Part 1 Base Information

1. Project Title	**Marshall Road (SH 170) Underpass**
2. Project *Start/End* points or Geographic Area *Provide a map with submittal, as appropriate*	US 36 Davidson Mesa Underpass to south of Marshall Road
3. Project Sponsor *(entity that will construct/ complete and be financially responsible for the project)*	Town of Superior
4. Project Contact Person, Title, Phone Number, and Email	Alex Ariniello, Public Works Director, 303-499-3675x111, alexa@superiorcolorado.gov

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: Superior Trails Plan

☐ 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: Transit Priority Lanes
- ☒ 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
- ☐ Other:

8. **Problem Statement** What specific Metro Vision-related regional problem/issue will the transportation project address? *The Marshall Road Underpass project will address regional multi-use trail connections along the US 36 multi-modal corridor. It will improve transportation safety and security by providing a grade separated trail crossing of a busy high-speed highway. Marshall Road (SH 170) carries 6,000 vehicles per day at this crossing and the speed limit is 50 mph. The project thus directly relates to the DRCOG Metro Vision Theme of "A Connected Multimodal Region" with Outcomes*

- *The regional transportation system is well-connected and serves all modes of travel.*
- *The transportation system is safe, reliable and well-maintained.*

9. Define the **scope** and **specific elements** of the project. *This project would construct an underpass of Marshall Road to accommodate a 10 ft.-wide multi-use concrete trail connecting the US 36 Davidson Mesa underpass to Marshall Road.*	
10. What is the status of the proposed project? *Conceptual Design*	
11. Would a smaller federal 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		**$1,800,000**
2. Total amount of DRCOG Subregional Share Funding Request *(no greater than **$20 million** and not to exceed **50% of the total project cost**)*	**$1,440,000**	**80%** of total project cost
3. Outside Funding Partners ***(other than DRCOG Regional Share funds)*** List each funding partner and contribution amount.	**$$ Contribution Amount**	**% of Contribution to Overall Total Project Cost**
Town of Superior	$360,000	20%
Total amount of funding provided by other funding partners *(private, local, state, Subregion, or federal)*	**$360,00**	20%

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 2018.*

	FY 2020	FY 2021	FY 2022	FY 2023	Total
Federal Funds (Regional)	$0	$300,000	$1,140,000	$0	**$1,440,000**
Federal Funds (Subregional)	$0	$0	$0	$0	**$0**
State Funds	$0	$0	$0	$0	**$0**
Local Funds	$0	$60,000	$300,000	$0	**$360,000**

Total Funding	$0	$360,000	$1,440,000	$0	**$1,800,000**
4. Phase to be Initiated *Choose from Design, ENV, ROW, CON, Study, Service, Equip. Purchase, Other*		Design	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. Regional significance of proposed project

WEIGHT **40%**

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

1. Why is this project regionally important? *As Figure A illustrates the Marshall Road Underpass is located at the junction of two regional multi-use trails. The US 36 Bikeway is a concrete 12-ft. wide multi-use trail connecting the City of Boulder and communities along the US 36 Corridor. Perpendicular to this is a developing multi-use trail that runs northeast through Louisville and into Lafayette. Several grade-separated underpasses have been built or are in planning to provide a safe route to access open space and recreational amenities. Southwest of Marshall Road is an extensive network of trails on Superior, Boulder and Boulder County Open Space lands extending to Eldorado Canyon State Park on the west and connecting to Jefferson County on the south. The Marshall Road underpass will connect these two trail networks with a safe crossing of a high-speed highway.*

2. Does the proposed project cross and/or benefit multiple **municipalities**? If yes, which ones and how? *The Marshall Road underpass will provide a safe trail connection between the Louisville and Superior trail networks. These trail networks also connect to trail networks in Lafayette and Boulder, providing benefits to residents in those communities.*

3. Does the proposed project cross and/or benefit another **subregion(s)**? If yes, which ones and how? *City & County of Broomfield residents can use the US 36 Bikeway and the Marshall Road underpass to access the Superior and Boulder County trail networks southwest of the project.*

4. How will the proposed project address the specific transportation problem described in the **Problem Statement** *(as submitted in Part 1, #8)*? *Currently, users of the US 36 Davidson underpass must cross Marshall Road (SH 170) to access the Superior and Bolder County trail network located southwest of Marshall Road. Near this location, SH 170 is posted at 50 mph and the traffic volume is 6,000 vehicles per day presenting a potentially dangerous at-grade crossing. The project will provide a safe grade separation of Marshall Road, eliminating the vehicle-bicycle conflcits.*

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? *The project will provide a safe pedestrian and bike connection for nearby residential, employment, retail and recreation areas facilitating trip making by alternative modes, which use less energy than vehicular modes.*

6. How will connectivity to different travel modes be improved by the proposed project? *The project will improve the safety of bicycle and pedestrian trail users.*

7. Describe funding and/or project partnerships *(other subregions, regional agencies, municipalities, private, etc.)* established in association with this project. *The attached letters of support from Boulder County and the City of Louisville indicate support of the project. Superior will be the lead agency but the local match will be split among these partners.*

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).** *Nearby vulnerable trail users will now have safer access to recreational opportunities.*

2. Describe how the project will **increase reliability of existing multimodal transportation network.** *Trail users will now be able to reliably cross Marshall Road without having to wait for an acceptable gap in a high volume, high speed traffic flow.*

3. Describe how the project will **improve transportation safety and security.** *The project will provide a grade-separated underpass of Marshall Road eliminating vehicle/trail user crossing conflicts on this high-speed highway.*

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

WEIGHT **20%**

*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? *The trail will serve existing jurisdictions where infrastructure is in place.*

☒ 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? *The project will provide multi-use trail connections between Superior, Louisville and Boulder County trail networks.*

☒ 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 the region for people, goods, or services? *The project provides multi-use trail connections between Superior, Louisville and Boulder County trail networks thereby encouraging use of non-motorized modes of transportation.*

☒ 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? *The project is expected to reduce greenhouse gas emissions by 72.87 lbs. per day upon project opening; and 143.26 lbs. per day in 2040. See Part 3 B & C for greenhouse gas emission reduction calculations.*	☒ Yes ☐ No
	MV objective 7b	**Connect people to natural resource or recreational areas**.
8.	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? *As Figure A illustrates the Marshall Road Underpass is located at the junction of two regional multi-use trails. The US 36 Bikeway is a concrete 12-ft. wide multi-use trail connecting the City of Boulder and communities along the US 36 Corridor. Perpendicular to this is a developing multi-use trail that runs northeast through Louisville and into Lafayette. Several grade-separated underpasses exist or are in planning to provide a safe route to access open space and recreational amenities. Southwest of Marshall Road is an extensive network of trails on Superior, Boulder and Boulder County Open Space lands extending to Eldorado Canyon State Park on the west and connecting to Jefferson County on the south. The Marshall Road underpass will connect these two trail networks with a safe crossing of a high-speed highway.*	☒ Yes ☐ No
	MV objective 10	**Increase access to amenities that support healthy, active choices.**
5.	Will this project expand opportunities for residents to lead healthy and active lifestyles? *By providing a safe underpass that connects several trail networks residents of Louisville and Superior will now have access to many miles of safe multi-use trails connecting to many recreational opportunities.*	☒ Yes ☐ No
	MV objective 13	**Improve access to opportunity**.
6.	Will this project help reduce critical health, education, income, and opportunity disparities by promoting reliable transportation connections to key destinations and other amenities? *The project will provide a safe trail crossing of a busy highway.*	☒ Yes ☐ No
	MV objective 14	**Improve the region's competitive position**.
7.	Will this project help support and contribute to the growth of the region's economic health and vitality? *By providing a safe underpass that connects several trail networks, residents of Louisville and Superior will now have access to many miles of safe multi-use trails connecting to many recreational opportunities which will contribute to the region's attractiveness as a place to live and work.*	☒ Yes ☐ No

D. Project Leveraging		WEIGHT 10%
8. What percent of outside funding sources (non-DRCOG-allocated Regional Share funding) does this project have?	20%	80%+ outside funding sources .....High 60-79% .....Medium 59% 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	
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. *(Using 50% growth above year of opening for 2040 value, unless justified)* *Provide supporting documentation as part of application submittal*		
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)*		
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)*		
6. = Number of SOV one-way trips reduced per day (#3 – #4 – #5)		
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)*		
8. = Number of pounds GHG emissions reduced (#7 x 0.95 lbs.)		
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 – 300 bicyclists	
2. Population and Employment	

Year	Population within 1 mile	Employment within 1 mile	Total Pop and Employ within 1 mile
2020	1,749	4,290	**6,039**
2040	4,022	5,713	**9,735**

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.	300	400
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)*	250	300
5. = Initial number of new bicycle trips from project (#3 – #4)	50	100
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)*	15	30
7. = Number of SOV trips reduced per day (#5 - #6)	35	70
8. Enter the value of **{#7 x 2 miles}**. (= the VMT reduced per day) *(Values other than 2 miles must be justified by sponsor)*	**70**	**140**
9. = Number of pounds GHG emissions reduced (#8 x 0.95 lbs.)	66.5	133
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)	50
2. Population and Employment	

Year	Population within 1 mile	Employment within 1 mile	Total Pop and Employ within 1 mile
2020	1,749	4,290	**6,039**
2040	4,022	5,713	**9,735**

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	50	75
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)*	25	37
5. = Number of new trips from project (#3 – #4)	25	38
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)*	8	11
7. = Number of SOV trips reduced per day (#5 - #6)	17	27
12. Enter the value of **{#7 x .4 miles}**. (**= the VMT reduced per day**) *(Values other than .4 miles must be justified by sponsor)*	**6.7**	**10.8**
8. = Number of pounds GHG emissions reduced (#8 x 0.95 lbs.)	6.37	10.26
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	297
	2. Minority persons	632
	3. Low-Income households	15
	4. Linguistically-challenged persons	0
	5. Individuals with disabilities	102
	6. Households without a motor vehicle	28
	7. Children ages 6-17	207
	8. Health service facilities served by project	3

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** *(Value higher than 1.4 due to high transit ridership must be justified by sponsor)*	0
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*	0

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

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

F. Traffic Crash Reduction

1. Provide the current number of crashes involving motor vehicles, bicyclists, and pedestrians *(most recent **5-year** period of data)*		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	0	
Serious Injury crashes	0	
Other Injury crashes	4	
Property Damage Only crashes	0	
2. Estimated reduction in crashes applicable to the project scope *(per the five-year period used above)*		
Fatal crashes reduced	0	
Serious Injury crashes reduced	0	
Other Injury crashes reduced	2	
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	
2. Describe current pavement issues and how the project will address them.	
3. Average Daily User Volume	
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	

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 No	
3. Other:	