

Boulder County Subregion

Air Quality/Multimodal (AQ/MM) Project Application

APPLICATION OVERVIEW

What: The Regional Share Call for Projects for the FY 2024-2027 TIP (Call #4)

Funding Available: \$8,329,000 for this subregion and this AQ/MM Track. In the AQ/MM Track, a majority of the funding is in FY26 and FY27, with a very small amount in FY25.

Eligibility: Air Quality & Multimodal (AQ/MM) eligible projects only.

Major Project Eligibility Exceptions: Roadway capacity, roadway reconstruction, bridge, interchange projects (*Note: these types of projects are only allowed to be submitted with the STBG application*)

Call Dates: November 28, 2022 until January 27, 2023, 3 pm

Application Submittals: submit the items below online through the submittal link on the [TIP Data Hub](#)

1. REQUIRED: a single PDF document containing 1) this application (**before saving to PDF, press Ctrl-A to select all, and F9 to update all formulas**), 2) one location map/graphic, 3) cost estimate (your own or the CDOT [cost estimate form](#)), 4) CDOT/RTD concurrence response (if applicable), 5) any required documentation based on the application text (i.e., FHWA emissions calculators), and 6) project support letters and/or peer agency support. Please DO NOT attach additional cover pages, embed graphics in the application, or otherwise change the format of the application form
2. OPTIONAL: Submit **one additional** PDF document containing any supplemental materials, if applicable
3. REQUIRED: Submit a single zipped GIS shapefile of your project. The shapefile should consist of only your project limits. No particular attributes need to be included. Requests for assistance with creating a shapefile should be submitted to tipapplications@drcog.org no later than December 30, 2022

Other Notable items:

- Eligibility: Projects must align with the eligibility guidelines in [Appendices B and C](#) of the TIP Policy. Proposed work on roadways must primarily be located on the [DRCOG Regional Roadway System](#) to be eligible for TIP funding (the DRCOG RRS can also be viewed within the [TIP Data Tool](#)). Reconstruction and added capacity are ineligible for the AQ/MM application (see the STBG application). Further details can be found in the [Policies for TIP Program Development](#) document (a quick-guide is also available for reference)
- TIP Trainings: To be eligible to submit an application, at least one person from your agency must have attended one of the two mandatory TIP training workshops ([February 10](#) and [February 16, 2022](#))
- CDOT/RTD Concurrence: If required, [CDOT and/or RTD concurrence](#) must be provided with the application submittal. The CDOT/RTD concurrence request is due to CDOT/RTD no later than December 9, 2022, with CDOT/RTD providing a response no later than January 13, 2023. Submit requests to the following: CDOT Region 1 – [JoAnn Mattson](#), CDOT Region 4 – [Josie Thomas](#), RTD – [Chris Quinn](#)
- If a submitted application in Calls #1-3 was not funded, and you wish to resubmit the same application for this call, please [contact DRCOG](#). In these cases, we can unlock the application, change the title, and save the applicant some work in the resubmittal process
- Application Data: To assist sponsors in filling out the application, DRCOG has developed a TIP Data Tool. A link to the TIP Data Tool and instructions on how to use it, and datasets for download are available on the [TIP Data Hub](#). Requests for additional data or calculations from DRCOG staff should be submitted to tipapplications@drcog.org no later than December 30, 2022
- Project Affirmation: The application must be affirmed by either the applicant's City or County Manager, Chief Elected Official (Mayor or County Commission Chair) for local governments, or agency director or equivalent for other applicants
- Evaluation Process: DRCOG staff will review submittals for eligibility, develop scoring sheets, and post all applications (Jan. 30-Feb. 3, 2023). On Feb. 6, a public comment period will open until Feb. 24. Also at that time, details will be provided to each subregion to begin scoring, discussing, and recommending their projects back to DRCOG by March 15. Each forums' recommendation will then be forwarded to the DRCOG committee process for incorporation into a new 24-27 TIP anticipated to be adopted in August 2023
- If you have any questions or need assistance, reach out to us at tipapplications@drcog.org

APPLICATION FORMAT

The AQ/MM Subregional Share application contains two parts: *project information* and *evaluation questions*.

Project Information

Applicants enter **foundational** information for the *project/program/study* (hereafter referred to as *project*), including a problem statement, project description, and concurrence documentation from CDOT and/or RTD, if applicable. This section is not scored.

Evaluation Questions

This part includes four sections (A-D) for the **applicant to provide qualitative and quantitative responses** to use for scoring projects. The checkboxes and data entry fields should guide the applicant's responses. They are not directly scored but provide context as reviewers consider the full response to each question. Applicants may access the TIP Data Tool and additional data resources which applicants may find useful [here](#).

Scoring Methodology: Each section will be scored on a scale of 0 to 5, relative to other applications received. All questions will be factored into the final score, with any questions left blank receiving 0 points. The four sections are weighted and scored as follows:

Section A. Subregional Impact of Proposed Projects.....25%

Projects will be evaluated on the degree to which they address a significant subregional problem or benefit people throughout the subregion. Relevant quantitative data should be included within narrative responses.

5	The project benefits will substantially address a major subregional problem and benefit people and businesses in multiple communities.
4	The project benefits will significantly address a major subregional problem primarily benefiting people and businesses in one community.
3	The project benefits will either moderately address a major subregional problem or significantly address a moderate -level subregional problem.
2	The project benefits will moderately address a moderate -level subregional problem.
1	The project benefits will address a minor subregional problem.
0	The project does not address a subregional problem.

Section B. Metro Vision Regional Transportation Plan Priorities60%

The TIP's investments should implement the 2050 Metro Vision Regional Transportation Plan (2050 MVRTP) regional project and program investment priorities, which contribute to addressing the Board-adopted Metro Vision objectives and the federal performance-based planning framework required by the Federal Highway Administration and Federal Transit Administration as outlined in current federal transportation legislation and regulations. Therefore, projects will be evaluated on the degree to which they address the six priorities identified in the 2050 MVRTP: safety, active transportation, air quality, multimodal mobility, freight, and regional transit. It is anticipated that projects may not be able to address all six priorities, but it's in the applicant's interest to address as many priority areas as possible. Relevant quantitative data is required to be included within narrative responses. The table below demonstrates how each priority area will be scored.

5	The project provides demonstrable substantial benefits in the 2050 MVRTP priority area and is determined to be in the top fifth of applications based on the magnitude of benefits in that priority area.
4	The project provides demonstrable significant benefits in the 2050 MVRTP priority area.
3	The project provides demonstrable moderate benefits in the 2050 MVRTP priority area and is determined to be in the middle fifth of applications based on the magnitude of benefits in that priority area.
2	The project provides demonstrable modest benefits in the 2050 MVRTP priority area.
1	The project provides demonstrable slight benefits in the 2050 MVRTP priority area and is determined to be in the bottom fifth of applications based on the magnitude of benefits in that priority area.
0	The project does not provide demonstrable benefits in the 2050 MVRTP priority area.

Section C. Project Leveraging (“overmatch”) 5%

Scores are assigned based on the percent of other funding sources (non-Subregional Share funds).

Score	% non-Subregional Share funds
5	60% and above
4	50-59.9%
3	40-49.9%
2	20-39.9%
1	10.1-19.9%
0	10%

Section D. Project Readiness 10%

Be sure to answer ALL questions. While “Yes” answers will generally reflect greater readiness, opportunities are given to provide additional details to assist reviewers in fully evaluating the readiness of your project.

5	Substantial readiness is demonstrated and all known obstacles that are likely to result in project delays have been mitigated.
4	Significant readiness is demonstrated and several known obstacles that are likely to result in project delays have been mitigated.
3	Moderate readiness is demonstrated and some known obstacles that are likely to result in project delays have been mitigated.
2	Slight readiness is demonstrated and some known obstacles that are likely to result in project delays have been mitigated.
1	Few mitigation or readiness activities have been demonstrated.
0	No mitigation or readiness activities have been demonstrated.

Project Information

1. Project Title	Colorado Avenue Multimodal Improvements		
2. Project Location <i>Provide a map, as appropriate (see Page 1)</i>	Start point: Colorado Avenue & Folsom Street End point: Colorado Avenue & Regent Drive OR Geographic Area: Click or tap here to enter text.		
3. Project Sponsor (<i>entity that will be financially responsible for the project</i>)	City of Boulder		
4. Project Contact Person:	Name: Gerrit Slatter Phone: 303.441.1978	Title: Principal Engineer – Transportation Capital Projects Email: slatterg@BoulderColorado.gov	
5. Required CDOT and/or RTD Concurrence: 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</i>		
6. What planning document(s) identifies this project? <i>Provide link to document(s) and referenced page number if possible, or provide documentation in the supplement</i>	If this project is listed in the DRCOG 2050 Metro Vision Regional Transportation Plan (2050 MVRTP) , provide the staging period: N/A		
	Local/Regional/Subregional plan:	Planning Document Title: (1) City of Boulder Transportation Master Plan: Transportation Master Plan City of Boulder (bouldercolorado.gov) ; (2) City of Boulder Low Stress Walk & Bike Network Plan: The Low-Stress Walk and Bike Network Plan City of Boulder (bouldercolorado.gov) ; (3) City of Boulder Vision Zero Safe Streets Report: Safe Streets Report City of Boulder (bouldercolorado.gov) ; (4) University of Colorado Master Plan: Campus Master Plan University of Colorado Boulder Adopting agency (local agency Council, CDOT, RTD, etc.): (1 – 3) Boulder City Council; (4) CU Board of Regents Provide date of adoption by council/board/commission, if applicable: (1) 2019; (2) 2019; (3) 2022; (4) 2021	
	Please describe public review/engagement to date:	The City of Boulder conducted a Call for Feedback on DRCOG Call #4 Subregional TIP Applications, including a project website, questionnaire, staff office hours, and Transportation Advisory Board and City Council public hearings.	
	Other pertinent details:	N/A	
7. Identify the project's key phases and the anticipated schedule of phase milestones . (phases and dates should correspond with the "Phase to be Initiated" in the Funding Breakdown table below)			
Phases to be included:	Major phase milestones:	Anticipated completion date (based on 8/16/2023 DRCOG approval date): (MM/YYYY)	
	<input type="checkbox"/> Preconstruction (including studies) <input type="checkbox"/> Construction <input checked="" type="checkbox"/> Both		
REQUIRED FOR ALL PHASES	Intergovernmental Agreement (IGA) executed with CDOT/RTD (Assumed process is 4-9 months; any work performed before execution is NOT reimbursable)		11/15/2023

<input checked="" type="checkbox"/> Design	Design contract Notice to Proceed (NTP) issued (if using a consultant):	01/01/2025
	Design scoping meeting held with CDOT (if no consultant):	Enter Date
	FIR (Field Inspection Review):	06/01/2025
	FOR (Final Office Review):	03/08/2026
<input type="checkbox"/> Environmental	Environmental contract Notice to Proceed (NTP) issued (if using a consultant):	Enter Date
	Environmental scoping meeting held with CDOT (if no consultant):	Enter Date
<input type="checkbox"/> Right-of-Way	Initial set of ROW plans submitted to CDOT:	Enter Date
	Estimated number of parcels to acquire: <input type="text"/> Enter Number	Enter Date
<input checked="" type="checkbox"/> Construction	ROW acquisition completed:	Enter Date
<input type="checkbox"/> Study	Required clearances:	12/15/2026
	Project publicly advertised:	03/01/2027
<input type="checkbox"/> Bus Service	Service begins:	Enter Date
<input type="checkbox"/> Equipment Purchase (Procurement)	RFP/RFQ/RFB (bids) issued:	Enter Date
<input type="checkbox"/> Other Phase not Listed Describe: Describe	First invoice submitted to CDOT/RTD:	Enter Date

8. Problem Statement: What specific subregional problem/issue will the transportation project address?

Colorado Ave is a key east-west corridor that connects the CU Main Campus with East Campus, and also provides connections to the dense commercial and residential land uses along Folsom, 28th, and 30th Streets. Although it currently serves several thousand students, regional employees and community members each day, the project area, Colorado Ave between Folsom St and Regent Dr, is not as safe or as accessible for walking, biking, and transit as it could be, as shown in Attachment A, Figure 1: Colorado Ave Existing Conditions Photos and described here:

- **Inadequate separation for high volumes of bicyclists and pedestrians from traffic:** This segment of Colorado Ave has a tremendously high volume of bicyclists and pedestrians, with over 5,700 walk and bike trips in the project area on an average day. However, this segment of Colorado Ave has narrow, painted on-street bike lanes that do not provide adequate separation from the four general purpose lanes that serve an average of 11,000 vehicles each day. Likewise, the north side of the project area has narrow sidewalks directly adjacent to motor vehicle travel lanes that prevent pedestrians from moving safely and comfortably. The typical sidewalk width along this corridor is 4 feet, less than the 6-foot minimum width or 8-foot preferred width. This mixing of high volumes of vehicular, bike, and pedestrian travel without adequate protection for all users has created a condition where there are conflicts between all modes and a high level of stress for bicyclists and pedestrians.
- **Lack of designated space and priority for transit:** This segment of Colorado Ave also has a significant amount of transit service and boarding and alighting activity at stops serving Main Campus and Folsom Field. The CU Buff Bus routes in this area serve nearly 12,000 riders each day and the city's HOP route serves over 2,000 riders each day, yet rider access and bus operations are not adequate to serve the high volumes of transit riders and vehicles. The multiple bus routes through this segment are operating in mixed-traffic, causing traveler delay and unreliability, and a lack of efficient boarding and pedestrian facilities at transit stops limits convenient and comfortable access for transit users.
- **Gap in complete street infrastructure on the Colorado Ave corridor:** The city has identified the Colorado Ave corridor in its Boulder City Council-prioritized Core Arterial Network (CAN) and currently has projects underway on Colorado Ave between Regent Dr and 30th St to build protected bike facilities and dedicated transit lanes between Main Campus and East Campus. This segment of Colorado Ave between Folsom St and Regent Dr is the last segment of this complete street project, and combined with these intersection projects and other recently completed work, will fill the last remaining gap in this one-mile complete street corridor.

9. Identify the project's key elements. A single project may have multiple project elements.

Roadway

Operational Improvements

Grade Separation

Roadway
 Railway
 Bicycle
 Pedestrian

Regional Transit¹

Rapid Transit Capacity (2050 MVRTP)
 Mobility Hub(s)
 Transit Planning Corridors
 Transit Facilities/Service (Expansion/New)

Safety Improvements

Active Transportation Improvements

Bicycle Facility

Pedestrian Facility

Air Quality Improvements

Improvements Impacting Freight

Multimodal Mobility (i.e., accommodating a broad range of users)

Complete Streets Improvements

Study

Other, briefly describe: Click or tap here to enter text.

¹For any project with transit elements, the sponsor must coordinate with RTD to ensure RTD agrees to the scope and cost. Be sure to include RTD's concurrence in your application submittal.

10. Define the scope and specific elements of the project (including any elements checked in #9 above).

DO NOT include scope elements that will not be part of the DRCOG funded project or your IGA scope of work (i.e., adjacent locally funded improvements or the project merits and benefits). Please keep the response to this question tailored to details of the scope only and no more than five sentences.

The Colorado Avenue project will build out the multimodal complete street cross-section for the west segment of Colorado Avenue between Folsom St and Regent Dr, as shown in Attachment A, Figure 2: Colorado Ave (Folsom St – Regent Dr) Concept Plan.

Design elements include Vision Zero proven crash countermeasures, such as hardened separation for pedestrians and bicyclists from vehicles, intersection enhancements at Folsom St, pedestrian facility improvements, and transit priority in each direction along Colorado Avenue through implementation of dedicated transit lanes, consolidation of transit stops to improve transit reliability, installation of transit amenities to increase rider comfort and convenience, and construction of a transit “super stop” adjacent to CU to accommodate the high number of transit users in this corridor.

11. What is the current status of the proposed scope as defined in Question 10 above? Note that overall project readiness is addressed in more detail in Section D below.

The City of Boulder has completed preliminary design plans for multimodal improvements on Colorado Ave between Folsom St and Regent Dr; the project area is the western segment of the Colorado Corridor Study completed in 2019. The proposed scope would include final design in 2025-26 and construction in 2027. Adjacent sections of this segment have already been constructed or will be constructed in the coming years, as shown in Attachment A, Figure 3: Colorado Ave Current and Planned Multimodal Improvements.

12. Would a smaller DRCOG-allocation than requested be acceptable, while maintaining the original intent of the project?

Yes No

If yes, smaller meaningful limits, size, service level, phases, or scopes, along with the cost, **MUST** be defined.

Smaller DRCOG funding request: \$2 Million

Outline the differences between the scope outlined above and the reduced scope: The reduced scope would fund most of the corridor transit improvements and a portion of the bicycle facility improvements and a small portion of the pedestrian improvements.

Project Financial Information and Funding Request

(All funding amounts in \$1,000s)

To update the formulas below, enter your information, highlight the formulas, and press F9 or right-click and select Update Field.

Total amount of Subregional Share Funding Request (in \$1,000's) <i>(Not to exceed 90% of the total project cost)</i>	\$2,160	60% of total project cost
<input type="checkbox"/> Check box if requesting <u>only</u> state MMOF funds (requires minimum 50% local funds) ¹		
Match Funds (in \$1,000's) <i>List each funding source and contribution amount.</i>	% Contribution to Overall Project	
City of Boulder	\$840	23%
University of Colorado	\$600	17%
Click or tap here to enter text.	\$Match Amount	0.0%

Click or tap here to enter text.	\$Match Amount	0.0%
Click or tap here to enter text.	\$Match Amount	0.0%
Click or tap here to enter text.	\$Match Amount	0.0%
Total Match <i>(private, local, state, regional, or federal)</i>	\$ 1,440	40%
Project Total	\$ 3,600	
Notes:	<p>1. If you elect to ONLY receive state MMOF and per CDOT action, the following jurisdictions are only required to provide 25% match on the MMOF funds: Englewood, Jamestown, and Wheat Ridge. Federal Heights, Lakeside, Larkspur, Sheridan, and Ward are <u>not</u> required to provide a match on the MMOF funds. All sponsors will still be required to have 20% match on any added federal funds.</p>	

Funding Breakdown (in \$1,000s) (by program year)¹ (Total funding should match the Project Total from above) <i>To update the formulas below, enter your information, highlight the formulas (or Ctrl-A), and press F9. OR close and reopen the file.</i>				
	FY 2025	FY 2026	FY 2027	Total
DRCOG Requested Funds	\$540	\$Enter Amount	\$1,620	\$ 2,160
CDOT or RTD Supplied Funds²	\$Enter Amount	\$Enter Amount	\$Enter Amount	\$ 0
Local Funds (Funding from sources other than DRCOG, CDOT, or RTD)	\$360	\$Enter Amount	\$1,080	\$ 1,440
Total Funding	\$900	\$ 0	\$ 2,700	\$ 3,600
Phase to be Initiated	Design	Choose an item.	Construction	
Notes:	<p>1. Fiscal years are October 1 through September 30 (e.g., FY 2026 is October 1, 2025 through September 30, 2026). 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 a recommended minimum 3% inflation factor.</p> <p>2. Only enter funding in this line if CDOT and/or RTD specifically give permission via concurrence letters or other written source.</p>			
Affirmation:	By checking this box, the applicant's Chief Elected Official (Mayor or County Commission Chair/City or County Manager/Agency Director) has certified it allows this application to be submitted for potential DRCOG-allocated funding and will follow all local, DRCOG, state, and federal policies and regulations if funding is awarded. <input checked="" type="checkbox"/>			

Evaluation Questions

A. Subregional Impact of Proposed Project

WEIGHT

25%

Provide **qualitative and quantitative** responses to the following questions on the subregional impact of the proposed project. Be sure to provide all required information for each question. Quantitative data from DRCOG is available [here](#).

1. Why is this project subregionally important? Relevant quantitative data in your response is required.

This project is located at a key gateway to the CU Boulder Main Campus and provides direct access to two of the largest event centers in the subregion: the 53,000-seat Folsom Field Stadium and the 11,000-seat CU Event Center. CU Boulder is itself a regional destination, with over 36,000 students and nearly 10,000 faculty and staff, many of whom are traveling from throughout the region to Boulder. Currently, 51% of faculty and 73% of staff live outside of the city of Boulder. And, regional travel on the roadways connecting Boulder to neighboring communities is still highly dependent on single-occupant vehicles, with approximately 80% of commuters driving alone to work.

To move the region and the City of Boulder toward our GHG emission reduction goals, it is essential that investments in non-vehicular modes provide convenient, affordable and reliable travel choices. This project does exactly that by linking regional and local transit networks and providing first- and last-mile connections by foot and bike to the CU Main Campus, as well as to the East and Williams Village Campuses and the surrounding residential, commercial, and employment centers throughout Boulder.

2. How will the proposed project address the specific transportation problem described in the **Problem Statement** (*as submitted in Project Information, #8*)? *Relevant quantitative data in your response is required.*

This project will provide **upgraded protected facilities and separation from traffic**, including widened sidewalks, protected (vertically separated) bike lanes, and intersection improvements that will benefit the 4,000 pedestrians and 1,750 bicyclists in the corridor today.

In addition, the project will provide **designated space and priority for transit** with dedicated transit lanes, consolidation of transit stops to improve transit reliability, installation of transit amenities to increase rider comfort and convenience, and construction of a transit super stop, which will benefit nearly 12,000 CU bus riders in the corridor in the corridor today.

Importantly, the project will also **fill gaps in connectivity within the city's multimodal network** by linking to recent and future improvements:

- Colorado Ave/Regent Dr: Protected intersection and bike lanes (completed 2022)
- Colorado Ave/30th St: Protected intersection and underpass (currently under construction)
- 30th St (Colorado Ave to CO7/Arapahoe Ave): Protected bike lane and other multimodal improvements (anticipated construction completion 2024)
- 30th St (CO7/Arapahoe Ave to CO119/Iris Ave): Complete street project (awarded TIP funds in call #2)
- Folsom St (Colorado Ave – Pine St): Complete street project (submitted through a separate call #4 TIP application)

Funding this project now will advance designs to improve important multimodal connectivity and complete improvements to an entire east-west Core Arterial Network (CAN) corridor. As a result, this project will be part of transforming the city's higher traffic volume streets to a connected system of protected bicycle lanes, intersection enhancements, pedestrian facilities, and transit facility upgrades, and help reduce the potential for severe crashes to occur and make it more comfortable and convenient for people to get where they need to go along Boulder's main corridors.

Overall, this project will construct bicycle, pedestrian, and transit facilities for more efficient and reliable transit service and safer and more comfortable first- and last-mile connectivity. The improvements will make it easier to choose non-vehicular forms of travel, thus reducing the potential for severe injury crashes and reducing GHG emissions, and furthering local, subregional, and regional mode shift goals.

3. Does the proposed project benefit multiple municipalities and/or subregions? If yes, which ones and how? Also describe any funding partnerships (*other subregions, regional agencies, municipalities, private, etc.*) established in association with this project.

Yes, while the physical improvements are in the city of Boulder, the project benefits residents, employees, and students accessing the regional roadway network, local and regional transit services, and commuter bike networks connecting this area to other communities within Boulder County and beyond. Safer and improved facilities will benefit many of the almost 60,000-plus non-resident employees working in Boulder who will access regional employment centers in the city, several of which are along or near the Colorado Ave corridor, such as CU Boulder Main Campus and East Campus, and the 29th Street Retail district.

4. Disproportionately Impacted and Environmental Justice Communities

This data is available in the TIP Data Tool. Completing the below table and referencing relevant quantitative data in your response is required.

To update the formulas below, enter your information, highlight the formulas (or Ctrl-A), and press F9. OR close and reopen the file.

DI & EJ Population Groups	Number within ½ mile	% of Total	Regional %
Use 2015-2019 American Community Survey Data <i>(In the TIP Data Tool, use a 0.5 mile buffer)</i>	a. Total population	23,083	-
	b. Total households	7,789	-
	c. Individuals of color	5,988	26%
	d. Low-income households	3,603	46%
	e. Individuals with limited English proficiency	233	1%
	f. Adults age 65 and over	791	3%
	g. Children age 5-17	301	1%
	h. Individuals with a disability	629	3%
	i. Households without a motor vehicle	1,383	18%
	j. Households that are housing cost-burdened	5,064	65%

For Lines c. – i. use definitions in the [DRCOG Title VI Implementation Plan](#). For Line j., as defined in C.R.S. 24-38.5-302(3)(b)(I): “cost-burdened” means a household that spends more than thirty percent of its income on housing.”

Describe how this project will improve access and mobility for each of the applicable disproportionately impacted and environmental justice population groups identified in the table above, *including the required quantitative analysis:*

Historically, some travelers have been more vulnerable to severe crashes than others. The project has high potential to address these inequities: within one-half mile of the project area there are over 23,000 residents, 46% of whom are low-income (v. 9% regionally), and nearly 7,800 households, 65% of which are housing cost-burdened (v. 32% regionally) and 18% of which do not have access to a motor vehicle (v. 5% regionally). Furthermore, there are nearly 6,000 persons of color (26%), 300 children (1%), and 800 older adults over 65 (3%) living within one-half mile of the project area—people likely at a disadvantage in accessing reliable and affordable transportation options to connect to daily needs such as housing, grocery stores, education, and employment. Constructing project improvements will benefit all populations, particularly those that depend on affordable active transportation modes and reliable and convenient transit, connecting users to the over 15,000 jobs directly on the corridor today and an estimated 19,000 jobs by 2050.

5. How will this project move the subregion toward achieving the shared [regional transportation outcomes](#) established in [Metro Vision](#) in terms of...
- Land Use, community, urban development, housing, employment? (*Improve the diversity and livability of communities. Contain urban development in locations designated for urban growth and services. Increase housing and employment in urban centers. Diversify the region's housing stock. Improve the region's competitive position.*)
 - **Improve diversity and livability of communities:** One of the key guiding principles of the Boulder Valley Comprehensive Plan is to provide infrastructure and services that will encourage all diverse communities to both prosper within and connect to the larger community. This project, located along an urban arterial that supports a regional employment base and diverse residential population, supports this principle for the Boulder Valley and beyond. It will advance the DRCOG vision for multimodal corridors of local livability and regional accessibility. Specifically, for the 46% of households in the corridor that are low-income, this project will ensure greater livability by unlocking safe, convenient, and reliable transit, biking, and walking access within the city and throughout the region.
 - **Designated urban growth areas:** This project is also within one of the city's three designated Regional Centers, as defined in the Boulder Valley Comprehensive Plan. See Attachment A, Figure 4: Boulder Valley Comprehensive Plan, City Structure Map. The Colorado University Regional Center is an area with potential for infill and redevelopment and is recognized as an area of higher intensity compared to established residential neighborhoods. Within this Regional Center, Colorado Ave is a mixed-use corridor that has already starting seeing an increase in residential density between CU Main Campus and East Campus.
 - **Housing diversification and employment:** With a combination of multi-family housing, places of worship, and employment, and anchoring the CU-Boulder Main Campus and East Campus, improving the bikability and walkability of the corridor will continue to increase its desirability and vibrance. This is particularly important as the DRCOG-designated University Hill Urban Center, and Colorado Ave specifically, continues to redevelop with higher density mixed use.
 - Multimodal transportation, safety, reliability, air quality? (*Improve and expand the region's multimodal transportation system, services, and connections. Operate, manage, and maintain a safe and reliable transportation system. Improve air quality and reduce greenhouse gas emissions. Reduce the risk of hazards and their impact.*)
 - **Regional Multimodal Transportation System:** The project will focus on making the Colorado Ave corridor more multimodal and less autocentric while addressing safety concerns. It will be specifically designed to make walking, biking, and taking transit more viable in the corridor which will reduce vehicle use and related GHG emissions. Importantly, the complete street project will also expand the region's multimodal transportation system by providing clear and direct connections to adjacent pedestrian, bicycle and transit stop facilities and services. In addition, the presence of shared micromobility in the project area, including Lime e-scooters and BCycle stations, will further realize the potential of these first-and-last mile solutions for transit access, thereby bolstering active and transit mode choices.
 - **Safety and Reliability:** This project will implement important upgrades to existing infrastructure so that Colorado Ave can operate more reliably and safely for those traveling within and through the corridor, with operations and maintenance considerations and costs being key factors in the design.
 - **Air Quality and Greenhouse Gas Emissions:** This project supports and encourages the shift towards active transportation and transit modes, reducing single-occupant vehicle trips, as well as air pollutants and greenhouse gas (GHG) emissions.
 - **Hazard Reduction:** This project will be designed to mitigate the risk of natural hazards by improving the quality and frequency of travel choices in the event of a disaster requiring evacuation. Additionally, the project will identify design concepts that reduce the hazards of walking, biking, and accessing transit along the Colorado Ave Corridor.

- Connection/accessibility to particular locations supporting healthy and active choices? (*Connect people to natural resource and recreational areas. Increase access to amenities that support healthy, active choices. Improve transportation connections to health care facilities and service providers. Improve access to opportunity.*)

 - **Connections to Natural Resources & Recreation:** The project will provide safe, comfortable connections to several natural and recreational areas, including: the extensive multi-use path system and indoor and outdoor recreational facilities located on the Main Campus, as well as the 28th Street multi-use path, which connects to the nearby Boulder Creek Path and a number of outdoor recreational areas, including Scott Carpenter Park.
 - **Connections to Health Care Facilities & Services:** The project will provide direct access to the CU Sports Medicine and Performance Center located at the west end of the corridor.
 - **Access to Opportunity:** The project will provide direct access to key destinations, education opportunities, and employers along and near Colorado Ave, such as CU Boulder. This project will also support first- and last-mile access to current local and regional transit services such as the HOP and anticipated CO119 BRT services.

6. Items marked with an asterisk (*) below are available in the TIP Data Tool.

- Is there a DRCOG designated urban center within $\frac{1}{2}$ mile of the project limits?*

Yes No If yes, please provide the name: **University Hill, 28th/30th St (BVRC)**
- Does the project connect two or more urban centers?*

Yes No If yes, please provide the names: Click or tap here to enter text.
- Is there a transit stop or station within $\frac{1}{2}$ mile of the project limits?*

Bus stop: Yes No If yes, how many: **45**
 Rail station: Yes No If yes, how many: Click or tap here to enter text.
- Is the project in a locally-defined priority growth and development area and/or an area with zoning that supports compact, mixed-use development patterns and a variety of housing options?

Yes No
 If yes, provide a link to the relevant planning document: **Boulder Valley Comprehensive Plan:**
<https://bouldercolorado.gov/projects/boulder-valley-comprehensive-plan>
 If yes, provide how the area is defined in the relevant planning document: **The project is located within the Colorado University Regional Center.**

Provide households and employment data*	2020	2050
Households within $\frac{1}{2}$ mile	7,789	8,401
Jobs within $\frac{1}{2}$ mile	15,266	19,138
Household density (per acre) within $\frac{1}{2}$ mile	6.34	6.8
Job density (per acre) within $\frac{1}{2}$ mile	14.63	17.56

Describe how this project will improve transportation options in and between key geographic areas including DRCOG-defined urban centers, multimodal corridors, mixed-use areas, Transit Oriented Development (transit near high-density development), or locally defined priority growth areas, *including the required quantitative analysis:*

This project will help complete the Colorado Corridor of the city's multimodal Core Arterial Network (CAN), connecting directly to the 30th and Folsom Corridors. The project will also help to connect people who are traveling between the two DRCOG Urban Centers of University Hill, in which the project is located, and 28th/30th St (BVRC), which is located less than a quarter-mile from the intersection of Colorado Ave and Folsom St. These centers are also highlighted as infill areas in the Boulder Valley Comprehensive Plan.

In addition, this project will improve multimodal access for the 7,800 households living within one-half mile of the improvements and people accessing nearly 15,300 jobs in the same area, which is expected to grow to over 19,100 jobs by 2050 (an increase of 25%). In particular, this project will support the second-highest ranked Pedestrian Improvement Area (G. 30th and Colorado) identified in the city's Low-Stress Walk and Bike Network Plan.

7. Describe how this project will improve **access** and **connections** to key employment centers or subregional destinations. In your answer, define the key destination(s) and clearly explain how the project improves **access** and/or **connectivity**.

The Colorado Ave Multimodal Improvement project will improve access and connections to several key destinations located along Colorado Ave or just north or south of the corridor:

- **CU Main Campus:** located at the western end and along the corridor; Colorado Ave is currently a thoroughfare for the over 36,000 students and nearly 10,000 faculty/staff both for connecting to the East Campus, as well as for commuting and retail destinations throughout the day. CU's Main Campus is expected to expand from approximately 6 million square feet of buildings space to 9 million square feet at buildout.
- **CU East Campus:** located at the eastern end of the Colorado Ave corridor, this campus is a 200-acre area that is rapidly expanding. At buildout, the campus will include academic and research facilities, wellness and cultural centers, graduate student housing, and undergraduate residence halls. A survey of CU students, faculty, and staff showed that 36% of respondents regularly travel between Main and East campuses.
- **CU Williams Village Campus:** located southeast of the Colorado Ave corridor and connected via frequent CU Buff Bus transit, Williams Village is a designated Neighborhood Center in the Boulder Valley Comprehensive Plan. The area provide goods and services for the day-to-day needs of nearby residents, including the 3,000 students living at Williams Village as well as workers accessing surrounding areas, such as the CU Main Campus, by foot, bike and transit.
- **29th Street Mall, Folsom Street, and 28th Street Retail:** just north and northeast of the corridor, the 28th Street area is the primary commercial corridor in the city, and the 29th Street Mall is contemporary open-air center with retail shops, restaurants, fast food & a movie theater.
- **University Hill Commercial District and Neighborhood:** located west of the corridor and adjacent to the CU-Boulder Main Campus with multiple stores and restaurants, and home to a large CU student population.

B. MVRTP Priorities

WEIGHT

60%

- **Qualitative and quantitative** responses are REQUIRED for the following items on how the proposed project contributes to the project and program investment priorities in the adopted 2050 Metro Vision Regional Transportation Plan. **To be considered for full points, you must fully answer all parts of the question, including incorporating quantitative data into your answer.** (see scoring section for details). Quantitative data from DRCOG is available [here](#).
- Checkboxes and data tables help to provide context and guide responses, but do not account for the full range of potential improvements and are not directly scored, but are required to be completed.
- Not all proposed projects will necessarily be able to answer all questions, however it is in the applicant's interest to address as many priority areas as possible.

Multimodal Mobility	<p>Provide improved travel options for all modes. (drawn from 2050 MVRTP priorities; federal travel time reliability, infrastructure condition, & transit asset management performance measures; & Metro Vision objective 4) Examples of Project Elements: combinations of improvements that support options for a broad range of users, such as complete streets improvements, or a bicycle/pedestrian access to transit, etc.</p>
<ul style="list-style-type: none">• What modes will project improvements directly address? <input checked="" type="checkbox"/> Walking <input checked="" type="checkbox"/> Bicycling <input checked="" type="checkbox"/> Transit <input type="checkbox"/> Roadway Operations <input type="checkbox"/> Other: Click or tap here to enter text.• List the elements of this project which will address the above modes (i.e., sidewalk, shared use path, bus stop improvements, signal interconnection, etc.): Protected bike lanes, widened/upgraded sidewalks, transit-only lanes, consolidated and enhanced bus stops, intersection enhancements• Will the completed project be a complete street as described in the Regional Complete Streets Toolkit? <u>This data is available in the TIP Data Tool.</u> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe how it implements the Toolkit's strategies in your response.• Does this project improve travel time reliability? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No• Does this project improve asset management of active transportation facilities and/or transit vehicle fleets? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No• Does this project implement resilient infrastructure that helps the subregion mitigate natural and/or human-made hazards? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Question: Describe how this project will help increase mobility choices for people, goods, and/or services. Please include quantitative information, including any items referenced above, in your response. *Note that a majority of the proposed roadway operational improvements must be on the DRCOG [Regional Roadway System](#) and/or [Regional Managed Lanes System](#).*

Today, much of the existing bicycle, pedestrian, and transit facilities in the Colorado Ave Corridor do not provide a low traffic stress condition for people traveling by foot, bike, or bus. The city and CU desire to create safer and more comfortable separated spaces for the high volume of people walking and biking in the area, as well as bus-only lanes for the high volume of buses and transit riders traveling through the corridor.

The project will construct the complete street corridor on Colorado Ave between Folsom St and Regent Dr that will support people walking, rolling, bicycling, taking transit, transporting freight, and using motor vehicles to ensure all travelers are both safe and comfortable. The design includes elements such as hardened separation for pedestrians and bicyclists from vehicles, intersection enhancements, pedestrian facility improvements, dedicated transit lanes, and consolidation of transit stops to improve transit reliability, installation of transit amenities to increase rider comfort and convenience, and construction of a transit “super stop” adjacent to CU to accommodate the high number of transit users in this corridor.

These design elements will provide safer, more comfortable, and more reliable multimodal travel for the estimated 4,000 average daily pedestrians and 1,750 average daily cyclists in the corridor. The proposed improvements will also tie in with protected (vertically separated) bike lanes already completed and/or planned in the east part of the corridor, as well as planned improvements in the Folsom St corridor, creating a consistent protected bicycle facility between Main and East Campuses.

It will also allow CU to improve the operational efficiency of the Buff Bus service. By helping move buses more quickly and reliably, CU Boulder can better manage its transit fleet and maximize the frequency and span of service it can provide. The proposed improvements will allow CU to fully meet the high demand for transit travel between campuses—no longer having to turn away waiting passengers because buses are full (which is the case today).

This project will be designed to mitigate the risk of natural hazards by improving the quality and frequency of travel choices in the event of a disaster requiring evacuation. The project will also incorporate design elements that reduce the hazards of walking and biking along the Corridor.

Air Quality	<p>Improve air quality and reduce greenhouse gas emissions. (drawn from 2050 MVRTP priorities; state greenhouse gas rulemaking; federal congestion & emissions reduction performance measures; Metro Vision objectives 2, 3, & 6a) Examples of Project Elements: active transportation, transit, or TDM elements; vehicle operational improvements; electric vehicle supportive infrastructure; etc.</p>				
<ul style="list-style-type: none"> • Does this project reduce congestion? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No • Does this project reduce vehicle miles traveled (VMT)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No • Does this project reduce single-occupant vehicle (SOV) travel? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No 					
Emissions Reduced (kg/day)	CO 6.99	NOx .437	VOCs .343	PM 10 .066	CO₂e 580.457
<i>Use the FHWA CMAQ Calculators or a similar reasonable methodology to determine emissions reduced. Base your calculations on the year of opening. Please attach a screenshot of your work (such as the FHWA calculator showing the inputs and outputs) as part of your submittal packet.</i>					
<i>Note: if not using the FHWA Calculators, please note your methodology in your narrative below.</i>					

Question: Describe how this project helps reduce congestion and air pollutants, including but not limited to carbon monoxide, ground-level ozone precursors, particulate matter, and greenhouse gas emissions. Please include quantitative information, including any items referenced above, in your response.

When the West Colorado Multimodal Improvements project is implemented, an estimated reduction of an average of 1,828 daily passenger vehicle trips are expected due to these trips converting to walking and biking (1,500 trips converted) and transit (328 trips converted).

In estimating GHG reductions related to this project's transit enhancements, a ridership forecasting model was developed that assumes a 10% gain in transit ridership for the routes that travel along or intersect the project. The forecasted 10% ridership gain is based upon literature review of various national case studies of ridership gains attributable to introducing transit lanes and enhancing bus stops, as planned with this project. According to NACTO, transit lanes are a factor in increasing ridership and New York City MTA bus services have realized a 17% ridership gain with the addition of transit lanes. Case studies from Salt Lake City, Greensboro, Kansas City, and Seattle indicate that bus stop improvements can result in ridership gains between 6 – 40%. Considering the range of these ridership gains, a 10% ridership increase factor was selected as a conservative value for this forecasting model. The model also employs Washington Department of Transportation (WSDOT) formulas to calculate vehicle miles avoided by transit (uses a 0.62 factor) and SOV trips avoided for the GHG calculator. Further information and data sources can be found on the "Model" tab in the ridership model spreadsheet attached with this application.

Each vehicle trip eliminated by switching to walking and/or bicycling reduces air pollutants, vehicle miles traveled, and greenhouse gases. Each single occupancy vehicle trip converted to a transit trip also reduces congestion and emissions associated with highly polluting idling. The emissions reduction data is calculated using the Boulder typical trip distance of 1.6 miles one way.

Regional Transit**Expand and improve the subregion's transit network.**(drawn from [2050 MVRTP priorities](#), [Coordinated Transit Plan](#), [RTD's Regional Bus Rapid Transit Feasibility Study](#))

Examples of Project Elements: transit lanes, station improvements, new/expanded service, etc.

Note: For any project with transit elements, the sponsor must coordinate with RTD to ensure RTD agrees to the scope and cost. Be sure to include RTD's concurrence in your application submittal.Items marked with an asterisk (*) below are available in the TIP Data Tool.

- Does this project implement a portion of the regional bus rapid transit (BRT) network (as defined in the [2050 MVRTP](#))?*
 Yes No If yes, which specific corridor will this project focus on: [CO119 BRT](#)
- Does this project involve a regional transit planning corridor (as defined in the [2050 MVRTP](#))?*
 Yes No If yes, which specific corridor will this project focus on: Click or tap here to enter text.
- Does this project implement a mobility hub (as defined in the [2050 MVRTP](#))?
 Yes No
- Does this project improve connections between transit and other modes?
 Yes No If yes, please describe in your response.
- Is this project adding new or expanded transit service?
 Yes No If yes, who will operate the service: Click or tap here to enter text.
- Does this project add and/or improve transit service to or within a DRCOG-defined urban center?*
 Yes No

Question: Describe how this project improves connections to or expands the subregion's transit system, as outlined in the [2050 MVRTP](#). Please include quantitative information, including any items referenced above, in your response. Note that rapid transit improvements must be on the [Regional Rapid Transit System](#).

This project will significantly improve rider access and bus operations for critical regional, local, and campus transit routes that travel and connect via this important segment of Colorado Ave between Folsom St and Regent Dr. Improving the transit infrastructure and operating environment along the 1-mile segment of Colorado Ave between Folsom St (Main Campus) and Discovery Dr (East Campus) is a city priority, and this project will provide transit improvements, including bus lanes, enhanced bus stops and platforms, and improved pedestrian and bicycle connections to transit stops, in the westernmost segment; other segments are currently under construction or in final design.

Colorado Ave is the primary east-west transit corridor that connects CU Boulder's Main and East campuses. Along this segment of Colorado Ave between Folsom St and Regent Dr, there is significant transit service and boarding and alighting activity at stops serving Main Campus and Folsom Field, as shown in Attachment A, Figure 5: Colorado Ave High Frequency Transit Map, and described here:

- The **CU Buff Bus Stampede** (3,000 avg. daily riders), **CU Buff Bus Williams Village** (4,900 avg. daily riders), and **CU Buff Bus William Village Limited** (3,900 avg. daily riders) routes travel east-west on Colorado and provide critical connections between the campuses, on-campus housing, and nearby off-campus housing.
- On the project's east end, the **CU Buff Bus Marine Street Express** (70 avg. daily riders) travels north-south through the Colorado and Regent intersection and connects Main Campus, CU Boulder offices and residences along 30th Street between Colorado and Arapahoe Avenue, and East Campus.
- On the project's west end, the city's **HOP** route (2,200 avg. daily riders) travels north-south through the Colorado and Folsom intersection to serve Main Campus, downtown, the Downtown Boulder Station transit center, and the 29th Street Mall. The HOP connects with multiple local, regional, and BRT routes for expanded transit options to and from Denver, Denver International Airport, Longmont, Fort Collins, and various areas of Boulder and Boulder County.
- **Future CO119 BRT (former BOLT) service** that will connect Longmont and Boulder via CO 119 is planned to operate on or connect with this segment of Colorado Ave via coordinated transfers with the Stampede route. Hence, the project will benefit transit services that connect to the urban centers of University Hill, 28th/30th Street corridors, Gunbarrel, and downtown in Boulder, the Longmont Central Business District, and the Denver Central Business District.

From an infrastructure perspective, the project features new bus-only lanes extended westward from Regent, extended bus stop platforms to accommodate the Stampede's articulated buses and large passenger volumes typical of these campus bus stops, enhanced bus stop amenities, and improved pedestrian facilities. These elements will improve the schedule reliability, travel time advantages, and safety of bus operations, as well as the waiting environments for riders. The project will also improve the pedestrian and bicycle infrastructure for riders to safely access and for extended first- and last-mile travel to/from the enhanced bus stops planned on Colorado Ave. The transit improvements will also prep the corridor to support and maximize the benefits of the planned CO119 BRT service to CU's campuses.

Safety	<p>Increase the safety for all users of the transportation system.</p> <p>(drawn from 2050 MVRTP priorities, Taking Action on Regional Vision Zero, CDOT Strategic Transportation Safety Plan, & federal safety performance measures)</p> <p>Examples of Project Elements: bike/pedestrian crossing improvements, vehicle crash countermeasures, traffic calming, etc.</p>									
<p><u>Items marked with an asterisk (*) below are available in the TIP Data Tool.</u></p> <ul style="list-style-type: none"> • Does this project address a location on the DRCOG High-Injury Network or Critical Corridors or corridors defined in a local Vision Zero or equivalent safety plan?* <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No • Does this project implement a safety countermeasure listed in the countermeasure glossary? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No 										
<p>Provide the current number of crashes involving motor vehicles, bicyclists, and pedestrians* <i>(using the 2015-2019 period – in the TIP Data Tool, use a 0.02 mile buffer of your project)</i></p> <p><i>NOTE: if constructing a new facility, report crashes along closest existing alternative route</i></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td style="padding: 2px;">Fatal crashes</td> <td style="text-align: right; padding: 2px;">0</td> </tr> <tr> <td style="padding: 2px;">Serious Injury crashes</td> <td style="text-align: right; padding: 2px;">2</td> </tr> <tr> <td style="padding: 2px;">Other Injury crashes</td> <td style="text-align: right; padding: 2px;">24</td> </tr> <tr> <td style="padding: 2px;">Property Damage Only crashes</td> <td style="text-align: right; padding: 2px;">72</td> </tr> </tbody> </table>		Fatal crashes	0	Serious Injury crashes	2	Other Injury crashes	24	Property Damage Only crashes	72	<p>Sponsor must use industry accepted crash modification factors (CMF) or crash reduction factor (CRF) practices (e.g., CMF Clearinghouse, NCHRP Report 617, or DiExSys methodology).</p>
Fatal crashes	0									
Serious Injury crashes	2									
Other Injury crashes	24									
Property Damage Only crashes	72									
<p>Estimated reduction in crashes <u>applicable to the project scope</u> <i>(per the five-year period used above)</i></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td style="padding: 2px;">Fatal crashes reduced</td> <td style="text-align: right; padding: 2px;">0</td> </tr> <tr> <td style="padding: 2px;">Serious Injury crashes reduced</td> <td style="text-align: right; padding: 2px;">1</td> </tr> <tr> <td style="padding: 2px;">Other Injury crashes reduced</td> <td style="text-align: right; padding: 2px;">17</td> </tr> <tr> <td style="padding: 2px;">Property Damage Only crashes reduced</td> <td style="text-align: right; padding: 2px;">48</td> </tr> </tbody> </table>		Fatal crashes reduced	0	Serious Injury crashes reduced	1	Other Injury crashes reduced	17	Property Damage Only crashes reduced	48	<p>Provide the methodology below:</p>
Fatal crashes reduced	0									
Serious Injury crashes reduced	1									
Other Injury crashes reduced	17									
Property Damage Only crashes reduced	48									
		<p>Refer to “Colorado Ave Multimodal Improvement Estimated Reduction in Crashes” attachment. Crashes rounded.</p>								

Question: Describe how this project will implement safety improvements (roadway, active transportation facility, etc.), particularly improvements in line with the recommendations in [Taking Action on Regional Vision Zero](#). Please include quantitative information, including any items referenced above, in your response. *Note that any improvements on roadways must be on the DRCOG [Regional Roadway System](#).*

The City of Boulder's 2022 Vision Zero Boulder Safe Streets Report shows that 67% of traffic crashes resulting in severe injury or fatality occur on arterial streets, including Colorado Ave within the project area.

Between 2015 and 2019, there were two (2) serious injury crashes and 24 other injury crashes that occurred on Colorado Ave between Folsom St and Regent Dr. This corridor experiences crashes involving left-turn crashes, speeding, and pedestrians and/or cyclists. These crashes are outlined in the [Boulder Safe Streets Report](#).

Planning for people who walk or bicycle benefits all users of the transportation system, especially those with the greatest risk of suffering an injury or fatality when involved in a crash. The project area includes many vulnerable residents with greater propensity for walking, rolling, cycling, and using transit: 46% of households are low-income, 3% are adults ages 65 years and older, 3% are residents living with a disability, 18% of households don't have access to a motor vehicle, and 32% of households are housing cost-burdened.

Boulder's Vision Zero and DRCOG's Taking Action on Regional Vision Zero recognize that certain safety elements are proven to reduce severe injury or fatal crashes:

- This project area is planned to have **protected bike lanes** throughout. Using the crash modification factor for median treatment for bike and pedestrian safety (CMF 9120), the estimated crash reduction for the protected bike lanes, alone, finds that this project will result in 14% reduction in crashes in the project area and provide a greater comfort level for people biking along Colorado Ave.
- Additional improvements include **widening narrow sidewalk widths** (CMF 2197) which will provide enough space for pedestrians to be comfortable walking, particularly when scooter riders choose to also use the sidewalk. Increasing the sidewalk width will reduce potential conflicts between people walking and people on scooters who choose not to ride in the protected bike lane. This CMF is dependent on the distance the sidewalk is increased but it can be assumed it will provide a reduction of at least 40% if increased by a foot or 80% if increased by two (2) feet.
- Moreover, intersection improvements that are being proposed are summarized in the "Colorado Ave Multimodal Improvement Estimated Reduction in Crashes" attachment. These intersection improvements include converting the existing geometry to a more **protected intersection**, updating the signal timing and phasing to accommodate **protected left turns**, installing **leading pedestrian intervals**, and adding **transit signal and lane priority**.

Though the CMF clearinghouse does not have a crash modification factor for all of the project's proposed improvements, it is anticipated that additional crash reduction over the calculated values shown in this section above will be realized due to the holistic, systemic, corridor-level improvements that will fundamentally change the character of the street and that will work together to amplify safety benefits.

Freight	<p>Maintain efficient movement of goods within and beyond the subregion.</p> <p>(drawn from 2050 MVRTP priorities; Regional Multimodal Freight Plan; Colorado Freight Plan, federal freight reliability performance measure; Metro Vision objective 14)</p> <p>Examples of Project Elements: roadway operational improvements, etc.</p> <p><u>Items marked with an asterisk (*) below are available in the TIP Data Tool.</u></p> <ul style="list-style-type: none"> ● Is this project located in or impact access to a Freight Focus Area?* <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, please provide the name: Northwest Metro ● If this project is located in a Freight Focus Area does it address the relevant Needs and Issues identified in the Plan (see text located within each Focus Area)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, please describe in your response. ● Is the project located on the Tier 1 or Tier 2 Regional Highway Freight Vision Network?* <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No ● Check any items from the Inventory of Current Needs which this project will address: <input type="checkbox"/> Truck Crash Location <input type="checkbox"/> Rail Crossing Safety (eligible locations) <input type="checkbox"/> Truck Delay <input type="checkbox"/> Truck Reliability <p>Please provide the location(s) being addressed: Click or tap here to enter text.</p> <ul style="list-style-type: none"> ● Does this project include any innovative or non-traditional freight supportive elements (i.e., curb management strategies, cargo bike supportive infrastructure, etc.)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, please describe in your response. <p>Question: Describe how this project will improve the efficient movement of goods. In your response, identify those improvements identified in the Regional Multimodal Freight Plan, include quantitative information, and include any items referenced above. <i>Note that any improvements on roadways must be on the DRCOG Regional Roadway System.</i></p> <p>The West Colorado Ave project area serves 153 freight vehicles on an average day (Streetlight data).</p> <p>The three needs and issues of freight vehicles identified for the Northwest Metro Freight Focus Area that will be addressed through this project include:</p> <ol style="list-style-type: none"> 1) Safety of local truck movements and residential delivery demand 2) Multimodal and nonmotorized traveler safety 3) Growing consumer base and land use changes <p>The primary elements of the project that address these needs include: raised, protected bicycle lanes (supportive of cargo bikes); wider sidewalks; protected intersections; enhanced crossings; and improved transit facilities in the University Hill Urban Center, an area designated for additional land use changes and densification (Boulder Valley Comprehensive Plan Area 1 Planning Area).</p> <p>Importantly, reorganizing the street and adding protective street design elements for vulnerable users helps make the movements of all modes more predictable and visible to one another. Research completed by Wesley Marshall and Norman Garrick found that implementing facilities to increase the safety of people who bicycle and walk also improves safety for drivers (Evidence on Why Bicycle-Friendly Cities Are Safer for All Road Users, Environmental Practice 13, no. 1, 2011, p. 16–27). Thus, implementation of this project will also improve the safety of local truck movements as well as residential and commercial delivery.</p>
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Active Transportation	Expand and enhance active transportation travel options. (drawn from 2050 MVRTP priorities ; Denver Regional Active Transportation Plan ; & Metro Vision objectives 10 & 13) Examples of Project Elements: shared use paths, sidewalks, regional trails, grade separations, etc.		
<p><u>Items marked with an asterisk (*) below are available in the TIP Data Tool.</u></p> <ul style="list-style-type: none"> • Does this project close a gap or extend a facility on a Regional Active Transportation Corridor or locally-defined priority corridor?* <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No • Does this project improve pedestrian accessibility and connectivity in a pedestrian focus area?* <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No • Does this project improve active transportation choices in a short trip opportunity zone?* <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No • Does this project include a high-comfort bikeway (like a sidepath, shared-use path, separated bike lane, bicycle boulevard)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, please describe in your response. 			
Bicycle Use <i>NOTE: if constructing a new facility, report bike usage along closest existing alternative route</i> <u>To update the formulas below, enter your information, highlight the formulas (or Ctrl-A), and press F9. OR close and reopen the file.</u>			
1. Current Average Single Weekday Bicyclists:		1,750	
Bicycle Use Calculations		Year of Opening	2050 Weekday Estimate
2. Enter estimated additional average weekday one-way bicycle trips on the facility after project is completed.		2,625	3,032
3. Enter number of the bicycle trips (in #2 above) that will be diverting from a different bicycling route. <i>(Example: {#2 X 50%} or other percent, if justified on line 10 below)</i>		1,312	1,516
4. = Initial number of new bicycle trips from project (#2 – #3)		1,313	1,516
5. Enter number of the new trips produced (from #4 above) that are replacing a trip made by another non-SOV mode (bus, carpool, vanpool, walking, etc.). <i>(Example: {#4 X 30%} or other percent, if justified on line 10 below)</i>		394	455
6. = Number of SOV trips reduced per day (#4 - #5)		919	1,061
7. Enter the value of {#6 x 2 miles}. (= the VMT reduced per day) <i>(Values other than 2 miles must be justified by sponsor on line 10 below)</i>		1,838	2,122
8. = Number of pounds GHG emissions reduced (#7 x 0.95 lbs.)		1,746	2,016
9. If values would be distinctly greater for weekends, describe the magnitude of difference: Click or tap here to enter text.			
10. If different values other than the suggested are used, please explain here: Click or tap here to enter text.			
Pedestrian Use <i>NOTE: if constructing a new facility, report pedestrian usage along closest existing alternative route</i> <u>To update the formulas below, enter your information, highlight the formulas (or Ctrl-A), and press F9. OR close and reopen the file.</u>			
1. Current Average Single Weekday Pedestrians (including users of non-pedaled devices such as scooters and wheelchairs):		4,000	
Pedestrian Use Calculations		Year of Opening	2050 Weekday Estimate
2. Enter estimated additional average weekday pedestrian one-way trips on the facility after project is completed		6,000	6,930
3. Enter number of the new pedestrian trips (in #2 above) that will be diverting from a different walking route <i>(Example: {#2 X 50%} or other percent, if justified on line 10 below)</i>		3,000	3,465
4. = Number of new trips from project (#2 – #3)		3,000	3,465
5. Enter number of the new trips produced (from #4 above) that are replacing a trip made by another non-SOV mode (bus, carpool, vanpool, bike, etc.). <i>(Example: {#4 X 30%} or other percent, if justified on line 10 below)</i>		900	1,040
6. = Number of SOV trips reduced per day (#4 - #5)		2,100	2,426
7. Enter the value of {#6 x .4 miles}. (= the VMT reduced per day) <i>(Values other than .4 miles must be justified by sponsor on line 10 below)</i>		840	970

8. = Number of pounds GHG emissions reduced (#7 x 0.95 lbs.)	798	922
9. If values would be distinctly greater for weekends, describe the magnitude of difference: Click or tap here to enter text.		
10. If different values other than the suggested are used, please explain here: Click or tap here to enter text.		

Question: Describe how this project helps expand the active transportation network, closes gaps, improves comfort, and/or improves connections to key destinations, particularly improvements in line with the recommendations in the [Denver Regional Active Transportation Plan](#). Please include quantitative information, including any items referenced above, in your response.

The Colorado Ave Multimodal Improvements project is located within a DRCOG Regional Active Transportation Corridor, a Short-Trip Opportunity Zone, and a Pedestrian Focus Area. The proposed project will directly expand the active transportation network by creating safe, comfortable and separated spaces for pedestrians, bicyclists and transit riders. The project will also close a gap along the city's Core Arterial Network (CAN) prioritized by Boulder City Council, and complete a planned active mode corridor identified in the CU Campus Master Plan (see Attachment A, Figure 6: CU Boulder 2021 Campus Master Plan).

Specifically, protected (vertically separated) bike lanes, protected intersections, and improved pedestrian facilities will be constructed. It is estimated that an additional 2,600 new daily bike trips will be made with the project, whether on personal bikes or the BCycle e-bikes located throughout the corridor. E-scooters have also now been approved for use west of 28th Street, so it is anticipated that many people—particularly university students—will choose that mode of travel once the shared e-scooter operating area is expanded.

The project will also improve facilities for people walking and rolling by replacing substandard sidewalks with poor concrete with new, wider sidewalks/multi-use paths and ensuring that facilities are ADA-compliant. It is estimated that an additional 6,000 new daily walking/rolling trips will be made in the project's opening year, whether these are walk-only trips or first-/last-mile trips related to transit.

As a result, the project will advance the Metro Vision 2050 goal for 35% of commuters to use a non-SOV mode to work, and will support the 2019 DRCOG Active Transportation Plan objectives of increasing bicycling and pedestrian activity; expanding and connecting comfortable transportation facilities for people who bike and people who walk; improving bicycle and pedestrian access to and from transit; and improving and expanding equitable access to active transportation corridors.

C. Project Leveraging		WEIGHT	5%			
What percent of outside funding sources (non-Subregional Share funding) does this project have? <i>(number will automatically calculate based on values entered in the Funding Request table. If this has not updated, select the box to the right and click F9)</i>	40%	60%+ outside funding sources 5 pts 50-59.9% 4 pts 40-49.9% 3 pts 20-39.9% 2 pts 10.1-19.9% 1 pt 10%..... 0 pts				
D. Project Readiness		WEIGHT	10%			
<i>Provide responses to the following items to demonstrate the readiness of the project. DRCOG is prioritizing those projects that have a higher likelihood to move forward in a timely manner and are less likely to experience a delay.</i>						
Section 1. Avoiding Pitfalls and Roadblocks						
a. Has a licensed engineer (CDOT, consultant, local agency, etc.) reviewed the impact the proposed project will have on utilities, railroads, ROW, historic and environmental resources, etc. and have those impacts and pitfalls been mitigated as much as possible to date before this submittal?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A (for projects which do not require engineering services)					
If yes, please type in the engineer's name below which certifies their review and that impacts have been evaluated and mitigated as much as possible before your application is submitted:						
Gerrit Slatter, City of Boulder Principal Transportation Projects Engineer Please describe the status to date on each, including 1) anticipated/known pitfalls/roadblocks, and 2) mitigation activities taken to date:						
<ul style="list-style-type: none"> • Utilities: Mapped location of existing utilities • Railroad: N/A • Right-of-Way: Existing Right-of-Way mapped; two easements will be needed • Environmental/Historic: None • Other: Click or tap here to enter text. 						
b. Is this application for a single project phase only (i.e., design, environmental, ROW acquisition, construction only, study, bus service, equipment purchase, etc.)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
If yes, are the other prerequisite phases complete? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A						
If this project is for construction, please note the NEPA status: Not Started						
c. Has all required ROW been identified? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A						
Has all required ROW already been acquired and cleared by CDOT? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A						
d. Based on the current status provided in Project Information, question 11, do you foresee being able to execute your IGA by October 1 of your first year of funding (or if requesting first year funding, beginning discussions on your IGA as soon as possible), so you can begin your project on time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
Does your agency have the appropriate staff available to work on this project? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
If yes, are they knowledgeable with the federal-aid process? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A						

- e. Have other stakeholders in your project been identified and involved in project development?

Yes No N/A

If yes, who are the stakeholders?

[University of Colorado \(CU\), RTD, City of Boulder Transportation Advisory Board and City Council](#)

Please provide any additional details on any of the items in Section 1, if applicable.

Click or tap here to enter text.

Section 2. Local Match Availability

- a. Is all the local match identified in your application currently available and not contingent on any additional decisions, and if a partnering agency is also committing match, do you have a commitment letter?

Yes No

Please describe:

[All local match will be provided by the City of Boulder Transportation Fund and will be available starting in 2025](#)

- b. Is all funding for this project currently identified in the sponsor agency's Capital Improvement Program (CIP)?

Yes No

Please describe:

[There is sufficient capacity in the current City of Boulder Capital Improvement Program budget to meet local match requirements.](#)

Section 3. Public Support

- a. Has the proposed project previously been through a public review process (public comment period, public hearing, etc.)?

Yes No

- b. Has the public had access to translated project materials in relevant languages for the local community?

Yes No

Please describe:

[The 30th and Colorado Corridors Study community engagement process, which included robust public involvement and concluded in 2019, informed preliminary concept designs.](#)

Several outreach efforts were implemented to notify adjacent property owners and the community about the TIP submittal process for this project. All outreach efforts and information materials were provided in English and Spanish. There is a project webpage that includes information about the project. A mailing was sent to property owners, residents, and businesses adjacent to the project and other interested stakeholders in the community notifying them of the upcoming TIP grant application process. Community members were invited to review a project factsheet and informational video, provide online feedback, and schedule virtual office hours with staff. This information was also included in a city press release and social media postings by the city and Transportation Advisory Board members. Fifty-three people provided feedback.

The city's Transportation Advisory Board (TAB) considered items related to this TIP submittal at its August 8, 2022, September 12, 2022, and October 10, 2022 meetings. A public hearing was held at the November 14, 2022 Transportation Advisory Board meeting and a City Council public hearing was held December 1, 2022.

- c. Have any adjacent property owners to the proposed project been contacted and provided with the initial project concept?

Yes No N/A

Please provide any additional details on the items in Section 3, if applicable.

Click or tap here to enter text.

Submit completed applications through the [TIP Data Hub](#) no later than 3pm on January 27, 2023.

Prior to submitting, press Ctrl+A to select all, then press F9 to update all formulas. You can then print to PDF.

Project Location



City of Boulder: Colorado Ave Improvements Project (Folsom St - Regent Dr)

Cost Estimate

CATEGORY	ITEM	UNIT	UNIT COST	Colorado Ave Transit and Bike Improvements Folsom St to Regent Dr	
				QTY	COST
202	REMOVAL OF SIDEWALK	SY	\$ 55.00	183	\$ 10,087
202	REMOVAL OF ASPHALT MAT (PLANING)	SY	\$ 5.00		\$ -
202	REMOVAL OF ASPHALT MAT	SY	\$ 10.00	1,292	\$ 12,920
202	REMOVAL OF CURB AND GUTTER	LF	\$ 15.00	850	\$ 12,750
202	REMOVAL OF TREE	EACH	\$ 1,000.00	4	\$ 4,000
202	REMOVAL OF TRANSIT SHELTER	SY	\$ 2,000.00	2	\$ 4,000
214	DECIDUOUS TREE (2 INCH CALIPER)	EACH	\$ 1,000.00	4	\$ 4,000
403	PAVEMENT (HMA) (2 INCH AVERAGE)	TON	\$ 100.00		\$ -
403	HOT MIX ASPHALT (PATCHING) (ASPHALT)	SY	\$ 200.00	778	\$ 155,556
608	CONCRETE CURB RAMP	SY	\$ 130.00	194	\$ 25,242
608	CONCRETE BIKEWAY (8 INCH)	SY	\$ 65.00	740	\$ 48,100
609	CURB AND GUTTER TYPE 2 (I-B)	LF	\$ 45.00	2,500	\$ 112,500
609	CURB AND GUTTER TYPE 2 (II-B)	LF	\$ 50.00	1,000	\$ 50,000
610	MEDIAN COVER	SF	\$ 20.00	4,000	\$ 80,000
614	TRAFFIC SIGNAL	LS	\$ 250,000.00	1	\$ 250,000
622	TRANSIT SHELTER	EACH	\$ 20,000.00	3	\$ 60,000
PRIMARY COSTS SUBTOTAL					\$ 829,154
SECONDARY	CLEARING AND GRUBBING	LS		2.50%	\$ 20,729
SECONDARY	REMOVALS AND RESETS	LS		5.00%	\$ 41,458
SECONDARY	EXCAVATION AND EMBANKMENT (COMPLETE IN PLACE)	LS		2.00%	\$ 16,583
SECONDARY	EROSION CONTROL/STORMWATER MANAGEMENT	LS		2.00%	\$ 16,583
SECONDARY	LANDSCAPING AND TOPSOIL	LS		10.00%	\$ 82,915
SECONDARY	ENVIRONMENTAL HEALTH AND SAFETY	LS		0.50%	\$ 4,146
SECONDARY	DRAINAGE	LS		5.00%	\$ 41,458
SECONDARY	PERMANENT WATER QUALITY	LS		5.00%	\$ 41,458
SECONDARY	LIGHTING	LS		5.00%	\$ 41,458
SECONDARY	CONSTRUCTION SURVEYING	LS		4.00%	\$ 33,166
SECONDARY	MOBILIZATION	LS		15.00%	\$ 124,373
SECONDARY	PERMANENT SIGNING AND STRIPING	LS		10.00%	\$ 82,915
SECONDARY	FLAGGING	LS		8.00%	\$ 66,332
SECONDARY	TRAFFIC CONTROL MANAGEMENT	LS		10.00%	\$ 82,915
SECONDARY	TRAFFIC CONTROL INSPECTION	LS		1.00%	\$ 8,292
SECONDARY	CONSTRUCTION ZONE TRAFFIC CONTROL	LS		5.00%	\$ 41,458
SECONDARY	CITY UTILITY CONTINGENCIES	LS		1.00%	\$ 8,292
SECONDARY	FORESTRY CHARGES	LS		1.00%	\$ 8,292
SECONDARY	ENVIRONMENTAL MITIGATION	LS		1.00%	\$ 8,292
SECONDARY	URBAN DESIGN FEATURES	LS		5.00%	\$ 41,458
SECONDARY	MISCELLANEOUS CONSTRUCTION ITEMS	LS		5.00%	\$ 41,458

CATEGORY	ITEM	UNIT	UNIT COST	Colorado Ave Transit and Bike Improvements Folsom St to Regent Dr	
				QTY	COST
PRIMARY AND SECONDARY COSTS SUBTOTAL				\$	1,683,182
CONTINGENCY	CONSTRUCTION CONTINGENCIES	LS		15.00%	\$ 252,477
CONTINGENCY	FORCE ACCOUNTS AND MINOR CONTRACT REVISIONS	LS		10.00%	\$ 168,318
PRIMARY, SECONDARY, AND CONTINGENCIES COSTS SUBTOTAL				\$	2,103,978
TOTAL CONSTRUCTION COST				\$	
PROJECT DEV	SURVEYING AND MAPPING	LS		2.50%	\$ 52,599
PROJECT DEV	PROFESSIONAL CIVIL ENGINEERING	LS		10.00%	\$ 210,398
PROJECT DEV	GEOTECHNICAL/TRAFFIC/ELECTRICAL ENGINEERING	LS		3.00%	\$ 63,119
PROJECT DEV	LANDSCAPE AND URBAN DESIGN	LS		2.00%	\$ 42,080
PROJECT DEV	ENVIRONMENTAL CLEARANCES	LS		5.00%	\$ 105,199
PROJECT DEV	MISCELLANEOUS DESIGN	LS		1.00%	\$ 21,040
PROJECT DEV	PUBLIC PROCESS/ALTERNATIVES ANALYSIS/CEAP	LS		1.00%	\$ 21,040
PROJECT DEV	SUBSURFACE UTILITY ENGINEERING (SUE)	LS		2.00%	\$ 42,080
PROJECT DEV	CONSTRUCTION MANAGEMENT	LS		8.00%	\$ 168,318
PROJECT DEV	MATERIALS TESTING	LS		1.00%	\$ 21,040
PROJECT DEV	POST-DESIGN ENGINEERING SERVICES	LS		1.00%	\$ 21,040
PROJECT DEV	ENTITY SALARIES	LS		5.00%	\$ 105,199
PROJECT DEV	ROW PLANS	LS		\$	-
PROJECT DEV	ROW ACQUISITION CONSULTANT	LS		\$	-
PROJECT DEV	APPRAISAL COSTS	LS		\$	-
PROJECT DEV	ROW/EASEMENT COSTS	LS		\$	-
PRIMARY, SECONDARY, CONTINGENCIES, AND PROJECT DEVELOPMENT COSTS SUBTOTAL				\$	2,977,128
TOTAL PROJECT COST (WITH COMPLEXITY FACTOR			1	\$	2,977,128
CURRENT YEAR					2022
YEAR OF CONSTRUCTION					2025
ASSUMED INFLATION (YEAR OVER YEAR)					6%
TOTAL PROJECT COST (YEAR OF CONSTRUCTION)				\$	3,545,807
ROUNDED COST				\$	3,600,000
ROUNDED TOTAL PROJECT COST				\$	

Bicycle and Pedestrian Improvements

This calculator will estimate the reduction in emissions resulting from improvements to bicycle and pedestrian infrastructure and associated mode shift from passenger vehicles to bicycling or walking, including but not limited to sidewalks, dedicated bicycle infrastructure, improved wayfinding, mid-block crossing installations, bike share systems, and bike parking improvements.

Navigator

Bicycle and Pedestrian Improvements

INPUT

User Guide

(1) What is your project evaluation year?

Reset Interface

(2) Estimate the shift in daily motorized passenger vehicle trips to non-motorized travel due to the bicycle and pedestrian project.

Before	After	Change
11700	10200	1500

(3a) Select the data type used for entering the typical one-way trip distance of passenger vehicles below:

Trip Distance Source	Average	< Fill National Values

(3b) If you selected "Average" above, enter the typical one-way trip distance. If you selected "Distribution" above, enter the typical distribution of one-way trip distances.

Typical Trip Distance (miles one way)	Distribution of Trip Distances (daily fraction per mileage bin)					Sum
	x < 1	1 ≤ x < 2	2 ≤ x < 3	3 ≤ x < 4	4 ≤ x ≤ 5	
0.2						

OUTPUT

Calculate Output

EMISSION REDUCTIONS

Pollutant	Total
Carbon Monoxide (CO)	3.173
Particulate Matter <2.5 µm (PM _{2.5})	0.008
Particulate Matter <10 µm (PM ₁₀)	0.019
Nitrogen Oxide (NOx)	0.229
Volatile Organic Compounds (VOC)	0.211

Carbon Dioxide (CO ₂)	151.046
Carbon Dioxide Equivalent (CO ₂ e)	155.548
Total Energy Consumption (MMBTU/day)	2.052

*Units in kg/day unless otherwise noted



Transit Bus Service and Fleet Expansion

This calculator will estimate the reduction in emissions from projects which expand transit bus service and fleets, including new routes, new schedules, and new vehicles. Emissions reductions are associated with the mode shift from passenger vehicle to transit activity. Users are recommended to forecast activity by mode with an external travel demand model.

Navigator

- [Transit Bus Service and Fleet Expansion](#)
- [Model Year Distribution](#)
- [Fuel Type Distribution](#)
- [Road Type Distribution](#)

INPUT

[User Guide](#)

[Reset to Default Values](#)

(1) What is your project evaluation year?

2027

(2) Please input the number of days that the bus service is operated annually

365

Note: Default is 365 days per year.
For weekdays only, enter 260 days per year.
For weekends only, enter 105 days per year

Transit Bus Information

(3a) Enter the estimated vehicle miles traveled annually by the transit buses before and after the transit project is completed.

	Before	After	Miles
Transit Bus Miles Traveled	354,306	354,306	

(3b) Enter the VMT allocations of your transit bus fleet on the separate tabs before and/or after project completion. If desired, default national average distributions can be used to fill these tables.

Allocations of Model Years Transit Bus Model Year Distribution

Allocations of Fuel Types Transit Bus Fuel Type Distribution

Allocations of Road Types Transit Bus Road Type Distribution

Passenger Vehicle Information

(4a) Enter the annual passenger vehicle activity information before and after the project. Annual passenger vehicle activity can be entered either in terms of vehicle miles traveled, or number of passenger trips diverted. The passenger vehicle average one-way trip distance should be entered in miles.

Passenger Vehicle Activity Type
 Passenger Vehicle Miles Traveled
 Passenger Vehicle Trips

	Before	After	Miles
Passenger Vehicle Activity	440,764	0	

Average One-Way Trip Distance 3.68 Miles

Note: National Default value is 4.52

(4b) Do you expect most passenger vehicle trips to be linked with bus trips as a result of the service or fleet expansion?

Linked Passenger Vehicle Trips
 Yes, passengers will drive to transit hubs to use the expanded transit bus service or fleet.
 No, the expansion will eliminate full passenger vehicle trips (reduction of running and start activity)

OUTPUT

[Calculate Output](#)

FLEET PERFORMANCE

Transit Bus VMT increase	0	Miles
Passenger Vehicle Trip Reduction	119,773	Trips
Passenger Vehicle VMT reduction	440,764	Miles

EMISSION REDUCTIONS

Pollutant	Total kg/day
Carbon Monoxide (CO)	3.817
Particulate Matter <2.5 µm (PM _{2.5})	0.013
Particulate Matter <10 µm (PM ₁₀)	0.047
Nitrogen Oxide (NOx)	0.208
Volatile Organic Compounds (VOC)	0.133
Carbon Dioxide (CO ₂)	420.625
Carbon Dioxide Equivalents (CO ₂ e)	424.909
Total Energy Consumption (MMBTU)	5.542

Colorado Ave Multimodal Improvements

Total Emission Reductions

Bike & Ped

Pollutant	Total
Carbon Monoxide (CO)	3.173
Particulate Matter <2.5 µm (PM _{2.5})	0.008
Particulate Matter <10 µm (PM ₁₀)	0.019
Nitrogen Oxide (NOx)	0.229
Volatile Organic Compounds (VOC)	0.211
Carbon Dioxide (CO ₂)	151.046
Carbon Dioxide Equivalent (CO ₂ e)	155.548
Total Energy Consumption (MMBTU/day)	2.052

Transit

Pollutant	Total kg/day
Carbon Monoxide (CO)	3.817
Particulate Matter <2.5 µm (PM _{2.5})	0.013
Particulate Matter <10 µm (PM ₁₀)	0.047
Nitrogen Oxide (NOx)	0.208
Volatile Organic Compounds (VOC)	0.133
Carbon Dioxide (CO ₂)	420.625
Carbon Dioxide Equivalents (CO ₂ e)	424.909
Total Energy Consumption (MMBTU)	5.542

Total (Bike & Ped + Transit)

6.990
0.021
0.066
0.437
0.343

571.671
580.457
7.594

Colorado Ave Multimodal Improvements: Estimated Reduction in Crashes					
Colorado and Folsom	HSIP Cat.	Signal			
Countermeasure	CMF	Fatal	Serious Injury	Other	PDO
Change to protected intersection	0.59	0	1	8	27
Change from perm.-prot. to prot.-only on major approach (operations only)	0.58	0	1	8	27
Install Leading Pedestrian Interval	0.9	0	1	8	27
Transit Priority Signal and Lane Priority	0.836	0	1	8	27
	0.257471	0	0.25747128	2.05977	6.951725
	reduced	0	0.74252872	5.94023	20.04828
Colorado entire segment	CMF	Fatal	Serious Injury	Other	PDO
Protected bicycle lanes	0.86	1	4	82	200
Widened sidewalks	0.172045	1	4	82	200
	0.86	0.86	3.44	70.52	172
	reduced	0.14	0.56	11.48	28
		Fatal	Serious Injury	Other	PDO
intersection reduced		0	0.74252872	5.94023	20.04828
segment reduced		0.14	0.56	11.48	28
	Total Reduction		0.14	1.30252872	17.42023
			0	1	17
					48

From: [Christopher Quinn](#)
To: [Sanson, Jean](#)
Cc: [Todd Cottrell](#)
Subject: RE: TIP Call #4 RTD Concurrence
Date: Friday, January 13, 2023 4:03:37 PM

External Sender

Jean,

This email is to provide RTD's concurrence with the three project applications noted below:

1. West Colorado Ave. Multimodal Improvements
2. 30th Street Multimodal Improvements
3. Folsom Street Multimodal Improvements

We would request that you coordinate with RTD as these projects proceed to ensure that our mutual interests are supported.

Thanks

Chris

Chris Quinn

Project Manager

Planning

he | him | his

o. 303.299.2439

chris.quinn@rtd-denver.com

rtd-denver.com



Regional Transportation District
1660 Blake Street, BLK-21
Denver, CO 80202

We make lives better through connections.

January 13 2023

Doug Rex, Executive Director
Denver Regional Council of Governments
1001 17th Street, Suite 700
Denver, Colorado 80202

Dear Mr. Rex:

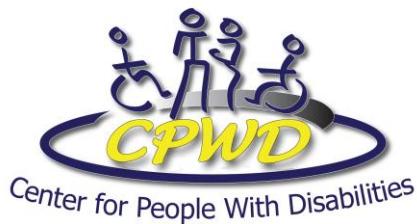
On behalf of the University of Colorado Boulder, I am writing to express support for the West Colorado Avenue Multimodal Improvements project application submitted by the City of Boulder. Colorado Avenue is a main connection for the university transit system, connecting Main and East Campus properties and providing first and last mile transportation options. Improvements to the west section of Colorado Avenue will construct Vision Zero proven crash countermeasures including intersection enhancements, separate bicycle facilities and improved transit access. This work will complete the final multimodal street cross section from 30th Street to Folsom. The University of Colorado will support its commitment to this project by contributing a not to exceed \$600,000 cost share as part of the local match for this project.

The University of Colorado looks forward to this partnership opportunity with the City of Boulder and Federal Highway Administration (FHWA) on this key transportation connection.

Sincerely,



Chris Ewing
Interim Vice Chancellor
Infrastructure and Sustainability
University of Colorado Boulder



Center for People With Disabilities

Overcoming barriers to Independent Living since 1977

January 23, 2023

To Whom It May Concern,

The Center for People With Disabilities (CPWD) would like to show support for the City of Boulder's three federal funding grant applications (DRCOG TIP) for safety and multimodal improvement projects on the Core Arterial Network. The three projects include:

- 30th Street Multimodal Improvements (Colorado Avenue to Baseline Road);
- Folsom Street Multimodal Improvements Pre-Design (Pine Street to Colorado Avenue); and
- West Colorado Avenue Multimodal Improvements (Regent Drive to Folsom Street).

As a center for independent living, our mission is to provide resources, information and advocacy to assist people with disabilities in overcoming barriers to independent living. We believe that these multimodal improvement projects above will provide increased accessibility, improved safety, and equitable access to transportation for people with disabilities promoting independence.

Additionally, City's commitment to engaging with diverse stakeholders for feedback and collaboration in community-wide projects is evident to us. We would like to express our support and appreciation for City's inclusive processes and would like to offer our services and participation in continued collaboration to serve Boulder residents.

Sincerely,

Maria Stepanyan
Executive Director
Center for People With Disabilities
Maria@CPWD.org
303-442-8662 ext. 243

Boulder
1675 Range Street
Boulder, CO 80301
Ph: (303) 442-8662
Fx: (303) 442-0502

Longmont
615 North Main Street
Longmont, CO 80501
Ph: (303) 442-8662
Fx: (303) 772-5125

Broomfield
6 Garden Center
Broomfield, CO 80020
Ph: (303) 442-8662
Only Open Mondays

North Metro
10317 Washington Street
Thornton, CO 80229
Ph: (303) 442-8662
Fx: (303) 792-0317



2601 SPRUCE ST, UNIT B
BOULDER, CO 80302

COMMUNITYCYCLES.ORG

Community Cycles Letter of Support for City of Boulder TIP Applications - Call #4

Community Cycles is made up of people who ride bicycles, love bicycles, and support bicycle-based transportation. We promote abundant and equitable access to safe cycling infrastructure for everyone in our community.

Folsom St Multimodal Improvements Design (Pine St – Colorado Ave)

The Folsom St Multimodal Improvements Design (Pine St - Colorado Ave) project will eventually lead to safe, multimodal, north-south connectivity within the City of Boulder for local and subregional travel. Currently this rare northsouth bike corridor has substandard and stressful bike lanes directly adjacent to automobiles and trucks with a speed limit of 30mph. Part of this corridor has the DRCOG High Injury Network designation.

With added protection for cyclists and pedestrians, this corridor will help meet our Vision Zero and mode-shift goals. In addition, it will serve an underserved population of Boulder. This corridor connects to CU and provides access to a core retail business area.

Generally, Boulder has excellent, well-developed bicycling corridors for east-west travel but no safe corridors for north-south travel in the eastern half of the city. Earlier attempts to rapidly improve pedestrian and bicyclist safety were reversed. A more complete planning process would allow engagement and consideration of multiple options for this complex transportation corridor, and a better chance of success.

30th Street Multimodal Improvements (Baseline Rd - Colorado Ave)

30th Street is a main transportation corridor in Boulder for local and regional travel, but 30th Street presently lacks the complete street infrastructure to provide safe, convenient and comfortable travel for those biking, walking, or taking transit.

It is no surprise, then, that the City of Boulder's Safe Streets Report (2022) identified 30th Street as one of the worst crash locations in the city and, thus, "earned" a Critical Corridor designation by DRCOG.

Thousands of people live, work, and attend university within the project area, many of whom rely on biking and walking to reach their destinations: roughly 30% of households are low-income, and half of the households are housing cost burdened. 30th Street is a primary north-south travel corridor in Boulder that provides connections and access to the three University of Colorado (CU) campuses, the 29th Street Retail Center and a considerable share of the city's retailers.

Providing complete street connections to the many residences, destinations, and bus services along the corridor, the project will provide safer and improved biking, walking, and transit facilities for a wider range of ages and abilities.

Although we are disappointed that the project plans to retain the existing four to five general purpose lanes, Community Cycles supports the project because the improvements identified through the planning and design, such as protected bicycle lanes, protected intersections, enhanced crossings, and wider sidewalks, will meet the safety needs of those who use the corridor and, therefore, lead to more people cycling safely and comfortably. With the current work at 30th and Colorado intersection, the funded enhancements of 30th between CO7 & Colorado Ave, the planning work for 30th Street north of CO7, along with the adjacent Baseline Road improvements are the start of a great multimodal transportation corridor.

West Colorado Avenue Multimodal Improvements (Regent Drive – Folsom Street)

This West Colorado Avenue segment sees thousands of CU students, faculty and staff commuters every day. Nearly half of the corridor residences are low income, a quarter are individuals of color, and a majority are housing cost burdened, many without access to a motor vehicle. It is also a part of a Boulder's Core Arterial network that will provide safe and low stress travel to key destinations in Boulder, including connecting East & West Campus. This is a building block that is needed to enable more people to commute with active transportation and reduce the potential for severe injury crashes and reduce greenhouse gas emissions. Community Cycles sees opportunities to reduce the cost of the project and improve safety by narrowing and simplifying the intersections involved.

Sincerely
Community Cycles Advocacy Committee



To: Denver Regional Council of Governments

Todd Cottrell, Senior Planner

1001 17th Street, Suite 700

Denver, CO 80202

tcottrell@drcog.org

FROM:

John Tayer, President & CEO, Boulder Chamber

Amanda Mansfield, Senior Manager of Transportation, Boulder Chamber and Boulder Transportation Connections

Jonathan Singer, Senior Director of Policy Programs, Boulder Chamber

SUBJECT:

City of Boulder TIP Funding Applications: 30th Street, W. Colorado Avenue, Folsom Street

January 20, 2023

Dear Mr. Cottrell:

The Boulder Chamber of Commerce and Boulder Transportation Connections are pleased to provide this letter of support for the City of Boulder's projects: [W. Colorado, 30th St](#), and [Folsom St](#) Multimodal Improvements.

These projects are important for the City of Boulder as we work to grow our Complete Streets network, making transportation options safer and more equitable within our community.

30th Street is an area with high potential for safety enhancements. This street connects the University of Colorado's main campus with the East Campus and Williams Village. Over 23,000 residents live in this corridor, 30% of whom are low-income, 25% are people of color, and 14% do not have personal motor vehicles. The existing bike and sidewalk facilities do not meet current standards and has been identified by DRCOG as a High Injury Network and Critical Corridor.

Funding the improvements along 30th Street will tie-in to improvements already happening further north in the corridor allowing more users to take advantage of a safe and comfortable corridor for all users, especially those not in motor vehicles. Complete Streets design will allow people to better access education, health care, groceries, and other retail and business in the area. Enhancements in the 30th Street corridor will also help solidify a much-needed north-south biking and transit corridor for the entire community.

Enhancements along Folsom Street will also provide a welcome north-south corridor connecting the main CU campus with points north. Folsom Street has protected lanes north of Pine Street. We recognize the value in extending this protection to Colorado Avenue and the CU campus, provided this can be done safely for all modes involved and without impeding traffic flow and travel times for all modes. Ideally, through this preliminary design phase, the City will be able to develop a plan that would include sufficient right-of-way to retain existing vehicle travel lanes and add protected bike lanes, similar to the proposed construction plan for 30th St.



The Folsom corridor houses over 30,000 residents, including the Mapleton Manufactured Housing Community. Folsom Street intersects with both the Goose Creek Multi-Use Path and Boulder Creek Path allowing access to multiple points throughout the City of Boulder. 36% of corridor residents are low-income and 13% lack personal motor vehicles. This area is identified as a High Injury Network. We look forward to working with the city to engage a diverse and representative group of community stakeholders throughout the preliminary design phase discussion to help ensure a productive, thoughtful and collaborative outcome for all involved.

Colorado Avenue helps tie these projects together providing a needed east-west link. This project will construct bicycle, pedestrian, and transit facilities, including vertically separated bike lanes, continuous, ADA-compliant sidewalks, and a dedicated transit lane for more efficient transit service and safer and more comfortable first- and last-mile connectivity.

Colorado Avenue has been identified in the City of Boulder's Core Arterial Network with projects already underway to improve conditions between 28th Street and 30th Street, this funding will help to complete the connections to the University of Colorado campus. With over 23,000 residents in the area and thousands already using sustainable modes through this area, enhanced comfort and safety will provide a more welcoming environment that encourages more sustainable transportation use.

The City of Boulder grant applications are an important first step in providing safer, more convenient, cost efficient and sustainable transportation options for corridor-wide students, residents, employees, and customers. We strongly support the City of Boulder project application team in requesting funding to contribute to the build-out of Complete Streets serving key commuter corridors.

Thank you for your consideration of these impactful projects.

Sincerely,

A handwritten signature in blue ink that appears to read "John Tayer".

John Tayer, President & CEO, Boulder Chamber

A handwritten signature in blue ink that appears to read "Amanda Mansfield".

Amanda Mansfield, Senior Manager of Transportation, Boulder Chamber and Boulder Transportation Connections

A handwritten signature in blue ink that appears to read "Jonathan Singer".

Jonathan Singer, Senior Director of Policy Programs, Boulder Chamber