Part 1 Base Information

1.	Project Title		City-Wide Pedestrian Accessibility Enhancement – Closing Critical Gaps of Missing Sidewalks / Ramps			
2.	Project <i>Start/End</i> points o Geographic Area <i>Provide a map with submitte</i> <i>appropriate</i>	r 11, as	Sidewa Count	Sidewalk gaps located throughout the city of Aurora within Arapahoe County. See maps in Attachment A		
3.	Project Sponsor (entity that construct/ complete and be fina responsible for the project)	will Incially	City of	ity of Aurora		
4.	Project Contact Person, Ti	tle,	Mac C	allison, Transportation Planni	ng Supervisor, 303-739-7256,	
	Phone Number, and Emai		<u>Mcalli</u>	so@auroragov.com		
5.	Does this project touch CL access RTD property, or re	DOT Righ equest RT	t-of-Way, D involve	Way, involve a CDOT roadway, nvolvement to operate service? Yes No <i>If yes, provide applicable concurrence</i> <i>documentation with submittal</i> See CDOT and RTD letters of concurrence in Attachment B.		
			RCOG 204	0 Fiscally Constrained Region	al Transportation Plan (2040 FCRTP)	
6.	What planning document(s) identifies this project?	⊠ Lo plan:	ocal	in Attachment B. 2040 Fiscally Constrained Regional Transportation Plan (2040 I Arapahoe County Bicycle and Pedestrian Master Plan, 20 (http://www.co.arapahoe.co.us/1594/Bicycle-and-Pedes Master-Plan, pages: 17 and 57) Aurora Places, 2018) (https://www.auroragov.org/UserFiles/Servers/Server le/Business%20Services/Planning/Comprehensive%20Pl %20Places%20Comp%20Plan%20Adopted%202018%20I pages: 21, 28, 30-31, 40-41, 42-43, 44-45, 46-47, 65, 70, Fitzsimons Area Wide Multi-modal Transportation Study (https://www.auroragov.org/UserFiles/Servers/Server mage/Departments/Development/Fitz.pdf, pages: ES-7 72, 73, and 74) Bicycle and Pedestrian Master Plan, 2008 (https://www.auroragov.org/business_services/planning d_studies/transportation_planning/bicycle_and_pedest		
		0	ther(s):			
Provide link to document/s and referenced page number if possible, or provi with submittal		number if possible, or provide documentation				

7. Identify the project's key elements.

 Rapid Transit Capacity (2040 FCRTP) Transit Other: 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:
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8. Problem Statement What specific Metro Vision-related subregional problem/issue will the transportation project address?

The City of Aurora proposes to fill in missing sidewalk gaps in areas that are both near schools, and in block groups with multiple categories of higher than regional average percentage of vulnerable populations. Metro Vision recognizes the need to promote livability in our communities, while also improving the region's multimodal system and increasing access to opportunities that promote health or active choices. **Closing critical gaps in the sidewalk infrastructure on collector and arterial roads addresses these issues.** The city of Aurora's sidewalk network has some critical gaps throughout the city. These gaps along arterial and collector roads, which either directly connect with regional trip generators such as the Anschutz Medical Campus/Fitzsimons Innovation Community at the border of Adams County and Arapahoe County, or the regional transit network, have become significant obstacles preventing residents and visitors from safe, comfortable and reliable accessing regional destinations or transit network. A two-foot wide sidewalk gap between the house of a person using a wheelchair or other mobility device, and the nearest transit stop, can require the resident to use paratransit service rather than a fixed route service. This can result in a cost to RTD of \$43.47 for a paratransit trip, compared to a cost of \$5.02 for a bus trip (National Transit Database, 2017).

At the time of development of the roadway network and land uses in some of these areas with gaps, the importance of a complete and comfortable sidewalk network to citizens and the overall transportation system was not fully recognized and, therefore, incomplete sidewalk network were allowed to occur over time. In some developed locations, missing sidewalks are waiting to be constructed when the adjacent infill land use developments occur. However, present-day users have to navigate challenging travel routes to schools or health facilities with limited choices before those significant sidewalk gaps are closed. These sidewalks gaps occur primarily in northwest Aurora, an area that is characterized primarily by relatively older neighborhoods, denser household concentrations, and a higher proportion of disadvantaged or vulnerable populations relative to the metro area as a whole. **Requiring many mobility impaired persons to use the much more costly paratransit service rather than the more efficient fixed route transit service, because of relatively short gaps in the sidewalk network, has regional implications on the ability for RTD to provide transit service throughout the metro area. Filling in these gaps would address several of the Metro Visions' objectives related to livability and transportation.**

A complete sidewalk network will support "built environments...that accommodate and the widest spectrum of people – regardless of age, income, or ability" (Metro Vision Regional Objective 1). Addressing sidewalk gaps improves the region's multimodal transportation system and connections including pedestrian accessibility and supports the transit system through first and last mile connections (Metro Vision Regional Objective 4). Creating a defined, designated space for pedestrians alongside roads creates a safer transportation system by reducing fatalities and serious injuries of pedestrian walking along collector and arterial streets, and increases the level of service for pedestrians (Metro Vision Regional Objective 5). Improving the transportation network, particularly for those not driving and in areas with high numbers of vulnerable populations, increases accesses to amenities

that **support healthy**, active choices to create comfortable and safe travel and access for users of all ages and abilities, including access to food options (Metro Vision Regional Objective 10). Ensuring a complete sidewalk network also means that connections are improved to health care, whether residents walk directly to a health care facility, or walk to a transit first in order to reach health care (Metro Vision Regional Objective 11). Finally, by prioritizing gap closures in areas with higher than regional average of vulnerable populations, this project will improve access for the traditionally underserved areas and their residents (Metro Vision Regional Objective 13).

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

This project will design and construct sidewalks that would close gaps in portions of Aurora's sidewalk network. The City of Aurora has previously identified and catalogued in GIS shapefiles the location of sidewalk gaps, what gaps are currently programmed to be addressed by the city or private developer, and an initial evaluation of whether constructing sidewalks at those locations would be feasible relative to current or projected need. For this TIP application, the previously identified sidewalk gaps have been further evaluated to those that only meet all of the below conditions:

- Within ½ mile of elementary, middle, or high school, or vocational school or college. Administrative buildings have been excluded.
- Located on a collector or arterial street
- In 2016 American Community Survey block groups with **three or more** of the below **vulnerable populations** above the average for the DRCOG area:
 - Percent of population above the age 65
 - Number of Health Facilities
 - Percent minority population
 - o Percent of household in poverty
 - Percent of language challenged
 - Percent of working persons with a disability
 - Percent of working persons in poverty
 - Percent of households with no vehicle available

The City of Aurora has identified 6,230 feet of sidewalk in Arapahoe County along arterial streets and collector streets that would be designed and constructed under this project. The new sidewalks would be constructed according to the city's current standards, including **10 foot wide, detached sidewalks along arterial streets and 6 foot wide detached sidewalks along collector streets.** Associated ADA ramps would also be constructed. For those gaps that directly serve transit stops, the city will coordinate with RTD to determine if other transit amenities, such as stop pad or benches or shelters, will be installed. Should an initially selected sidewalk gap be deemed upon further evaluation technically infeasible or likely to have no current or future demand, a like-kind sidewalk gap meeting the same selection criteria will be addressed.

The initial sidewalk gaps selected for this TIP project were based on a preliminary evaluation process applying the methodology described above. More detailed and in-depth analyses will be conducted during the project implementation phase when a TIP grant is awarded for this project. Selection of final sidewalk segments would account for what sidewalk gaps have since been addressed, subsequent land development adjacent to any current gaps, and best planning and engineering judgement to assemble gaps of meaningful length and independent utilities.

The overall cost estimate includes design and construction of the actual sidewalk segments including necessary adjustments in landscaping/irrigation, on-site and off-site drainage, utility relocation, construction stormwater management, construction traffic control, mobilization.

10. What is the status of the proposed project?

Sidewalk gap locations have been identified as well as a preliminary evaluation of the technical feasibility of construction and current or projected potential demand. Specific gap locations occurring in areas with high numbers of vulnerable populations relative to the DRCOG area has also been identified. The need to address sidewalk gaps, and the adverse impact of those residents walking or biking in Aurora has been highlighted by various local plans, including: Arapahoe County Bicycle and Pedestrian Master Plan, 2017, Fitzsimons Area Wide Multi-modal Transportation Study, 2009, Aurora's Bicycle and Pedestrian Master Plan, 2012, Aurora Places, 2018, and the NW Aurora Mobility study, 2018. The city has programed the needed matching fund and are ready to begin the project implementation when the TIP grant is awarded for this project.

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

	_	
X Yes		No

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

The current project application would address arterial and collector sidewalk gaps within ½ mile of schools in block groups with 3 or more vulnerable populations. This would be approximately 6,230 linear feet of sidewalks. Arterial and collector **sidewalk gaps within ½ mile of schools in block groups of 5 or more vulnerable populations** could be addressed for \$1,118,000.This would address approximately 4,600 linear feet of sidewalks. See cost estimates for limited scope in **Attachment C**.

A. Project Financial Information and Funding Request

1.	1. Total Project Cost See Attachment C, a planning level cost estimate.		
2.	Total amount of DRCOG Subregional Share Funding Request	\$1,029,800	66% of total project cost
3.	Outside Funding Partners (<i>other than DRCOG Subregional Share funds</i>) List each funding partner and contribution amount.	\$\$ Contribution Amount	% of Contribution to Overall Total Project Cost
	City of Aurora	\$519,200	34%
		\$	
		\$	
		\$	
		\$	
		\$	
То	tal amount of funding provided by other funding partners (private, local, state, Regional, or federal)	\$1,549,000	

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	\$	\$	\$	\$1,029,800	\$1,029,800		
State Funds	\$	\$	\$	\$	\$0		
Local Funds	\$	\$	\$	\$519,200	\$519,200		
Total Funding	\$0	\$0	\$0	\$1,549,000	\$1,549,000		
4. Phase to be Initiated Choose from Design, ENV, ROW, CON, Study, Service, Equip. Purchase, Other		Choose an item	Choose an item	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							

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. See **Application Cover Letter**, a letter from the city of Aurora city manager.

Part 2 **Evaluation Criteria, Questions, and Scoring**

A. Subregional significance of proposed project

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 city of Aurora's sidewalk network has a collection of gaps throughout the city. These gaps are along arterial and collector roads, which either directly connect with significant regional employment centers or urban centers such as the Fitzsimmons medical campus at the border of Adams County and Arapahoe County, or allow residents and visitors to more safely, comfortably, and reliably access the regional transit network that leads to more important regional destinations throughout the metro area. A two-foot wide sidewalk gap between the house of a person using a wheelchair or other mobility device, and the nearest transit stop, can require the resident to use paratransit service rather than a fixed route service. This can result in a cost to RTD of \$43.47 for a paratransit trip, compared to a cost of \$5.02 for a bus trip (National Transit Database, 2017).

This project directly benefits the regional population using transit. A typical transit user will walk five to ten minutes, or a guarter mile, to use transit. An important aspect of their decision to use transit is based on the availability of safe, convenient and complete connectivity of the walking environment to reach that transit stop. These sidewalk improvements are within a quarter mile of transit stops that provide 898 boardings per day. Improving sidewalk connections to bus stops can increase transit boardings by 2.19 percent compared to bus stops without improvements ("Impacts of Bus Stop Improvements." Kim, Bartholomew, and Ewing, March 2018). This would result in 20 additional daily transit boardings at opening year, and 29 additional daily transit boardings at year 2040. If 10 percent of these boardings were persons that would have otherwise used paratransit, this would result in \$19,609 of savings to RTD over the course of a single year, or \$392,190 worth of savings over a 20 year timeframe. These savings can be reinvested back into transit benefiting the entire region.

Addressing these sidewalks would also directly benefit regional vulnerable populations. While the city of Aurora has over 220 miles of missing sidewalk infrastructure, the 1.6 miles of gaps proposed to be addressed in this project have been specifically chosen because they're in Census blockgroups with higher rates than regional average of 3 or more vulnerable populations groups. These gaps are also within a half mile of schools, increasing the ability for our youngest and most vulnerable residents of the region another choice to get to school in a healthy way. In fact, the city has received multiple requests regarding missing sidewalks that preventing middle school and high school students from accessing their schools via bicycles. Within a mile of these improvements, there are nearly 14,000 persons over 65 years of age, 47,000 minorities, 7,000 low income households, 8,000 linguistically challenged households, 7,000 persons with disabilities, and nearly 4,000 households without a motor vehicle. See Vulnerable Population map in Attachment A. These are all populations that are more likely to rely entirely on a safe, comfortable, and functioning sidewalk network to complete their daily trips or use sidewalks to access transit services.

Emphasing closing sidewalk gaps along arterials and collectors, provides a way to decrease congestion on our roadway system. A 1 percent increase in the quality of the pedestrian environment was assocated with a 0.19 percent decrease in VMT ("Impacts of Pedestrian Strategies on Passenger Vehicle Use and Greenhouse Gas Emissions." Handy and Sciara, 2014). Providing a way to move local vehicle trips off of the regional roadway network would free up capacity for those users in cars making longer trips. Based soley off of sidewalks gaps along two arterials (6th Avenue and Alameda Avenue), combined with the benefits to transit users, completing sidewalk gaps would remove 60 daily single occupant vehicle trips from the network per day. This does not include vehicles removed because of the sidewalk network being completed along collector streets that would likely also replace single occupant vehicle trips.

40% WEIGHT

Finally, this investment would allow the region to support access needs and improvements identified in previous area transportation plans, including specific gaps identified in the 2017 Arapahoe County Bicycle and Pedestrian Master Plan, and the city of Aurora's 2012 Bicycle and Pedestrian Master Plan.

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

This project occurs within the city limits of Aurora, alhough the areas of influence around the sidewalk gaps encompass portions of Denver. The targeting of these improvements in areas with high numbers of vulnerable populations and near transit stops would allow additional access for these groups to the rest of the region and therefore, will benefit all municipalities around the major regional tranist services, including the City and County of Denver, the Cities of Greenwood Villalge, Centennial and Lone Tree as wellas unincorporated Adams and Arapahoe Counties.

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

This project occurs within the Arapahoe County subregion, but as it is discussed above, it will also benefit Denver, Adams and Douglas County Subregions.

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

Closing gaps along arterial and collector roads, which either directly connect with regional trip generators such as the Anschutz Medical Campus/Fitzsimons Innovation Community or regional transit network, would remove the significant obstacles preventing residents and visitors from safe, comfortable and reliable accessing regional destinations or transit network. Filling in these gaps would also address several of the Metro Visions' objectives related to livability and transportation. A complete sidewalk network will support "built environments...that accommodate and the widest spectrum of people – regardless of age, income, or ability" (Metro Vision Regional Objective 1). Addressing sidewalk gaps improves the region's multimodal transportation system and connections including pedestrian accessibility and supports the transit system through first and last mile connections (Metro Vision Regional Objective 4). Creating a defined, designated space for pedestrians alongside roads creates a safer transportation system by reducing fatalities and serious injuries of pedestrian walking along collector and arterial streets, and increases the level of service for pedestrians (Metro Vision Regional Objective 5). Improving the transportation network, particularly for those not driving and in areas with high numbers of vulnerable populations, increases access to amenities that support healthy, active choices to create comfortable and safe travel and access for users of all ages and abilities, including access to food options (Metro Vision Regional Objective 10). Ensuring a complete sidewalk network also means that connections are improved to health care, whether residents walk directly to any of the 163 health care facilities within a mile of the improvements, or walk to a transit stop first in order to reach health care (Metro Vision Regional Objective 11). Finally, by prioritizing and addressing gaps in areas with higher than regional average of vulnerable populations, this project will improve access for the traditionally underserved areas (Metro Vision Regional Objective 13).

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

The sidewalks gaps to be addressed are within half-mile of one high school, two colleges, one middle school, four elementary or kindergarten schools, one elementary-high school, and two pre-schools. Filling in the gaps on the sidewalk network would provide additional choices for these students and their parents to travel between home and school in a safe and comfortable fashion. Focusing these improvements on arterial and collector streets also prioritizes investment that would allow other users, such the adult working population, to travel safely to jobs, social services, or access transit. In addition, Investments in multimodal improvements have been linked to overall health and economic benefits to users as well as property values of adjacent neiborhoods. The *Arapahoe County Bicycle and Pedestrian Master Plan*, 2017, cites *Economic and Health Benefits of Bicyling and Walking*, 2016, which estimated that there is a \$3.2 billion annual benefit from reduced mortality from bicycling and walking in Colorado and a \$1.6 billion annual economic contribution by individuals who bike and/or walk to access local industry. See letters of support in Attachment D

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

The identified sidewalk gaps are within one-quarter mile of 40 transit stops that provide 898 daily boardings. A quarter-mile is the typical walking distance that transit users will travel to get to a bus stop. Sidewalks along arterials will be constructed to a 10 foot design width, and bicyclists are allowed to ride on sidewalks in Aurora. Closing these widewalk gaps will provide safe and complete access and connections to the 40 transit stops and the regional transit network.

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

The city of Aurora is providing local match for this project. RTD will be engaged on sidewalk improvements directly adjacent to transit stops to determine if installing additional bus stop amenties are appropriate.

B. DRCOG Board-approved Metro Vision TIP Focus Areas

Provide **<u>qualitative</u>** and **<u>quantitative</u>** (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).

The location of these improvements are in Census blockgroups with higher rates than regional average of 3 or more vulnerable populations groups, which many of them rely entirely on bicycle and pedestrian facilities and public transportation services as their only means of transportation for their daily travel need. Addressing sidewalks gap will provide access to 11 schools within a half-mile of the existing gaps, and provide a benefit to the 14,000 persons over 65 years of age, 47,000 minorities, 7,000 low income households, 8,000 linguistically challenged households, 7,000 persons with disabilities, and nearly 4,000 households without a motor vehicle that live within a mile of the improvements. With the additional connectivity of the mobility infrastructure, these vulnerable populations will also have improved access to the 163 health service facilities within a mile of these improvements.

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

This project directly serves both transit stops, and first- and last-mile connections to transit stops by **closing the critical sidewalk gaps and therefore providing a safe and interconnected walking route to transit.** It is within one-quarter mile of 40 transit stops, serving 898 daily boardings. The city of Aurora allows bicyclists to ride on sidewalks. Sidewalk gaps addressed on arterial streets will be 10 feet wide, allowing the safer sharing of the facility by people walking and people biking.

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

Correcting sidewalk gaps will make traveling along major corridors safer for pedestrians, motorists, and bicyclists. This project would address two sidewalk gaps, among others, along two major arterials. 6th Avenue has an ADT of 47,642, and the portion of Alameda Avenue adjacent to a signigicant sidewalk gap has an ADT of 27,438. This part of Alameda is on the eastern side of the city, and is projected to see continued ADT growth from future development. The arterial and collector streets immediately adjacent to the sidewalk gaps have experienced 183 crashes between 2012 and 2018. Better separated users and modes along these corridors will increase the comfort, safety and service levels for pedestrians.

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

WEIGHT 15%

Provide **<u>qualitative</u>** and **<u>quantitative</u>** 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.

WEIGHT 25%

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

By definition, **addressing sidewalk gaps supports reinvestment in locations where urban-level infrastructure already exists.** This study will increase multimodal network connectivity in an existing urban area, and will link to several urban centers. Approximately 143,900 residents live within one-mile of the project area (anticipated to grow to over 163,700 by 2040).

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	

Yes 🗌 No

Describe, including supporting quantitative analysis

Several of the identified gaps are within a quarter mile of urban centers, including the Aurora City Center, 13th Avenue, I-225/Parker Road, and Gardens on Havana – former Buckingham Center. This project will provide safe, clear, direct and complete pedestrian connections to these urban centers and regional transit network, which also connects to other key destinations. Addressing the 3,052 foot long sidewalk gap on 6th Avenue would address the only major sidewalk gap between the three urban centers of Aurora City Center, 13th Avenue, and 1st Avenue Center.

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

Emphasing fixing sidewalk gaps along arterials and collectors, provides a way to decrease congestion on our roadway system. A 1 percent increase in the quality of the pedestrian environment was assocated with a 0.19 percent decrease in VMT ("Impacts of Pedestrian Strategies on Passenger Vehicle Use and Greenhouse Gas Emissions." Handy and Sciara, 2014). Providing a way to move local vehicle trips off of the regional roadway network would free up capacity for those users in cars making longer trips. Based soley off of sidewalks gaps along two arterials (6th Avenue and Alameda Avenue), completing sidewalk gaps would remove 50 daily single occupied vehicle trips from the network per day. This does not include vehicles removed because of the sidewalk network being completed along collector streets that would likely also replace single occupied vehicle trips.

These sidewalk improvements are within a quarter mile of transit stops that provide 898 boarding per day. Improving sidewalk connections to bus stops can increase transit boardings by 2.19 percent compared to bus stops without improvements ("Impacts of Bus Stop Improvements." Kim, Bartholomew, and Ewing, March 2018). This would result in 20 additional daily transit boardings at opening year, and 29 additional daily transit boardings at year 2040. If 10 percent of these boardings were persons that would have otherwise used paratransit, this would **result in \$19,609 of savings to RTD over the course of a single year, or \$392,190 worth of savings over a 20 year timeframe**. These savings can be reinvested back into transit benefiting the entire region.

Within a mile of these improvements, there are significant numbers of vulnerable populations, including 14,000 persons over 65 years of age, 47,000 minorities, 7,000 low income households, 8,000 linguistically challenged households, 7,000 persons with disabilities, and nearly 4,000 households without a motor vehicle. These are all populations that are more likely to rely on a safe, comfortable, and functioning sidewalk network to complete their daily trips or use sidewalks to access transit services. This project will provide mobility choices for the vulnerable populations to access key destinations, transit stops and regional transit network.

	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				
	Completing sidewa would reduce GHG	Ik gaps would remove 60 daily single occupied vehicle trips from the netwo emissions by 105 pounds in year of opening, and 151 pounds in 2040.	rk per day. This		
	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		
	The sidewalk gap of future hard surface access to transit st various open space	on Alameda Parkway is directly adjacent to Signature Park, and will intersect e regional trail following East Toll Gate Tributary. In addition, by providing s ops and the regional transit network, this project helps to improve multimo e assets in the region.	with a planned afe and convenient dal connections to		
	MV objective 10	Increase access to amenities that support healthy, active choices.			
6.	Will this project ex	pand opportunities for residents to lead healthy and active lifestyles?	🛛 Yes 🗌 No		
	Describe, including	supporting quantitative analysis			
	The sidewalk gap on Alameda Parkway is directly adjacent to Signature Park, and will intersect with a planned future hard surface regional trail following East Toll Gate Tributary. These gaps are also within a half mile of schools increasing the ability for our youngest and most vulnerable residents of the region another choice on how to get to school in a healthy way. Within a mile of these improvements, there are 143,900 residents and 56,000 jobs. There are also many vulnerable populations, including nearly 14,000 persons over 65 years of age, 47,000 minorities, 7,000 low income households, 8,000 linguistically challenged households, 7,000 persons with disabilities, and nearly 4,000 households without a motor vehicle. These are all populations that are more likely to rely on a safe, comfortable, and functioning sidewalk network to complete their daily trips or use sidewalks to access transit services. By providing safe, convenient and complete sidewalks and enhanced access to transit stops, regional transit network and many regional parks and open spaces, this project will expand opportunities for residents, especially vulnerable populations, to walk and bike more and therefore lead bealthy and active lifestyles.				
	MV objective 13	Improve access to opportunity.			
7.	Will this project he by promoting relia	Ip reduce critical health, education, income, and opportunity disparities ble transportation connections to key destinations and other amenities?	Yes 🗌 No		
	Describe, including	supporting quantitative analysis	and to reach		
	nearly 164,000 residents and 56,000 jobs within a mile of these improvements. This is forecast to reach nearly 164,000 residents and 78,000 jobs by 2040. The sidewalk improvement are within a quarter mile of several designated urban centers, including Aurora City Center (2040 population with employment of 37,000), 13 th Avenue (2040 population with employment of 3,600), I-225/Parker Road (2040 population with employment of 8,600), and Buckingham Center (2040 population with employment of 12,300). There is also a significant				

number of vulnerable populations that can benefit from closing sidewalk gaps, including nearly 14,000 persons over 65 years of age, 47,000 minorities, 7,000 low income households, 8,000 linguistically challenged households, 7,000 persons with disabilities, and nearly 4,000 households without a motor vehicle. These are all populations

that are more likely to rely on a safe, comfortable, and functioning sidewalk network to complete their daily trips or use sidewalks to access transit services and can benefit from the additional access to the 36 health service facilities within a mile of the improvements. This project provides the critical connections for vulnerable populations to schools, health care facilities, and jobs and therefore, reduce critical health, education, income and opportunity disparities.

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

Investment in bicycle and pedestrian infrastructure has been linked to economic health and vitality. The Arapahoe County Bicycle and Pedestrian Plan references a 2016 study that found that bicycling and walking contribute to approximately \$1.6 billion annually to Colorado's economy (Economic and Health Benefits of Bicycling and Walking, BBC Research & Consulting, October 2016).

D.	Project Leveraging		WEIG	HT 20%
9.	What percent of outside funding sources		41%+ outside funding source	sHigh
	(non-DRCOG-allocated Subregional Share	34%	31-40%	Medium
	funding) does this project have?		30% and below	Low

Project Data Worksheet – Calculations and Estimates

(Complete all subsections applicable to the project)

A. Transit Use

Part 3

1. Current ridership weekday boardings

898

2. Population and Employment

Total Pop and Employ within 1 mile	Employment within 1 mile	Population within 1 mile	Year
199,940	56,072	143,868	2020
241,609	77,934	163,675	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	20	29
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	7
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)	5	7
6.	= Number of SOV one-way trips reduced per day (#3 – #4 – #5)	10	15
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)	90	135
8.	= Number of pounds GHG emissions reduced (#7 x 0.95 lbs.)	86	128

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:

"Impacts of bus stop improvements", (Kim, Bartholomew, Ewing; Utah Department of Transportation, March 2018) attributes a growth in ridership of 2.19% due to bus stop improvement improvements (including sidewalks) over non-improved stops.

Bicycle Use 1. Current weekday bicyclists Image: Colspan="3">Image: Colspan="3" Image: Colspan="3">Image: Colspan="3" Image: Colsp

2040

	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 magnit	ude 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)	1,934
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2. Population and Employment

Year	Population within 1 mile	Employment within 1 mile	Total Pop and Employ within 1 mile
2020	143,868	56,072	199,940
2040	163,675	77,934	241,609

	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	143	173
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)	72	87
5.	= Number of new trips from project (#3 – #4)	72	86
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)	21	26

7. = Number of SOV trips reduced per day (#5 - #6)	50	60
12. Enter the value of {#7 x .4 miles} . (= the VMT reduced per day) (Values other than .4 miles must be justified by sponsor)	20	24
8. = Number of pounds GHG emissions reduced (#8 x 0.95 lbs.)	19	23

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: Current weekday pedestrians are derived as regional mode share counts on DRCOG-provided traffic counts at 6th, and Alameda. These do not include potential pedestrian increases on gaps addressed at other arterial or collector streets performed as part of this project.

D. Vulnerable Populations

	Vulnerable Populations	Population within 1 mile
	1. Persons over age 65	13,732
Use Current	2. Minority persons	47,009
Census Data	3. Low-Income households	7,057
	4. Linguistically-challenged persons	8,051
	5. Individuals with disabilities	7053
	6. Households without a motor vehicle	3828
	7. Children ages 6-17	19480
	8. Health service facilities served by project	163

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) Fatal crashes 0 Serious Injury crashes 0 Sponsor must use industry 0 **Other Injury** crashes accepted crash reduction factors (CRF) or accident modification Property Damage Only crashes 0 factor (AMF) practices (e.g., **2.** Estimated reduction in crashes applicable to the project scope NCHRP Project 17-25, NCHRP (per the five-year period used above) Report 617, or DiExSys 0 Fatal crashes reduced methodology). 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	C	Choose an item						
	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

H. Bridge Improvements

1. Current bridge structural condition from CDOT

0

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
Ι.	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:	

Special Considerations

Part 4 Complete all answers with a YES/NO/UNSURE, and an explanation as warranted. Part 4 is not scored but will assist in project recommendation.

1. Is the project a construction- or implementable- ready project?

Yes, given overall minimal design efforts required and the anticipation that the majority of sidewalk gaps are within existing right-of-way.

- 2. Are there challenges with the project (right-of-way, environmental, utilities, etc.)?
 - a. If yes, explain the challenge and how agency plan to address.

No significant challenges are identified at this time.

- 3. Are there other environmental or controversial issues associated with the project?
 - No
- 4. Does the project or program benefit more than just the sponsoring agency and considered subregionally significant/transformative?

Yes. RTD will be a key benefitting agency of this project, providing benefits and addressing first or last mile connections for many of their customers.

- 5. Does the agency have capacity and expertise to manage a federal project?
 - a. Explain experience, approach, etc.

Yes. The Transportation Project Delivery (TPD) group within Public Works is responsible for TIP project management from design through construction as well as planning and operational studies. Several project managers have completed TIP projects in the recent past, gaining valuable experience that will be applied to the city's future TIP projects. The Parker Road/Quincy Avenue Operational Study was managed by Cindy Colip and resulted in recommended interim improvements to the network. The 23rd Avenue Bike/Ped Path at Fitzsimons Station included design and construction of a multi-use trail from Fitzsimons Light Rail Station to Ursula Street then south into the Fitzsimons campus. This project was managed through the design by Brad Richardson, and construction activities were managed by Rhaj Khanzadeh, an ex-CDOT construction management specialist. More recently, the Westerly and Toll Gate Creek Connections to Florida Station project, establishing more than 3 miles of protected, one- and two-way bicycle tracks east and west of Florida Station, has just wrapped up the design phase and is entering the construction management duties. For most of the city's TIP projects, the TPD group hires private construction management and inspection firms to monitor day-to-day construction activities and handle materials testing.

6. Is the project a next logical phase of a project funded in previous TIP cycles?

No.

- 7. Of the partnerships described in Section A, Question 7, are the partnerships providing funding?
 - a. Describe the partnerships and funding of such.

The city of Aurora and RTD have a solid working relationship. RTD will be viewed as a stakeholder in making the outcome of this project a success for both RTD customers and people living, working, or visiting Aurora using the sidewalks and transit stops.

8. Are there any other "special considerations" the committee should consider in evaluating the application?