

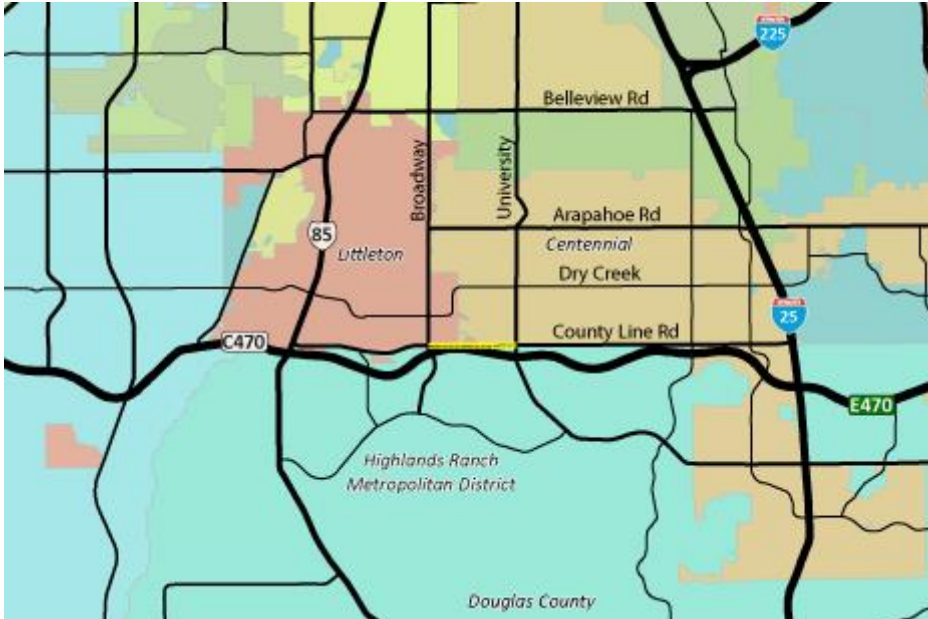
Part 1

Base Information

1. Project Title
County Line Road Widening and Reconstruction
 Note: The project includes an updated Environmental Assessment (EA), final design, right-of-way acquisition, utility relocations and construction. However, we are only requesting federal funding for construction.

2. Project Start/End points or Geographic Area
Provide a map with submittal, as appropriate

The project begins at South Broadway and extends along County Line Road approximately 1.5 miles east to University Boulevard. The project serves two municipalities (the cities of Littleton and Centennial), the Highlands Ranch Metropolitan District, and Arapahoe and Douglas counties. The project limits are highlighted in on the project map below.



The map displays the project corridor in yellow, starting at Broadway and ending at University Boulevard, running north-south along County Line Road. Key locations labeled include Littleton, Centennial, Dry Creek, Highlands Ranch Metropolitan District, and Douglas County. Major roads shown include I-725, I-25, E-470, Arapahoe Rd, and Belleview Rd.

3. Project Sponsor (entity that will construct/ complete and be financially responsible for the project)
 Douglas County

4. Project Contact Person, Title, Phone Number, and Email
 Art Griffith, Capital Improvements Projects Manager, 303-660-7490, AGriffit@douglas.co.us

5. Does this project touch CDOT Right-of-Way, involve a CDOT roadway, access RTD property, or request RTD involvement to operate service?
 Yes No
If yes, provide applicable concurrence documentation with submittal

6. What planning document(s) identifies this project?

- [DRCOG 2040 Fiscally Constrained Regional Transportation Plan \(2040 FCRTTP\) \(Page 141\)](#)
- [Eligible Roadway Capacity Project – See TIP Application, Appendix C Page 34](#)
- Local plan:
 - [Arapahoe County 2035 Transportation Plan](#)
 - <http://www.co.arapahoe.co.us/948/2035-Transportation-Plan>
 - [City of Centennial 2013 Transportation Master Plan](#)

	https://www.centennialco.gov/uploads/FileLinks/b1bd7c35beeb404182da70aa421aa9a5/Transportation Plan Final Approved Document 12 2013 with Appendicies reduced size.pdf Douglas County 2030 Transportation Plan (Nov. 9, 2009), Widening, Page 46 (https://www.douglas.co.us/documents/2030-transportation-plan.pdf) Safety Assessment Report County Line Road Broadway to University Boulevard, (DiExSys, Jan. 2019)
<input checked="" type="checkbox"/> Other(s):	Executed/signed EA and Finding Of No Significant Impact (FONSI) for County Line Road (I-25 to Santa Fe Drive) on April 20, 1999.
<i>Provide link to document/s and referenced page number if possible, or provide documentation with submittal</i>	

7. Identify the project’s key elements.

- Rapid Transit Capacity (2040 FC RTP)
- Transit Other:
- Bicycle Facility
- Pedestrian Facility
- Safety Improvements
- Roadway Capacity or Managed Lanes (2040 FC RTP)
- Roadway Operational

Grade Separation

- Roadway
- Railway
- Bicycle
- Pedestrian
- Roadway Pavement Reconstruction/Rehab
- Bridge Replace/Reconstruct/Rehab
- Study
- Design
- Transportation Technology Components
- Other: Right-of-way and Interconnect Fiber

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

County Line Road is an important roadway in the south Denver Metro Region, serving Douglas and Arapahoe counties, the Highland Ranch Metro District, and the cities of Littleton and Centennial. This project was included in the 2040 Metro Vision Regional Transportation Plan’s Fiscally Constrained Roadway and Rapid Transit/Roadway Capacity Improvements. The roadway sits within one of the fastest growing corridors in the Denver region.

The roadway is a critical east-west connection within the C-470 corridor, providing important multimodal connections between US 85 (Santa Fe) and I-25, linking residential areas with major retail and employment centers, including seven Urban Centers identified by DRCOG. The roadway provides access to many DRCOG regional investments, including South Platte River Greenway, Chatfield State Park, the High Line Canal Trail, and the Mineral Station on the Regional Transportation District’s (RTD’s) Southwest Rail Line and the Dry Creek and Lincoln Stations on the Southeast Line.

The roadway’s reliability is critical to ensuring the C-470 corridor is resilient in serving the needs of the Denver Region. County Line Road is the only nearby viable east-west alternative route for incidents on C-470 that require closure. The County Line Road corridor is currently unreliable and experiences frequent accidents and congestion because of the restricted two-lane section.

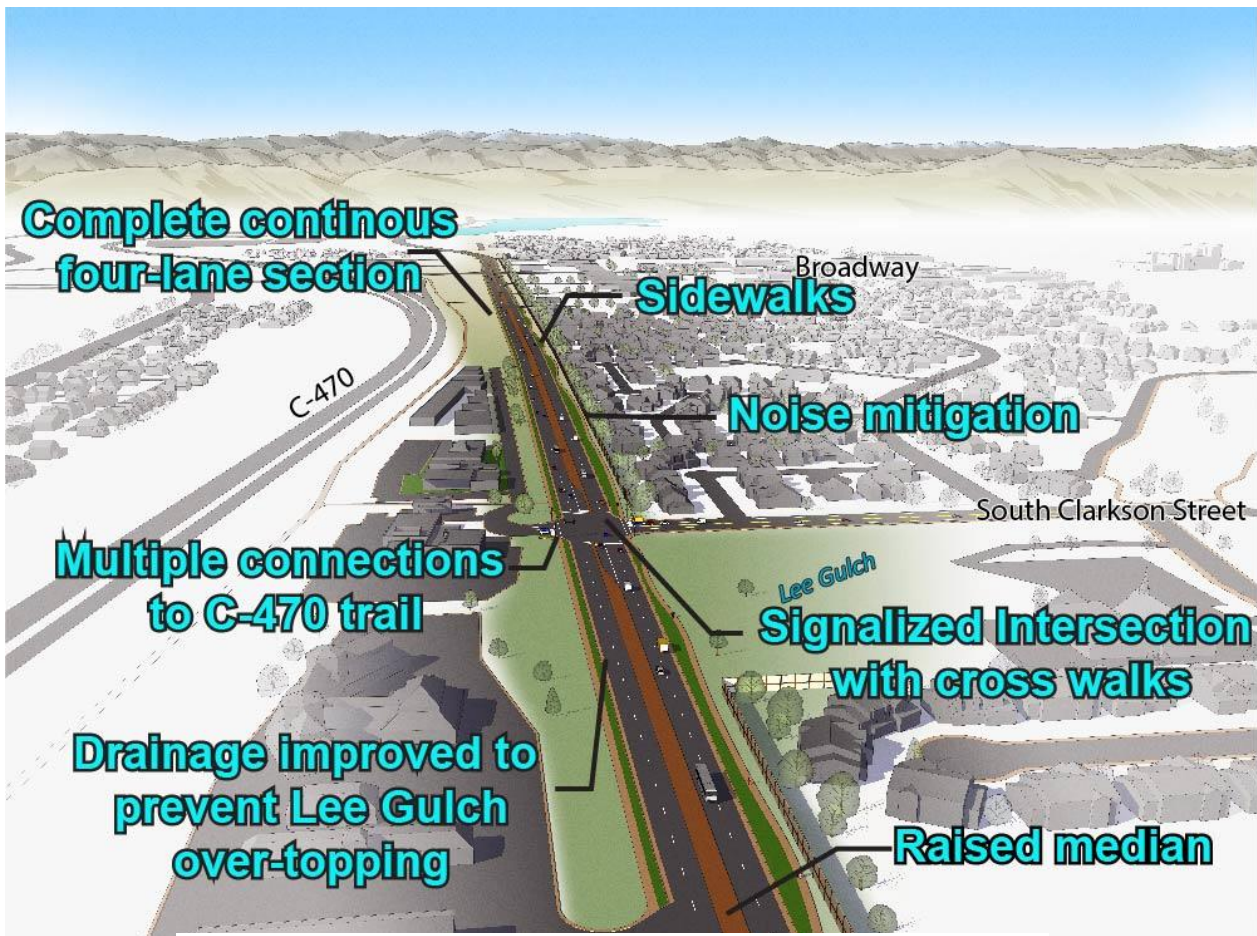
The majority of County Line Road is a four-lane facility; however, between Broadway and University Boulevard, the roadway retains two unfinished and substandard continuous travel lanes with no curb and gutter, no

sidewalks, poor drainage, poor vertical sight distance, and lack of good connections between the adjoining neighborhoods and the adjacent C-470 Regional Multi-Use Trail (Centennial Trail). Further complicating the corridor's reliability, there are portions of the roadway that sit below the two- to five-year storm events, causing Lee Gulch to overtop the roadway surface.

The proposed facility will be an improved four-lane, divided urban arterial with a raised center median and sidewalks, which matches the existing County Line Road template both east and west of the 2-lane section. The project's drainage improvements will resolve the Lee Gulch over-topping and will include a traffic signal at Clarkson Street intersection. Additional pedestrian and bike connections will be included to improve neighborhood access to the C-470 Regional Multi-Use Trail. Finally, a sound wall will be constructed to minimize noise impacts from the roadway and preserve the livability of the adjacent neighborhoods.



County Line Road - Existing Conditions



County Line Road – Proposed Improvements

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

The County Line Road widening project, between Broadway and University Boulevard, expands the roadway from a substandard two-lane roadway to a continuous urban four-lane divided arterial, tying together the existing four-lane sections to both east and west of the proposed project limits. This application requests DRCOG funding to contribute to the completion of the project’s **construction cost only**. The funding partners may invest in advancing the final design prior to receiving TIP funding for construction.

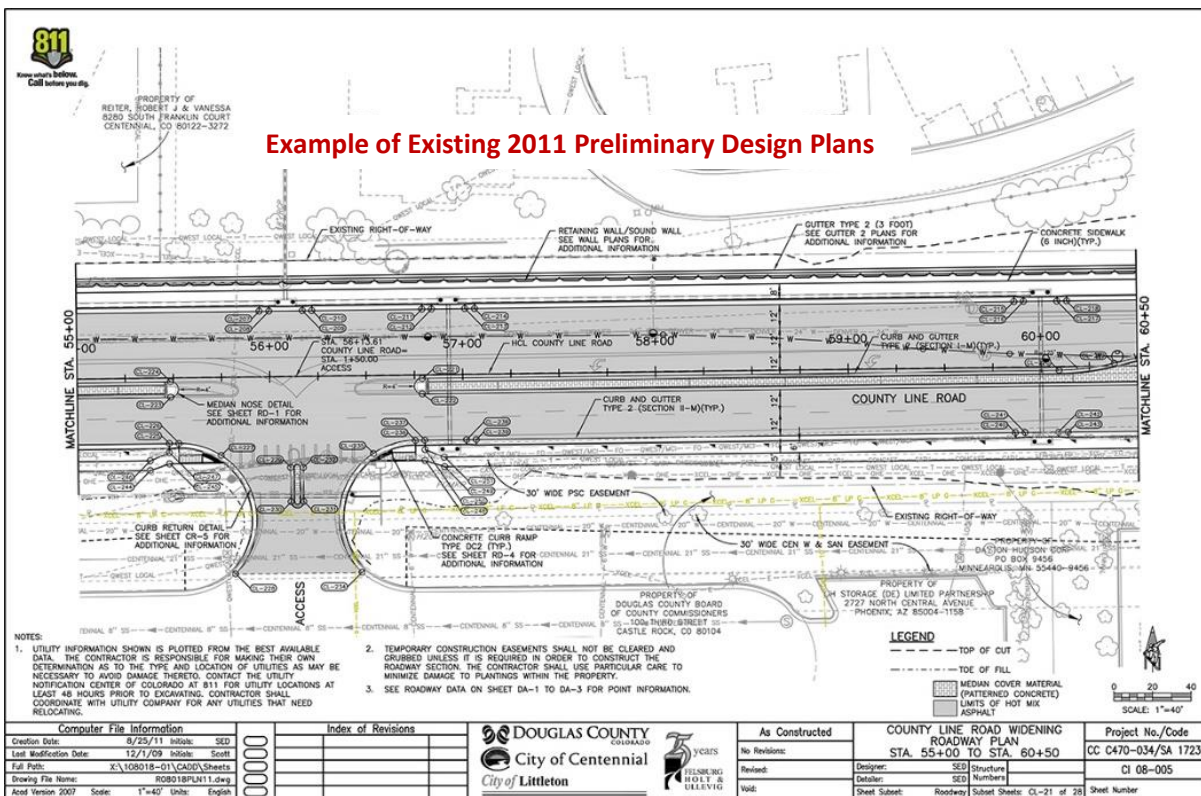
The major elements of the proposed construction include:

- 1) Add a travel lane in each direction to meet capacity demand
- 2) Provide intersection improvements including:
 - a. Traffic signal at Clarkson Street
 - b. Evaluate potential need for a traffic signal or another protected pedestrian crossing at Phillips Avenue
 - c. Crosswalks at various signalized intersections
 - d. Extended turn lanes at various intersections
- 3) Provide either detached or attached sidewalks on both sides of County Line Road
- 4) Provide additional sidewalk connections to the C-470 Regional Multi-Use Trail
- 5) Provide a center raised median that offers better access control and prohibits illegal left- and U-turns

- 6) Mitigate noise and protect neighborhood health and livability with aesthetically-pleasing masonry walls
- 7) Reconstruct and widen the roadway utilizing current design standards to improve sight distance requirements and accommodate Lee Gulch's drainage flows
- 8) Provide drainage improvements to modify the storm sewer to convey runoff and raise the profile of the road to prevent overtopping currently experienced in the two- to five-year storm events
- 9) Mill and overlay with new curb and gutter where warranted

10. What is the status of the proposed project?

Douglas County conducted a corridor planning and preliminary engineering (50%) effort for this segment of County Line Road in 2011. A Finding of No Significant Impact (FONSI) was obtained in 1999. It is anticipated that a reevaluation of the environmental findings may be necessary (likely reevaluation based on updated traffic and noise study). Additional selected construction plan sheets of the corridor are available upon request.



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

Yes No

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

A. Project Financial Information and Funding Request

1. Total Project Cost	\$20,000,000
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2. Total amount of DRCOG Sub Regional Share Funding Request Note: \$4.5M from Arapahoe County Subregion, an \$5.5M from Douglas County Subregion	\$10,000,000	50% of total project cost
3. Outside Funding Partners (other than DRCOG Subregional Share funds) List each funding partner and contribution amount.	\$\$ Contribution Amount	% of Contribution to Overall Total Project Cost
Applicant Contribution (City of Littleton - \$1M, Douglas County - \$4.5M)	\$5,500,000	28%
CDOT Funding Request	\$	0%
Note: Centennial (through Arapahoe County Sub-Region Allocation) - \$4.5M	\$4,500,000	23%
	\$	
	\$	
	\$	
Total amount of funding provided by other funding partners <i>(private, local, state, Regional, or federal)</i> (City of Littleton - \$1M, Centennial - \$4.5M)	\$10,000,000	

Funding Breakdown (year by year) *	<i>*The proposed funding plan is not guaranteed if the project is selected for funding. While DRCOG will do everything, it can to accommodate the applicants' request, final funding will be assigned at DRCOG's discretion within fiscal constraint. Funding amounts must be provided in year of expenditure dollars using an inflation factor of 3% per year from 2019.</i>				
	FY 2020	FY 2021	FY 2022	FY 2023	Total
Federal Funds	\$0	\$10,000,000	\$0	\$0	\$10,000,000
State Funds	\$0	\$0	\$0	\$0	\$0
Local Funds	\$0	\$10,000,000	\$0	\$0	\$10,000,000
Total Funding	\$0	\$20,000,000	\$0	\$0	\$20,000,000
4. Phase to be Initiated <i>Choose from Design, ENV, ROW, CON, Study, Service, Equip. Purchase, Other</i>	CONSTRUCTION				
5. By checking this box, the applicant's Chief Elected Official (Mayor or County Commission Chair) or City/County Manager for local governments or Agency Director or equivalent for others, has certified it allows this project request to be submitted for DRCOG-allocated funding and will follow all DRCOG policies and state and federal regulations when completing this project, if funded.					<input type="checkbox"/>

Part 2 Evaluation Criteria, Questions, and Scoring

A. Subregional significance of proposed project

WEIGHT **40%**

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

1. Why is this project important to your subregion?

The following supplements the information provided above in Part 1, Section 8, the Problem Statement:

County Line Road is the old State Highway 470 alignment utilized by the entire region before C-470 was constructed. The roadway provides a direct connection between I-25 on the east and US Highway 85 on the west. It includes at least four east-west travel lanes for almost the entire length. This project's limits stretch from University Boulevard to South Broadway and is the last segment that CDOT committed to improve in 1988 as part of negotiations to construct C-470 in its current location.

The C-470 corridor serves over 100,000 trips on a daily basis and is a vital piece to the regional transportation network, while there are 20,000-30,000 trips per day on County Line Road. Without County Line Road, these primary local trips would likely result in more congestion on C-470. This project will provide the additional capacity needed to allow for County Line Road to be safer and more reliable.

The project elements will include sidewalks and/or trails that provide additional connectivity to County Line Road that will improve access to the regional trail on C-470. These enhancements will provide additional access to regional amenities, recreational attractions, and other opportunities to leverage regional investments already made within the C-470 corridor. These pedestrian improvements will provide first and last mile connections to the bus routes on Broadway and University. Should bus service return to this segment of County Line Road, the sidewalks and improved pedestrian crossings will make the route more accessible.

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

Absolutely—County Line Road crosses and provides significant benefits to the City of Littleton, the City of Centennial, and Highlands Ranch Metropolitan District residents, serving as an important east-west corridor for these communities.

- **City of Centennial** – County Line Road lies on the southern boundary of Centennial from Pennsylvania Street to University Boulevard. Centennial's 2013 Transportation Master Plan identifies the widening of County Line Road as its second ranked short-term project with immediate needs. It is one of two projects that "met with overwhelming agreement from elected officials and residents as the highest priorities for the City." The plan also identifies the intersection of Clarkson Street for improvements. The City is contributing \$4.5M.
- **City of Littleton** – County Line Road lies on the southern boundary of Littleton from Broadway to Pennsylvania Street. Littleton is currently developing its first Transportation Master Plan. The City has identified improving County Line Road as one of their top priorities and is contributing \$1M.
- **Highlands Ranch Metropolitan District** – County Line Road lies on the northern boundary of Highlands Ranch and provides important local access for businesses along the corridor.

The County Line Road project improves safety and significantly increases the reliability of the corridor for residents in these three municipalities. The corridor improvements will complete a missing link of the four-lane major arterial and provide a reliable local alternative to C-470, ensuring access for users during incidents.

The project further benefits these municipalities by connecting neighborhoods and business centers within these communities. It provides access to multimodal routes and recreational trails in the area and provides a reliable route to access the RTD light rail station at Santa Fe and Mineral.

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

In addition to the information provided above, County Line Road crosses and provides significant benefits to the Douglas County and Arapahoe County subregions, and Jefferson County is a secondary beneficiary.

County Line Road serves as a major east-west corridor for the both subregions and is a secondary alternate route to eastern Jefferson County. Current narrowing of the segment between Broadway and University Boulevard creates congestion and unpredictable travel times. The planned improvements will provide a reliable route that supports subregional trips. When combined with the City of Littleton's long-range plan to widen County Line Road from Broadway to Santa Fe Drive, this project is an integral part of completing an 8.5-mile corridor that is one of only two continuous east-west connections between I-25 and Santa Fe Drive. It is essential to providing reliable travel times for local trips for both subregions and reducing vehicle hours traveled.

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

In addition to the information provided above in Part 1, Section #8, see the following comments below:

The proposed four-lane divided urban arterial improvements to County Line Road will eliminate the roadway's inconsistent cross-section and accomplishing the following objectives:

- 1) Create a more reliable major arterial roadway by minimizing congestion, reducing delays, creating more reliable travel times, and providing additional travel modes
- 2) Improve the safety of the corridor by making a more predictable driving experience, creating sidewalks with better street crossings, reducing congestion to allow motorists to make better decisions, and raising the physical profile of the roadway to eliminate street flooding
- 3) Improve the health and livability of the adjoining neighborhoods within Littleton and Centennial by installing noise mitigation devices and improving the accessibility of the C-470 multi-use trail and its reach to regionally significant park trails and greenways including Chatfield State Park, the South Platte River Greenway, and the High Line Canal Trail
- 4) Support the development of a vibrant regional economy by creating a reliable roadway and resilient C-470 regional corridor, improving multimodal access to regional urban centers, regional recreational opportunities, and regional transit opportunities

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

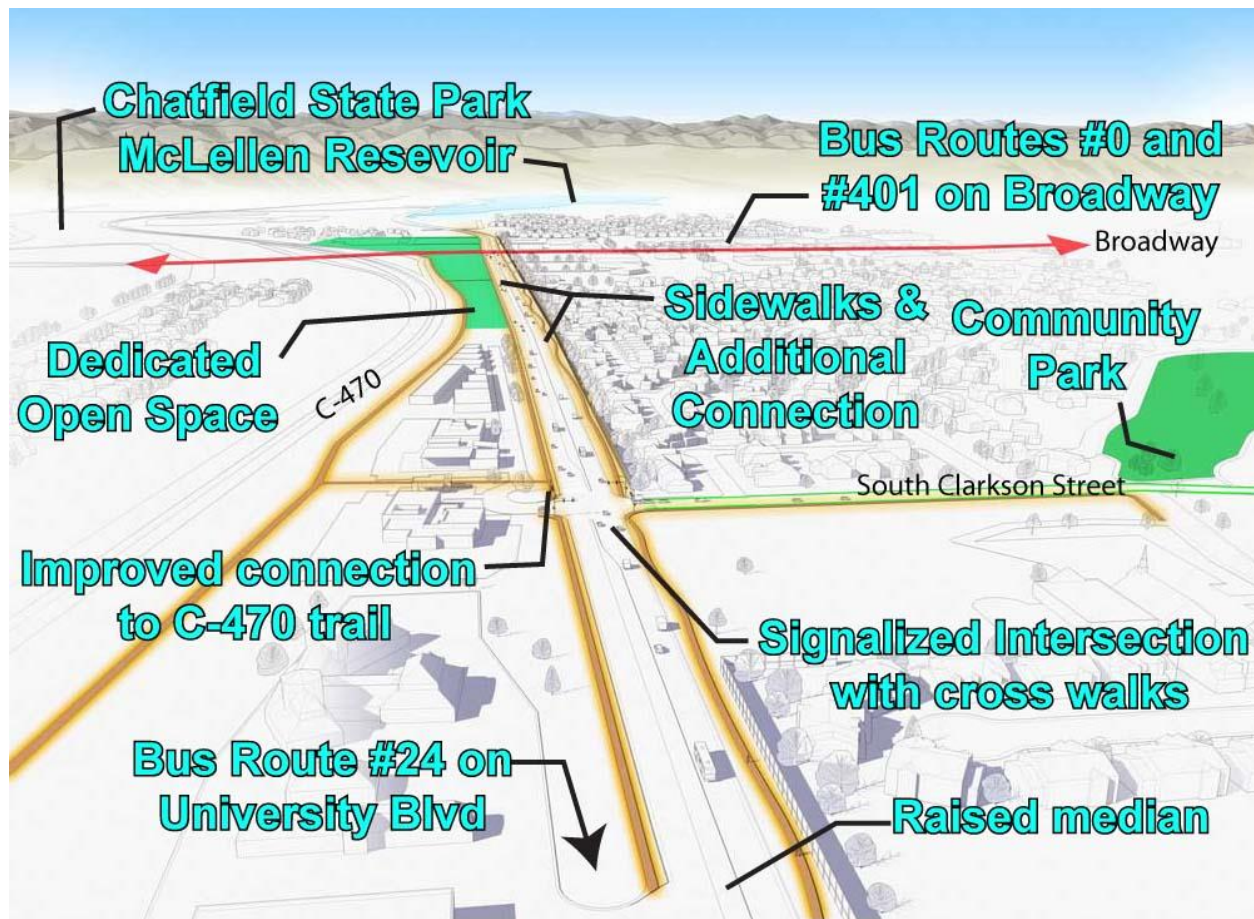
This project provides healthier travel mode choices, removes missing links to provide a four-lane continuous major arterial and connects neighborhoods to retail centers, employment centers, educational facilities, daycare facilities, worship centers, recreational amenities, and health facilities. It also provides improved local roadway access to and from businesses and the nearby Wolhurst Senior Community and the Windcrest Retirement Community.

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

The project area sits between two different sets of bus routes. On University Boulevard there is Route #24 and South Broadway is home to both the Highlands Ranch/Mineral Route #401 and South Broadway Route #0. While

these routes service the entire region, the local neighborhood does not have amenities for first and last mile active transportation options. This project's improvements will help regional riders by providing a sidewalk path that assists in rider transfers between these two roadways, as this segment is currently the shortest distance between these bus routes on the two major arterials.

There are currently bike lanes on Clarkson Street which stop at County Line Road. The signalization of this intersection will allow for improved crossing access, safety, and comfort for the cyclists trying to get onto the regional trail. The project will also seek to complete the sidewalk network where there is currently a significant gap in the network at the project area.



Alternative modes of transportation and natural attractions

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

City of Centennial - \$4.5M, City of Littleton - \$1M, Douglas County - \$4.5M, and \$10M requested from DRCOG.

B. DRCOG Board-approved Metro Vision TIP Focus Areas

WEIGHT **30%**

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

1. Describe how the project will improve mobility infrastructure and services for vulnerable populations (including improved transportation access to health services).

Congestion caused by the substandard roadway section increases delay and variability in travel time for road users. The current incomplete sidewalk network limits safe access to existing transit routes and recreational amenities. The inconsistency in travel times and incomplete design can harm the vulnerable populations that rely on the corridor to carry out their daily tasks. For example, not having a continuous four-lane roadway section increases risks to senior, young inexperienced drivers, and distracted motorists. The proposed improvements aim to reduce the number and severity of crashes.

Students and parents from Ambleside School of Colorado, John Wesley Powell Middle School, and others are reliant on safe and predictable access to and from County Line Road. There are a number of nearby medical centers including Peak Physical therapy of Highlands Ranch, Littleton Dialysis Center, and The Manor on Marion Circle, which all have access impacted by congestion. There are 135 medical facilities within a one-mile band of the project.

Additionally, the project area is surrounded by census block groups that have elevated percentages of vulnerable populations. The block group to the southeast consists of more than 19% of households in poverty, while the block group to the northwest includes more than 60% of the population over 65 years old and 11% with no vehicle. The current lack of sidewalks and pathways for this piece of County Line Road also reduces the viability of healthier modes of travel for this block group seeking job opportunities and recreation to the west.

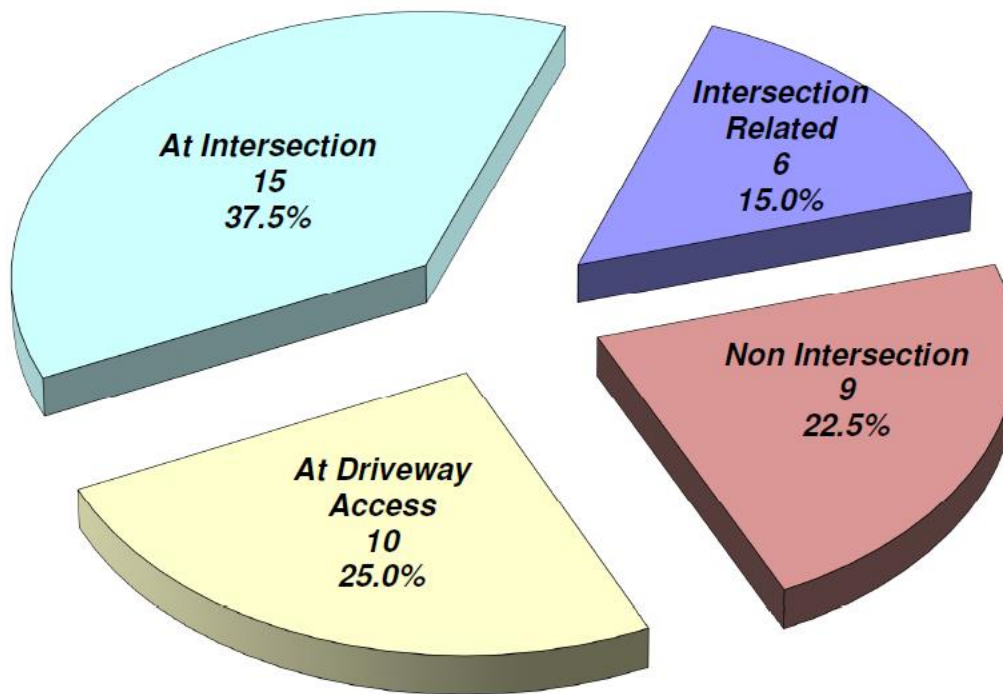
2. Describe how the project will increase reliability of existing multimodal transportation network.

By improving the first and last mile infrastructure on County Line Road, neighborhoods from the entire area will benefit from more active access to bus routes. Residents, including the mentioned vulnerable populations, will be able to utilize the sidewalks and paths for local and short trips. This reduces traffic demand and improves access reliability of bus routes.

This County Line Road project will also improve access to the two existing and one proposed RTD light rail stations by making this east-west corridor more dependable. The predictable travel times will encourage more people to use the light rail with reduced likelihood of missing departure times at the Littleton-Mineral, County Line, and future Lucent station.

3. Describe how the project will improve transportation safety and security.

Douglas County commissioned a Safety Assessment of County Line Road between Broadway and University Boulevard in January of 2019. A full copy of this report is available upon request. The report was based on the comprehensive analysis of five years of crash history between 2012 and 2016. After subtracting the crashes at Broadway and University Boulevard intersections with County Line Road, there were 40 crashes in the five-year period. Thirty-one (31) were Property Damage Only (PDO) crashes and six (6) were injury crashes with six people injured. In summary, the report estimates that the widening will yield a 50% reduction in all crashes on the segment.



Specific safety measures utilized in the corridor will include:

- 1) Widening this segment of County Line Road to a continuous four-lane major arterial will improve safety in the corridor by:
 - a. Creating a consistent and predictable cross-section for motorists
 - b. Reducing delay on the corridor, which will help motorists make better decisions
 - c. Improving emergency access
 - d. Creating a passing zone for vehicle breakdowns
- 2) Introducing a center raised median will:
 - a. Control vehicle access .
 - b. Prevent illegal left- and U-turns .
- 3) Provide physical spaces for pedestrians by constructing sidewalks and signal protected crosswalks.
- 4) Provide additional connections to the C-470 multi-use path and provide cyclists a more comfortable parallel bicycle route
- 5) Eliminate street flooding by improving the storm sewer capacity and raising the profile of the road.
- 6) Enhance pedestrian safety by introducing a traffic signal at Clarkson Street and a protected pedestrian crossing at Phillips Avenue. This will also allow motorists protected access from Clarkson Street to County Line Road.

C. Consistency & Contributions to Transportation-focused Metro Vision Objectives

WEIGHT **15%**

Provide **qualitative and quantitative** responses (derived from Part 3 of the application) to the following items on how the proposed project contributes to Transportation-focused Objectives (in bold) in the adopted Metro Vision plan. Refer to the expanded Metro Vision Objective by clicking on links.

[MV objective 2](#)

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

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

Yes No

Describe, *including supporting quantitative analysis*

The County Line road widening facilitates focused growth in an existing urban area. The improvements change the character of the facility into a multimodal urban section with improved multimodal functionality. By providing sidewalks and trail connections, this segment better accommodated pedestrian users and connects the adjacent neighborhoods to the C-470 Regional Trail. Cyclists will see a more comfortable and consistent roadway section as this project will connect previously improved sections east and west of the project. The reconstructed section will better perform as a first mile/last mile connection to adjacent transit routes.

[MV objective 3](#)

Increase housing and employment in urban centers.

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

Yes No

Describe, *including supporting quantitative analysis*

This project will help provide a clear connection for travelers in the project area, and to adjacent commercial, educational, health care, and recreational areas by completing improvements to a visually and operationally incomplete segment of County Line Road. By creating a consistent facility for vehicle and pedestrian users, the project completes a missing link in the network and better communicates support for all modes to encourage its use.

[MV objective 4](#)

Improve or expand the region's multimodal transportation system, services, and connections.

3. Will this project help increase mobility choices within and beyond your subregion for people, goods, or services?

Yes No

Describe, *including supporting quantitative analysis*

County Line Road improvements will provide additional amenities and reliability to the existing bus routes, light rail stations, and trails that connect the entire region. Due to the position of the project, it will provide immediate benefits to other subregions through sidewalks, paths, and roadway resiliency. Details were already provided above.

[MV objective 6a](#)

Improve air quality and reduce greenhouse gas emissions.

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

Yes No

Describe, *including supporting quantitative analysis*

The improved continuous four lane arterial roadway section will reduce idle time, reduce congestion, reduce delays resulting in a reduction in vehicle hours traveled and greenhouse gas emissions.

Providing sidewalks and additional connections to C-470 Regional Multi-Use path will encourage and promote alternate non-motorized travel modes, especially for short and local trips.

[MV objective 7b](#)

Connect people to natural resource or recreational areas.

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

Yes No

Describe, including supporting quantitative analysis

The proposed improvements to County Line Road will increase accessibility of the region's open spaces for neighborhoods in Littleton and Centennial by connecting to the C-470 Regional Multi-Use Trail. Safe connections across and from County Line Road to the C-470 Regional Multi-Use Trail will improve access to Chatfield State Park, South Platte River Regional Greenway Trail, and the High Line Canal Trail, as well as create safer access and connectivity between Puma Park and Abbott Park in Centennial to McLellan Reservoir and Writers Vista Park.



[MV objective 10](#)

Increase access to amenities that support healthy, active choices.

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

Yes No

Describe, including supporting quantitative analysis

The proposed sidewalks on County Line Road and connections to the C-470 Regional Multi-Use Trail will provide continuous, Americans with Disabilities Act (ADA)-compliant multimodal connections to regional open spaces as noted above. Future ADA-compliant sidewalk connections along County Line Road to both Broadway and University Boulevard will connect existing RTD bus service (Route #O and Route #24). This connection will provide opportunities for people to walk, bike, or take public transit. The project will help solve first and last mile mobility barriers within the community by providing affordable and accessible transportation options for people who do not own a car and/or are unable to drive.

[MV objective 13](#)

Improve access to opportunity.

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

Yes No

Describe, *including supporting quantitative analysis*

Congestion caused by the substandard roadway section increases delay and variability in travel time for road users. The current incomplete sidewalk network limits safe access to existing transit routes and recreational amenities. The inconsistency in travel times and incomplete design can harm the vulnerable populations that rely on the corridor to carry out their daily tasks. For example, not having a continuous four-lane roadway section increases risks to senior, young inexperienced drivers, and distracted motorists. The proposed improvements aim to reduce the number and severity of crashes.

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Additionally, the project area is surrounded by census block groups that have elevated percentages of vulnerable populations. The block group to the southeast consists of more than 19% of households in poverty, while the block group to the northwest includes more than 60% of the population over 65 years old and 11% with no vehicle. The current lack of sidewalks and pathways for this piece of County Line Road also reduces the viability of healthier modes of travel for this block group seeking job opportunities and recreation to the west.

[MV objective 14](#)

Improve the region’s competitive position.

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

Yes No

Describe, *including supporting quantitative analysis*

County Line Road in this area of the corridor defines an edge between the residential areas of Littleton and Centennial to the north and commercial properties in Douglas County to the south. The corridor connects seven urban centers including the heavily-developed I-25 corridor.

The proposed improvements of County Line Road will eliminate one of the last remaining two-lane sections of the roadway and will reduce congestions delays to make more reliable roadway and resilient C470 corridor which is necessary for continued economic growth of the I-25 corridor. The project will also maximize the regional investment currently being made on C-470.

D. Project Leveraging

WEIGHT **15%**

9. What percent of outside funding sources (non-DRCOG-allocated Subregional Share funding) does this project have?

50%

60%+ outside funding sourcesHigh
 30-59%Medium
 29% and below Low

Part 3

Project Data Worksheet – Calculations and Estimates

(Complete all subsections applicable to the project)

A. Transit Use

1. Current ridership weekday boardings	0
2. Population and Employment	

Year	Population within 1 mile	Employment within 1 mile	Total Pop and Employ within 1 mile
2020			
2040			

Transit Use Calculations	Year of Opening	2040 Weekday Estimate
3. Enter estimated additional daily transit boardings after project is completed. <i>(Using 50% growth above year of opening for 2040 value, unless justified)</i> <i>Provide supporting documentation as part of application submittal</i>	0	0
4. Enter number of the additional transit boardings (from #3 above) that were previously using a different transit route. <i>(Example: {#3 X 25%} or other percent, if justified)</i>	0	0
5. Enter number of the new transit boardings (from #3 above) that were previously using other non-SOV modes (walk, bicycle, HOV, etc.) <i>(Example: {#3 X 25%} or other percent, if justified)</i>	0	0
6. = Number of SOV one-way trips reduced per day (#3 – #4 – #5)	0	0
7. Enter the value of {#6 x 9 miles} . (= the VMT reduced per day) <i>(Values other than the default 9 miles must be justified by sponsor; e.g., 15 miles for regional service or 6 miles for local service)</i>	0	0
8. = Number of pounds GHG emissions reduced (#7 x 0.95 lbs.)	0	0
9. If values would be distinctly greater for weekends, describe the magnitude of difference:		
10. If different values other than the suggested are used, please explain here:		

B. Bicycle Use

1. Current weekday bicyclists	8
2. Population and Employment	

Year	Population within 1 mile	Employment within 1 mile	Total Pop and Employ within 1 mile
2020	10940	5908	16848
2040	10908	6493	17401

Bicycle Use Calculations	Year of Opening	2040 Weekday Estimate
3. Enter estimated additional weekday one-way bicycle trips on the facility after project is completed.	68	208
4. Enter number of the bicycle trips (in #3 above) that will be diverting from a different bicycling route. (Example: {#3 X 50%} or other percent, if justified)	0	0
5. = Initial number of new bicycle trips from project (#3 – #4)	68	208
6. Enter number of the new trips produced (from #5 above) that are replacing an SOV trip. (Example: {#5 X 30%} or other percent, if justified)	60	200
7. = Number of SOV trips reduced per day (#5 - #6)	60	200
8. Enter the value of {#7 x 2 miles} . (= the VMT reduced per day) (Values other than 2 miles must be justified by sponsor)	120	400
9. = Number of pounds GHG emissions reduced (#8 x 0.95 lbs.)	114	380
10. If values would be distinctly greater for weekends, describe the magnitude of difference: We believe that weekend volumes would be greater because they would include recreational users and more cyclists making short trips to and from weekend events.		
11. If different values other than the suggested are used, please explain here: We did not use increased volumes for additional weekend trips in calculation shown above.		

C. Pedestrian Use	
1. Current weekday pedestrians (include users of all non-pedaled devices)	10
2. Population and Employment	

Year	Population within 1 mile	Employment within 1 mile	Total Pop and Employ within 1 mile
2020	10940	5908	16848
2040	10908	6493	17401

Pedestrian Use Calculations	Year of Opening	2040 Weekday Estimate
3. Enter estimated additional weekday pedestrian one-way trips on the facility after project is completed	110	210
4. Enter number of the new pedestrian trips (in #3 above) that will be diverting from a different walking route (Example: {#3 X 50%} or other percent, if justified)	0	0
5. = Number of new trips from project (#3 – #4)	110	210
6. Enter number of the new trips produced (from #5 above) that are replacing an SOV trip. (Example: {#5 X 30%} or other percent, if justified)	100	200
7. = Number of SOV trips reduced per day (#5 - #6)	100	200

12. Enter the value of {#7 x .4 miles} . (= the VMT reduced per day) <i>(Values other than .4 miles must be justified by sponsor)</i>	40	80
8. = Number of pounds GHG emissions reduced (#8 x 0.95 lbs.)	38	76
9. If values would be distinctly greater for weekends, describe the magnitude of difference: We believe that weekend volumes would be greater because they would include recreational users and more cyclists making short trips to and from weekend events.		
10. If different values other than the suggested are used, please explain here: We did not use increased volumes for additional weekend trips in calculation shown above.		

D. Vulnerable Populations

	Vulnerable Populations	Population within 1 mile
	Use Current Census Data	1. Persons over age 65
2. Minority persons		3,341
3. Low-Income households		509 households
4. Linguistically-challenged persons		0.3% of persons 18 years and over
5. Individuals with disabilities		1,604 households with 1 or more persons with a disability
6. Households without a motor vehicle		78 households
7. Children ages 6-17		3,285
8. Health service facilities served by project		206 facilities

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

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

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

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

8. If values would be distinctly different for weekend days or special events, describe the magnitude of difference.

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

Data not available to complete this calculation, but current delay is primarily caused by a two-lane section resulting congestion from turning movements and merging, which will be mitigated by this project.

F. Traffic Crash Reduction

1. Provide the current number of crashes involving motor vehicles, bicyclists, and pedestrians (*most recent 5-year period of data*)

Fatal crashes

Serious Injury crashes

Other Injury crashes

Property Damage Only crashes

2. Estimated reduction in crashes applicable to the project scope (*per the five-year period used above*)

For additional detail related to crash reductions, DiExSys full report is available upon request.

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 reduced

0

Serious Injury crashes reduced

0

Other Injury crashes reduced

0

Property Damage Only crashes reduced

0

G. Facility Condition

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

Roadway Pavement

1. Current roadway pavement condition

Fair

2. Describe current pavement issues and how the project will address them.

Majority of the existing roadway will be re-constructed as part of widening and improving the geometrics to meet current arterial roadway standards (Phillips to Plaza Highlands Ranch) and as part of access consolidation, we will resurface the pavement between Broadway and Phillips.

3. Average Daily User Volume

22,000

Bicycle/Pedestrian/Other Facility

4. Current bicycle/pedestrian/other facility condition

Choose an item

5. Describe current condition issues and how the project will address them.

6. Average Daily User Volume 0

H. Bridge Improvements

1. Current bridge structural condition from CDOT
N/A

2. Describe current condition issues and how the project will address them.

3. Other functional obsolescence issues to be addressed by project

4. Average Daily User Volume over bridge 0

I. Other Beneficial Variables *(identified and calculated by the sponsor)*

1.

2.

3.

J. Disbenefits or Negative Impacts *(identified and calculated by the sponsor)*

1. Increase in VMT? *If yes, describe scale of expected increase* Yes No

2. Negative impact on vulnerable populations

3. Other: