



DRCOG FY2022-2025 TIP – Arapahoe County Subregion
Subregional Share Air Quality/Multimodal (AQ/MM)
Application Programming Federal Fiscal Years 2023-2025

APPLICATION OVERVIEW

What: The Subregional Share Call for Projects for the FY2022-2025 TIP, programming fiscal years 2023-2025

Funding Available: \$161,292,000 overall. Target of \$30,016,000 for Arapahoe County (estimated as of the open date)

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

Major Project Eligibility Exceptions: Roadway capacity, roadway reconstruction, bridge, interchange projects

Call Opens: May 2, 2022

Call Closes: June 24, 2022, 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 the below. Please **DO NOT** attach additional cover pages, embed graphics in the application, or otherwise change the format of the application form.
 - a. this application
 - b. one location map/graphic
 - c. cost estimate (your own or the CDOT [cost estimate form](#))
 - d. CDOT/RTD concurrence response (if applicable)
 - e. any required documentation based on the application text (i.e., FHWA emissions calculators)
 - f. project support letters and/or [Request for Peer Agency Support](#)
2. OPTIONAL: Submit **one additional** PDF document containing any supplemental materials, if applicable
3. REQUIRED: Submit a zipped GIS shapefile of your project. Requests for assistance with creating a shapefile should be submitted to tipapplications@drcog.org no later than June 3, 2022

Other Notable items:

- **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 May 13, 2022, with CDOT/RTD providing a response no later than June 10, 2022. Submit requests to the following: CDOT Region 1 – JoAnn Mattson, joann.mattson@state.co.us; CDOT Region 4 – Josie Hadley, josie.hadley@state.co.us; RTD – Chris Quinn, chris.quinn@rtd-denver.com
- **If a submitted application in Call #1 was not funded,** and you wish to resubmit the same application for this call, please contact DRCOG at tipapplications@drcog.org. In these cases, we can unlock the application, change the title, and save the applicant work in the resubmittal process.
- **Application Data:** To assist sponsors in filling out the application, DRCOG has developed a TIP Data Tool to streamline quantitative analyses requested in the application. A link to the TIP Data Tool and instructions on how to use it are available on the [TIP Data Hub](#). Additionally, sponsors may download datasets to run their own analyses from this same site. Requests for additional data or calculations from DRCOG staff should be submitted to tipapplications@drcog.org no later than June 3, 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
- **TIP Policy:** Further details on project eligibility, evaluation criteria, and the selection process are defined in the [Policies for TIP Program Development](#) document (a [quick-guide](#) is also available for reference)
- **Evaluation Process:** DRCOG staff will review submittals for eligibility and post to the DRCOG website (June 27-July 1). Applications and scoring sheets will then be provided to the individual subregional forums no later than July 1. The forums will then review, score, discuss, and rank the applications and provide a recommended funding list within the funding available by August 5. The forums’ recommendations will then be forwarded to the DRCOG committee process for incorporation into the adopted TIP
- 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..... 30%

Projects will be evaluated on the degree to which they address a significant regional or 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 regional or subregional problem and benefit people and businesses in multiple subregions.
4	The project benefits will significantly address a major subregional problem primarily benefiting people and businesses in one subregion.
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 Priorities50%

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”) 10%
 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		Littleton Broadway Communications Upgrade	
2. Project Location <i>Provide a map, as appropriate (see Page 1)</i>		Start point: Broadway & Arapahoe Rd End point: Broadway & C-470 OR Geographic Area:	
3. Project Sponsor <i>(entity that will be financially responsible for the project)</i>		City of Littleton	
4. Project Contact Person:			
Name	Aaron Heumann	Title	City of Littleton Traffic Engineering Manager
Phone	303-795-3867	Email	aheumann@littletongov.org
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 type="checkbox"/> Yes <input checked="" 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>	<input type="checkbox"/> DRCOG 2050 Metro Vision Regional Transportation Plan (2050 MVRTP) Provide MVRTP staging period, if applicable capital project:		
	<input checked="" type="checkbox"/> Local/Regional plan:	Planning Document Title: City of Littleton Fiber Optic Communications Master Plan [Add link to online document] Page 91 (Segments 2A & 2B) Fiber master plan is available upon request. City of Littleton Transportation Master Plan https://www.littletongov.org/home/showdocument?id=21031 Page 60-62 (Projects 14,16,18, & 39) Adopting agency (local agency Council, CDOT, RTD, etc.): Provide date of adoption by council/board/commission, if applicable: Transportation Master Plan was adopted by City of Littleton, Fiber Master Plan was approved by Council but not formally adopted.	
	Please describe public review/engagement to date:	There was a public engagement process for the Transportation Master Plan but not for the Fiber Master Plan	
	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 Funding Breakdown table below)			
Phases to be included:	Major phase milestones:		Anticipated completion date (based on 9/21/2022 DRCOG approval date): (MM/YYYY)

<u>FOR ALL PHASES</u>	Intergovernmental Agreement (IGA) executed (with CDOT/RTD; assumed process is 4-9 months)	03/2023
<input checked="" type="checkbox"/> Design	Design contract Notice to Proceed (NTP) issued (if using a consultant):	03/2023
	Design scoping meeting held with CDOT (if no consultant):	
<input checked="" type="checkbox"/> Environmental	Environmental contract Notice to Proceed (NTP) issued (if using a consultant):	03/2023
	Environmental scoping meeting held with CDOT (if no consultant):	
<input checked="" type="checkbox"/> Right-of-Way	Initial set of ROW plans submitted to CDOT:	09/2023
	ROW acquisition completed: Estimated number of parcels to acquire:	06/2024
<input checked="" type="checkbox"/> Construction	FIR (Field Inspection Review):	07/2023
	FOR (Final Office Review):	01/2024
	Required clearances:	06/2024
	Project publicly advertised:	08/2024
<input type="checkbox"/> Study	Kick-off meeting held after consultant NTP (or internal if no consultant):	
<input type="checkbox"/> Bus Service	Service begins:	
<input checked="" type="checkbox"/> Equipment Purchase (Procurement)	RFP/RFQ/RFB (bids) issued:	11/2024
<input type="checkbox"/> Other:	First invoice submitted to CDOT/RTD:	

8. Problem Statement: What specific subregional problem/issue will the transportation project address?
 Littleton has communication to the 15 traffic signals that are on the roadways where we are proposing to add fiber communications. However, the current communication is by way of wireless radio which can be unreliable and does not allow for the addition of ITS equipment such as ptz cameras and travel time detectors that could be used for real time monitoring of traffic operations and incidents. Furthermore, the addition of this fiber is needed to provide a complete loop so that if fiber is damaged unintentionally, Littleton can maintain communication to their traffic assets while repairs are being completed.

- 9. Identify the project's key elements.** A single project may have multiple project elements.
- | | |
|--|---|
| <p>Roadway</p> <p><input checked="" type="checkbox"/> Operational Improvements</p> <p>Grade Separation</p> <p><input type="checkbox"/> Roadway</p> <p><input type="checkbox"/> Railway</p> <p><input type="checkbox"/> Bicycle</p> <p><input type="checkbox"/> Pedestrian</p> <p>Regional Transit¹</p> <p><input type="checkbox"/> Rapid Transit Capacity (2050 MVRTP)</p> <p><input type="checkbox"/> Mobility Hub(s)</p> | <p>Active Transportation Improvements</p> <p><input type="checkbox"/> Bicycle Facility</p> <p><input type="checkbox"/> Pedestrian Facility</p> <p><input checked="" type="checkbox"/> Air Quality Improvements</p> <p><input type="checkbox"/> Improvements Impacting Freight</p> <p>Multimodal Mobility (i.e., accommodating a broad range of users)</p> <p><input type="checkbox"/> Complete Streets Improvements</p> |
|--|---|

- Transit Planning Corridors
- Transit Facilities/Service (Expansion/New)

Safety Improvements

Study

Other, briefly describe:

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.***

This project will add fiber to improve regional connections for traffic communications (fiber installation) and improve operational and safety improvements on Broadway, Mineral Avenue and County Line Road (signal equipment upgrades). The project will install a fiber optic cable along Broadway from Arapahoe Road to C-470, on Mineral Avenue from Southpark Terrace to Pennsylvania Street and on County Line Road from Broadway to Southpark Lane. The project will establish fiber connections to each of the 15 traffic signals within the project area. In addition, traffic signal equipment will be replaced including signal cabinets, controllers, MMUs, and detection equipment. In addition, traffic monitoring equipment including PTZ cameras and travel time monitors will be installed at some intersections on Broadway. Equipment upgrades will included:

1. Upgrade to traffic controllers and MMUs at 15 intersections
2. Video Detection Systems at 15 intersections
3. Travel Time Monitor Equipment at 10 intersections on Broadway
3. PTZ cameras for traffic observations at three intersections
4. New Traffic Signal Cabinets at 8 intersections to accommodate additional equipment and wiring

These upgrades will improve operations and safety on the corridor and surrounding areas, and will reduce stops and delay resulting in reduced emissions and improved air quality.

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 segments along Broadway, Mineral Avenue, and County Line Road were studied and identified in the city's Traffic Master Plan, with the Broadway connection prioritized to create a ring around the city. A planning level cost estimate has been developed for this grant application. No work has been started on design or construction.

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: \$1,411,971

Outline the differences between the scope outlined above and the reduced scope: The smaller allocation would allow for the installation of fiber, traffic signal equipment upgrades and traffic monitoring equipment on Broadway but would not include adding fiber, traffic signal equipment and traffic monitoring equipment on Mineral Avenue or County Line Road.

Project Financial Information and Funding Request		(All funding amounts in \$1,000s)	
Total amount of Subregional Share Funding Request (in \$1,000's) (No less than \$100,000 and not to exceed 90% of the total project cost)		\$1,672	80.00% of total project cost
<input type="checkbox"/> Check box if requesting only state MMOF funds (requires minimum 50% local funds) ¹			
Match Funds (in \$1,000's) List each funding source and contribution amount.		Contribution Amount	% Contribution to Overall Project Total
City of Littleton		\$418	20%
		\$	0%
		\$	0%
		\$	0%
		\$	0%
		\$	0%
Total Match (private, local, state, another subregion, or federal)		\$418	20.00%
Project Total		\$2,090	
Notes:	1. Per CDOT action, the following jurisdictions are only required to provide 25% match on the MMOF funds: Englewood, Jamestown, and Wheat Ridge. The following jurisdictions are not required to provide a match on the MMOF funds: Federal Heights, Lakeside, Larkspur, Sheridan, and Ward. All sponsors will still be required to have 20% match on any added federal funds.		

Funding Breakdown (in \$1,000s) (by program year)¹ (Total funding should match the Project Total from above)

	FY 2023	FY 2024	FY 2025	Total
DRCOG Requested Funds	\$450	\$1,222	\$	\$1,672
CDOT or RTD Supplied Funds²	\$	\$	\$	\$0
Local Funds (Funding from sources other than DRCOG, CDOT, or RTD)	\$100	\$318	\$	\$418
Total Funding	\$550	\$1,540	\$0	\$2,090
Phase to be Initiated	Design	Construction	Choose an item	
Notes:	<ol style="list-style-type: none"> 1. Fiscal years are October 1 through September 30 (e.g., FY 2023 is October 1, 2022 through September 30, 2023). 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 3% inflation factor. 2. Only enter funding in this line if CDOT and/or RTD specifically give permission via concurrence letters or other written source. 			
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

30%

Provide **qualitative and quantitative** responses to the following questions on the regional 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.

The fiber added with this proeject will be available for use by Arapahoe County through an intergovernmental agreement.

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 connect 15 traffic signals to the Littleton Central Traffic Control System with reliable communication. This will allow for beter maintenance and management of the traffic signals which will result in improvements to traffic operations, reduction in delay and emmissions and safety improvements. The addition of fiber will result in reliable communication and the ability to add video detection devices at the 15 traffic signals along the roadways. This will also create a full loop when combined with the fiber that is currently being designed and installed on north Broadway and Littleton Boulevard and the existing CDOT fiber on C-470 and Santa Fe Drive. In addition, this project will allow for the use of additional ITS equipment such as PTZ cameras and travel time monitors.

Fiber optics will provide the necessary communications to upgraded signal equipment along this stretch of Broadway, Mineral Avenue and County Line Road. After fiber and equipment have been installed, Littleton will work with DRCOG to re-time the Broadway Corridor and implement phasing that better responds to regional conditions. Additionally, the equipment Littleton will procure will be able to send staff alerts when travel times and volumes reach a specific threshold. This will allow Littleton Traffic Staff to respond by changing timing plans to deal with unexpected or extended congestion hours.

Similar to operational congestion (above), the equipment Littleton will procure will have the ability to alert Littleton staff when travel times and volumes reach a specific threshold. PTZ cameras on the corridor will allow Traffic Staff and Emergency Dispatch to view the corridor remotely and respond appropriately when a collision or other emergency incident occurs. This will include being able to pinpoint where emergency response teams are needed and change signal phasing to accommodate congestion stemming from an incident.

Reliable communication will result in improved traffic operations throughout the corridor. Completing the fiber loop with improve reliability of the communication for the entire City of Littleton Transportation network which will result in reduced delay and stops. See attached data on existing communication reliability which shows 91% to 99% reliability. With the addition of the fiber we will achieve close to 100% reliability.

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. The corridor is in Arapahoe County and the City of Centennial is also adjacent to part of the corridor. This fiber will be available for their use through an intergovernmental agreement. A letter of support from Centennial is attached. Arapahoe County did not provide a letter of support but is not opposed to the project and has expressed that they do see a benefit on a sub-regional level.

4. Describe how the project will improve access and mobility for each of the applicable disproportionately impacted and environmental justice population groups identified in the table below. This data is available in the TIP Data Tool.

Completing the below table and referencing relevant quantitative data in your response is required.

	DI and 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	20,839	-	-
	b. Total households	7,981	-	-
	c. Individuals of color	3,606	17%	33%
	d. Low-Income households	595	7%	9%
	e. Individuals with limited English proficiency	202	1%	3%
	f. Adults age 65 and over	3,416	16%	13%
	g. Children age 5-17	3,480	17%	16%
	h. Individuals with a disability	733	4%	9%
	i. Households without a motor vehicle	179	2%	5%
	j. Households that are housing cost-burdened	1,599	20%	32%

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 groups, *including the required quantitative analysis*: This project will benefit all population groups within and traveling through the City of Littleton by improving traffic operations, reducing congestion and delay improving safety and improving transit service.

5. How will this project move the region toward achieving the shared [regional transportation outcomes](#) established in [Metro Vision](#)?

- Improve the diversity and livability of communities. **No**
- Contain urban development in locations designated for urban growth and services. **No**
- Increase housing and employment in urban centers. **No**
- Improve and expand the region’s multimodal transportation system, services, and connections. **Yes**
- Operate, manage, and maintain a safe and reliable transportation system. **Yes**
- Improve air quality and reduce greenhouse gas emissions. **Yes**
- Connect people to natural resource and recreational areas. **No**
- Reduce the risk of hazards and their impact. **No**
- Increase access to amenities that support healthy, active choices. **No**
- Improve transportation connections to health care facilities and service providers. **No**
- Diversify the region’s housing stock. **No**
- Improve access to opportunity. **No**
- Improve the region’s competitive position. **No**

6. Describe how the project will improve access to and/or connectivity between DRCOG-defined urban centers, multimodal corridors, mixed-use areas, Transit Oriented Development (transit near high-density development), or locally defined priority growth areas. Items marked with an asterisk (*) below are available in the TIP Data Tool.

- Is there a DRCOG designated urban center within ½ mile of the project limits?*
- Yes No If yes, please provide the name: [Highlands Ranch Town Center](#)
- Does the project connect two or more urban centers?*
- Yes No If yes, please provide the names:
- Is there a transit stop or station within ½ mile of the project limits?*
- Bus stop: Yes No If yes, how many? [62](#)
- Rail station: Yes No If yes, how many?
- Is the project in a locally-defined priority growth and development area?
- Yes No
- If yes, provide a link to the relevant planning document:
<https://www.littletongov.org/home/showdocument?id=21031>
- If yes, provide how the area is defined in the relevant planning document: [Broadway within Littleton city limits is defined as a Pedestrian Priority Street, a Bike Priority Street, and a Transit Priority Street](#)
- Is the project in an area with zoning that supports compact, mixed-use development patterns and a variety of housing options?
- Yes No If yes, please provide the zoning district designation(s): [Neighborhood Commercial \(NC\), Corridor Mixed \(CM\), Neighborhood Commercial/Planned Overlay District \(NC/PL-O\), Corridor Mixed/Planned Overlay District \(CM/PL-O\)](#)

Provide households and employment data*	2020	2050
Households within ½ mile	7,981	9,117
Jobs within ½ mile	26,153	29,750
Household density (per acre) within ½ mile	1.54	1.73
Job density (per acre) within ½ mile	8.88	9.83

Describe how this project will improve access to and/or connectivity between the above identified areas, *including the required quantitative analysis:*

[The project will add fiber communications to 15 traffic signals and upgrade the equipment at these signals. The more reliable communication and added equipment will result in better traffic operations which will reduce delays and queues and improve transit service.](#)

7. Describe how this project will improve **access** and **connections** to key employment centers or regional destinations, including health services; commerce, educational, cultural, and recreational opportunities; or other important community resources. In your answer, define the key destination(s) and clearly explain how the project improves **access** and/or **connectivity**.

[Reliable communication will result in improved traffic operations throughout the corridor and the added equipment will result in better response to incidents which will reduce congestion and delay. The project will not provide new connectivity or access to key destinations but will make them more accessible by improving traffic operations.](#)

B. MVRTP Priorities

WEIGHT

50%

- **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

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.

How does this project help increase mobility choices for people, goods, and/or services? Note that any roadway operational improvements must be on the DRCOG [Regional Roadway System](#) and/or [Regional Managed Lanes System](#).

- What modes will project improvements directly address?
 Walking Bicycling Transit Roadway Operations Other:
- List the elements of this project which will address the above modes (i.e., sidewalk, shared use path, bus stop improvements, signal interconnection, etc.): [This project will provide more reliable signal interconnection resulting in improved traffic signal operations by allowing for reliable real-time communications and for installation of traffic monitoring devices. This will benefit all modes of traffic by reducing congestion, stops and delay and improving safety.](#)
- Will the completed project be a complete street as described in the [Regional Complete Streets Toolkit](#)? [This data is available in the TIP Data Tool.](#)
 Yes No If yes, describe how it implements the Toolkit's strategies in your response.
- Does this project improve travel time reliability?
 Yes No
- Does this project improve asset management of active transportation facilities and/or transit vehicle fleets?
 Yes No
- Does this project implement resilient infrastructure that helps the region mitigate natural and/or human-made hazards?
 Yes No

Describe how this project increases mobility choices for all users, *include quantitative information, including any items referenced above, in your response:*

[With regard to complete streets, fiber along Broadway and equipment upgrades will allow for signal phasing that prioritizes bike and pedestrian safety such as LPI \(which Littleton will implement at intersections with high pedestrian volumes\) and bike signals that will be installed as recommendations from our TMP are built out. Additionally, the equipment upgrades will allow for operational efficiencies and better corridor timing that will reduce congestion and increase comfort for bikes and pedestrians. With regard to travel time reliability, the fiber in combination with the upgraded equipment will improve communication reliability and will result in better traffic operations which will reduce delays and queues and improve transit service. With regard to hazards, the combination of more reliable communications and ability for real-time observations and notices by new ITS devices will allow Traffic Staff and Emergency Dispatch to view the corridor remotely and respond appropriately when a collision or other emergency incident occurs.](#)

Air Quality

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.

How does this project help reduce congestion and air pollutants, including but not limited to, carbon monoxide, ground-level ozone precursors, particulate matter, and greenhouse gas emissions?

- Does this project reduce congestion?
 Yes No
- Does this project reduce vehicle miles traveled (VMT)?
 Yes No
- Does this project reduce single-occupant vehicle (SOV) travel?
 Yes No

Emissions Reduced (kg/day)	CO	NO _x	VOCs	PM 10
	20.93	1.45	0.31	1.17

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.

Note: if not using the FHWA Calculators, please note your methodology in your narrative below.

Describe how this project reduces air pollutants, *include quantitative information, including any items referenced above, in your response:*

Optimization in corridor signal timing results in reduced emissions. Calculations are attached.

**Regional
Transit**

Expand and improve the region’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.

How does this project improve connections to or expand the region’s transit system, as outlined in the [2050 MVRTP](#)? Note that rapid transit improvements must be on the [Regional Rapid Transit System](#). 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](#)?*
 Yes No If yes, which specific corridor will this project focus on?
- Does this project involve a [regional transit planning corridor](#)?*
 Yes No If yes, which specific corridor will this project focus on? [Broadway \(Regional Connector Street\)](#)
- 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?
- Does this project add and/or improve transit service to or within a DRCOG-defined urban center?*
 Yes No If yes, provide the name of the urban center:

Describe how this project improves connections to or expands the region’s transit system, *include quantitative information, including any items referenced above, in your response:*

There is bus transit service on Broadway. This project will Improve traffic operations on Broadway which will also improve transit service by improving transit speed and reliability.

Safety **Increase the safety for all users of the transportation system.**
 (drawn from [2050 MVRTP priorities](#), [Taking Action on Regional Vision Zero](#), [CDOT Strategic Transportation Safety Plan](#), & [federal safety performance measures](#))
 Examples of Project Elements: bike/pedestrian crossing improvements, vehicle crash countermeasures, traffic calming, etc.

How does this project implement safety improvements (roadway, active transportation facility, etc.), particularly improvements in line with the recommendations in [Taking Action on Regional Vision Zero](#)? Note that any improvements on roadways must be on the DRCOG [Regional Roadway System](#). Items marked with an asterisk (*) below are available in the TIP Data Tool.

- 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?*
 Yes No
- Does this project implement a safety countermeasure listed in the [countermeasure glossary](#)?
 Yes No

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> <i>NOTE: if constructing a new facility, report crashes along closest existing alternative route</i>		Sponsor must use industry accepted crash reduction factors (CRF) or accident modification factor (AMF) practices (e.g., NCHRP Project 17-25, NCHRP Report 617, or DiExSys methodology).
Fatal crashes	2	
Serious Injury crashes	21	
Other Injury crashes	390	
Property Damage Only crashes	1,253	
Estimated reduction in crashes <u>applicable to the project scope</u> <i>(per the five-year period used above)</i>		Provide the methodology below:
Fatal crashes reduced	0.00	
Serious Injury crashes reduced	0.00	
Other Injury crashes reduced	0.00	
Property Damage Only crashes reduced	0.00	

Describe how this project will improve safety, *include quantitative information, including any items referenced above, in your response:*

[This project will result in reduced stops which will result in reduced rear end crashes.](#) In addition, this project will add traffic monitoring equipment which will allow for better management of incidents and quicker response from emergency services. It is not possible to quantify the expected crash reduction.

Freight

Maintain efficient movement of goods within and beyond the region.

(drawn from [2050 MVRTP priorities](#); [Regional Multimodal Freight Plan](#); [Colorado Freight Plan](#), [federal freight reliability performance measure](#); [Metro Vision objective 14](#))

Examples of Project Elements: roadway operational improvements, etc.

How does this project improve the efficient movement of goods, specifically improvements identified in the [Regional Multimodal Freight Plan](#)? Note that any improvements on roadways must be on the DRCOG [Regional Roadway System](#). Items marked with an asterisk (*) below are available in the TIP Data Tool.

- Is this project located in or impact access to a [Freight Focus Area](#)?*
 Yes No If yes, please provide the name:
- Is the project located on the [Tier 1 or Tier 2 Regional Highway Freight Vision Network](#)?*
 Yes No
- 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)?
 Yes No If yes, please describe in your response.
- Check any items from the [Inventory of Current Needs](#) which this project will address:
 Truck Crash Location Rail Crossing Safety ([eligible locations](#))
 Truck Delay Truck Reliability
Please provide the location(s) being addressed:
- Does this project include any innovative or non-traditional freight supportive elements (i.e., curb management strategies, cargo bike supportive infrastructure, etc.)?
 Yes No If yes, please describe in your response.

Describe how this project will improve the movement of goods, *include quantitative information, including any items referenced above, in your response:*

The Southpark Light Industrial area is located west of Broadway between County Line Road and Mineral Avenue. In addition, delivery trucks use Broadway as a preferred route because Broadway is defined as a designated truck route through the City of Littleton. This project will improve traffic operations on Broadway which will improve the movement of goods transported in trucks through the Broadway corridor. In addition, the completion of the fiber ring for the City of Littleton will result in improved traffic operations by eliminating the potential for an unintentional fiber damage incident knocking out communication to the City's traffic operations system. This will provide more reliable operations through the City resulting in improved movement of goods throughout the City.

Active Transportation	Expand and enhance active transportation travel options. <small>(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.</small>
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How does this project help expand the active transportation network, close gaps, improve comfort, and/or improve connections to key destinations, particularly improvements in line with the recommendations in the [Denver Regional Active Transportation Plan](#)? Items marked with an asterisk (*) below are available in the TIP Data Tool.

- Does this project close a gap or extend a facility on a [Regional Active Transportation Corridor](#) or locally-defined priority corridor?*
- Yes No
- Does this project improve pedestrian accessibility and connectivity in a [pedestrian focus area](#)?*
- Yes No
- Does this project improve active transportation choices in a [short trip opportunity zone](#)?*
- Yes No
- Does this project include a high-comfort bikeway (like a sidepath, shared-use path, separated bike lane, bicycle boulevard)?
- Yes No If yes, please describe in your response.

Bicycle Use

NOTE: if constructing a new facility, report bike usage along closest existing alternative route

1. Current Average Single Weekday Bicyclists:	0	
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.	0	0
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>	0	0
4. = Initial number of new bicycle trips from project (#2 – #3)	0	0
1. 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>	0.00	0.00
5. = Number of SOV trips reduced per day (#4 - #5)	0.00	0.00
6. 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>	0.00	0.00
7. = Number of pounds GHG emissions reduced (#7 x 0.95 lbs.)	0.00	0.00
8. If values would be distinctly greater for weekends, describe the magnitude of difference:		
9. If different values other than the suggested are used, please explain here:		

Pedestrian Use

NOTE: if constructing a new facility, report pedestrian usage along closest existing alternative route

2. Current Average Single Weekday Pedestrians (including users of non-pedaled devices such as scooters and wheelchairs):	0	
Pedestrian Use Calculations	Year of Opening	2050 Weekday Estimate
3. Enter estimated additional average weekday pedestrian one-way trips on the facility after project is completed	0	0
4. 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>	0	0
5. = Number of new trips from project (#2 – #3)	0	0
6. 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>	0.00	0.00
7. = Number of SOV trips reduced per day (#4 - #5)	0.00	0.00

8. Enter the value of {#6 x .4 miles}. (= the VMT reduced per day) (Values other than .4 miles must be justified by sponsor on line 10 below)	0.00	0.00
9. = Number of pounds GHG emissions reduced (#7 x 0.95 lbs.)	0.00	0.00
10. If values would be distinctly greater for weekends, describe the magnitude of difference:		
11. If different values other than the suggested are used, please explain here:		

Describe how this project will expand the active transportation network, close gaps, improve comfort, and/or improve connections to key destinations, *include quantitative information, including any items referenced above, in your response:*

This project will allow for better traffic operations on the Broadway corridor resulting in less traffic congestion and more comfort for bikes and pedestrians.

C. Project Leveraging	WEIGHT	10%
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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)</i>	20.00%	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
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D. Project Readiness	WEIGHT	10%
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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.

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?
 Yes No 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:
 Aaron Heumann, PE, PTOE
- Please describe the status to date on each, including 1) anticipated/known pitfalls/roadblocks, and 2) mitigation activities taken to date:
- Utilities: **Not determined at this time**
 - Railroad: **N/A**
 - Right-of-Way: **Not determined at this time**
 - Environmental/Historic: **Not determined at this time**
 - Other:
- b. Is this application for a single project phase only (i.e., design, environmental, ROW acquisition, construction only, study, bus service, equipment purchase, etc.)?
 Yes No
- If yes, are the other prerequisite phases complete? Yes No N/A
- If this project is for construction, please note the NEPA status: **Not Started**
- c. Has all required ROW been identified? Yes No N/A
 Has all required ROW already been acquired and cleared by CDOT? Yes No 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?
 Yes No
- Does your agency have the appropriate staff available to work on this project? Yes No
- If yes, are they knowledgeable with the federal-aid process? Yes No
- e. Have other stakeholders in your project been identified and involved in project development?
 Yes No N/A
- If yes, who are the stakeholders? **Arapahoe County and City of Centennial**

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

Section 2. Local Match

- a. Is all the local match identified in your application currently available, and if a partnering agency is also committing match, do you have a commitment letter?

Yes No

Please describe:

Local match will come from CIP funds. The City has a set-aside of \$1,000,000 per year for local matches related to grant projects.

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

Yes No

Please describe:

Local match will come from CIP funds. The City has a set-aside of \$1,000,000 per year for local matches related to grant projects.

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:

- 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.

Submit completed applications through the [TIP Data Hub](#) no later than 3pm on June 24, 2022.

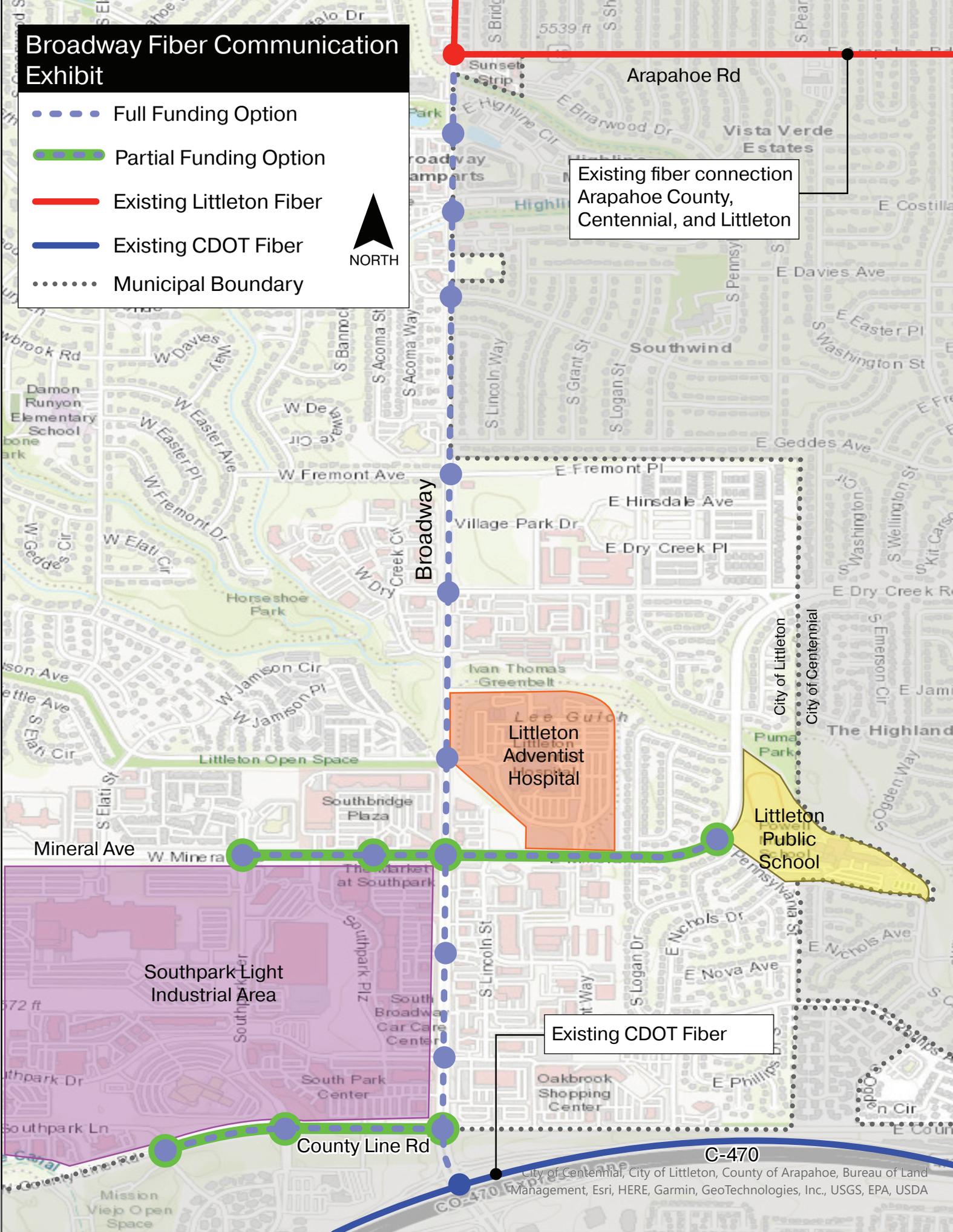
Broadway Fiber Communication Exhibit

- ⋯ Full Funding Option
- ⋯ Partial Funding Option
- Existing Littleton Fiber
- Existing CDOT Fiber
- ⋯ Municipal Boundary



Existing fiber connection
Arapahoe County,
Centennial, and Littleton

Existing CDOT Fiber



CITY OF LITTLETON PUBLIC WORKS DEPARTMENT
TRAFFIC SIGNAL COMMUNICATIONS UPGRADES

HIGH-LEVEL CONSTRUCTION COST ESTIMATE - BROADWAY (ARAPAHOE RD TO C-470)
June 24, 2022

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
202-00200	REMOVAL OF SIDEWALK	SY	20	\$96	\$1,920
203-01597	POTHOLING	HOUR	60	\$300	\$18,000
608-00006	CONCRETE SIDEWALK (6 INCH)	SY	20	\$180	\$3,600
612-00260	LOCATION MARKER (FIBER OPTIC) (DOME)	EACH	36	\$144	\$5,184
613-00206	2 INCH ELECTRICAL CONDUIT (BORED)	LF	15600	\$24	\$374,400
613-01200	2 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	300	\$24	\$7,200
613-07023	PULL BOX (24"X36"X24")	EACH	21	\$1,800	\$37,800
613-07040	PULL BOX (30"X48"X24")	EACH	15	\$3,000	\$45,000
614-87010	FIBER OPTIC CABLE (SINGLE MODE) (12 FIBER)	LF	4000	\$6	\$24,000
614-87350	TEST FIBER OPTIC CABLE	LS	1	\$36,000	\$36,000
614-87496	FIBER OPTIC CABLE (SINGLE MODE) (432 STRANDS)	LF	19500	\$8	\$163,800
614-87690	ETHERNET SWITCH	EACH	15	\$1,200	\$18,000
210-00848	TRAFFIC CONTROLLER & MMU	EACH	15	\$3,600	\$54,000
614-72895	VIDEO TRAFFIC DETECTION	EACH	15	\$24,000	\$360,000
614-10121	TRAVEL TIME MONITOR	EACH	10	\$6,000	\$60,000
614-87333	PTZ CAMERA	EACH	3	\$7,200	\$21,600
614-72855	TRAFFIC EQUIPMENT CABINET	EACH	8	\$10,800	\$86,400
614	12 PORT PRE-TERMINATED PATCH PANEL AND PIGTAIL	EACH	15	\$2,400	\$36,000
614	SPLICE ENCLOSURE	EACH	15	\$1,800	\$27,000
626-00000	MOBILIZATION	LS	1	\$48,000	\$48,000
	STORMWATER MANAGEMENT PLAN QUANTITIES	EACH	1	\$42,000	\$42,000
	TRAFFIC CONTROL PLAN QUANTITIES	EACH	1	\$180,000	\$180,000
	FORCE ACCOUNT				
	=====				
700-70010	F/A MINOR CONTRACT REVISIONS	FA	1	\$42,000	\$42,000
700-70016	F/A FUEL COST ADJUSTMENT	FA	1	\$1,200	\$1,200
700-70016	F/A ON-THE-JOB TRAINEE	FA	1	\$2,400	\$2,400
700-70111	PROJECT FIRST PROGRAM	FA	1	\$1,200	\$1,200
700-70380	F/A EROSION CONTROL	FA	1	\$7,200	\$7,200
700-70589	F/A ENVIRONMENTAL HEALTH & SAFETY MANAGEMENT	FA	1	\$2,400	\$2,400
	PROJECT DESIGN	LS	1	\$284,384	\$284,384
				Subtotal Cost:	\$1,706,304
				ROW	\$100,000
				Project Total:	\$ 2,090,688

CITY OF LITTLETON PUBLIC WORKS DEPARTMENT
TRAFFIC SIGNAL COMMUNICATIONS UPGRADES

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613-01200	2 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	200	\$24	\$4,800
613-07023	PULL BOX (24"X36"X24")	EACH	19	\$1,800	\$34,200
613-07040	PULL BOX (30"X48"X24")	EACH	10	\$3,000	\$30,000
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614-87350	TEST FIBER OPTIC CABLE	LS	1	\$30,000	\$30,000
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614-87690	ETHERNET SWITCH	EACH	10	\$1,200	\$12,000
210-00848	TRAFFIC CONTROLLER & MMU	EACH	10	\$3,600	\$36,000
614-72895	VIDEO TRAFFIC DETECTION	EACH	10	\$24,000	\$240,000
614-10121	TRAVEL TIME MONITOR	EACH	10	\$6,000	\$60,000
614-87333	PTZ CAMERA	EACH	3	\$7,200	\$21,600
614-72855	TRAFFIC EQUIPMENT CABINET	EACH	5	\$10,800	\$54,000
614	12 PORT PRE-TERMINATED PATCH PANEL AND PIGTAIL	EACH	10	\$2,400	\$24,000
614	SPLICE ENCLOSURE	EACH	11	\$1,800	\$19,800
626-00000	MOBILIZATION	LS	1	\$42,000	\$42,000
	STORMWATER MANAGEMENT PLAN QUANTITIES	EACH	1	\$42,000	\$42,000
	TRAFFIC CONTROL PLAN QUANTITIES	EACH	1	\$156,000	\$156,000
	FORCE ACCOUNT				
700-70010	=====				
700-70010	F/A MINOR CONTRACT REVISIONS	FA	1	\$36,000	\$36,000
700-70016	F/A FUEL COST ADJUSTMENT	FA	1	\$1,200	\$1,200
700-70016	F/A ON-THE-JOB TRAINEE	FA	1	\$2,400	\$2,400
700-70111	PROJECT FIRST PROGRAM	FA	1	\$1,200	\$1,200
700-70380	F/A EROSION CONTROL	FA	1	\$6,000	\$6,000
700-70589	F/A ENVIRONMENTAL HEALTH & SAFETY MANAGEMENT	FA	1	\$2,400	\$2,400
	PROJECT DESIGN	LS	1	\$210,086	\$210,086
				Subtotal Cost:	\$1,260,516
				ROW	\$100,000
				Project Total:	\$ 1,570,602

Traffic Signal Synchronization

This calculator will estimate the emission reductions resulting from synchronizing the traffic signals along a previously unsynchronized corridor.

Navigator

Intersection Improvements

Traffic Signal Synchronization

Roundabouts

INPUT

Evaluation Year	2024	
Area Type	Urban	
Corridor Length	2	miles
Number of Signalized Intersections	10	
Number of Lanes (one direction)	2	
Posted Speed Limit	40	miles per hour (1 - 75 MPH)
Average Cycle Length	120	seconds
Truck Percentage	3%	
Annual Average Daily Traffic (AADT) (both directions)	36,000	veh/day
Peak-hour Volume (both directions)	3,600	veh/hr
Existing Corridor Travel Time	4	minutes
Total peak hours per day (AM+PM)	4	

OUTPUT

PERFORMANCE

	PEAK-HOUR	OFF-PEAK	
Volume (both directions)	3,600	1080	veh/hr
Existing Average Speed	30	20	miles per hour
Travel Time Savings	91	57	minutes
Proposed Average Speed	40	24	miles per hour

EMISSION REDUCTIONS

Pollutant	Peak-hour Kilograms/day	Off-Peak Kilograms/day	Total Kilograms/day
Carbon Monoxide (CO)	7.461	13.474	20.934
Particulate Matter <2.5 µm (PM _{2.5})	0.158	0.112	0.270
Particulate Matter <10 µm (PM ₁₀)	0.748	0.420	1.168
Nitrogen Oxide (NOx)	0.634	0.818	1.453
Volatile Organic Compounds (VOC)	0.119	0.189	0.308
Carbon Dioxide Equivalent (CO _{2e})	927.597	1,612.307	2,539.903
Total Energy Consumption (MMBTU)	12.151	21.203	33.354

RESPONSE (to be completed by agency/subregion from whom support is requested)

9. The forum/agency in #1 above has requested for you to support their project. Who are you?
Subregional Forum: Arapahoe County Local Agency: City of Centennial

10. Contact person at supporting forum/agency: Jeff Dankenbring
Title: Public Works Email: jdankenbring@centennialco.gov Phone: 303-754-3458
Director

11. Does your subregion/agency support this project? Yes No

12. Does your subregion/agency pledge financial support to this project, if requested?

Yes No N/A

If yes, provide amount: \$ Fiscal year(s) funds are provided in:

If yes, where are funds coming from:

Local Agency (i.e., non-DRCOG funds)

Subregional Funding Target (forum must approve)

13. Please enter your name and date below which certifies the above information is accurate and complete, and your subregion/agency will honor any financial commitments made above:

Name: Jeff Dankenbring

Date: 06-24-2022



June 24th, 2022

To: Denver Regional Council of Governments staff

RE: DRCOG 2022-2025 Transportation Improvement Program (TIP) Sub-regional Share Call #2 application for the Broadway Fiber Optic Communications and Signal Equipment Upgrades Project

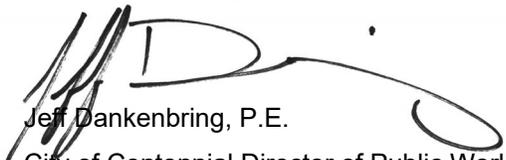
Dear Review Committee:

We are writing in support of the City of Littleton's DRCOG Transportation Improvement Program (TIP) application for the Broadway Fiber Optic Communications and Signal Equipment Upgrades project submitted as part of the DRCOG TIP Subregional Call FY22-FY25. The project includes the following communication and signal equipment elements along Broadway from Arapahoe Road to C470, along Mineral Avenue from Southpark Terrace to Pennsylvania Street, and along County Line Road from Broadway to Southpark Lane:

- Design and construction of underground conduit including lateral connections into each signalized intersection cabinet.
- Design, purchase, and installation of signal equipment to compliment the fiber optic communications.
- Design and construction for the installation of fiber optic communication with 432 lines to be shared between agencies and connected to previously installed fiber optic lines along Broadway north of Arapahoe Road and along Arapahoe Road east of Broadway.
- Design, purchase, and installation of signal equipment to accommodate real time observation of traffic operations. We will also participate in the project as part of the team to review deliverables and design.

On behalf of the City of Centennial, we hope you will consider funding Littleton's Broadway Fiber Optic Communications and Signal Equipment Upgrades Project.

Sincerely,



Jeff Dankenbring, P.E.
City of Centennial Director of Public Works

Cc: Aaron Heuman, PE, PTOE, Littleton Transportation Engineering Manager