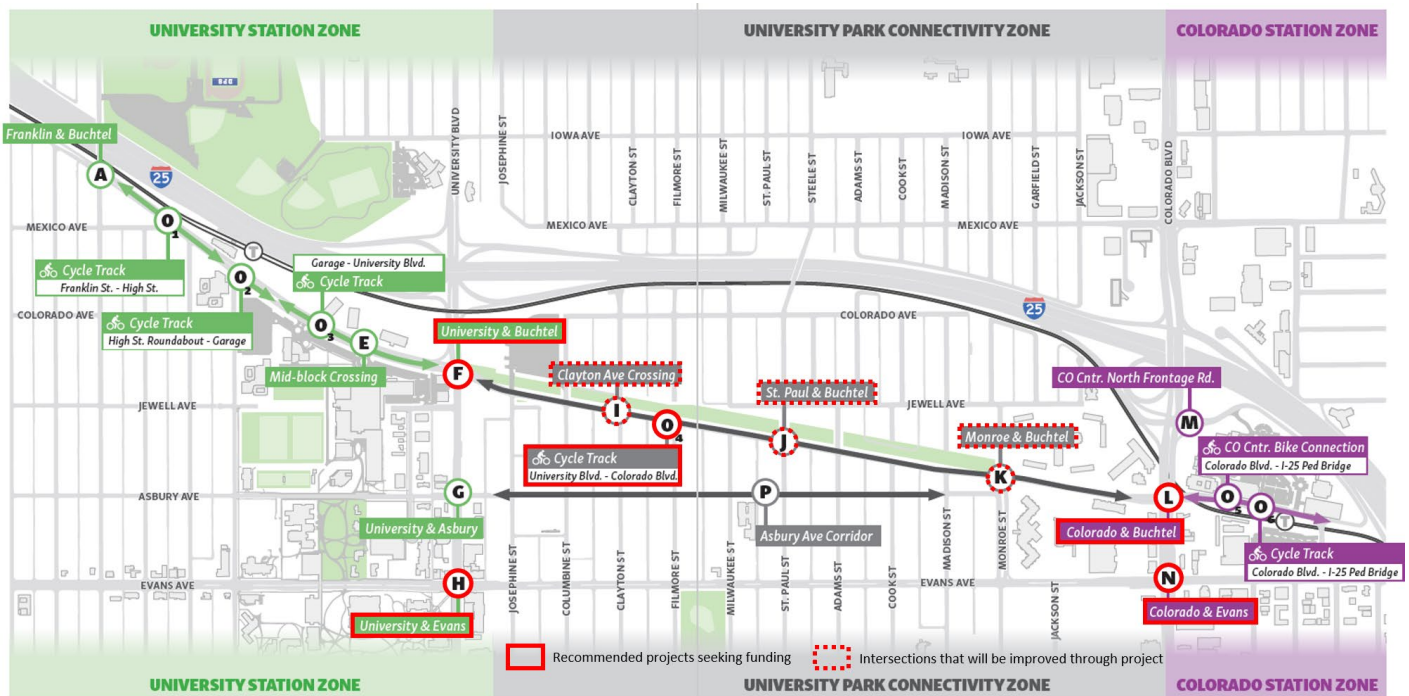
#### **Social Challenges**

- **Increased travel** – This project will make access to and from transit easier, will make improvements to pedestrian safer, and create a high ease of use bicycle facility that will encourage a reducing in vehicle miles traveled to and from this area as well as throughout.
- **Growth of older adult population** - University Park neighborhood is in the center of the project area and is an area of predominantly single family residential. This project will make it easier for those that choose to age in place in this neighborhood to have access to safe and convenient mobility options to get them to and from the urban centers on the borders of the neighborhood.

#### **9. Define the scope and specific elements of the project.**

The Buchtel Trail: Multimodal Network project aims to transform the University and Colorado Light Rail Stations from backdoor stations to active mobility hubs that will become even more integral to the surrounding area and RTD users across the region. As part of a bigger vision for these stations, the projects are designed to support a transportation network that will effectively catalyze supporting land use, innovation and place-making and will integrate these stations with the surrounding community.

The Multi-Station Area Study: University and Colorado details a big picture vision for this area and through a next steps study, five main project elements were identified as priorities for moving this vision forward. These elements make up the Buchtel Trail: Multimodal Network project and are described below.

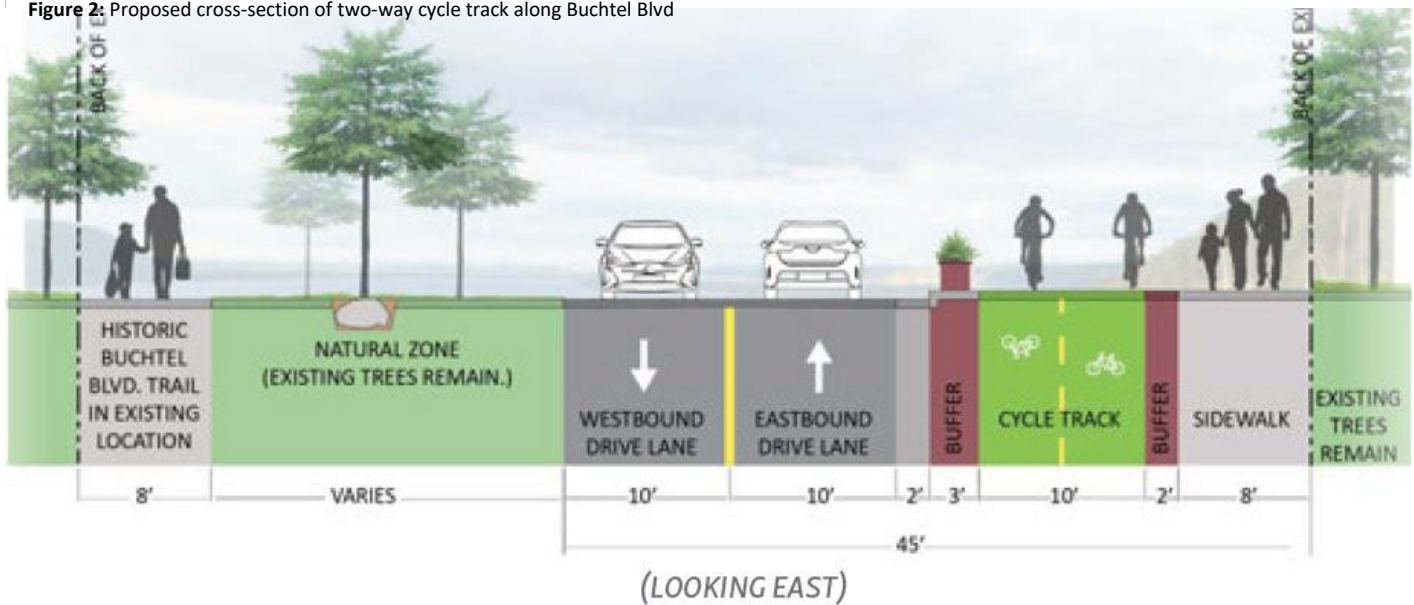


**Figure 1:** Map from Multi-Station Area Study: Next Steps Study; identifies core projects that will complete overall multimodal vision for project area.; this application seeks funding for the improvements outlined in red

**Buchtel: Cycle track and pedestrian crossing improvements:** Buchtel Boulevard serves as a primary connector between these two stations and a key link for the University Park neighborhood to either destination. This element of the project includes pedestrian crossing improvements across Buchtel Boulevard and enhancements to the bicycle facility. Crossing improvements will not only that not only make it easier for pedestrians to safely get to and from the stations, as well as into the neighborhood, but it also will make it easier and safer to access Prairie Park which runs along the northside from University to Monroe (just east of Colorado). Improvements include shortened crossing, markings and signage that will make pedestrians more visible and provide traffic calming on a road that can often be used as a high-speed cut-through. Design elements for crossings are consistent with Denver’s Uncontrolled Pedestrian Crossing Guidelines (2016). Sidewalks on the south side of Buchtel will also be improved to more modern standards.

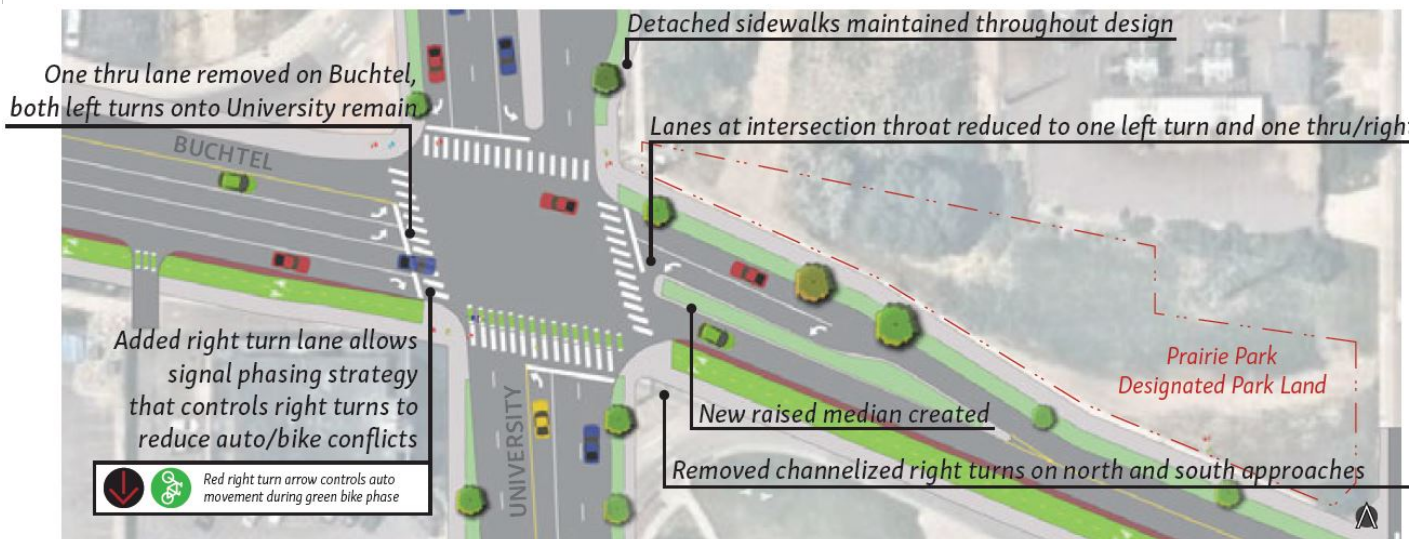


**Figure 2:** Proposed cross-section of two-way cycle track along Buchtel Blvd



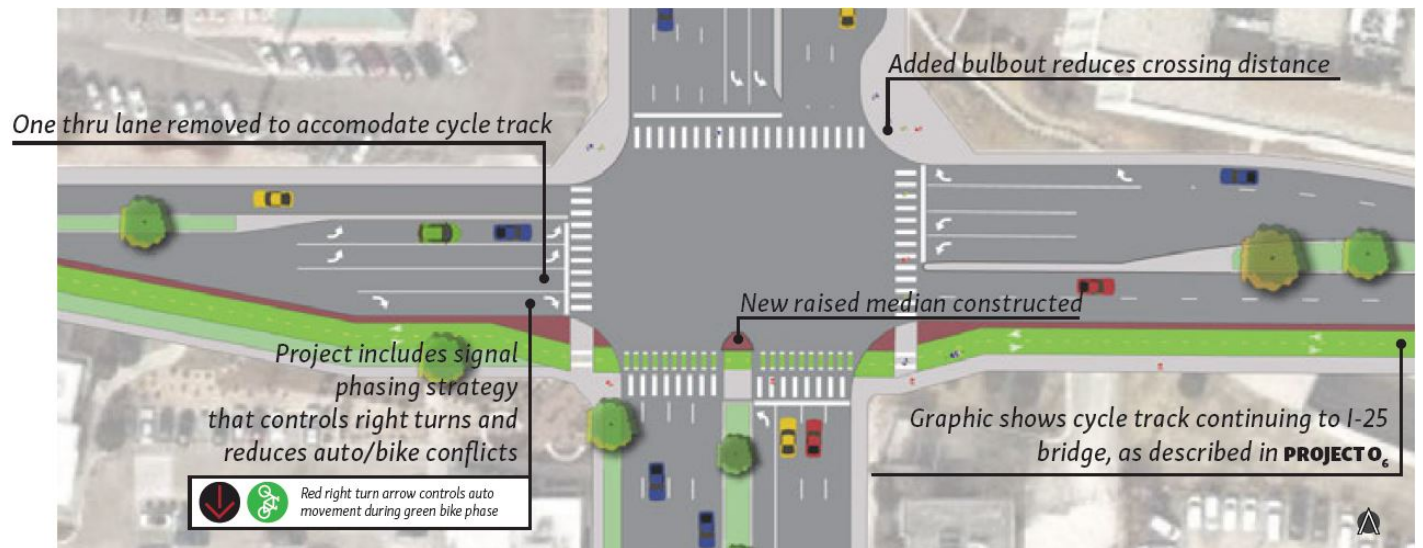
The proposed bicycle improvements will connect University Boulevard and Colorado Boulevard, spanning the full distance of the University Park Neighborhood. Replacing the existing directional bike facility, the proposed southside cycle track minimizes impacts to the nature and use of Historic Buchtel Trail and facilitates safe crossings of University Boulevard and Colorado Boulevard. The proposed southside location also connects directly with DU on the west, and the pedestrian bridge over I-25 on the east. (Further study and design will determine the exact configuration of the bike facility, taking into account the many benefits the proposed southside cycle-track aims to achieve.)

**University and Buchtel Intersection:** Buchtel Boulevard and University Boulevard will undergo significant safety enhancements for both pedestrians and vehicles in this reconstruction project. Improvements will be made to the extent feasible to improve the approach from Buchtel Boulevard westbound to reduce the angle at which vehicles approach the intersection. Intersection reconstruction includes removing one thru lane of traffic on Buchtel Boulevard and changing traffic signalization to include controlled right turns and a protected bike phase.



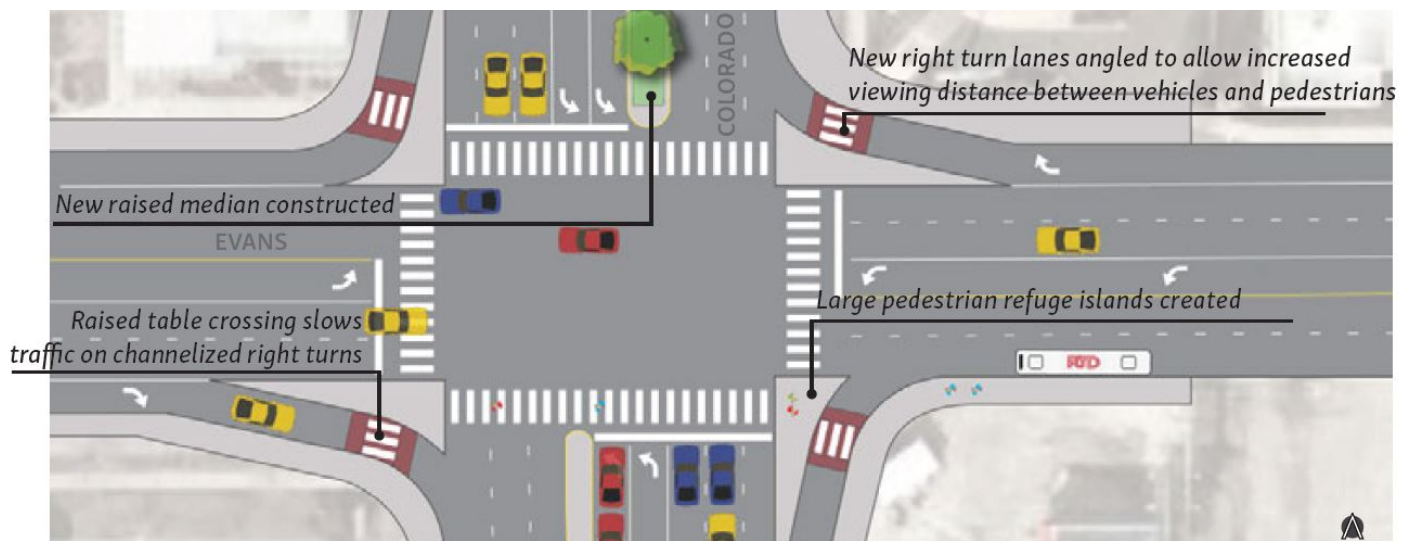
**Figure 3:** Proposed concept for University and Buchtel from the Next Steps Study

**Colorado and Buchtel Intersection:** A key consideration in locating the cycle track on the south side of Buchtel Boulevard is providing a safe passage for bicyclists across Colorado Boulevard. This strategy includes adding an exclusive bike/ped phase to the signal timing at this intersection. A single eastbound thru lane is removed to accommodate the cycle track, and bulbouts are added on the north side of Buchtel Boulevard to shorten the crossing distance of Colorado Boulevard. A raised median is added to the south leg of the intersection to improve bicycle and pedestrian mobility. It is anticipated that in order to make these improvements, a full signal rebuild is required at this intersection.



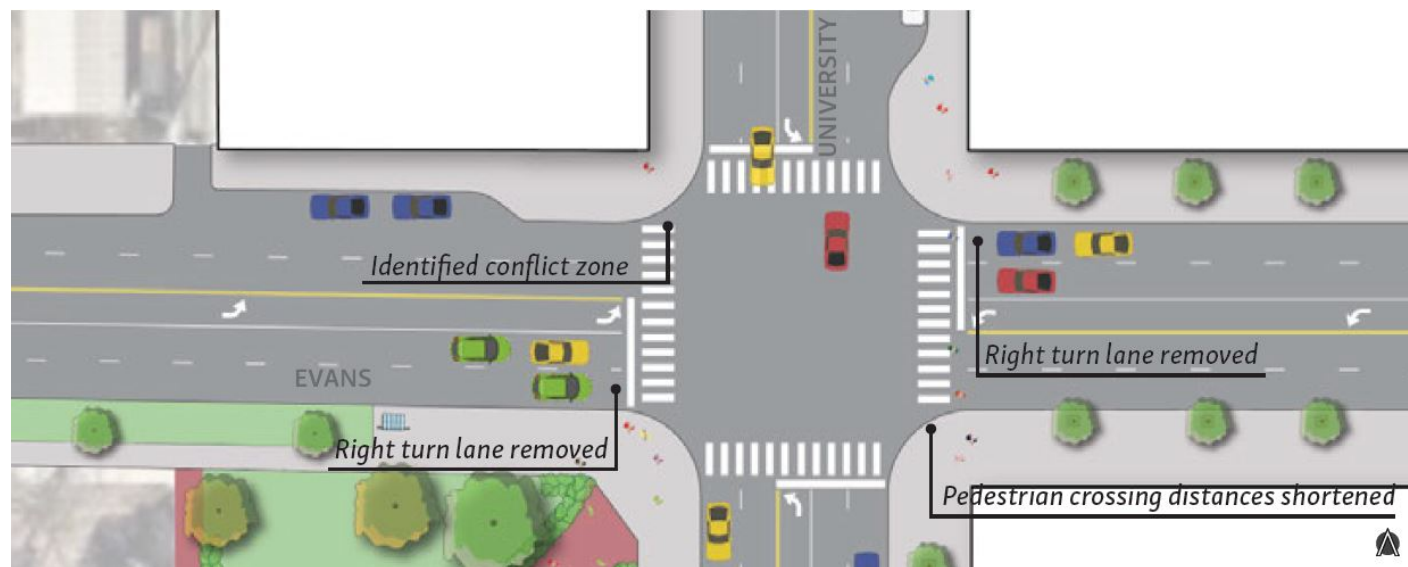
**Figure 4:** Proposed concept for Colorado and Buchtel from the Next Steps Study

**Colorado and Evans Intersection:** Both Colorado Boulevard and Evans Avenue are busy arterial roadways that play critical roles in the overall transportation network. Adjacent land uses include auto-oriented retail, but newer residential developments are expected to attract more pedestrian and bicycle traffic. Elements of this intersection redesign include increased sight distances for right turning vehicles and large pedestrian refuge islands. Design accommodates current RTD bus operations and traffic conditions along both roads.



**Figure 5:** Proposed concept for Colorado and Evans from the Next Steps Study

**University and Evans Intersection:** Pedestrian counts conducted on May 25, 2017 revealed **1,500 people** crossing this intersection of arterial roadways between 11:00AM and 1:00PM. This reinforces the importance of prioritizing pedestrian safety improvements at this intersection. Project improvements will aim to increase pedestrian safety by shortening crossing distances, improving pedestrian visibility and minimize turning conflicts.



**Figure 6:** Proposed concept for University and Evans from the Next Steps Study

**10.** Would a smaller DRCOG-allocated funding amount than requested be acceptable, while maintaining the original intent of the project?

☒ Yes ☐ No

*If yes, define smaller meaningful limits, size, service level, phases, or scopes, along with the cost for each.*

Yes, a smaller amount of **\$5,166,720** would be requested to implement three key elements of this project, including the two-way cycle track on Buchtel, upgrading the University and Buchtel intersection, and upgrading the Colorado and Buchtel intersection.

## A. Project Financial Information and Funding Request

<b>1. Total Project Cost</b>	<b>\$24,446,900</b>	
<b>2. Total amount of DRCOG Subregional Share Funding Request</b>	<b>\$12,837,520</b>	<b>53%</b> of total project cost
<b>3. Outside Funding Partners (other than DRCOG Subregional Share funds)</b> List each funding partner and contribution amount.	<b>\$\$</b> <b>Contribution Amount</b>	<b>% of Contribution</b> <b>to Overall Total</b> <b>Project Cost</b>
Bond	\$8,400,000	34%
CIP match	\$3,209,000	13%
	\$	

	\$	
	\$	
	\$	
<b>Total amount of funding provided by other funding partners</b> (private, local, state, Regional, or federal)	<b>\$11,609,000</b>	

<b>Funding Breakdown (year by year)*</b>		<i>*The proposed funding plan is not guaranteed if the project is selected for funding. While DRCOG will do everything it can to accommodate the applicants' request, final funding will be assigned at DRCOG's discretion within fiscal constraint. Funding amounts must be provided in year of expenditure dollars using an inflation factor of 3% per year from 2019.</i>			
	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>Total</b>
<b>Federal Funds</b>	\$692,300	\$1,377,100	\$1,597,700	\$9,170,800	<b>\$12,837,900</b>
<b>State Funds</b>	\$	\$	\$	\$	<b>\$0</b>
<b>Local Funds</b>	\$626,100	\$1,245,300	\$1,444,800	\$8,292,900	<b>\$11,609,100</b>
<b>Total Funding</b>	\$1,318,400	\$2,622,400	\$3,042,500	\$17,463,700	<b>\$24,447,000</b>
<b>4. Phase to be Initiated</b> Choose from Design, ENV, ROW, CON, Study, Service, Equip. Purchase, Other	Design ENV	Design ENV ROW	ROW	CON	

<b>5. By checking this box,</b> the applicant's Chief Elected Official (Mayor or County Commission Chair) or City/County Manager for local governments or Agency Director or equivalent for others, has certified it allows this project request to be submitted for DRCOG-allocated funding and will follow all DRCOG policies and state and federal regulations when completing this project, if funded.	<b>XX</b>
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## Part 2 Evaluation Criteria, Questions, and Scoring

### A. Subregional significance of proposed project

WEIGHT **30%**

Provide **qualitative and quantitative** (derived from Part 3 of the application) responses to the following questions on the subregional significance of the proposed project.

**1. Why is this project important to the Denver subregion?**

The project aims to improve connectivity to both the University and the Colorado Light Rail Station areas, both of which are part of the Regional Transportation District's Southeast Corridor lines. These two stations have matured since opening in 2006 to carry strong corridor ridership, but they remain "backdoor" stations, lacking active uses and integration with the surrounding community. These pedestrian and bicycle improvements will create safer and more comfortable means for local residents to access the stations, providing residents with greater subregional connectivity. They will also encourage visitors from across the region to utilize these stations more as useful means for connecting with the businesses, activities and educational opportunities that surround both stations.

The Southeast Corridor Light Rail Line connects communities along a 19 mile stretch, from Lincoln Ave. and I-25 in Douglas County, to I-225 and Parker Road in Aurora, to the Broadway and I-25 station in Denver. According to the RTD website for the Southeast Corridor Light Rail Line, ridership has already exceeded projections and is likely to continue growing as Denver's population continues to grow. Enhancing multimodal elements throughout the project area will connect more RTD users to places they can live, study, work and/or play. The University Light Rail Station is adjacent the University of Denver, a local university whose students come from across the Denver metro region. The Colorado Light Rail Station area is in the heart of multiple destinations including shopping, dining and entertainment. The 2019 draft of Blueprint Denver identifies the area surrounding the Colorado Light Rail Station as a future "Regional Center" and both University and Colorado Boulevards as "Community Corridors." Both Regional Centers and Community Corridors are identified as areas where people travel to for shopping, dining and cultural events.

**2. Does the proposed project cross and/or benefit multiple municipalities? If yes, which ones and how?**

Census data indicates that of the **33,260** employees that work within one mile of the study area, only 33% are from Denver. The remaining 67% are coming from Aurora, Lakewood, Centennial, Highlands Ranch and at least 7 or more other municipalities. Multimodal improvements throughout this area will make it much easier for these employees to take transit to the area (via one of the two light rail stations or one of the many bus routes that service the area) and walk or bike the remaining distance to their place of employment.

Project improvements specifically at University and Buchtel and University and Evans will improve safety for many people travelling to, from and around the University of Denver campus. Not only does the campus attract over 11,000 students from across the Denver metro region (including various municipalities) on an annual basis, but the University often hosts various conference and events for groups and institutions from across the metro region. Specifically, many attending events at the DU Ritchie Center park across University at a large parking lot on Buchtel and Josephine. They then must cross University and Buchtel. During the public outreach process associated with the Multi-Station Area Study and the Next Steps Study, it became a clear community priority to enhance pedestrian safety across the intersection, which this project aims to do. The intersection at University and Evans is also difficult to navigate for pedestrians and bicyclist but is in high demand for campus users and visitors. This project aims to improve navigation and safety for both pedestrians and bicyclists at this intersection.

The area immediately surrounding the Colorado Light Rail Station has been identified as a future Regional Center in Blueprint Denver (2019 draft). Regional Centers are areas where people go to engage in social activities and entertainment and attract people from wide geographic areas, including surrounding municipalities. Pedestrian and bicycle movement to, from and within these centers is essential. Improvements to the Colorado and Buchtel

intersection and the Colorado and Evans intersection will include physical enhancements to the intersections to make pedestrian and bicyclists more visible and shorten crossing distances, as well as signal timing strategies.

Both light rail stations serve the Southeast Light Rail Corridor. Improving connections to, from and around them will serve those coming to these areas for work, study and play. It will also make it easier for those that live in these areas to utilize transit in order to reach other destinations along Denver's connected light rail system such as the Denver Technological Center, Park Meadows and Downtown Littleton.

**3. Does the proposed project cross and/or benefit another **subregion(s)**? If yes, which ones and how?**

Yes. As described in the previous question, employees in this area come from many different municipalities and subregions. Improvements that make it easier to move about the area using transit, walking or biking will encourage employees and residents from outside of Denver to reduce their dependency on vehicles to get to and from the area and encourage stronger transit ridership. It is estimated that with this project, daily weekday transit ridership may increase by as much as 2,735 by the year 2040. While the current breakdown is about 67% of employees are from outside municipalities, it is possible that this may increase as employment opportunities continue to expand in the area with increased and focused development, while skyrocketing housing prices may continue to push more and more people outside of the Denver city limits. These improvements will make it possible for many people who have been pushed out of Denver due to home prices and high rentals to still arrive safely, efficiently and reliably in the area for employment and/or enjoyment.

**4. How will the proposed project address the specific transportation problem described in the **Problem Statement** (as submitted in Part 1, #8)?**

This project was identified as part of the 2017 Multi-Station Plan and Mobility Study: University and Colorado Station final report and prioritized in the Next Steps Study, an appendix to the original report. The report was the result of a comprehensive data collection, analysis and community outreach effort. Through this effort, it was determined that bicycle and pedestrian improvements are a major priority in this area, particularly along Buchtel Boulevard between University and Colorado, and at four key intersections: University and Buchtel, University and Evans, Colorado and Buchtel, and Colorado and Evans. These four major intersections serve as critical components to the overall transportation network in this area.

This project will improve multimodal transportation options to, from and around the University and Colorado Light Rail Stations. University, Colorado and Evans are major arterials that are currently very auto-oriented. These project improvements will make it safer and more comfortable for pedestrians and cyclists to also move around this local transportation network. Intersection improvements will include shortening crossing distances for pedestrians via bulbouts and refuges while also making pedestrians more visible. They will also include improvements for bicycles. Signal timing will be designed to accommodate all modes, not just vehicles. The cycle track along Buchtel will create a high-use of facility connecting cyclists between the stations. These improvements will benefit local residents, University of Denver students, faculty and staff, and the numerous developments surrounding the Colorado Light Rail Station. These enhanced connections will help to better activate both Regional Transportation District stations and the areas adjacent to and in-between these stations.

Improvements along University Boulevard will benefit users of the University of Denver campus and the local merchants who rely on the University population for steady business. Safe access across this busy arterial for pedestrians is an important priority for campus. A major theme in the 2018 Campus Framework Plan is a better connected campus and highlight the need for "Great Streets" that "integrated best management practice" and "align to the City's Vision Zero goals." The Plan emphasizes a need for further pedestrian improvements that eliminate potential conflicts and a well-connected bike network. The Buchtel Trail project will help to achieve this vision.

Improvements along Colorado Boulevard will greatly benefit the users of the businesses along the corridor, including retail, dining, entertainment and office buildings. The area continues to transform with the aid of new

development into an increasingly dense area, promoting more pedestrian use. To stay in sync with this development, it is imperative the city invests in upgrading these intersections to accommodate safer pedestrian and bicyclist crossings. These improvements will only further make this area a regional destination, benefiting the local economy and encouraging more TOD around the station.

These improvements aim to minimize SOV trips to and from the station while promoting more biking, walking and transit modes. Increasing multimodal means for accessing the station (over SOV trips) are associated with fewer greenhouse gas emissions. Providing more comfortable pedestrian and bicycle facilities will also promote healthier and active choices for local users. The Buchtel improvements in particular occur alongside a designated park, which will connect even more people with one of Denver's great natural resources.

**5. One foundation of a sustainable and resilient economy is physical infrastructure and transportation. How will the completed project allow people and businesses to thrive and prosper?**

This project will benefit people and businesses around two light rail stations: University and Colorado Stations. The University Light Rail Station is situated just north of the University of Denver campus which is home to over **11,000 students, faculty, staff and visitors**. DU also prides itself on being an urban campus with strong ties to local businesses. Improved pedestrian, bicycle and connections in this area will benefit campus users and local businesses that rely on local foot traffic and residents in order to prosper.

The Colorado Light Rail Station is located in the heart of a growing regional center, adjacent to shopping, dining and entertainment. It is also the focus of TOD efforts and current development is already taking place that will increase both residential and commercial density. Making this area more walkable and bicycle friendly will benefit new and existing residents, businesses and visitors.

This project will make it easier for the 11% of people over 65 who currently live in this area to move around, a population that is expected to at least double by the year 2040 (8,000+ local residents). Access to transit, key amenities and health services will allow those living in this area to thrive and prosper, even as they age in place.

**6. How will connectivity to different travel modes be improved by the proposed project?**

Currently, the dominant mode in this area is by automobile. These projects specifically aim to make it easier, safer and more comfortable for area users to access transit, walk, and bicycle. Intersections will be specifically rebuilt to accommodate all modes, not just vehicles. Improvements include signal prioritization for pedestrian and cyclists, physical improvements to intersections to make crossings safer, and two main destinations this project will benefit are RTD stations, thus promoting more rail and bus ridership. Through this project, it is anticipated that the project area may see an increase in 2,735 weekday daily transit trips due to these improvements.

This project will tie into the existing and proposed bicycle network in the area. Per the Mayor's 2018 State of the City commitment, Denver is currently pursuing an aggressive goal of building out 125 miles of bike lanes within a five year time frame. This project will play an important role contributing to the achievement of that goal and will also benefit from the bicycle network that goal is pushing the city to build out.



Figure 7: Planned and proposed bicycle facilities that will connect the project improvements to the larger Denver Moves: Bicycle network.

This project will also provide better facilities to connect people that live in the University Park neighborhood to the strong transit opportunities along University, Evans and Colorado (per the map below).



Figure 8: Major bus routes serving the project area.



7. Describe funding and/or project partnerships (*other subregions, regional agencies, municipalities, private, etc.*) established in association with this project.

This project was voted on and approved by Denver voters as part of the Elevate Denver Bond package. \$8.4 million is dedicated to this project via the Bond program. However, after further analysis was conducted, it is believed that this is not enough funding to fully cover the cost of all the project elements that were committed to in the Bond. Thus, in addition to Bond funding, the City and County of Denver (CCD) is pursuing this grant funding and will match grant funds with local CIP funds to help cover the gap in funding.

The Multi-Station Study also identified many other projects that would meet the goal of activating these stations and enhancing multimodal connections throughout the entire area. CCD staff, with the support of City Council, is committed to working with the University of Denver and Transportation Solutions (the local TMA) to find means for implementing the plan recommendations west of University.

CCD is also committed to working with developers and the private sector to make many of the plan's recommended improvements in the area surrounding the Colorado Light Rail Station occur with the help of TOD activity that is currently occurring along Colorado Boulevard. CCD is optimistic that in addition to the Buchtel Trail: Multimodal Network project, strategic partnerships will lead to the majority of the recommendations in the Multi-Station Study report being implemented.

**B. DRCOG Board-approved Metro Vision TIP Focus Areas and Specific Denver Goals**

WEIGHT **30%**

Provide **qualitative and quantitative** (derived from Part 3 of the application) responses to the following questions on how the proposed project addresses the three DRCOG Board-approved Focus Areas (in bold).

**VULNERABLE POPULATIONS AND EQUITY**

1.A. Describe how the project will **improve mobility infrastructure and services for vulnerable populations (including improved transportation access to health services)** as defined in the ***Adopted 2020-2023 TIP Policy***:

Mobility for vulnerable populations continues to be a priority for infrastructure projects in the City and County of Denver. The Buchtel Trail: Multimodal Network project plays a key role in improving the existing infrastructure to assist with access to, from and around the project area for these residents.

Much of the area surrounding these stations has a higher percentage of aging residents. The area around Colorado Station for example currently has 30% of its residents age 55 or higher. This is markedly higher than other surrounding areas or the city. Due to this fact, accessibility to health services within and near the project is an important factor. Near Colorado Station and I-25, there is a large concentration of healthcare facilities less than one mile from the Station. There are at least 12 facilities in that area ranging from orthopedics and physical therapy to behavioral and regenerative medicine. As the aging population in this project area rely more heavily on alternative mobility options (transit and pedestrian), being able to safely and easily make trips from their residences to these health facilities is increasingly important.

This project will also benefit the population around the University of Denver, including many on-campus residents and students with low auto-ownership rates. This population is reliant on more active transportation options such as biking and walking, which is evident in the Campus Framework Plan that emphasizes a better connected walking and biking campus as a major theme.

Below are some key infrastructure elements within this Project that will improve mobility for vulnerable populations:

- Intersections with improvements with a range of applicable elements:
  - refuge islands and raised medians
  - bulbouts to decrease crossing distances
  - bike/ped/right turn traffic signal phases

- high-visibility crosswalks and signage

These improvements will clearly assist the project area’s vulnerable population by increasing their mobility capabilities throughout the Project as well as simplifying access to key healthcare facilities at the east end of the Project.

1.B. Describe how your project is consistent with **Denver’s commitments to Equity principles** as defined below, and discussed in more detail in Chapter 4, Access to Opportunity, in the ***Blueprint Denver (Public Review Draft August 6, 2018)***.

***Equity is providing everyone with access to opportunity regardless of income level, race, ethnicity, gender, ability, or age.***

As outlined in Blueprint Denver, *access to opportunity reflects the goal for all neighborhoods to be complete with equitable access to a high quality of life. A vision of... every Denver resident—regardless of income, race, ethnicity, age or ability—to live in a complete neighborhood of their choice with basic services and amenities. This includes equitable access to quality education.* Infrastructure projects that align with this vision need to design and construct elements that give those who are underprivileged, for whatever reason, the same or similar access to services and amenities in their community as the rest of their residents. There is a significant need for these types of projects in this area as there are significant underprivileged populations present. HUD low-income housing in the project area ranges from 52% up to 96% just west of University Blvd. In the area around Colorado Station, roughly 30% of the residents are 55 or older. Median household incomes around Colorado Station and University Station are lower than the City of Denver median and lower than the median for the market area as a whole.

Many of the infrastructure elements within the Buchtel Trail: Multimodal Network project largely serve the purpose of fulfilling the “access to opportunity” vision, either directly or indirectly. One prominent example of how this project fulfills this is the cycle track elements from University to Colorado Blvd. The development of dedicated bicycle corridors greatly increases the ability for multiple sectors of vulnerable citizens, namely low-income and those under age 16, equitable access to services, amenities and education. The current infrastructure for bicycles in these areas is either non-existent, non-cohesive or inefficient, making bicycle access in and around the community infeasible. The cycle track opens windows of opportunity for these citizens, providing them with a reliable, safe, efficient means of transportation to areas of opportunity within their community. Some examples of services and amenities from Blueprint Denver include *jobs, schools, parks, healthcare services and healthy food*. Here is a handful of services/amenities within the project area that, with the implementation thereof, will assist in equalizing access:

- Veteran’s Park near University Blvd.
- South High School near University Blvd.
- University of Denver and Ritchie Center near University Blvd.
- Multiple healthcare facilities north of Colorado Station on Colorado Blvd.
- Natural Grocers at southwest corner of Colorado and Buchtel

As stated in Blueprint Denver, *Equitable access to opportunity strengthens our collective prosperity and improves outcomes for all*. By implementing the South Broadway Protected Bike Lane Project, the City of Denver will be many steps closer to fulfilling this goal throughout the City.

## RELIABILITY OF THE MULTIMODAL TRANSPORTATION NETWORK

2.A. Describe how the project will **increase reliability of existing multimodal transportation network** as defined in the ***Adopted 2020-2023 TIP Policy***:

Multimodal transportation reliability is important for many reasons. To encourage citizens to utilize a variety of transportation modes, those modes need to be smooth-flowing, without system gaps and efficient. Many aspects of the Buchtel Trail: Multimodal Network project will increase reliability multiple transportation modes.

The improved pedestrian crossings across Buchtel will fill system gaps by providing safe, efficient, reliable piece of infrastructure to encourage walking in the area. At the four major intersections, upgrading signal timing will increase reliability. At the intersection of University and Buchtel and Colorado and Buchtel, the signal system and roadway will be upgraded to include signal-controlled vehicular right turns and a dedicated phase for bikes which will significantly increase both vehicular and bicycle expectations at this crossing, increasing reliability via improved operational movements. At University and Evans, there is a significant number of pedestrians crossing at this arterial intersection. One pedestrian count study revealed 1,500 pedestrian crossings in a 2-hour mid-day timeframe. By adding signal-controlled right turns and dedicated pedestrian signal phases, the level of comfort and reliability is increased, making the area more walkable and livable.

Lastly, the cycle track elements in this Project significantly increase the reliability and attraction to the bicycle as a feasible alternative mode of transportation. The connectivity element of the cycle track and the separation from alternate transportation modes makes it an efficient, reliable option in the Project area

## 2.B. Describe how the project will meet the goals of the **Denver Mobility Action Plan**.

The Denver Mobility Action Plan identified several key goals and strategies for the City. Some of the main focuses and goals of the Plan include:

- Reducing single-occupant vehicle commuters and increasing the number bike/pedestrian/transit commuters
- Reduce to zero the annual number of traffic fatalities, serious injuries and major crashes by fully implementing the city's Vision Zero program.
- Protect our climate, improve public health and increase Denver's ability to significantly reduce greenhouse gas emissions.

With the planned pedestrian and bicycle improvements slated for the Buchtel Trail: Multimodal Network project, the attraction to alternative transportation methods will likely see a marked increase. There are multiple factors that go into a citizen's decision to change their commuting method of choice. Factors such as environmental protection, health, safety and reliability. This project contains numerous elements that, when implemented, will naturally create more of a draw toward alternative modes of transportation, thus reducing single-occupant vehicles and reducing emissions.

The separation of bicycles from other transportation modes via the Buchtel cycle track directly or indirectly touches on each of the highlighted elements from the Denver Mobility Action Plan. Having an efficient, reliable corridor for bicycles will naturally draw more of the area's residents to embrace the bicycle as a feasible commuting vehicle. Secondly, the separation inherently increases safety by putting distance between motor vehicles and vulnerable cyclists. Lastly, as new bicycle commuters become accustomed to this commuting method and utilize it more regularly, emissions decrease and personal health increases.

## 2.C. If applicable, describe how the project will **increase multimodal person-trip capacity and access** as described in the **Denver Strategic Transportation Plan (2008)**.

The 2008 Denver Strategic Transportation Plan was and still is an innovative approach, developed by City employees, transportation experts, and with input from the citizens of Denver, to develop a roadmap for Denver's present and future transportation needs. The plan was a much needed and forward-looking plan that is still significantly relevant in 2019. Some of the key elements the plan focus on four main transportation modes: Walking, Biking, Transit and Auto. Below are four main goals that the Plan seeks to accomplish/develop and examples of how the Buchtel Trail project progresses Denver's infrastructure to that end:

### **1.) Safe Pedestrian Connections**

The enhanced pedestrian crossings along Buchtel create safer pedestrian connections by enhancing pedestrian visibility, shortening crossings, and will make it easier for pedestrians to access the Prairie Park to the north of Buchtel, the surrounding areas, and the light rail stations. The cycle track will narrow Buchtel, which will help calm traffic and decreases the pedestrian crossing distance. Many of the intersection treatments add high contrast crosswalk striping and signage, further increasing awareness and visibility at these multimodal intersections. Signalized intersections will be upgraded to include pedestrian phases and timing, adding further safety to key pedestrian crossings. Medians and bulb-outs will be created where appropriate to shorten pedestrian crossings at these major intersections.

## **2.) A Comprehensive Bicycle System**

The two-way cycle track along Buchtel will provide a continuous and contiguous cross-section for bicycle movement throughout the entire corridor. This cycle track provides an efficient route for cyclists through a busy section of the University Park Neighborhood. In addition, at the intersections of University and Colorado, dedicated bicycle crosswalks and bicycle signal phases will be added, creating a truly contiguous corridor for cyclists.

## **3.) Dependable Transit Options**

Though this project doesn't have direct transit service modifications or additions, the infrastructure improvements that are planned to be implemented will indirectly improve the dependability of the transit service in the area. Also, with the increased capacity and connectivity of the other transportation modes included in this project, the major arterials will become less congested and thus more dependable for both personal vehicles as well as transit vehicles.

## **4.) Efficient, Well-maintained Infrastructure.**

This project will result in upgrades to major intersections in this area, providing an opportunity to ensure efficiency at these signals and for this local network as a whole. Encouraging multimodal access will hopefully alleviate some vehicle traffic in and out of the stations, relieving some congestion and thus allowing busses to operate more efficiently and on schedule. All project elements will be designed with maintenance in mind so that they do not create unreasonable burden on the City's maintenance teams.

Another key element present throughout the 2008 Denver Strategic Plan is reliability – providing a connected system with safe networks and managed congestion that is accessible to all citizens. Most of the elements proposed within this project have an underlying positive impact to system reliability. The cycle track creates a dedicated, efficient corridor that is minimally impacted by outside factors due to its isolated nature. Also, the intersection improvements of this project provide infrastructure that adds safer, intelligent control to the various transportation modes.

## **TRANSPORTATION SAFETY AND SECURITY**

### **3A. Describe how the project will improve transportation safety and security as defined in the *Adopted 2020-2023 TIP Policy*:**

According to the TIP Policy, there are roughly 220 traffic accidents in the region daily, resulting in approximately 70 injuries and 4 fatalities. There were 24 accident related crashes in this project area during the last four years. Reduction or elimination of these statistics is a significant contributing factor to the proposed infrastructure upgrades. There are three major elements identified in the TIP Policy areas that could significantly diminish these numbers, identified below, with details as to how the Buchtel Trail: Multimodal Network project aligns with that vision.

#### **1. Roadway/Geometric upgrades, including the improvement of design and operations of intersections**

The core elements of this project are geometric and operation improvements at seven key intersections in the project area. Each sub-project has unique variations, but at the core of each sub-project, one of the underlying goals is to significantly improve the safety of corridors by implementing the proper designs,



functionality and features. The list below touches on the main geometric elements being proposed in the sub-projects to produce better, safer operations.

- Intersection Improvements – some of the common themes in the intersection geometry improvements are added/removed channelized right turns and bulbouts. At some locations, channelized right turns were removed to reduce right turn speeds and create a safer environment for pedestrians and/or cyclists. At other intersections, channelized right turns are being added to provide better sight distance and provide pedestrian refuge areas. Bulbouts have been added at many of the intersections to decrease the pedestrian crossing distance, thus reducing the time pedestrians spend in a given crossing.

## 2. Improved interactions between pedestrian/bicycle modes with vehicular traffic (e.g. exclusive bike lanes, pedestrian/bicycle grade separations, and crossings, improve line of sight, traffic calming improvements, etc.

The cycle track planned along Buchtel Blvd., between University Blvd. to Colorado Blvd is a 10' wide exclusive bike lane with an adjacent 8' wide pedestrian sidewalk. The cycle track adds safety measures not only by separating the different transportation modes but adds additional safety at the major arterial crossing at Buchtel and University and Buchtel and Colorado with separate, highly visible pedestrian crossings and bicycle crossings. Connection of the surrounding area to this critical existing grade separation increases connectivity and safety for transportation modes.

There are also a number of raised medians at intersections with pedestrian/bike refuge areas to be constructed as part of this project. This improves bike and pedestrian mobility by allowing them a place of refuge when crossing busy arterials and increases safety by decreasing the amount of time and distance pedestrians and bicycles are in vulnerable traffic lanes and allowing them to make safer decisions when crossing.

At the busy arterial intersection of Colorado Blvd. and Evans Ave., channelized right turns will be added to increase the lines of sight for right-turning vehicles and to provide refuge areas for pedestrians, both of which will increase the overall safety of the intersection. Alternately, at many of the less busy arterials, dedicated right turn lane elements are being removed where traffic calming and reduced vehicular turning speeds are a higher priority from a safety standpoint.

## 3. Intelligent Transportation Systems applications

Intelligent Transportation System (ITS) enhancements will be added to the four major intersections that are being improved. They will integrate signal-controlled right turns for vehicles and dedicated phases for pedestrians and cyclists. Controlling these movements via the ITS infrastructure has proven to greatly increase intersection safety and reduce the number of accidents between the different transportation modes.

### 3B. Describe how the project will meet the goals of [Denver's Vision Zero Action Plan](#).

The underlying goal of Denver's Vision Zero Action Plan is simple: **Zero traffic-related deaths and serious injuries by 2030**. The central tenet of the Plan is that people should not be killed or seriously injured as a consequence of mobility. This means that the 24 injury-related crashes in the past 5 years were preventable. This project aims to improve safety within the project area and in particular along Colorado, Evans and University, all of which are considered high injury networks (HIN) in the Vision Zero Action Plan. According to the City's Vision

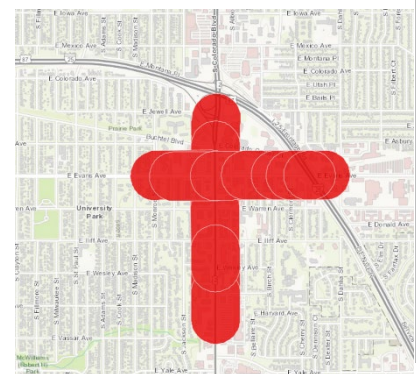


Figure 9: Red equates to priority high on the VZ HIN

Zero Map of HINs and Communities of Concern (COC), the project improvements planned for Colorado and Buchtel and Colorado and Evans are considered “Priority High” within the injury network (Figure 9).

The Vision Zero Action Plan brings awareness to the fact that higher vehicular speeds increase the likelihood of accidents as well as injuries and/or fatalities with all the transportation modes. Furthermore, as speeds increase, the severity of injuries also increases. A number of elements included in this project serve to bring vehicular speeds down, creating a safer transportation system. Design elements like bulbouts and channelized right turns at the intersections and reduced vehicular lane widths in the cycle track areas encourage or force slower speeds in the project area.

The cycle track along Buchtel Blvd. from University Blvd. to Colorado Blvd. is a significant undertaking but with very significant safety benefits. The separation of different transportation modes inherently produces a safer environment. Vehicles, cyclists and pedestrians all have very different strengths, limitations and operations and when geographically overlapped, accidents, injuries and fatalities are more likely to occur. The cycle track provides a defined, separated corridor for cyclists which will improve not only the safety of the cyclists themselves but also improves the safety of the vehicles and pedestrians they’re no longer mixing with. The cycle track will also narrow the road which will provide a traffic calming benefit.

## C. Consistency & Contributions to Transportation-focused Metro Vision and Denver Plans, Goals, and Objectives

WEIGHT **30%**

Provide **qualitative and quantitative** responses (derived from Part 3 of the application) to the following items on how the proposed project contributes to Transportation-focused Objectives (in bold) in the adopted Metro Vision plan. Refer to the expanded Metro Vision Objective by clicking on links. In addition, provide information related to the consistency with Denver goals, objectives, plans, and priorities.

### [MV objective 2](#)

**Contain urban development in locations designated for urban growth and services.**

1. Will this project help focus and facilitate future growth in locations where urban-level infrastructure already exists or areas where plans for infrastructure and service expansion are in place?

☒ Yes ☐ No

Describe, including supporting quantitative analysis

This project will help focus and facilitate future growth in locations where urban-level infrastructure already exists. The Buchtel Trail project is one component of a larger vision that is laid out in the Multi-Station Study and that focuses on working with TOD around the Colorado Station and the University of Denver around the University Station to increase ridership, access, and economic opportunities surrounding both stations.

### [MV objective 3](#)

**Increase housing and employment in urban centers.**

- 2.A. Will this project help establish a network of clear and direct multimodal connections within and between urban centers, or other key destinations?

☒ Yes ☐ No

Describe, including supporting quantitative analysis

Yes. This project is a direct result of the Multi-Station Area Study which laid out a vision for making the multimodal network in this area (to, from and around the stations) more accessible, safe and transparent. Both stations are located at key destinations: the University of Denver and shopping/dining/entertainment area that

surrounds the Colorado Station. Project elements are specifically targeted to improve multimodal options in this area.

**2.B.** How does this project focus or serve desired growth in areas identified on the Places map (Chapter 5, p. 126) in the [Blueprint Denver \(Public Review Draft August 6, 2018\)](#)?

The Future Places as identified in *Blueprint Denver* that this project will benefit include two Community Corridors (University Blvd and Colorado Blvd), the DU Campus (adjacent to the University Station), and a Regional Center at the Colorado Station. It expected that residential areas around the Community Corridors will also become medium-density and the project also connects to a public park. Improved multimodal opportunities will make the Community Corridors and Regional Center more attractive to locals and visitors, helping bolster local economic activity around both of these stations.

<a href="#">MV objective 4</a>	<b>Improve or expand the region’s multimodal transportation system, services, and connections.</b>
<p><b>3.A.</b> Will this project help increase mobility choices within and beyond your subregion for people, goods, or services?</p> <div> <input checked="" type="checkbox"/> Yes         <input checked="" type="checkbox"/> No       </div>	
<p>Describe, <i>including supporting quantitative analysis</i></p> <p>Yes, this project directly intends to expand mobility choices within the region. By enhacing transparency, safety and accesibility to more comfortable pedestrian and bicycle facilities, this project provide more choices not only for those that live, work or study in this area but for those visiting the area. Knowing that once they reach these destinations they will have more multimodal options, visitors will be more likely to arrive by transit at either the University Light Rail Station, the Colorado Light Rail Station of one of the many bus routes that serve this area. Meaning this project may have the ripple effect of encouraging multimodal means for accessing transit stations in Aurora, Centennial, and elsewhere RTD serves.</p> <p><b>3.B.</b> If applicable, describe how this project is consistent with Denver’s specific alternative mode and/or project priorities contained in one or more of <b>Denver’s modal plans linked below or small area plans</b> (Neighborhood Planning Initiative, corridor plans, station area plans, Next Steps Studies, etc.). See Denvergov website: denvergov.org search bar and specific plan links below:</p> <p><b>NOTE: The application does not need to address numerous plans. Provide documentation for the most applicable or relevant document(s) or plan(s).</b></p> <p><a href="#">Multi-station Plan and Mobility Plan: University to Colorado</a>: This plan (completed in 2017) involved extensive community outreach and data analysis. It lays out a vision for development around the University and Colorado Light Rail Station and the overall multimodal network that supports these stations. Project recommendations were then evaluated through a Next Steps Study.</p> <p><a href="#">Next Steps Study (NSS)</a>: This NSS provides more detail of proposed project imporvements. All projects identified in the Multi-Station Plan were evaluated and prioritized based on need and community support. The high priority projects from this study are the key project elements described in this application.</p> <p><a href="#">Transit Oriented Development (TOD) Strategic Plan</a>: Both stations (University and Colorado) were evaluated in the TOD plan. University, considered an Urban Institutional station area, is considered medium-high in terms of market readiness for development. Colorado Station (an Urban Center station area) ranks medium-high for market readiness, development potential and TOD characteristics. Both are considered “TOD-ready,” falling in the “Energize” category of strategies. This project will only add to this TOD readiness, making them even more appealing for TOD.</p>	

[Denver Moves: Bicycles](#): This citywide plan for a high-ease of use facility along Buchtel. The proposed cycle track will meet this intent.

[Denver Moves: Pedestrian and Trails](#): This plan identifies a strong need for improved pedestrian crossing at Colorado and Buchtel. The pedestrian oriented improvements at this intersection will meet that intent.

[MV objective 6a](#)

**Improve air quality and reduce greenhouse gas emissions.**

**4.A.** Will this project help reduce ground-level ozone, greenhouse gas emissions, carbon monoxide, particulate matter, or other air pollutants?

☒ Yes ☐ No

*Describe, including supporting quantitative analysis*

This project aims to increase multimodal transportation uses connecting to and around the University and Colorado Light Rail Stations. More people using bikes, walking and/or transit to get around this area will reduce the number of SOV trips and associated greenhouse gas emissions. Furthermore, improving access to these major light rail stations will increase ridership, again cutting down on SOV trips and their associated emissions.

**4.B.** If applicable, describe how this project is consistent with, or helps implement, Denver's [80x50 Climate Action Plan](#), which set the City's target to **reduce greenhouse gas emissions to 80% below 2005 levels by 2050**, and/or Denver's [2020 Sustainability Goals](#).

Denver's 80x50 Climate Plan strives to reduce Denver's greenhouse gas emissions by 80% below 2005 levels by the year 2050. Increasing Denver residents' and visitors' ability to ride transit, bicycle comfortably and more reliably, and by making walking safer and more appealing play an important role in meeting this vision. Not only does it have a direct connection to reducing the emissions associated with reduced SOVs (as people choose these alternative modes), but it also helps shift the overall transportation paradigm in Denver. The more people can rely on alternate modes, the more comfortable they will feel using them and the more routinely they will use them. Additionally, these project improvements will continue to encourage TOD, meaning more people and business will be located in an area where they can meet most of their needs – from residential, to business, to shopping, dining and entertainment. By being able to access all of these things within walking or biking distance, people will be less inclined to drive to other destinations to meet these needs.

The anticipated outcomes of more people walking, biking and taking transit, and increased TOD around these areas will help achieve multiple 2020 Sustainability goals. These include improved air quality, reduced CO2 emissions, improved health (through active lifestyles), more TOD-related housing, improve Denver's Walk Friendly score, reduce SOV trips, provide local residents with more local work opportunities, and through properly designed projects, improve Denver's water quality (as described in 4.C.)

**4.C.** If applicable, describe if this project contains **water quality and green infrastructure** consistent with project types and focus areas identified in Denver's [Green Infrastructure Implementation Strategy](#):

Per a new best practice in Denver, the budget for this project includes funding for addressing water quality, whether it is triggered by Denver's MS4 permit or not. Given this, water quality will be woven into the project so that provides numerous benefits in addition to water quality such as increased vegetation, improving local air quality by capturing local particulate matter, and potentially acting as a pleasant buffer between vehicles and other modes.

[MV objective 7b](#)

**Connect people to natural resource or recreational areas.**



**5.A.** Will this project help complete missing links in the regional trail and greenways network or improve other multimodal connections that increase accessibility to our region's open space assets?

☒ Yes ☐ No

Describe, *including supporting quantitative analysis*

Prairie Park is a linear park on the northside of Buchtel. By improving bike and pedestrian access along and across Buchtel, this project will improve multimodal connections to this designated park.

**5.B.** If applicable, describe how your project meets the goals, objectives and priorities of the Denver Department of Parks and Recreation's [Game Plan for a Healthy City \(Public review draft 2018\)](#).

This project will help Denver meet the goal of "Uniquely Denver" by helping activate the uniquely situated linear Prairie Park on the north side of Buchtel. By encouraging the use of Buchtel as a key transportation corridor to and from the University and Colorado Stations, local residents will more regularly be exposed to the park and have the opportunity to experience it. The vegetation in Prairie Park is predominantly native which provides a unique connection to Denver's more naturalized landscape in the heart of an urban area. Not only are more naturally occurring prairie landscapes like that of Prairie Park more easy to maintain, but they are also more resilient as Denver's climate continues to change and get warmer. Connecting more people to this park will help with its long term preservation.

#### [MV objective 10](#)

#### Increase access to amenities that support healthy, active choices.

**6.** Will this project expand opportunities for residents to lead healthy and active lifestyles?

☒ Yes ☐ No

Describe, *including supporting quantitative analysis*

The first regional **Active Transportation Plan** was adopted by the DRCOG Board in January 2019. This project is consistent with the following key goals of

- supports access to safe, comfortable, and connected active transportation facilities (such as shared-use paths, bike lanes and sidewalks) for people of all ages, incomes and abilities;
- encourages active transportation options for rural, suburban, and urban communities;
- encourages active transportation facilities that connect the network and region efficiently and comfortably, including those that provide connections to transit; and
- supports the Denver region's vision to improve safety, reduce vehicle miles traveled, decrease the number of people driving alone and improve the region's air quality.

These improvements will provide residents and visitors to this area with more bicycle and pedestrian friendly intersections and facilities, giving them more choices to lead healthy and active lifestyles. Improvements along Buchtel will encourage more use not only of the bicycle and pedestrian facilities but will also invite people to use Prairie Park, a wonderful recreational amenity in the neighborhood. Major intersection improvements along University and Colorado Boulevards will make people more inclined to get out of their cars and walk around the areas instead of driving from one parking lot to the next.

#### [MV objective 13](#)

#### Improve access to opportunity.

**7.A.** Will this project help reduce critical health, education, income, and opportunity disparities by promoting reliable transportation connections to key destinations and other amenities?

☒ Yes ☐ No

Describe, including supporting quantitative analysis

Yes, this project will help connect the markedly higher older population (33% over 55) that live around the project area, the local student population and anyone else who comes to the area on a major bus or light rail route to the 41 health service facilities this project serves. This project also makes access to and from the University of Denver campus safer and more accessible, helping the University of Denver achieve its aspiration of becoming an urban campus, welcome to all. This project also improves safer, non-auto-dependent access to the numerous services and amenities along University and Colorado, including shopping, dining, banking, and entertainment.

**7.B.** Describe how your project addresses the neighborhood inequities related to transportation as depicted and mapped in the **Denver Neighborhood Equity Index** which was produced by the Denver Department of Public Health and Environment, which helps to inform decision makers about where city investment and resources are needed most for those living in Denver’s underserved neighborhoods?

General information on the Neighborhood Equity Index is on the Denvergov website:

<https://www.denvergov.org/content/denvergov/en/environmental-health/community-health/health-in-all-policies.html>

See the interactive map, by opening this [link](#) in a new window. The source of each indicator is described in the map. Click on each individual link and see specific map layers; for example, in Built Environment, there is information on “Access to Parks” separately.

The main Denver Neighborhood Equity Index criteria this project will benefit is Access to Care. Much of the area surrounding these stations has a higher percentage of aging residents. The area around Colorado Station for example currently has 30% of its residents age 55 or higher. This is markedly higher than other surrounding areas or the city. Due to this fact, accessibility to health services within and near the project is an important factor. Near Colorado Station and I-25, there is a large concentration of healthcare facilities less than one mile from the Station. There are at least 12 facilities in that area ranging from orthopedics and physical therapy to behavioral and regenerative medicine. As the aging population in this project area rely more heavily on alternative mobility options (transit and pedestrian), being able to safely and easily make trips from their residences to these health facilities is increasingly important.

Project improvements will clearly assist the project area’s vulnerable population by increasing their mobility capabilities as well as simplifying access to key healthcare facilities at the east end of the project.

[MV objective 14](#)

**Improve the Denver Subregion’s competitive position.**

**8.** Will this project help support and contribute to the growth of the subregion’s economic health and vitality?

☒ Yes ☐ No

Describe, including supporting quantitative analysis

Yes. This project bolsters multimodal accessibility at two key urban centers (as identified in the DRCOG Metro Vision Regional Transportation Plan). Improving walking, biking and transit facilities in this area will attract more businesses and will help them to thrive. The area around the Colorado Light Rail Station is identified as a Regional Center in *Blueprint Denver* which means the City believes this area will continue to grow and become a major destination for businesses, visitors, and high density, multi-use development. The City of Denver is already successfully working towards more transit oriented development around this station.

## D. Project Leveraging

WEIGHT **10%**

<p><b>9.</b> What percent of outside funding sources (non-DRCOG-allocated Subregional Share funding) does this project have?</p>	<p>47%</p>	<p>60%+ outside funding sources ..... High  30-59% .....Medium  29% and below .....Low</p>
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## Part 3

# Project Data Worksheet – Calculations and Estimates

(Complete all subsections applicable to the project)

## A. Transit Use

1. Current ridership weekday boardings	5313
2. Population and Employment	

Year	Population within 1 mile	Employment within 1 mile	Total Pop and Employ within 1 mile
2020	38840	33260	72100
2040	40556	38240	78796

Transit Use Calculations	Year of Opening	2040 Weekday Estimate
3. Enter estimated additional daily transit boardings after project is completed. (Using 50% growth above year of opening for 2040 value, unless justified) <i>Provide supporting documentation as part of application submittal</i>	644	2735
4. Enter number of the additional transit boardings (from #3 above) that were previously using a different transit route. (Example: <b>{#3 X 25%}</b> or other percent, if justified)	161	684
5. Enter number of the new transit boardings (from #3 above) that were previously using other non-SOV modes (walk, bicycle, HOV, etc.) (Example: <b>{#3 X 25%}</b> or other percent, if justified)	161	684
6. = Number of SOV one-way trips reduced per day (#3 – #4 – #5)	322	1367
7. Enter the value of <b>{#6 x 9 miles}</b> . (= the VMT reduced per day) (Values other than the default 9 miles must be justified by sponsor; e.g., 15 miles for regional service or 6 miles for local service)	2896	12307
8. = Number of pounds GHG emissions reduced (#7 x 0.95 lbs.)	2751	11692
9. If values would be distinctly greater for weekends, describe the magnitude of difference:		
10. If different values other than the suggested are used, please explain here:		

## B. Bicycle Use

1. Current weekday bicyclists	172
2. Population and Employment	

Year	Population within 1 mile	Employment within 1 mile	Total Pop and Employ within 1 mile
2020	38840	33260	72100
2040	40556	38240	78796



Bicycle Use Calculations	Year of Opening	2040 Weekday Estimate
3. Enter estimated additional weekday one-way bicycle trips on the facility after project is completed.	8	123
4. Enter number of the bicycle trips (in #3 above) that will be diverting from a different bicycling route. (Example: <b>{#3 X 50%}</b> or other percent, if justified)	4	62
5. = Initial number of new bicycle trips from project (#3 – #4)	4	62
6. Enter number of the new trips produced (from #5 above) that are replacing an SOV trip. (Example: <b>{#5 X 30%}</b> or other percent, if justified)	1	18
7. <sup>3</sup>	3	43
8. Enter the value of <b>{#7 x 2 miles}</b> . (= the VMT reduced per day) (Values other than 2 miles must be justified by sponsor)	6	86
9. = Number of pounds GHG emissions reduced (#8 x 0.95 lbs.)	5	82
10. If values would be distinctly greater for weekends, describe the magnitude of difference:		
11. If different values other than the suggested are used, please explain here:		

C. Pedestrian Use	
1. Current weekday pedestrians (include users of all non-pedaled devices)	2805
2. Population and Employment	

Year	Population within 1 mile	Employment within 1 mile	Total Pop and Employ within 1 mile
2020	38840	33260	72100
2040	40556	38240	78796

Pedestrian Use Calculations	Year of Opening	2040 Weekday Estimate
3. Enter estimated additional weekday pedestrian one-way trips on the facility after project is completed	184	388
4. Enter number of the new pedestrian trips (in #3 above) that will be diverting from a different walking route (Example: <b>{#3 X 50%}</b> or other percent, if justified)	92	194
5. = Number of new trips from project (#3 – #4)	92	194
6. Enter number of the new trips produced (from #5 above) that are replacing an SOV trip. (Example: <b>{#5 X 30%}</b> or other percent, if justified)	28	58
7. = Number of SOV trips reduced per day (#5 - #6)	64	136

<b>12.</b> Enter the value of <b>{#7 x .4 miles}</b> . (= the VMT reduced per day) (Values other than .4 miles must be justified by sponsor)	26	54
<b>8.</b> = Number of pounds GHG emissions reduced (#8 x 0.95 lbs.)	24	52
<b>9.</b> If values would be distinctly greater for weekends, describe the magnitude of difference:		
<b>10.</b> If different values other than the suggested are used, please explain here:		

## D. Vulnerable Populations

Use Current Census Data	Vulnerable Populations	Population within 1 mile
	1. Persons over age 65	4322
	2. Minority persons	8449
	3. Low-Income households	2320
	4. Linguistically-challenged persons	773
	5. Individuals with disabilities	1648
	6. Households without a motor vehicle	1527
	7. Children ages 6-17	3897
	8. Health service facilities served by project	41

## E. Travel Delay (Operational and Congestion Reduction)

Sponsor must use industry standard Highway Capacity Manual (HCM) based software programs and procedures as a basis to calculate estimated weekday travel delay benefits. *DRCOG staff may be able to use the Regional Travel Model to develop estimates for certain types of large-scale projects.*

1. Current ADT (average daily traffic volume) on applicable segments	0
2. 2040 ADT estimate	0
3. Current weekday vehicle hours of delay (VHD) (before project)	0

Travel Delay Calculations	Year of Opening
4. Enter calculated future weekday VHD (after project)	0
5. Enter value of <b>{#3 - #4}</b> = Reduced VHD	0
6. Enter value of <b>{#5 X 1.4}</b> = <b>Reduced person hours of delay</b> (Value higher than 1.4 due to high transit ridership must be justified by sponsor)	0
7. <b>After project peak hour congested average travel time reduction</b> per vehicle (includes persons, transit passengers, freight, and service equipment carried by vehicles). <i>If applicable, denote unique travel time reduction for certain types of vehicles</i>	0
8. If values would be distinctly different for weekend days or special events, describe the magnitude of difference.	

9. If different values other than the suggested are used, please explain here:

## F. Traffic Crash Reduction

1. Provide the current number of crashes involving motor vehicles, bicyclists, and pedestrians ( <i>most recent 5-year period of data</i> )		Sponsor must use industry accepted crash reduction factors (CRF) or accident modification factor (AMF) practices ( <i>e.g., NCHRP Project 17-25, NCHRP Report 617, or DiExSys methodology</i> ).
Fatal crashes	0	
Serious Injury crashes	8	
Other Injury crashes	16	
Property Damage Only crashes	188	
2. Estimated reduction in crashes <u>applicable to the project scope</u> ( <i>per the five-year period used above</i> )		
Fatal crashes reduced	0	
Serious Injury crashes reduced	0	
Other Injury crashes reduced	0	
Property Damage Only crashes reduced	0	

## G. Facility Condition

Sponsor must use a current industry-accepted pavement condition method or system and calculate the average condition across all sections of pavement being replaced or modified.  
Applicants will rate as: Excellent, Good, Fair, or Poor

### Roadway Pavement

1. Current roadway pavement condition	Choose an item
2. Describe current pavement issues and how the project will address them.	
3. Average Daily User Volume	0

### Bicycle/Pedestrian/Other Facility

4. Current bicycle/pedestrian/other facility condition	Choose an item
5. Describe current condition issues and how the project will address them.	
6. Average Daily User Volume	0

## H. Bridge Improvements

1. Current bridge structural condition from CDOT
2. Describe current condition issues and how the project will address them.

3. Other functional obsolescence issues to be addressed by project	
4. Average Daily User Volume over bridge	0
<b>I. Other Beneficial Variables</b> <i>(identified and calculated by the sponsor)</i>	
1.	
2.	
3.	
<b>J. Disbenefits or Negative Impacts</b> <i>(identified and calculated by the sponsor)</i>	
1. Increase in VMT? <i>If yes, describe scale of expected increase</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No
2. Negative impact on vulnerable populations	
3. Other:	