

City of Boulder

Table Mesa park-n-Ride Multi-Use Path and Access Improvements



2020-2023 DRCOG Transportation Improvements Program
(TIP) Subregional Share Project Application Form

Part 1

Base Information

1. Project Title	Table Mesa park-n-Ride Multi-Use Path and Access Improvements		
2. Project <i>Start/End</i> points or Geographic Area <i>Provide a map with submittal, as appropriate</i>	Table Mesa Drive from the US 36 eastbound on-ramp to the Table Mesa park-n-Ride <i>(See map at end of application)</i>		
3. Project Sponsor <i>(entity that will construct/ complete and be financially responsible for the project)</i>	City of Boulder		
4. Project Contact Person, Title, Phone Number, and Email	Gerrit Slatter, Principal Transportation Projects Engineer, 303-441-1978, slatterg@bouldercolorado.gov		
5. Does this project touch CDOT Right-of-Way, involve a CDOT roadway, access RTD property, or request RTD involvement to operate service?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>If yes, provide applicable concurrence documentation with submittal</i>		
6. What planning document(s) identifies this project?	<input checked="" type="checkbox"/> DRCOG 2040 Fiscally Constrained Regional Transportation Plan (2040 FCRTTP)		
	<input checked="" type="checkbox"/> Local plan:	City of Boulder Transportation Master Plan , RTD First Last Mile Plan p1-16 (provided at end of this application)	
	<input type="checkbox"/> Other(s):		
	<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 .			
<input type="checkbox"/> Rapid Transit Capacity (2040 FCRTTP) <input checked="" type="checkbox"/> Transit Other: mobility hub features <input checked="" type="checkbox"/> Bicycle Facility <input checked="" type="checkbox"/> Pedestrian Facility <input checked="" type="checkbox"/> Safety Improvements <input type="checkbox"/> Roadway Capacity or Managed Lanes (2040 FCRTTP) <input type="checkbox"/> Roadway Operational		Grade Separation <input type="checkbox"/> Roadway <input type="checkbox"/> Railway <input type="checkbox"/> Bicycle <input type="checkbox"/> Pedestrian <input type="checkbox"/> Roadway Pavement Reconstruction/Rehab <input type="checkbox"/> Bridge Replace/Reconstruct/Rehab <input type="checkbox"/> Study <input type="checkbox"/> Design <input type="checkbox"/> Transportation Technology Components <input checked="" type="checkbox"/> Other: new bicycle/pedestrian bridge	
8. Problem Statement What specific Metro Vision-related subregional problem/issue will the transportation project address? The RTD Table Mesa park-n-Ride is a major hub and station for local and regional travel. It is located on Table Mesa Drive which is a four lane roadway with a posted speed limit of 35 mph with 5 foot wide attached sidewalks and 5 foot wide on-street bicycle lanes.			



View of the south side of Table Mesa Drive looking east at Table Mesa park-n-Ride

The park-n-Ride is located on the southern end of Boulder, connected to US 36, SH 157/Foothills Parkway and South Boulder Road which are all identified corridors on the DRCOG regional transportation system map. This station is one of the busiest locations in the RTD system accommodating over 375 bus arrivals per day and 824 parking spaces. The station currently serves two local and eight regional transit routes. More than 1,500 passengers board and alight buses at this location every day. The US 36 Flatirons Flyer Bus Rapid Transit (BRT) improvements are projected to nearly double the amount of boardings at this location over the next 20 years with no increase in the amount of available park-n-Ride spaces.

Many current transit users, as well as new ones, will be accessing the park-n-Ride by bicycling or walking to the facility. Interest in accessing the station by electric vehicle or use of a shared mobility service is also increasing.

The proposed project will construct a multi-use path along the south side of Table Mesa Drive creating a facility that is separate and raised from the roadway lanes. The multi-use path will improve the walking and bicycling conditions for residents, employees and visitors by addressing travel comfort and security which is both a DRCOG Metro Vision focus area and a City of Boulder TMP Vision Zero objective of continuous safety improvement.

Mobility hub features such as an electric vehicle charging area, additional or enhance bicycle storage and information kiosks support access by various options. Signage and wayfinding, placemaking and urban design elements would be considered for installation to build upon the recently completed US 36 First and Final Mile signage and wayfinding project.

This project will help to expand options for current and future bicyclists and pedestrians by installing a bicycling and walking facility designed to accommodate a range of ages and abilities. Provision of these expanded options and safety improvement is intended to lead to shifts from single occupant vehicle (SOV) travel which helps to support the City of Boulder TMP goals of reduced VMT, reduced SOV travel and GhG emissions and a reduction in daily resident and non-resident VMT.

The conceptual plans and project cost estimate are included as an attachment to this application.

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

This project will construct a 10 foot-wide multi-use path for bi-directional travel from the on-ramp at US 36 eastbound to the Table Mesa park-n-Ride and mobility hub features and facilities.

10. What is the status of the proposed project?

This project is in the conceptual plan development phase.

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.

This project includes pavement and bridge approach reconstruction, some of which could be deferred to the future. The minimum federal funding amount that would be beneficial is \$1.7 Million.

A. Project Financial Information and Funding Request

1. Total Project Cost	\$5,500,000	
2. Total amount of DRCOG Subregional Share Funding Request	\$2,200,000	40% 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
City of Boulder	\$3,300,000	60%
	\$	
	\$	
	\$	
	\$	
	\$	
Total amount of funding provided by other funding partners (private, local, state, Regional, or federal)	\$3,300,000	60%

Funding Breakdown (year by year)*					
	FY 2020	FY 2021	FY 2022	FY 2023	Total
Federal Funds	\$	\$76,000	\$304,000	\$1,140,000	\$2,200,000
State Funds	\$	\$	\$	\$	\$0
Local Funds	\$	\$114,000	\$456,000	\$1,710,000	\$3,300,000

**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.*

Total Funding	\$0	\$275,000	\$1,100,000	\$4,125,000	\$5,500,000
4. Phase to be Initiated <i>Choose from Design, ENV, ROW, CON, Study, Service, Equip. Purchase, Other</i>	Choose an item	Design	Design	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 checked="checked" 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 Table Mesa park-n-Ride is a major hub and station for local and regional travel, located on the southern end of Boulder, connected to US 36, SH 157/Foothills Parkway and South Boulder Road. This station is one of the busiest locations in the RTD system serving two local and eight regional transit routes which connect the urban centers along the US36 corridor with the 3 urban centers within the City of Boulder including downtown Boulder, University of Colorado and Central Boulder. More than 1,500 passengers board and alight buses at this location every day. The station accommodates over 375 bus arrivals per day and 824 parking spaces. The US 36 Flatirons Flyer Bus Rapid Transit (BRT) improvements are projected to nearly double the amount of boardings at this location over the next 20 years with no increase in the amount of available park-n-Ride spaces.

Many current transit users, as well as new ones, will be accessing the park-n-Ride by bicycling or walking to the facility. Table Mesa Drive is a four-lane roadway with a posted speed limit of 35 mph, 5 foot wide attached sidewalks and 5 foot wide on-street bicycle lanes. Interest in accessing the station by electric vehicle or use of a shared mobility service is also increasing.

The proposed project will construct a multi-use path along the south side of Table Mesa Drive creating a facility that is separate and raised from the roadway lanes. The multi-use path will improve the walking and bicycling conditions for residents, employees and visitors addressing travel comfort and security which supports the city's transportation master plan (TMP) Vision Zero safety objective. This project will help to expand options for current and future bicyclists and pedestrians by installing a bicycling and walking facility designed to accommodate a range of ages and abilities. Provision of these expanded options and safety improvement is intended to lead to shifts from single occupant vehicle (SOV) travel which helps to support the TMP goals of reduced VMT, reduced SOV travel and GhG emissions and a reduction in daily resident and non-resident VMT.

Mobility hub features such as an electric vehicle charging area, additional or enhance bicycle storage and information kiosks support access by various options. Signage and wayfinding, placemaking and urban design elements would be considered for installation to build upon the recently completed US 36 First and Final Mile signage and wayfinding project.

Example of Mobility Hub



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

Yes, this project would enhance first and final mile access to the major transit hub which connects transit users from multiple municipalities throughout the subregion as well as US 36 corridor urban centers, downtown Louisville urban center and the University of Colorado, downtown Boulder and central Boulder urban centers.

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

Yes, the first and final mile access improvements benefits users of regional transit service which benefits other subregions including the City and County of Denver, City and County of Broomfield, Adams and Jefferson counties.

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

The Table Mesa park-n-Ride is a major hub and station for local and regional travel. It is one of the busiest locations in the RTD system accommodating over 375 bus arrivals per day serving and more than 1,500 passengers boarding and alighting buses there each day. The US 36 Flatirons Flyer Bus Rapid Transit (BRT) improvements are projected to nearly double the amount of boardings at this location over the next 20 years with no increase in the amount of available 824 park-n-Ride spaces. Many current transit users, as well as new ones, will be accessing the park-n-Ride by bicycling or walking to the facility and interest in accessing the station by electric vehicle or use of a shared mobility service is also increasing.

The proposed project will construct a multi-use path along the south side of Table Mesa Drive creating a facility that is separate and raised from the roadway lanes. The multi-use path will improve walking and bicycling travel comfort and security for transit riders accessing the station as well as the 29,000 residents and employees in the surrounding 1-mile area.

The multi-use path and mobility hub features will support the first and final mile access to Table Mesa park-n-Ride to meet current and anticipated demand for use of this major transit hub.

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 Table Mesa park-n-Ride project supports thriving and prosperous business and quality of life with improved first and final mile access improvements. The multi-use path provides a safer and more comfortable walking and bicycling facility designed for a wider range of users and mobility hub features will support access from shared mobility services and electric vehicles. The increased access and connections for travel modes benefits local businesses through improved transportation for residents, customers, services and employees. As evidenced by the past federal stimulus efforts, construction of transportation infrastructure is considered a good mechanism for stimulating local economies through the creation of direct construction jobs and supporting positions and the purchases of goods and services.

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

The mobility hub features and multi-use path will improve multimodal access to the facility which currently receive 1,500 daily boardings and alightings for the 2 regional and 8 local transit routes providing service to the Table Mesa park-n-Ride location.

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

The City of Boulder, RTD, and Commuting Solutions have been working to make first and final mile improvements to the Table Mesa park-n-Ride. A concurrence form from RTD has been submitted and the city and RTD will work together on the final designs.

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)**.

Vulnerable populations disproportionately rely on transit service for mobility. For people in the region entirely or mostly dependent on transit for mobility, those using the Table Mesa park-n-Ride as their primary access point would experience the most direct benefits from the project. However, many other patrons throughout the region would also experience benefits. Over 12% of the population residing within 1 mile of this project are aged 65 years old or older. Over 5% of the households within 1 mile of the project do not have a motor vehicle and 13% of the households are low-income.

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

Increased reliability of the existing multimodal transportation network is supported by this project by expanding the options to a wider range of current and potential users. This project will provide direct bicycle and pedestrian connections to and from regional and local transit services.

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

The multi-use path will provide a raised and protected bicycle and pedestrian facility improving travel comfort and security for users of a wider range of ages and abilities and supports the city's TMP Vision Zero safety objectives.

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?

☒ Yes ☐ No

Describe, including supporting quantitative analysis

This project is within the City of Boulder's Area 1 Planning Area, as defined [Boulder in the Valley Comprehensive Plan](#) which fully supports growth where urban-level infrastructure already exists and/or there are plans in place for infrastructure and service expansion. Consistent with the BVCP, the urban level infrastructure has been planned to accommodate any and all future redevelopment.

[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 allows residents, employees and visitors to access regional transit service linking Boulder with Denver and other urban centers in the metro region.

[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*

The project's multi-use path and mobility hub features will support first and last mile connections and support increased transit ridership.

[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*

This project supports and encourages the shift towards transit use and reduces auto trips which leads to a reduction in greenhouse gas (GhG) emissions.

[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*

This project will also support pedestrians bicyclists and transit users' access to the adjacent South Boulder Creek Greenway system and nearby City of Boulder open space.

[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*

Numerous studies support the health benefits of transit commuting over driving due to the associated walking portions of the transit trip. The complete multimodal transportation facilities in the area will facilitate first and last mile connections and support increased transit ridership. This project also supports existing and future transit users to access the adjacent South Boulder Creek Greenway system and other nearby City of Boulder open space properties.

[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*

This project will support first and final mile access to transit at the Table Mesa park-n-Ride which provides a connection to the US 36 Flatirons Flyer BRT service and the AB Airport bus service.

[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*

The Table Mesa park-n-Ride Multi-Use Path and Access Improvements increases the attractiveness and usage of transit for residents, employees and visitors accessing downtown Boulder, Denver and other urban centers and employment along the US 36 corridor

D. Project Leveraging

WEIGHT **10%**

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

60%

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) <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. (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	410
2. Population and Employment	

Year	Population within 1 mile	Employment within 1 mile	Total Pop and Employ within 1 mile
2020	23,661	5592	29,253
2040	23,659	5,768	29,427

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.	31	314
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)	15	157
5. = Initial number of new bicycle trips from project (#3 – #4)	16	157
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)	4	47
7. = Number of SOV trips reduced per day (#5 - #6)	12	110
8. Enter the value of {#7 x 2 miles} . (= the VMT reduced per day) (Values other than 2 miles must be justified by sponsor)	24	220
9. = Number of pounds GHG emissions reduced (#8 x 0.95 lbs.)	22	209
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)	500
2. Population and Employment	

Year	Population within 1 mile	Employment within 1 mile	Total Pop and Employ within 1 mile
2020	23,661	5,592	29,253
2040	23,659	5,768	29,427

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	12	125
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)	6	62
5. = Number of new trips from project (#3 – #4)	6	63
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)	1	19
7. = Number of SOV trips reduced per day (#5 - #6)	5	44

12. Enter the value of {#7 x .4 miles} . (= the VMT reduced per day) (Values other than .4 miles must be justified by sponsor)	2	17
8. = Number of pounds GHG emissions reduced (#8 x 0.95 lbs.)	1	16
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

Use Current Census Data	Vulnerable Populations	Population within 1 mile
	1. Persons over age 65	3,880
	2. Minority persons	5,428
	3. Low-Income households	1,601
	4. Linguistically-challenged persons	359
	5. Individuals with disabilities	3,117
	6. Households without a motor vehicle	723
	7. Children ages 6-17	3,217
	8. Health service facilities served by project	8

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). <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:

F. Traffic Crash Reduction

1. Provide the current number of crashes involving motor vehicles, bicyclists, and pedestrians (<i>most recent 5-year period of data</i>)		Sponsor must use industry accepted crash reduction factors (CRF) or accident modification factor (AMF) practices (<i>e.g., NCHRP Project 17-25, NCHRP Report 617, or DiExSys methodology</i>).
Fatal crashes	0	
Serious Injury crashes	3	
Other Injury crashes	36	
Property Damage Only crashes	140	
2. Estimated reduction in crashes <u>applicable to the project scope</u> (<i>per the five-year period used above</i>)		
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	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

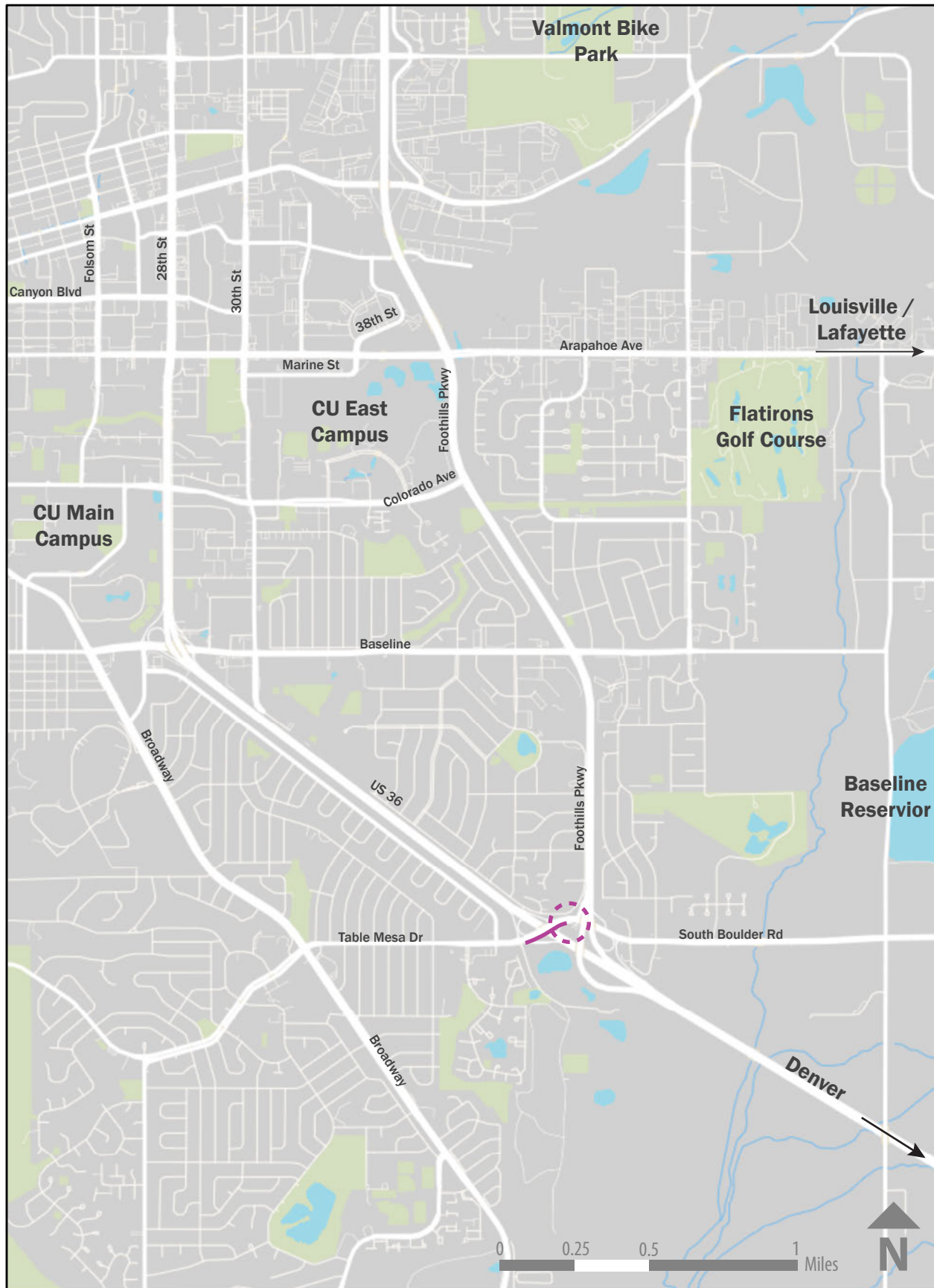
H. Bridge Improvements

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 <i>(identified and calculated by the sponsor)</i>	
1.	
2.	
3.	
J. Disbenefits or Negative Impacts <i>(identified and calculated by the sponsor)</i>	
1. Increase in VMT? <i>If yes, describe scale of expected increase</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No
2. Negative impact on vulnerable populations	
3. Other:	

Table Mesa Park-n-Ride

Access Improvements



- Multimodal Enhancements
- Proposed Mobility Hub Features and Facilities



COLORADO
Department of Transportation
Region 4

Regional Director's Office
10601 W. 10th Street
Greeley, CO 80634-9000

February 7, 2019

Gerrit Slatter
City of Boulder
1101 Arapahoe Avenue - 3F
Boulder, CO 80302

Table Mesa Bridge Multi-Use Path

Dear Mr. Slatter,

RE: CDOT Region 4 Support Request for DRCOG TIP Sub-Regional Call FY20-23

This letter is to inform you that the Colorado Department of Transportation (CDOT) Region 4 staff concurs with the following City of Boulder application for the DRCOG Sub-Regional FY20-23 TIP Call. This applies only to the Table Mesa Bridge Multi-Use Path project, in the event it is selected by DRCOG as a sub-regional project around Summer 2019. If this project is awarded DRCOG funds at a later date, the Local Agency (LA) will need to re-affirm CDOT's concurrence at that time.

This concurrence is conditionally granted, based on the scope as described. CDOT does, however, retain final decision-making authority for all improvements and changes within CDOT's right of way. As the project progresses, the LA will need to work closely with CDOT Region staff to ensure CDOT's continued concurrence.

This project must comply with all CDOT and/or FHWA requirements, including those associated with clearance for right of way, utilities and environmental. All costs associated with clearances, including right of way acquisition, utilities relocation and environmental mitigation measures, such as wetland creation, must be included in the project costs. CDOT staff will assist in determining which clearances are required for your project. The *CDOT Local Agency Manual* includes project requirements to assist with contracting, design and construction, accessed at: http://www.coloradodot.info/business/designsupport/bulletins_manuals.

Should you have any questions regarding this concurrence, or if your agency would like to schedule time to meet with a member of the CDOT Specialty Unit, please contact Karen Schneiders at (970) 350-2172.

Sincerely,

Johnny Olson, P.E.
Region 4 Transportation Director

JWO:KAS:mbc
cc: Todd Cottrell, DRCOG
Long Nguyen
Katrina Klobberdanz
Kateyn Triggs
Karen Schneiders



From: Quinn, Chris <Chris.Quinn@RTD-Denver.com>
Sent: Friday, February 8, 2019 4:19 PM
To: Slatter, Gerrit <SlatterG@bouldercolorado.gov>
Cc: Stiffler, Natalie <StifflerN@bouldercolorado.gov>; Van Meter, Bill <Bill.VanMeter@RTD-Denver.com>; Sirois, William <William.Sirois@RTD-Denver.com>
Subject: RE: City of Boulder Request for CDOT Support - DRCOG TIP support

Gerrit,

This email is to provide RTD's concurrence with the City of Boulder's TIP application requests. If funding is awarded for the Table Mesa or Downtown Boulder Transit Center projects, we will want to work closely with the City on the design details of these projects.

Please contact me if you would like to discuss further.

Thanks

Chris

Chris Quinn
Project Manager
Regional Transportation District
Suite 700
1560 Broadway
Denver, CO 80202
(303) 299-2439
chris.quinn@rtd-denver.com

From: Slatter, Gerrit <SlatterG@bouldercolorado.gov>
Sent: Monday, January 07, 2019 3:24 PM
To: Quinn, Chris <Chris.Quinn@RTD-Denver.com>
Cc: Stiffler, Natalie <StifflerN@bouldercolorado.gov>
Subject: City of Boulder Request for CDOT Support - DRCOG TIP support

Chris,

Please see attached the request for support documents for the City of Boulder for the DRCOG TIP process. Please let me know if you have any questions.

Thanks,

Gerrit Slatter, PE, PTOE
Principal Engineer – Transportation Capital Projects



Ph: (303) 441-1978
slatterg@BoulderColorado.gov
Public Works Department
1101 Arapahoe Ave, 3rd Floor
Boulder, CO 80306

ACTIVE TRANSPORTATION ANALYSIS

NORTH ROUTE

Wide sidewalks from the transit station along Boulder Rd create a reasonably comfortable environment for pedestrians. Crosswalk striping, signage, and pedestrian signals allow for the safe crossing of highway on- and off-ramps. Manhattan Dr, Crescent Dr, and Eisenhower Dr are all low-stress roads through residential neighborhoods that provide a comfortable route for bicyclists. Signage at key junctions facilitates navigation.

Challenges: Conventional bike lanes on Boulder Rd do not provide bicyclists with separation from four lanes of traffic, which may be uncomfortable for some bicyclists. The intersection of Boulder Rd and Manhattan Dr is somewhat confusing for east-bound bicyclists, as current wayfinding signage does not include the option to turn north onto Manhattan Dr, even though it is a designated bicycle route.

SOUTHWEST ROUTE

Similar to the north route, pedestrian facilities immediately to the west of the station provide a comfortable environment with wide detached sidewalks and well-designed bicycle and pedestrian crossings at the highway on- and off-ramps. North-bound Lehigh St has shared lane markings, which are sufficient for the relatively low-stress roadway. A bike lane on the south-bound side adds comfort for bicyclists traveling uphill.

Challenges: Conventional bike lanes on Table Mesa Dr do not buffer bicyclists from the four lanes of relatively fast-moving vehicular traffic. Traveling east, the bike lane on Table Mesa Dr only begins at Broadway; from Lehigh St to Broadway infrequent shared lane markings direct bicyclists to share the travel lane with vehicles, a less than comfortable situation for many bicyclists given four to five travel lanes.

GENERAL FINDINGS

- While both routes have generally adequate infrastructure for confident bicyclists, some sections do not provide sufficient comfort for less-confident bicyclists.
- Pedestrian facilities within the walkshed are generally very high-quality.

Level of Comfort Analysis

- Most Comfortable
- Least Comfortable

Existing Bicycle Facilities

- Route/Shared Rd
- Shared Lane/Bike Blvd
- Bike Lane
- Wide Sidewalk
- Buffered/Separated Bike Lane
- Trail/Shared-Use Path

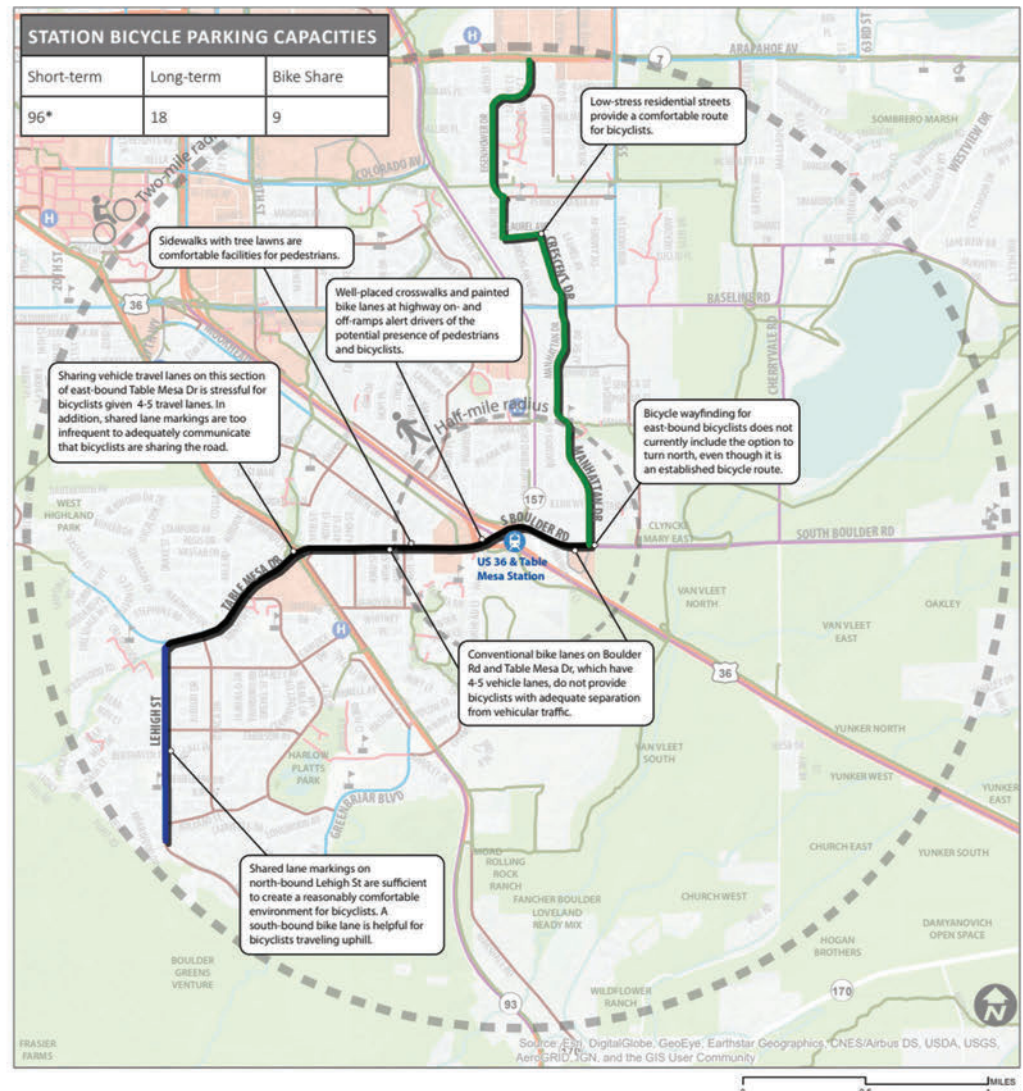
Transit

- SkyRide Bus
- Regional Bus
- Light Rail
- Call-n-Ride
- Local Bus

Landmarks

- Light Rail or BRT Station
- Healthcare/Medical Facility
- School
- Activity Generator
- Park-n-Ride

US 36 AND TABLE MESA STATION (BOULDER)



*Includes bike parking capacities for the existing Bike-n-Ride shelter that is part of the Boulder County Bike-n-Ride Program.



CITY OF BOULDER
Downtown Boulder Bus Station Capacity Enhancements
Table Mesa over US 36 Multi-Use Path

Item	Description	Unit	Contract Units	Unit Estimate	Estimate Amount
202	REMOVAL OF MEDIAN COVER	SY	639.59	\$ 10.25	\$ 6,555.80
202	REMOVAL OF SIDEWALK	SY	2314.69	\$ 11.84	\$ 27,405.93
202	REMOVAL OF CURB & GUTTER	LF	5403.28	\$ 5.76	\$ 31,122.89
202	REMOVAL OF CONCRETE PAVEMENT	SY	10926.01	\$ 17.93	\$ 195,903.36
202	REMOVAL OF ASPHALT MAT	SY	3507.57	\$ 11.49	\$ 40,301.98
304	AGGREGATE BASE COURSE (CLASS 6)	TON	4600.00	\$ 43.32	\$ 199,272.00
403	HOT MIX ASPHALT (PATCHING) (ASPHALT)	TON	197.30	\$ 177.52	\$ 35,024.70
412	CONCRETE PAVEMENT (8.5-INCH)	SY	10601.26	\$ 56.63	\$ 600,349.10
413	CONCRETE PAVEMENT (8.5-INCH) (SPECIAL)	SY	169.35	\$ 81.00	\$ 13,717.35
413	CONCRETE PAVEMENT (8.5-INCH) (COLORED)	SY	155.40	\$ 118.77	\$ 18,456.86
608	CONCRETE CURB RAMP	SY	342.50	\$ 112.61	\$ 38,568.93
608	CONCRETE SIDEWALK (6-INCH)	SY	1925.90	\$ 55.85	\$ 107,561.52
609	CONCRETE SIDEWALK (6-INCH) (COLORED)	SY	388.79	\$ 81.41	\$ 31,651.39
608	TRUNCATED DOMES	SF	516.57	\$ 61.67	\$ 31,856.87
609	CURB AND GUTTER (TYPE 2) (SECTION I-B)	LF	2616.89	\$ 15.87	\$ 41,530.04
609	CURB AND GUTTER (6-INCH) (CITY STANDARD)	LF	2786.39	\$ 18.94	\$ 52,774.23
610	MEDIAN COVER MATERIAL (PATTERNED) (COLORED)	SY	441.50	\$ 20.75	\$ 9,161.13
610	MEDIAN CURB SKIRT (PATTERNED) (COLORED)	SY	198.09	\$ 64.37	\$ 12,751.05
614	TRAFFIC SIGNAL	EA	2.00	\$ 400,000.00	\$ 800,000.00
SUBTOTAL OF CONSTRUCTION ITEMS					\$ 2,293,965.12
208	EROSION CONTROL MANAGEMENT	LSM		2%	\$ 45,879.30
210	CITY UTILITY RELOCATIONS	LSM		5%	\$ 114,698.26
212	LANDSCAPING	LSM		5%	\$ 114,698.26
614	ROADWAY/ PATH LIGHTING UPGRADES	LSM		4%	\$ 91,758.60
	FUNCTIONAL ART	LSM		1%	\$ 22,939.65
625	CONSTRUCTION SURVEYING	LSM		3%	\$ 68,818.95
626	MOBILIZATION	LSM		10%	\$ 229,396.51
627	PERMANENT PAVEMENT MARKINGS	LSM		2%	\$ 45,879.30
630	TEMPORARY TRAFFIC CONTROL	LSM		15%	\$ 344,094.77
700	FORCE ACCOUNT ITEMS	F/A		5%	\$ 168,606.44
CONSTRUCTION PHASE ESTIMATE					\$ 3,540,735.16
	DESIGN PHASE ENGINEERING			5%	\$ 177,036.76
	LANDSCAPE ARCHITECTURE/ URBAN DESIGN			1%	\$ 35,407.35
	GEOTECHNICAL ENGINEERING			1%	\$ 35,407.35
	HYDRUALICS ENGINEERING/ FLOOD PLAIN PERMITTING			2%	\$ 70,814.70
	ELECTRICAL/ LIGHTING ENGINEERING			1%	\$ 35,407.35
	TRAFFIC ENGINEERING			2%	\$ 70,814.70
	DESIGN PHASE POTHOLING			2%	\$ 70,814.70
	DESIGN SURVEYING			2%	\$ 70,814.70
	CITY SALARIES (DESIGN PHASE)			3%	\$ 88,518.38
	MISCELLANEOUS DESIGN COSTS			1%	\$ 35,407.35
DESIGN PHASE SUBTOTAL					\$ 690,443.36
	CONSTRUCTION MANAGEMENT			5%	\$ 177,036.76
	MATERIAL TESTING			1%	\$ 35,407.35
	DESIGN SERVICES DURING CONSTRUCTION			1%	\$ 35,407.35
	CITY SALARIES (CONSTRUCTION PHASE)			5%	\$ 177,036.76
	CDOT CHARGES			1%	\$ 35,407.35
	PRINTING/ ADVERTISING			NOMINAL	\$ 1,500.00
	MISCELLANEOUS CONSTRUCTION COSTS			1%	\$ 35,407.35
CONSTRUCTION ADMINISTRATION SUBTOTAL					\$ 497,202.92
PROJECT TOTALS					\$ 4,728,381.44
	PROJECT CONTINGENCIES			10%	\$ 472,838.14
PROJECT BUDGET ESTIMATE					\$ 5,201,219.59

Construction Cost Escalation		
FY18	3%	\$ 4,870,232.88
FY19	3%	\$ 5,016,339.87
FY20	3%	\$ 5,166,830.07
FY21	3%	\$ 5,321,834.97
FY22	3%	\$ 5,481,490.02
FY23	3%	\$ 5,645,934.72

Project	Population 2020*	Jobs 2020*	Population 2040*	Jobs 2040*
Interim Downtown Boulder Station Improvements	37,463	40,860	38,410	44,763
30th St Improvements (Arapahoe Ave/SH7 - Boulder Creek)	40,432	45,355	42,627	55,859
Hop Transit Service Extension	40,195	59,777	45,241	76,375
Table Mesa Park-n-Ride Access	23,661	5,592	23,659	5,768
SH7/Arapahoe Avenue Multi-Use Path and Transit Stop Improvements	37,916	54,656	39,777	69,926
SH7/Arapahoe Avenue Bridge Replacement at Boulder Creek	30,262	48,684	31,545	61,220

* Data based on DRCOG projections model. Reported data is for all TAZ within 1 mile of project boundary. TAZ that are partially and wholly inside the 1 mile distance are included in the sum.

Vulnerable Populations Data- COB TIP Grant Applications

	30th Street Improvements	HOP Transit Service Expansion	SH7/Arapahoe Avenue Bridge Replacement at Boulder Creek	SH7/Arapahoe Avenue	Downtown Boulder Station Improvements	Table Mesa park-n-Ride Multi Use Path and Access Improvements
Total Population	46568	40398	38157	43855	41776	30900
Households	17846	15830	14282	17055	15697	12123
Person over age 65 within 1 mile	3423	3616	2817	4008	3047	3880
Minority persons within 1 mile	10591	9495	9565	11015	7344	5428
Household Poverty	5024	3173	3866	4277	4356	1601
Linguistically-challenged persons within 1 mile	835	1014	755	925	650	359
Individuals with disabilities within 1 mile	4011	2997	3415	3690	3117	3117
Households without a motor vehicle within 1 mile	2351	1710	2015	2243	1578	723
Children ages 6-17 within 1 mile	2641	3433	2531	3101	2535	3217
CDPHE Health Facilities	12	21	18	19	16	8
*Figures based on DRCOG provided census data						

City of Boulder - 2019 TIP Application Data Sources

Project	30th St Improvements (Arapahoe Ave/SH7 to Boulder Creek)
Bicycle Use	City of Boulder - Turning Movement Count Program
	30th St Corridor Study - Bicycle Data
	City of Boulder - Travel Diaries
	City of Boulder - Transportation Master Plan
Pedestrian Use	City of Boulder - Turning Movement Count Program
	30th St Corridor Study - Pedestrian Data
	City of Boulder - Travel Diaries
	City of Boulder - Transportation Master Plan
Traffic Crash Reduction	City of Boulder Police Department - Transportation Crash Database

Project	SH7/Arapahoe Ave Improvements (38th St to Cherryvale Rd)
Bicycle Use	City of Boulder - Turning Movement Count Program
	City of Boulder - Travel Diaries
	City of Boulder - Transportation Master Plan
Pedestrian Use	City of Boulder - Turning Movement Count Program
	City of Boulder - Travel Diaries
	City of Boulder - Transportation Master Plan
Traffic Crash Reduction	City of Boulder Police Department - Transportation Crash Database
	CMF ID 9250 - Install Shared Path

Project	SH7/Arapahoe Ave Boulder Creek Bridge Replacement
Bicycle Use	City of Boulder - Turning Movement Count Program
	City of Boulder - 38th/Arapahoe Av Multi-Use Path Permanent Counter
	City of Boulder - Travel Diaries
	City of Boulder - Transportation Master Plan
Pedestrian Use	City of Boulder - Turning Movement Count Program
	City of Boulder - 38th/Arapahoe Av Multi-Use Path Permanent Counter
	City of Boulder - Travel Diaries
	City of Boulder - Transportation Master Plan
Traffic Crash Reduction	City of Boulder Police Department - Transportation Crash Database
	CMF ID 9250 - Install Shared Path

Project	Table Mesa Park-n-Ride Access Improvements
Bicycle Use	City of Boulder - Turning Movement Count Program
	City of Boulder - Travel Diaries
	City of Boulder - Transportation Master Plan
Pedestrian Use	City of Boulder - Turning Movement Count Program
	City of Boulder - Travel Diaries
	City of Boulder - Transportation Master Plan
Traffic Crash Reduction	City of Boulder Police Department - Transportation Crash Database