Part 1 — Base Information

1.	Project Title	**Broadway & Highlands Ranch Pkwy. Intersection Capacity and Safety Improvement Project**
2.	Project *Start/End* points or Geographic Area *Provide a map with submittal, as appropriate*	The intersection is in the heart of Highlands Ranch, an unincorporated suburb in northern Douglas County. The project includes work from 1,300 feet west of the intersection to 800 feet to the east, and 1,000 feet north to 700 feet south. Applying for Federal funds for construction only.
3.	Project Sponsor *(entity that will construct/ complete and be financially responsible for the project)*	Douglas County, CO
4.	Project Contact Person, Title, Phone Number, and Email	Art Griffith, Capital Projects Manager, 303-660-7317, 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 FCRTP)	
☒ Local plan:	Highlands Ranch Transportation Improvement Program (Jan 2006)
	Douglas County 2030 Transportation Plan (Nov 2009)
	Muller Traffic Analysis Memo (Feb 2019) (Attached)
☐ Other(s):	

Provide link to document/s and referenced page number if possible, or provide documentation with submittal

7. Identify the project's **key elements**.

☐ Rapid Transit Capacity (2040 FCRTP)
☒ Transit Other: Existing RTD Bus Routes
☒ Bicycle Facility
☒ Pedestrian Facility
☒ Safety Improvements
☐ Roadway Capacity or Managed Lanes (2040 FCRTP)
☒ Roadway Operational

Grade Separation
  ☐ Roadway
  ☐ Railway
  ☐ Bicycle
  ☐ Pedestrian
☐ Roadway Pavement Reconstruction/Rehab
☐ Bridge Replace/Reconstruct/Rehab
☐ Study
☒ Design
☒ Transportation Technology Components
☐ Other:

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

The intersection of Broadway & Highlands Ranch Pkwy. is the crossroads of two Principal Arterials, is highly congested during peak hours, and has a high amount of crashes. Both Highlands Ranch Pkwy. and Broadway serve regional traffic, elevating this project to one of high-impact and importance. One of the outcomes of the DRCOG Metro Vision is to ensure the transportation system is safe, reliable and well-maintained. This project will address capacity and safety issues at the intersection, thus likely providing an air quality benefit as well due to

improved operations. Project requires design and ROW which the County plans to advance prior to executing agreement associated with the application; and these preconstruction tasks are not part of the Federal funds or part of Douglas County's match for Federal funds. The County is requesting funds for utility relocations and construction activities which include materials testing and construction management.

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

With minor widening to the south and west sides (including approaches and departures), this will allow the addition of a continuous third lane for eastbound, as well as a dual-left turn in the southbound direction. The traffic signal will need to be replaced due to aging and inadequate traffic signal poles. Minor right-of-way acquisitions will also be necessary. These elements will provide better operations and safety.

10. What is the status of the proposed project?

Traffic analysis and memo, along with a conceptual drawing, have been completed.

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 DRCOG contribution between $2M and $2.5M would be acceptable.

A. Project Financial Information and Funding Request

1. **Total Project Cost**		$4,500,000

2. **Total amount of DRCOG Subregional Share Funding Request**	**$2,500,000**	**56%** 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**
Douglas County	$2,000,000	44%
	$	
	$	
	$	
	$	
	$	
Total amount of funding provided by other funding partners *(private, local, state, Regional, or federal)*	**$2,000,000**	

Funding Breakdown (year by year)*	*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.*				
	FY 2020	**FY 2021**	**FY 2022**	**FY 2023**	**Total**
Federal Funds	$	$	$	$2,500,000	**$2,500,000**
State Funds	$	$	$	$	**$0**

Local Funds	$	$	$	$2,000,000	**$2,000,000**
Total Funding	$0	$0	$0	$4,500,000	**$4,500,000**
4. **Phase to be Initiated** *Choose from Design, ENV, ROW, CON, Study, Service, Equip. Purchase, Other*	Choose an item	Choose an item	Choose an item	CON	

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.	☒

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?

Improves operations and safety at the intersection of two Principal Arterials. This project will reduce travel delay and provides crash and safety benefits. The intersection is critical to the movement of people and goods throughout Highlands Ranch and the region.

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

No

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

No

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

By modifying the existing laneage, and some minor widening, this will increase capacity which in turn will improve operations. The traffic signal will be rebuilt with adequate equipment, including new poles and appropriate phasing. By improving operations, the RTD bus routes will see reduced delay. With proper alignment, capacity, and operations, congestion will be reduced and safety improved. See attached "Traffic Analysis and Proposed Improvements" memo and Conceptual Drawing for further detail.

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

This project will reduce travel time and delay, as well as improve safety, thus contributing to the improved movement of people and goods in the region. Riders of the RTD bus system will see reduced travel times as well. There are several retail stores in the area, thus with an improvement in operations it may attract more retail shoppers to the area.

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

The reduced travel time and delay from the intersection will allow drivers who are trying to get to the nearby RTD Park 'n' Ride to get there easier and safer. This project will retain the existing bike lanes.

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

Douglas County will fund the difference in DRCOG funding. This project will be a County project.

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).**

   There are several bus routes in the area, as well as a Park 'n' Ride. With improved intersection operations, there will be less delay for bus and emergency services.

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

   The project is anticipated to significantly reduce travel time and delay (13.6 sec/veh and 273,900 vehicle-hours, respectively), thus providing a more efficient intersection for buses to traverse. Also, there is an anticipated reduction in crashes, furthering the reduction in travel time and delay.

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

   With the change in capacity and operations, the predicted reduction in crashes is around 24 total less crashes over a five-year period, including two less injury crashes and 22 less property-damage-only crashes.

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? Describe, *including supporting quantitative analysis*	☐ Yes ☒ No

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? Describe, *including supporting quantitative analysis*	☐ Yes ☒ No

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? Describe, *including supporting quantitative analysis*	☐ Yes ☒ No

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*

Through improved operations, it is anticipated that this project will reduce peak-period delay by 273,900 vehicle-hours and reduce travel time by an average of 13.6 sec/veh. With that, there will be a reduction in greenhouse gas emissions from idling and/or traveling vehicles.

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*

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*

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*

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*

D. Project Leveraging	**WEIGHT**	**15%**

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

44%

60%+ outside funding sources ....High
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	0	0	**0**
2040	0	0	**0**

Transit Use Calculations		Year of Opening	2040 Weekday Estimate
3.	Enter estimated additional daily transit boardings after project is completed. *(Using 50% growth above year of opening for 2040 value, unless justified)* *Provide supporting documentation as part of application submittal*	0	0
4.	Enter number of the additional transit boardings (from #3 above) that were previously using a different transit route. (Example: **{#3 X 25%}** *or other percent, if justified)*	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.) (Example: **{#3 X 25%}** *or other percent, if justified)*	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**) *(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)*	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	0
2.	Population and Employment	

Year	Population within 1 mile	Employment within 1 mile	Total Pop and Employ within 1 mile
2020	0	0	**0**
2040	0	0	**0**

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.	0	0
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)	0	0
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*)	0	**0**
7. = Number of SOV trips reduced per day (#5 - #6)	0	0
8. Enter the value of **{#7 x 2 miles}**. (= the VMT reduced per day) *(Values other than 2 miles must be justified by sponsor)*	0	0
9. = Number of pounds GHG emissions reduced (#8 x 0.95 lbs.)	0	0
10. If values would be distinctly greater for weekends, describe the magnitude of difference:		
11. If different values other than the suggested are used, please explain here:		

C. Pedestrian Use

1. Current weekday pedestrians (include users of all non-pedaled devices)	0
2. Population and Employment	

Year	Population within 1 mile	Employment within 1 mile	Total Pop and Employ within 1 mile
2020	0	0	**0**
2040	0	0	**0**

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	0	0
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)	0	0
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*)	0	0
7. = Number of SOV trips reduced per day (#5 - #6)	0	0

12. Enter the value of **{#7 x .4 miles}**. (**= the VMT reduced per day**) *(Values other than .4 miles must be justified by sponsor)*		0	0
8. = Number of pounds GHG emissions reduced (#8 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:			

D. Vulnerable Populations

	Vulnerable Populations	Population within 1 mile
Use Current Census Data	**1.** Persons over age 65	0
	2. Minority persons	0
	3. Low-Income households	0
	4. Linguistically-challenged persons	0
	5. Individuals with disabilities	0
	6. Households without a motor vehicle	0
	7. Children ages 6-17	0
	8. Health service facilities served by project	0

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	68,700
2. 2040 ADT estimate	74,100
3. Current weekday vehicle hours of delay (VHD) (before project)	1,677,900

Travel Delay Calculations	Year of Opening
4. Enter calculated future weekday VHD (after project)	1,404,000
5. Enter value of **{#3 - #4} =** Reduced VHD	273,900
6. Enter value of **{#5 X 1.4}** = **Reduced person hours of delay** *(Value higher than 1.4 due to high transit ridership must be justified by sponsor)*	383,460
7. **After project peak hour congested average travel time reduction** per vehicle (includes persons, transit passengers, freight, and service equipment carried by vehicles). *If applicable, denote unique travel time reduction for certain types of vehicles*	13.6 sec/veh Avg 2.7 sec/veh AM 22.5 sec/veh PM
8. If values would be distinctly different for weekend days or special events, describe the magnitude of difference.	

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

F. Traffic Crash Reduction

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

Fatal crashes	0
Serious Injury crashes	6
Other Injury crashes	0
Property Damage Only crashes	138

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).*

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

Fatal crashes reduced	0
Serious Injury crashes reduced	2
Other Injury crashes reduced	0
Property Damage Only crashes reduced	22

G. Facility Condition

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

Roadway Pavement

1. Current roadway pavement condition	Choose an item

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

3. Average Daily User Volume	0

Bicycle/Pedestrian/Other Facility

4. Current bicycle/pedestrian/other facility condition	Choose an item

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

6. Average Daily User Volume	0

H. Bridge Improvements

1. Current bridge structural condition from CDOT

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

3. Other functional obsolescence issues to be addressed by project		
4. Average Daily User Volume over bridge		0

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:			

Attachments:

Muller Traffic Analysis Memo (Feb 2019)
Muller Conceptual Drawing (Feb 2019)