



2020–2023 Transportation Improvement Program (TIP)  
Subregional Share Project Application Form

# US 287 Bus Rapid Transit Feasibility and Corridor Safety Study

Submitted on behalf of the Boulder County

February 27, 2018



# Part 1

# Base Information

1. Project Title	US 287 Bus Rapid Transit Feasibility and Corridor Safety Study			
2. Project <i>Start/End</i> points or Geographic Area <i>Provide a map with submittal, as appropriate</i>	1 <sup>st</sup> and Main Street, Longmont. Following the US287 corridor to US36 in Broomfield.			
3. Project Sponsor ( <i>entity that will construct/ complete and be financially responsible for the project</i> )	Boulder County			
4. Project Contact Person, Title, Phone Number, and Email	Scott McCarey, PE, AICP Multimodal Division Manager 720-564-2665  smccarey@bouldercounty.org			
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 type="checkbox"/> <a href="#">DRCOG 2040 Fiscally Constrained Regional Transportation Plan (2040 FC RTP)</a>			
	<input checked="" type="checkbox"/> Local plan:	RTD's Northwest Area Mobility Study; Page 40 <a href="https://www.dropbox.com/s/1uj1mt3z1h80ya4/Final%20Report%20508%5B1%5D.pdf?dl=0">https://www.dropbox.com/s/1uj1mt3z1h80ya4/Final%20Report%20508%5B1%5D.pdf?dl=0</a>		
	<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.				
<table border="0"> <tr> <td style="vertical-align: top;"> <input type="checkbox"/> Rapid Transit Capacity (2040 FC RTP)  <input checked="" type="checkbox"/> Transit Other: BRT Feasibility  <input type="checkbox"/> Bicycle Facility  <input type="checkbox"/> Pedestrian Facility  <input type="checkbox"/> Safety Improvements  <input type="checkbox"/> Roadway Capacity or Managed Lanes (2040 FC RTP)  <input type="checkbox"/> Roadway Operational         </td> <td style="vertical-align: top;"> <b>Grade Separation</b>  <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 checked="" type="checkbox"/> Study  <input type="checkbox"/> Design  <input type="checkbox"/> Other:         </td> </tr> </table>			<input type="checkbox"/> Rapid Transit Capacity (2040 FC RTP) <input checked="" type="checkbox"/> Transit Other: BRT Feasibility <input type="checkbox"/> Bicycle Facility <input type="checkbox"/> Pedestrian Facility <input type="checkbox"/> Safety Improvements <input type="checkbox"/> Roadway Capacity or Managed Lanes (2040 FC RTP) <input type="checkbox"/> Roadway Operational	<b>Grade Separation</b> <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 checked="" type="checkbox"/> Study <input type="checkbox"/> Design <input type="checkbox"/> Other:
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8. **Problem Statement** What specific Metro Vision-related regional problem/issue will the transportation project address?  
 There are two components of this study: evaluating potential safety improvements, and completing a detailed Bus Rapid Transit Feasibility Study. Regional Objective 5 of MetroVision is to have a safe and reliable transportation system. Unfortunately, US 287 between 1st Avenue in Longmont and US 36 in Broomfield has had an unacceptable number of severe and fatal crashes over the most recent 3 year period. There have been 13 fatal

crashes in this time period indicating that the corridor would benefit from a full safety analysis and safety investments.

Regional Objective 4 of MetroVision is to improve and expand on the regions multimodal transportation system. The BRT feasibility study will identify where in the corridor capital improvements can and should be made to improve transit travel times in the corridor. This will attract more people to take transit and work toward the MetroVision goals of reducing SOV trips and GHG in the region.

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

There are three components of the safety work. First, is a full identification of the problem. This includes where, when and how the crashes are occurring. Crash reports for the past ten years will be pulled and carefully analyzed to identify overrepresentation of a particular type of crash or at particular locations along the corridor. Second, is the development of a suite of safety improvements. These will be capital, operational, informational and educational improvements. For the capital and operational improvements there will be planning level designs developed. For the informational and educational improvements a detailed implementation report will be created with action items and responsible parties. Third, will be cost estimates for all of the improvements. The planning level designs will be used to develop engineer’s estimates for the capital projects.

The second issue the study will address is transit operations in the corridor, particularly looking at operations through the major intersection. The components can be described as the following. The first component is to compile all traffic volume and turning movement counts in the corridor. Intersections with data that is more than 5 years old will have new data collected. Second, a VISSIMs analysis will be conducted to understand the vehicle queue lengths in the general purpose lanes for all of the signalized intersections. This will identify which intersections could provide meaningful benefits to transit. Third, there will be planning level designs for the transit queue jump lanes, including preliminary right of way needs and cost estimates.

Improvements to safety and intersection design are not unrelated. There may be capital and operational improvements that address both simultaneously. This is why we believe that safety and operational improvements dovetail well into on project.

**10. What is the status of the proposed project?**

This project has local support from all relevant local agencies: CDOT, RTD, City of Longmont, Town of Erie, City of Lafayette, City and County of Broomfield and Boulder County. This project could start as soon as funding becomes available.

**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.*

While a lower amount cannot be accepted, there is high flexibility on the fiscal year of funding.

## A. Project Financial Information and Funding Request

<b>1. Total Project Cost</b>		<b>\$350,500</b>
<b>2. Total amount of DRCOG Regional Share Funding Request</b> <i>(no greater than \$20 million and not to exceed 50% of the total project cost)</i>	<b>\$250,000</b>	<b>71%</b> of total project cost
<b>3. Outside Funding Partners (other than DRCOG Regional Share funds)</b> List each funding partner and contribution amount.	<b>\$\$</b> <b>Contribution Amount</b>	<b>% of Contribution to Overall Total Project Cost</b>
	\$	0%
City of Longmont	\$13,000	4%
City of Lafayette	\$28,000	8%
Boulder County	\$46,000	13%
Town of Erie	\$4,000	1%
City and County of Broomfield	\$9,500	3%
<b>Total amount of funding provided by other funding partners</b> <i>(private, local, state, Subregion, or federal)</i>	<b>\$100,500</b>	

<b>Funding Breakdown (year by year)*</b>	<i>*The proposed funding plan is not guaranteed if the project is selected for funding. While DRCOG will do everything it can to accommodate the applicants' request, final funding will be assigned at DRCOG's discretion within fiscal constraint. Funding amounts must be provided in year of expenditure dollars using an inflation factor of 3% per year from 2018.</i>				
	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>Total</b>
<b>Federal Funds</b>	\$250,000	\$	\$	\$	<b>\$250,000</b>
<b>State Funds</b>	\$	\$	\$	\$	<b>\$0</b>
<b>Local Funds</b>	\$100,500	\$	\$	\$	<b>\$100,500</b>
<b>Total Funding</b>	\$350,500	\$0	\$0	\$0	<b>\$350,500</b>
<b>4. Phase to be Initiated</b> <i>Choose from Design, ENV, ROW, CON, Study, Service, Equip. Purchase, Other</i>	Study	Choose an item	Choose an item	Choose an item	

**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?

In 2014 RTD and municipalities in the Northwest Denver Metro region completed the Northwest Area Mobility Study (NAMS). At the time US 287 was highlighted as a corridor that would be a strong candidate for future Bus Rapid Transit investment. Since that time there have been many changes on the corridor, in the areas surrounding the corridor, as well as with the transit service itself on the corridor. This study will update the transit ridership modeling on the corridor and make projections for 2045 transit ridership to help assess the viability of future transit services, and focus on the readiness of the corridor to support “enhanced” or rapid transit.

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

This project crosses into and benefits the City of Longmont, Town of Erie, City of Lafayette, City and County of Broomfield and Boulder County. All of the project benefits described in this application apply to these local agency residents, employees and visitors.

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

This project crosses into and benefits the Broomfield subregion. All of the project benefits described in this application apply to Broomfield residents, employees and visitors.

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

The first issue this study will address is the safety issue along the corridor. There are three components of the safety work. First, is a full identification of the problem. This includes where, when and how the crashes are occurring. Crash reports for the past ten years will be pulled and carefully analyzed to identify overrepresentation of a particular type of crash or at particular locations along the corridor. Second, is the development of a suite of safety improvements. These will be capital, operational, informational and educational improvements. For the capital and operational improvements there will be planning level designs developed. For the informational and educational improvements a detailed implementation report will be created with action items and responsible parties. Third, will be cost estimates for all of the improvements. The planning level designs will be used to develop engineer’s estimates for the capital projects.

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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 completed study will lead to direct safety improvements in the corridor and all the associated benefits of decreased crashes. This includes reduction in personal property loss and reduction in injury and fatalities which has a direct -- if morbid -- connection to the economy. There is also the reduction in loss productivity of

commuters delayed by vehicle crashes.

Equally or more importantly, the completed study will quantify travel time savings for transit vehicles and make specific recommendations on the location and extent of these capital improvements. The capital improvements recommended in the study will provide a choice for corridor commuters to avoid the intersection congestion. Moving people between communities and economic centers without undue congestion is the backbone of a healthy economy.

Also, just to be clear, the \$250,000 in requested federal funds is to complete a study, not for implementation. The completed study alone will not make direct improvements. That said, this study is the critical first step toward making sound, cost effective capital improvements in the near future. Without this study, there is no progress in the corridor.

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

It is likely that the safety recommendations will have focused improvements at the intersections, where many of the crashes occur. These recommendations would include bicycle and pedestrian improvements and the connections to and from the adjacent regional transit stops in the corridor -- which are also typically located at intersections. Boulder County has extensive experience managing multimodal first and final mile connections and we would use this experience the final development of the scope of work and in the project management.

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

The following local agencies are contributing local funding to this project: City of Longmont for \$13,000; Boulder County for \$46,000; Town of Erie for \$4,000; City of Lafayette for \$28,000 and city and County of Broomfield for \$9,500. CDOT will also obviously be a close project partner even though there is no direct financial contribution.

**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).**

This project will contribute to the economic resiliency of the entire region by removing barriers and increasing transportation system reliability to the most vulnerable populations – older adults, low-income families, and people with disabilities. Vulnerable populations are much more likely to depend on transit due to the high cost of owning and operating a personal vehicle, and medical conditions, which prevent them from driving. This project proposal will help older adults and people with disabilities live independently and put a low-income household on the path to self-sufficiency.

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

This project is the first required step for any capital and operational improvements to transit along the US 287 corridor. The goal of these improvements is to decrease transit travel time and increase system reliability.

Also increasing reliable will be the reduction in crashes. Crashes -- and the ensuing travel time delays -- can be a major cause of travel time variability.

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

Half of the project is focused on improving transportation safety. The attached exhibits show the crashes that

have occurred on the US287 corridor between 2006 and 2015. For all of Boulder County this is the most dangerous corridor in terms of total crashes as well as the most dangerous corridor in terms of total injury or fatality crashes. Normalizing for traffic volumes, this corridor is in the top ten most dangerous corridors of total crashes per vehicle miles traveled. This corridor ripe for a comprehensive safety study and is would demonstrate high returns on investment from such a study.

Once completed there are several funding sources that will be pursued such as CDOT High Hazard Elimination Funds (HHES). Boulder County staff has successfully acquired and used the funds for two projects in the past 3 years and have a high familiarity with the requirements and permissions of these funds.

### 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 corridor is one of the top three corridors recommended in the Northwest Area Mobility Study from 2014. The other two corridors -- SH7 and SH119 -- also have applications in for funding in this TIP round. US 287 is also on the list of CDOT corridors that would receive funding if the Let's Go Colorado ballot measure passes this fall. This corridor is slated to receive \$57 million in capital improvement related to safety and transit infrastructure improvements. If funded this TIP application will direct these new sales tax funds to the highest and best use projects.

[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

There are four urban centers that are connected as part of this project. By its very nature, transit projects only serve and reinforce the existence of urban centers. In this case the transit services that would benefit the following urban centers: CBD of Longmont, Ken Pratt Activity Center (South Longmont), Original Broomfield TOD, and the Arisita Urban Transit Village.

[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?

Yes  No

Describe, including supporting quantitative analysis

This project is the first required step for any capital and operational improvements to transit along the 287 corridor. The goal of these improvements is to decrease transit travel time and increase system reliability, thus leading to expanded mobility for DRCOG residents, employees and visitors. Also increasing reliable will be the reduction in crashes. Crashes -- and the ensuing travel time delays -- can be a

major cause of travel time variability.

[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 study -- and the implementation projects that follow -- will increase the attractiveness of transit relative to driving a private vehicle. This will lead to a reduction in vehicle miles traveled and the greenhouse gas emissions associated with them.

[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 increase regional mobility in general which includes to some extent, access to recreational areas. In fact the US287 corridor goes through extensive open space and agriculturally zoned areas. The focus of the study, however, is to increase safety and urban center connectivity, not make direct connections to recreational resources.

[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

Research has shown that transit commuters are more likely than car commuters to achieve minimum daily personal activity thresholds. This is due to the first and final mile non-motorized trips (walking and biking) to access the transit stops. (Sources: Transit and Health: Mode of Transport, Employer-Sponsored Public Transit Pass Programs, and Physical Activity. Journal of Public Health Policy 2009; Walking to Public Transit: Steps to Help Meet Physical Activity Recommendations. American Journal of Preventative Medicine. 2005; Evaluating Public Transportation Health Benefits. Victoria Transportation Policy Institute. 2012) By increasing the attractiveness and use of transit the eventual implementation of the recommendations of this study will lead to more active lifestyles.

[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

Transportation is a linchpin service that connects people to all other aspects of their life: healthcare, education, employment, and human services. The 2015 Boulder County Mobility for All Needs Assessment, conducted by BBC Research, found that 19% of Boulder County's population was age 60 and over and 8.1% had disabilities. Boulder County is aging faster than other areas of Colorado and forecasts suggest that the population age 60 and over will account for approximately 26% of Boulder County's population by 2040. Improved transit service in the county will ensure our rapidly-aging population can age in place while still maintaining their quality of life and

access to health and human services

[MV objective 14](#)

**Improve the region’s competitive position.**

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

Yes  No

Describe, including supporting quantitative analysis

Despite a reputation for affluence, our community remains in an affordable living crisis. There is a continued influx of higher-income residents, rental costs are raising quickly, and wages have flat-lined for lower- and middle-income workers. Affordable Living (defined as spending no more than 15% of a household’s income on transportation and no more than 30% on housing) has increasingly become a challenge for many county residents. A Boulder County 2016 Report entitled Building a Community of Hope found that 56% of Boulder area renters are housing cost burdened, meaning that they spend more than 30% of their income on rent and utilities. Affordable, dependable transit between Longmont and Broomfield will help provide relief from our county’s high cost of living, freeing up money for other essential household expenses.

**D. Project Leveraging**

WEIGHT **10%**

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

50%

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	705
2. Population and Employment	

Year	Population within 1 mile	Employment within 1 mile	Total Pop and Employ within 1 mile
2020	59,200	39,835	99,035
2040	74,585	52,778	127,363

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

### B. Bicycle Use

1. Current weekday bicyclists	0
2. Population and Employment	

Year	Population within 1 mile	Employment within 1 mile	Total Pop and Employ within 1 mile
2020	59,200	39,835	99,035
2040	74,585	52,778	127,363

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: <b>{#3 X 50%}</b> 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: <b>{#5 X 30%}</b> or other percent, if justified)	0	0
7. = Number of SOV trips reduced per day (#5 - #6)	0	0
8. Enter the value of <b>{#7 x 2 miles}</b> . (= the VMT reduced per day) (Values other than 2 miles must be justified by sponsor)	0	0
9. = Number of pounds GHG emissions reduced (#8 x 0.95 lbs.)	0	0
10. If values would be distinctly greater for weekends, describe the magnitude of difference:		
11. If different values other than the suggested are used, please explain here:		

### C. Pedestrian Use

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

Year	Population within 1 mile	Employment within 1 mile	Total Pop and Employ within 1 mile
2020	59,200	39,835	99,035
2040	74,585	52,778	127,363

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

<b>12.</b> Enter the value of <b>{#7 x .4 miles}</b> . (= the VMT reduced per day) <i>(Values other than .4 miles must be justified by sponsor)</i>	0	0
<b>8.</b> = Number of pounds GHG emissions reduced (#8 x 0.95 lbs.)	0	0
<b>9.</b> If values would be distinctly greater for weekends, describe the magnitude of difference:		
<b>10.</b> 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
	<b>1.</b> Persons over age 65	
<b>2.</b> Minority persons		13,791
<b>3.</b> Low-Income households		2,098
<b>4.</b> Linguistically-challenged persons		1,462
<b>5.</b> Individuals with disabilities		2,941
<b>6.</b> Households without a motor vehicle		907
<b>7.</b> Children ages 6-17		8,549
<b>8.</b> Health service facilities served by project		53

## 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.*

<b>1.</b> Current ADT (average daily traffic volume) on applicable segments	35,000
<b>2.</b> 2040 ADT estimate	0
<b>3.</b> Current weekday vehicle hours of delay (VHD) (before project)	0

Travel Delay Calculations	Year of Opening
<b>4.</b> Enter calculated future weekday VHD (after project)	0
<b>5.</b> Enter value of <b>{#3 - #4}</b> = Reduced VHD	0
<b>6.</b> Enter value of <b>{#5 X 1.4}</b> = <b>Reduced person hours of delay</b> <i>(Value higher than 1.4 due to high transit ridership must be justified by sponsor)</i>	0
<b>7. After project peak hour congested average travel time reduction</b> 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
<b>8.</b> 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*)

<b>Fatal</b> crashes	0
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<b>Serious Injury</b> crashes	0
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<b>Other Injury</b> crashes	0
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<b>Property Damage Only</b> crashes	0
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2. Estimated reduction in crashes applicable to the project scope (*per the five-year period used above*)

<b>Fatal</b> crashes reduced	0
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<b>Serious Injury</b> crashes reduced	0
---------------------------------------	---

<b>Other Injury</b> crashes reduced	0
-------------------------------------	---

<b>Property Damage Only</b> crashes reduced	0
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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*).

## 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
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### 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
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## H. Bridge Improvements

1. Current bridge structural condition from CDOT

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

3. Other functional obsolescence issues to be addressed by project

4. Average Daily User Volume over bridge 0

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

1.

2.

3.

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

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

2. Negative impact on vulnerable populations

3. Other: