



DRCOG FY2022-2025 TIP – Douglas County Subregion
Subregional Share Air Quality/Multimodal (AQ/MM)
Application Programming Federal Fiscal Years 2023-2025

APPLICATION OVERVIEW

What: The Subregional Share Call for Projects for the FY2022-2025 TIP, programming fiscal years 2023-2025

Funding Available: \$161,292,000 overall. Target of \$16,726,000 for Douglas County (estimated as of the open date)

Application: Air Quality & Multimodal (AQ/MM) eligible projects only

Major Project Eligibility Exceptions: Roadway capacity, roadway reconstruction, bridge, interchange projects

Call Opens: May 2, 2022

Call Closes: June 24, 2022, 3 pm

Application Submittals: submit the items below online through the submittal link on the [TIP Data Hub](#)

1. REQUIRED: a **single PDF document** containing the below. Please DO NOT attach additional cover pages, embed graphics in the application, or otherwise change the format of the application form.
 - a. this application
 - b. one location map/graphic
 - c. cost estimate (your own or the CDOT [cost estimate form](#))
 - d. CDOT/RTD concurrence response (if applicable)
 - e. any required documentation based on the application text (i.e., FHWA emissions calculators)
 - f. project support letters and/or [Request for Peer Agency Support](#)
2. OPTIONAL: Submit **one additional** PDF document containing any supplemental materials, if applicable
3. REQUIRED: Submit a zipped GIS shapefile of your project. Requests for assistance with creating a shapefile should be submitted to tipapplications@drcog.org no later than June 3, 2022

Other Notable items:

- **TIP Trainings:** To be eligible to submit an application, at least one person from your agency must have attended one of the two mandatory TIP training workshops ([February 10](#) and [February 16, 2022](#))
- **CDOT/RTD Concurrence:** If required, [CDOT and/or RTD concurrence](#) must be provided with the application submittal. The CDOT/RTD concurrence request is due to CDOT/RTD no later than May 13, 2022, with CDOT/RTD providing a response no later than June 10, 2022. Submit requests to the following: CDOT Region 1 – JoAnn Mattson, joann.mattson@state.co.us; CDOT Region 4 – Josie Hadley, josie.hadley@state.co.us; RTD – Chris Quinn, chris.quinn@rtd-denver.com
- **If a submitted application in Call #1 was not funded,** and you wish to resubmit the same application for this call, please contact DRCOG at tipapplications@drcog.org. In these cases, we can unlock the application, change the title, and save the applicant work in the resubmittal process.
- **Application Data:** To assist sponsors in filling out the application, DRCOG has developed a TIP Data Tool to streamline quantitative analyses requested in the application. A link to the TIP Data Tool and instructions on how to use it are available on the [TIP Data Hub](#). Additionally, sponsors may download datasets to run their own analyses from this same site. Requests for additional data or calculations from DRCOG staff should be submitted to tipapplications@drcog.org no later than June 3, 2022
- **Project Affirmation:** The application must be affirmed by either the applicant’s City or County Manager, Chief Elected Official (Mayor or County Commission Chair) for local governments, or agency director or equivalent for other applicants
- **TIP Policy:** Further details on project eligibility, evaluation criteria, and the selection process are defined in the [Policies for TIP Program Development](#) document (a [quick-guide](#) is also available for reference)
- **Evaluation Process:** DRCOG staff will review submittals for eligibility and post to the DRCOG website (June 27-July 1). Applications and scoring sheets will then be provided to the individual subregional forums no later than July 1. The forums will then review, score, discuss, and rank the applications and provide a recommended funding list within the funding available by August 5. The forums’ recommendations will then be forwarded to the DRCOG committee process for incorporation into the adopted TIP
- If you have any questions or need assistance, reach out to us at tipapplications@drcog.org

APPLICATION FORMAT

The AQ/MM Subregional Share application contains two parts: *project information* and *evaluation questions*.

Project Information

Applicants enter **foundational** information for the *project/program/study* (hereafter referred to as *project*), including a problem statement, project description, and concurrence documentation from CDOT and/or RTD, if applicable. This section is not scored.

Evaluation Questions

This part includes four sections (A-D) for the **applicant to provide qualitative and quantitative responses** to use for scoring projects. The checkboxes and data entry fields should guide the applicant’s responses. They are not directly scored but provide context as reviewers consider the full response to each question. Applicants may access the TIP Data Tool and additional data resources which applicants may find useful [here](#).

Scoring Methodology: Each section will be scored on a scale of 0 to 5, relative to other applications received. All questions will be factored into the final score, with any questions left blank receiving 0 points. The four sections are weighted and scored as follows:

Section A. Subregional Impact of Proposed Projects 30%

Projects will be evaluated on the degree to which they address a significant regional or subregional problem or benefit people throughout the subregion. Relevant quantitative data should be included within narrative responses.

5	The project benefits will substantially address a major regional or subregional problem and benefit people and businesses in multiple subregions.
4	The project benefits will significantly address a major subregional problem primarily benefiting people and businesses in one subregion.
3	The project benefits will either moderately address a major subregional problem or significantly address a moderate -level subregional problem.
2	The project benefits will moderately address a moderate -level subregional problem.
1	The project benefits will address a minor subregional problem.
0	The project does not address a subregional problem.

Section B. Metro Vision Regional Transportation Plan Priorities50%

The TIP’s investments should implement the 2050 Metro Vision Regional Transportation Plan (2050 MVRTP) regional project and program investment priorities, which contribute to addressing the Board-adopted Metro Vision objectives and the federal performance-based planning framework required by the Federal Highway Administration and Federal Transit Administration as outlined in current federal transportation legislation and regulations. Therefore, projects will be evaluated on the degree to which they address the six priorities identified in the 2050 MVRTP: safety, active transportation, air quality, multimodal mobility, freight, and regional transit. It is anticipated that projects may not be able to address all six priorities, but it’s in the applicant’s interest to address as many priority areas as possible. Relevant quantitative data is required to be included within narrative responses. The table below demonstrates how each priority area will be scored.

5	The project provides demonstrable substantial benefits in the 2050 MVRTP priority area and is determined to be in the top fifth of applications based on the magnitude of benefits in that priority area.
4	The project provides demonstrable significant benefits in the 2050 MVRTP priority area.
3	The project provides demonstrable moderate benefits in the 2050 MVRTP priority area and is determined to be in the middle fifth of applications based on the magnitude of benefits in that priority area.
2	The project provides demonstrable modest benefits in the 2050 MVRTP priority area.
1	The project provides demonstrable slight benefits in the 2050 MVRTP priority area and is determined to be in the bottom fifth of applications based on the magnitude of benefits in that priority area.
0	The project does not provide demonstrable benefits in the 2050 MVRTP priority area.

Section C. Project Leveraging (“overmatch”) 10%
 Scores are assigned based on the percent of other funding sources (non-Subregional Share funds).

Score	% non-Subregional Share funds
5	60% and above
4	50-59.9%
3	40-49.9%
2	20-39.9%
1	10.1-19.9%
0	10%

Section D. Project Readiness 10%

Be sure to answer ALL questions. While “Yes” answers will generally reflect greater readiness, opportunities are given to provide additional details to assist reviewers in fully evaluating the readiness of your project.

5	Substantial readiness is demonstrated and all known obstacles that are likely to result in project delays have been mitigated.
4	Significant readiness is demonstrated and several known obstacles that are likely to result in project delays have been mitigated.
3	Moderate readiness is demonstrated and some known obstacles that are likely to result in project delays have been mitigated.
2	Slight readiness is demonstrated and some known obstacles that are likely to result in project delays have been mitigated.
1	Few mitigation or readiness activities have been demonstrated.
0	No mitigation or readiness activities have been demonstrated.

Project Information

1. Project Title		Plum Creek Pkwy & Perry St. Improvements	
2. Project Location <i>Provide a map, as appropriate (see Page 1)</i>		Start point: Plum Creek Pkwy (east of Perry St.) End point: Perry St. OR Geographic Area: Downtown (see Attachment A)	
3. Project Sponsor <i>(entity that will be financially responsible for the project)</i>		Town of Castle Rock	
4. Project Contact Person:			
Name	Thomas Reiff	Title	Transportation Planning Project Manager
Phone	720-733-2483	Email	treiff@crgov.com
5. Required CDOT and/or RTD Concurrence: Does this project touch CDOT Right-of-Way, involve a CDOT roadway, access RTD property, or request RTD involvement to operate service?			<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If yes, provide applicable concurrence documentation</i>
6. What planning document(s) identifies this project? <i>Provide link to document(s) and referenced page number if possible, or provide documentation in the supplement</i>	<input type="checkbox"/> DRCOG 2050 Metro Vision Regional Transportation Plan (2050 MVRTP) Provide MVRTP staging period, if applicable capital project:		
	<input checked="" type="checkbox"/> Local/Regional plan:	Planning Document Title: Adopting agency (local agency Council, CDOT, RTD, etc.): Provide date of adoption by council/board/commission, if applicable:	
	Please describe public review/engagement to date:	The project was previously vetted by the Town during the development of the CIP, but was not selected due to cost and available budget. The project was also identified during the public hearings for nearby development proposals. And was therefore submitted for a federal HSIP grant in 2021.	
	Other pertinent details:	The project has been identified as a need in several traffic impact studies submitted by developers to reduce congestion and improve operations. Thereby, improving air quality and safety.	
7. Identify the project's key phases and the anticipated schedule of phase milestones. (phases and dates should correspond with the Funding Breakdown table below)			
Phases to be included:	Major phase milestones:		Anticipated completion date (based on 9/21/2022 DRCOG approval date): (MM/YYYY)
<u>FOR ALL PHASES</u>	Intergovernmental Agreement (IGA) executed (with CDOT/RTD; assumed process is 4-9 months)		06/2023
<input checked="" type="checkbox"/> Design	Design contract Notice to Proceed (NTP) issued (if using a consultant):		08/2023
	Design scoping meeting held with CDOT (if no consultant):		
<input checked="" type="checkbox"/> Environmental	Environmental contract Notice to Proceed (NTP) issued (if using a consultant):		08/2023
	Environmental scoping meeting held with CDOT (if no consultant):		

<input checked="" type="checkbox"/> Right-of-Way	Initial set of ROW plans submitted to CDOT:	01/2024
	ROW acquisition completed: Estimated number of parcels to acquire: 1	06/2024
<input checked="" type="checkbox"/> Construction	FIR (Field Inspection Review):	05/2024
	FOR (Final Office Review):	09/2024
	Required clearances:	10/2024
	Project publicly advertised:	01/2025
<input type="checkbox"/> Study	Kick-off meeting held after consultant NTP (or internal if no consultant):	
<input type="checkbox"/> Bus Service	Service begins:	
<input type="checkbox"/> Equipment Purchase (Procurement)	RFP/RFQ/RFB (bids) issued:	
<input type="checkbox"/> Other:	First invoice submitted to CDOT/RTD:	

8. Problem Statement: What specific subregional problem/issue will the transportation project address?

Plum Creek Parkway is designated a major arterial by the Town and a principal arterial by DRCOG. Due to the proximity to I-25 (0.25 miles), the corridor has a significant amount of commuter traffic accessing I-25 throughout the day and does not have a bike lane for cyclists. The intersection also serves the southern section of Downtown Castle Rock, which is designated as an 'urban center' by DRCOG. Since the access onto I-25 and Downtown is via the same travel lane, it experiences a significant amount of traffic, resulting in congestion, long queues, high crash rates, and poor operations at the intersection. Because of these traffic conditions a high amount of green house gas (GHG) and other pollutants are emitted by vehicles stuck in traffic. This project will construct a dedicated WB right turn lane at Plum Creek Pkwy and Perry Street to relieve this congestion, thus improving safety and reducing GHG and other harmful emissions. A wider multi-use sidepath will also replace the narrow sidewalk to better accommodate bikes, pedestrians and micromobility options accessing Downtown.

9. Identify the project's key elements. A single project may have multiple project elements.

Roadway

Operational Improvements

Grade Separation

- Roadway
- Railway
- Bicycle
- Pedestrian

Regional Transit¹

- Rapid Transit Capacity (2050 MVRTP)
- Mobility Hub(s)
- Transit Planning Corridors
- Transit Facilities/Service (Expansion/New)

Active Transportation Improvements

- Bicycle Facility
- Pedestrian Facility

Air Quality Improvements

Improvements Impacting Freight

Multimodal Mobility (i.e., accommodating a broad range of users)

Complete Streets Improvements

Study

Other, briefly describe:

Safety Improvements

¹For any project with transit elements, the sponsor must coordinate with RTD to ensure RTD agrees to the scope and cost. Be sure to include RTD's concurrence in your application submittal.

10. Define the **scope and **specific elements** of the project (including any elements checked in #9 above). *DO NOT include scope elements that will not be part of the DRCOG funded project or your IGA scope of work (i.e., adjacent locally funded improvements or the project merits and benefits). Please keep the response to this question tailored to details of the scope only and no more than five sentences.***

The project will construct the following elements and any associated modifications required to construct these improvements.

- Construct WB right turn lane
- Construct a new multi-use sidepath

11. What is the current status of the proposed scope as defined in Question 10 above? *Note that overall project readiness is addressed in more detail in Section D below.*

The project is fully supported by the Town and community. It was previously submitted by the Town for an HSIP grant (see Supplemental Material) and has been identified in traffic studies as a needed intersection improvement.

12. Would a smaller DRCOG-allocation than requested be acceptable, while maintaining the original intent of the project?

Yes No

*If yes, smaller meaningful limits, size, service level, phases, or scopes, along with the cost, **MUST** be defined.*

Smaller DRCOG funding request:

Outline the differences between the scope outlined above and the reduced scope:

Project Financial Information and Funding Request

(All funding amounts in \$1,000s)

Total amount of Subregional Share Funding Request (in \$1,000's)
(No less than \$100,000 and not to exceed 90% of the total project cost)

\$950

79.17%
of total project cost

<input type="checkbox"/> Check box if requesting only state MMOF funds (requires minimum 50% local funds)¹			
Match Funds (in \$1,000's) List each funding source and contribution amount.		Contribution Amount	% Contribution to Overall Project Total
Castle Rock		\$250	21%
		\$	0%
		\$	0%
		\$	0%
		\$	0%
		\$	0%
Total Match <i>(private, local, state, another subregion, or federal)</i>		\$250	20.83%
Project Total		\$1,200	
Notes:	1. Per CDOT action, the following jurisdictions are only required to provide 25% match on the MMOF funds: Englewood, Jamestown, and Wheat Ridge. The following jurisdictions are not required to provide a match on the MMOF funds: Federal Heights, Lakeside, Larkspur, Sheridan, and Ward. All sponsors will still be required to have 20% match on any added federal funds.		

Funding Breakdown (in \$1,000s) (by program year)¹ (Total funding should match the Project Total from above)

	FY 2023	FY 2024	FY 2025	Total
DRCOG Requested Funds	\$ <input type="text"/>	\$200	\$750	\$950
CDOT or RTD Supplied Funds²	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>	\$0
Local Funds (Funding from sources other than DRCOG, CDOT, or RTD)	\$ <input type="text"/>	\$50	\$200	\$250
Total Funding	\$0	\$250	\$950	\$1,200
Phase to be Initiated	Choose an item	Choose an item	Choose an item	
Notes:	<ol style="list-style-type: none"> 1. Fiscal years are October 1 through September 30 (e.g., FY 2023 is October 1, 2022 through September 30, 2023). 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 a recommended 3% inflation factor. 2. Only enter funding in this line if CDOT and/or RTD specifically give permission via concurrence letters or other written source. 			
Affirmation:	By checking this box, the applicant's Chief Elected Official (Mayor or County Commission Chair/City or County Manager/Agency Director) has certified it allows this application to be submitted for potential DRCOG-allocated funding and will follow all local, DRCOG, state, and federal policies and regulations if funding is awarded. <input checked="" type="checkbox"/>			

Evaluation Questions

A. Subregional Impact of Proposed Project

WEIGHT

30%

Provide **qualitative and quantitative** responses to the following questions on the regional impact of the proposed project. Be sure to provide all required information for each question. Quantitative data from DRCOG is available [here](#).

1. Why is this project subregionally important? Relevant quantitative data in your response is required.

The Plum Creek Pkwy and Perry Street intersection is on the Plum Creek Pkwy regional corridor and the Town's truck route map (see Supplemental Material) that serves regional destinations such as I-25, Downtown Castle Rock, and the Douglas County Fairgrounds. Plum Creek Parkway also provides the eastern portions of Castle Rock and Douglas County access to I-25. The WB average daily traffic (ADT) volume on Plum Creek Pkwy is over 11,700 vehicles, and the eastbound (EB) volume is over 11,400 ADT. Downtown and the Fairgrounds are not only an attraction for the Town and County, but also for the region. Recent Streetlight data from a Downtown study shows that vehicles from as far as Denver and Colorado Springs use Plum Creek Parkway to get Downtown.

The high volume intersection is the top location for crash rate incidents on the Town's off-system list. The Town conducted a crash analysis using the DiExSys analysis software through June 2020. This revealed 42 property damage only, nine injury, and one fatal crash. Adding the right turn lane would reduce crash rates by up to 30%.

2. How will the proposed project address the specific transportation problem described in the **Problem Statement** (as submitted in Project Information, #8)? Relevant quantitative data in your response is required.

The proposed project will construct a dedicated WB right turn that will reduce congestion, long WB queues, reduce crashes, and improve air quality by reducing vehicles stuck in congestion emitting GHG and other pollutants.

3. Does the proposed project benefit multiple municipalities and/or subregions? If yes, which ones and how? Also describe any funding partnerships (other subregions, regional agencies, municipalities, private, etc.) established in association with this project.

Yes, as stated above the project will benefit regional travelers from as far away as Denver and Colorado Springs. It will also benefit travelers from many rural areas that come to the Douglas County Fairgrounds for events and shows, or the County offices to conduct business.

4. Describe how the project will improve access and mobility for each of the applicable disproportionately impacted and environmental justice population groups identified in the table below. This data is available in the TIP Data Tool.

Completing the below table and referencing relevant quantitative data in your response is required.

	DI and EJ Population Groups	Number within ½ mile	% of Total	Regional %
Use 2015-2019 American Community Survey Data (In the TIP Data Tool, use a 0.5 mile buffer)	a. Total population	4,188	-	-
	b. Total households	2,475	-	-
	c. Individuals of color	649	15%	33%
	d. Low-Income households	82	3%	9%
	e. Individuals with limited English proficiency	91	2%	3%
	f. Adults age 65 and over	916	22%	13%
	g. Children age 5-17	561	13%	16%
	h. Individuals with a disability	208	5%	9%
	i. Households without a motor vehicle	31	1%	5%
	j. Households that are housing cost-burdened	380	15%	32%

For Lines c. – i. use definitions in the [DRCOG Title VI Implementation Plan](#). For Line j., as defined in C.R.S. 24-38.5-302(3)(b)(I): “‘cost-burdened’ means a household that spends more than thirty percent of its income on housing.”

Describe how this project will improve access and mobility for each of the applicable groups, *including the required quantitative analysis*: Intersection improvements will improve access to regional and sub-regional destinations in Castle Rock and the County. More importantly, it will improve access into Downtown by providing a dedicated right turn lane into the 'urban center.' This will result in less vehicle delay, shorter queues, and improved safety for for the population groups above. For people without access to a vehicle or chose to use micromobility options a new wider multi-use sidepath will be constructed, replacing a narrow sidewalk. An additional benefit will be less pollution, such as GHG emission, being generated by cars stuck in congestion. This is a health benefit for all the above populations.

5. How will this project move the region toward achieving the shared [regional transportation outcomes](#) established in [Metro Vision](#)?

- Improve the diversity and livability of communities. Project will create a safer, less polluting intersection by reducing congestion and adding a multi-use sidepath for individuals using other modes of transportation. According to the DiExSys analysis, adding a WB right turn lane will create a 30% reduction in crash types; PDO, and injury related to rear end, side swipes, and overtaking crashes.
- Contain urban development in locations designated for urban growth and services. The project is located in an 'urban center' and improves access to the area, which is very important if 'urban centers' are intended to be growth areas for the region. Higher density in 'urban centers' will still generate new vehicle trips and the transportation infrastructure needs to be able to support it.
- Increase housing and employment in urban centers. This project fully supports higher density in Downtown Castle Rock - it improves access into the 'urban center' and improves safety, reduces vehicle delays and queues, while reducing GHG emissions. Improving transportation for all modes is important in higher density developments.
- Improve and expand the region’s multimodal transportation system, services, and connections. The project improves mobility, safety, access, and air quality by reducing congestion and adding a multi-use sidepath for bikes, pedestrians, and other micromobility options. Currently the narrow sidewalk is not wide enough to be considered a multi-use facility.
- Operate, manage, and maintain a safe and reliable transportation system. The two project elements will create a safer transportation system by reducing crash rates, and adding a bike facility that currently does not exist in the project area.
- Improve air quality and reduce greenhouse gas emissions. A reduction in GHG and other harmful emissions are expected as the project reduces congestion, long queues, and vehicle delays.
- Connect people to natural resource and recreational areas. Plum Creek Pkwy is a regional corridor that provides direct access to the Douglas County Fairgrounds, Plum Creek Trail (aka front range trail) and opens spaces, and the Miller Athletic Complex (MAC), as well as Festival Park in Downtown.
- Reduce the risk of hazards and their impact. Adding a WB right turn lane will create a 30% reduction in crash types; PDO, and injury related to rear end, side swipes, and overtaking crashes. In addition, adding the multi-use sidepath for bikes, pedestrians and micromobility users will provide a wide enough facility for all users to use safely.
- Increase access to amenities that support healthy, active choices. Increased mobility and access to Downtown and the immediate area will allow people to connect to regional trails and open spaces in the area that contain hiking paths.
- Improve transportation connections to health care facilities and service providers. The improved pedestrian network and biking network will connect to many health care facilities and service providers in the immediate area or in Downtown itself. Less congestion and queuing at the intersection will also improve vehicular mobility to health care facilities. Some of these destinations include; Tri County Health Department, Castle Rock Assisted Living and Home Care, and Brookside Rehabilitation and Wellness Center to name a few.

- **Diversify the region's housing stock.** Improving the reliability and safety of the transportation system will not diversify the region's housing stock, but it will support higher density multi-family housing project's that are lacking in Castle Rock. Over the last few years there has been hundreds of new condos and apartments built or approved in Downtown. Improving access and mobility will improve their liveability and quality of life.
- **Improve access to opportunity.** Most of downtown Castle Rock is located within an "Environmental Justice Analysis Zone, " which serves many income levels and age groups. Thus reducing congestion and adding a multi-use sidepath will enhance the access and mobility for these individuals, including all age groups, income levels, and abilities. The right turn lane and sidepath will greatly improve these people's ability to access Downtown, including Festival Park, Town Hall, the Douglas County Library, and all the new commerical development in Downtown.
- **Improve the region's competitive position.** Project improvements will result in less congestion, fuel costs and consumption, and save time for people and businesses making the region more attractive to employers, developers, and residents. It will make a more desirable place to live and work, thus attracting people and businesses to locate here from around the State and Country. In fact, Castle Rock has consistently been identified as one of the best places to live by many national publications.

6. Describe how the project will improve access to and/or connectivity between DRCOG-defined urban centers, multimodal corridors, mixed-use areas, Transit Oriented Development (transit near high-density development), or locally defined priority growth areas. Items marked with an asterisk (*) below are available in the TIP Data Tool.

- Is there a DRCOG designated urban center within ½ mile of the project limits?*

Yes No If yes, please provide the name: [Downtown Castle Rock](#)

- Does the project connect two or more urban centers?*

Yes No If yes, please provide the names:

- Is there a transit stop or station within ½ mile of the project limits?*

Bus stop: Yes No If yes, how many?

Rail station: Yes No If yes, how many?

- Is the project in a locally-defined priority growth and development area?

Yes No

If yes, provide a link to the relevant planning document:

<http://www.crgov.com/DocumentCenter/View/22546/Downtown-Master-Plan-PDF?bidId>

If yes, provide how the area is defined in the relevant planning document: Downtown Castle Rock is a priority development area for the Town, as indicated in the Downtown Master Plan adopted in 2008 and the Downtown Overlay District (DOD) Code adopted in 2010. Both of these documents identify the desire and need to allow multi-family housing in downtown, to generate the density and life needed to have an active Downtown 24 hrs a day, 7 days a week. The DOD Code specifically allows multi-family and mixed use developments. The Town also created a Downtown Development Authority in 2008 that is very active today in Downtown redevelopment projects, enabling the taxing and financing ability to incentivize Downtown development. Over the last several years, Town Council has approved several redevelopment financing agreements for 4 major mixed use projects in Downtown, two are completed (Riverwalk and Encore), one is under construction (The View) and one was recently approved and is moving into construction design. These demonstrate the Town’s commitment to strong redevelopment in Downtown.

- Is the project in an area with zoning that supports compact, mixed-use development patterns and a variety of housing options?

Yes No If yes, please provide the zoning district designation(s): [Downtown Overlay District](#) (see previous question above)

Provide households and employment data*	2020	2050
Households within ½ mile	2,475	3,426
Jobs within ½ mile	7,722	9,976
Household density (per acre) within ½ mile	1.37	2.20
Job density (per acre) within ½ mile	8.96	11.08

Describe how this project will improve access to and/or connectivity between the above identified areas, *including the required quantitative analysis:*

The intersection is in the southern portion of Downtown Castle Rock. The project will improve mobility and access between the households and jobs by adding a multi-use sidepath and a dedicated right turn lane. This will result in less congestion, vehicle queues, and improve safety and air quality.

7. Describe how this project will improve **access** and **connections** to key employment centers or regional destinations, including health services; commerce, educational, cultural, and recreational opportunities; or other important community resources. In your answer, define the key destination(s) and clearly explain how the project improves **access** and/or **connectivity**.

[Downtown Castle Rock](#) is an 'urban center' and the Douglas County seat. It is also a key regional destination for the metro area. Project improvements will be built in this 'urban center' and result in an improved multimodal

transportation system that is safer. The project will provide better connections and access to key businesses and regional destinations in Downtown and the surrounding area. Here is a list of some of the destinations;

- Castle Rock Town Hall
- Castle Rock Police Department and Court
- Castle Rock Historic Museum
- Douglas County primary offices (engineering, planning, etc...)
- Douglas County Clerk and Recorder
- Douglas County motor vehicle
- Douglas County Treasurer
- Castle Rock Chamber of Commerce
- Douglas County Fairgrounds
- Douglas County Library and Administration Office
- Rock Park
- Festival Park
- Centennial Park
- Rink at the Rock
- Plum Creek Trail (aka Front Range Trail)
- Front Street Trail
- Seller's Gulch Trail
- Hier/Gannon Open Space
- Reyn Rock Apartments (Section 8 Senior Housing)
- Riverwalk Apartments (north and south buildings)
- The Encore Condos
- The View Apartments
- Tri County Health Department
- Castle Rock Assisted Living and Home Care
- Brookside Rehabilitation and Wellness Center
- Numerous Downtown shops and restaurants

- High concentration of employment

B. MVRTP Priorities

WEIGHT

50%

- **Qualitative and quantitative** responses are **REQUIRED** for the following items on how the proposed project contributes to the project and program investment priorities in the adopted 2050 Metro Vision Regional Transportation Plan. To be considered for full points, you must fully answer all parts of the question, including incorporating quantitative data into your answer. (see scoring section for details). Quantitative data from DRCOG is available [here](#).
- Checkboxes and data tables help to provide context and guide responses, but do not account for the full range of potential improvements and are not directly scored, but are required to be completed.
- Not all proposed projects will necessarily be able to answer all questions, however it is in the applicant's interest to address as many priority areas as possible.

Multimodal Mobility

Provide improved travel options for all modes.

(drawn from [2050 MVRTP priorities](#); [federal travel time reliability, infrastructure condition, & transit asset management performance measures](#); & [Metro Vision objective 4](#))

Examples of Project Elements: combinations of improvements that support options for a broad range of users, such as complete streets improvements, or a bicycle/pedestrian access to transit, etc.

How does this project help increase mobility choices for people, goods, and/or services? Note that any roadway operational improvements must be on the DRCOG [Regional Roadway System](#) and/or [Regional Managed Lanes System](#).

- What modes will project improvements directly address?
 Walking Bicycling Transit Roadway Operations Other:
- List the elements of this project which will address the above modes (i.e., sidewalk, shared use path, bus stop improvements, signal interconnection, etc.): [Multi-use sidepath, and dedicated right turn lane](#)
- Will the completed project be a complete street as described in the [Regional Complete Streets Toolkit](#)? This data is available in the TIP Data Tool.
 Yes No If yes, describe how it implements the Toolkit's strategies in your response.
- Does this project improve travel time reliability?
 Yes No
- Does this project improve asset management of active transportation facilities and/or transit vehicle fleets?
 Yes No
- Does this project implement resilient infrastructure that helps the region mitigate natural and/or human-made hazards?
 Yes No

Describe how this project increases mobility choices for all users, *include quantitative information, including any items referenced above, in your response:*

[Project improvements include replacing a narrow sidewalk with a multi-use sidepath for all micromobility options.](#)

Air Quality

Improve air quality and reduce greenhouse gas emissions.

(drawn from [2050 MVRTD priorities](#); [state greenhouse gas rulemaking](#); [federal congestion & emissions reduction performance measures](#); [Metro Vision objectives 2, 3, & 6a](#))

Examples of Project Elements: active transportation, transit, or TDM elements; vehicle operational improvements; electric vehicle supportive infrastructure; etc.

How does this project help reduce congestion and air pollutants, including but not limited to, carbon monoxide, ground-level ozone precursors, particulate matter, and greenhouse gas emissions?

- Does this project reduce congestion?
 Yes No
- Does this project reduce vehicle miles traveled (VMT)?
 Yes No
- Does this project reduce single-occupant vehicle (SOV) travel?
 Yes No

Emissions Reduced (kg/day)	CO	NOx	VOCs	PM 10
	0.37	0.28	0.05	0.02

Use the [FHWA CMAQ Calculators](#) or a similar reasonable methodology to determine emissions reduced. Base your calculations on the year of opening. Please attach a screenshot of your work (such as the FHWA calculator showing the inputs and outputs) as part of your submittal packet.

Note: if not using the FHWA Calculators, please note your methodology in your narrative below.

Describe how this project reduces air pollutants, *include quantitative information, including any items referenced above, in your response:*

The proposed project addresses the congestion on Plum Creek Pkwy caused by the lengthy queues in the outside lane and green time given to the intersecting side street. Lane imbalancing is a problem due to the I-25 access and the access into Downtown utilizing the same travel lane. According to the USPS traffic study data and the FHWA calculator the emissions are reduce for a Saturday as shown above. Further, the most abundant GHG, or CO2 equivalent emission is reduced by 458.

**Regional
Transit**

Expand and improve the region’s transit network.

(drawn from [2050 MVRTP priorities](#), [Coordinated Transit Plan](#), [RTD’s Regional Bus Rapid Transit Feasibility Study](#))

Examples of Project Elements: transit lanes, station improvements, new/expanded service, etc.

Note: For any project with transit elements, the sponsor must coordinate with RTD to ensure RTD agrees to the scope and cost. Be sure to include RTD’s concurrence in your application submittal.

How does this project improve connections to or expand the region’s transit system, as outlined in the [2050 MVRTP](#)? Note that rapid transit improvements must be on the [Regional Rapid Transit System](#). Items marked with an asterisk (*) below are available in the TIP Data Tool.

- Does this project implement a portion of the [regional bus rapid transit \(BRT\) network](#)?*
 Yes No If yes, which specific corridor will this project focus on?
- Does this project involve a [regional transit planning corridor](#)?*
 Yes No If yes, which specific corridor will this project focus on?
- Does this project implement a mobility hub as defined in the [2050 MVRTP](#)?
 Yes No
- Does this project improve connections between transit and other modes?
 Yes No If yes, please describe in your response.
- Is this project adding new or expanded transit service?
 Yes No If yes, who will operate the service?
- Does this project add and/or improve transit service to or within a DRCOG-defined urban center?*
 Yes No If yes, provide the name of the urban center:

Describe how this project improves connections to or expands the region’s transit system, *include quantitative information, including any items referenced above, in your response:*

[Not applicable](#)

Safety **Increase the safety for all users of the transportation system.**
 (drawn from [2050 MVRTP priorities](#), [Taking Action on Regional Vision Zero](#), [CDOT Strategic Transportation Safety Plan](#), & [federal safety performance measures](#))
 Examples of Project Elements: bike/pedestrian crossing improvements, vehicle crash countermeasures, traffic calming, etc.

How does this project implement safety improvements (roadway, active transportation facility, etc.), particularly improvements in line with the recommendations in [Taking Action on Regional Vision Zero](#)? Note that any improvements on roadways must be on the DRCOG [Regional Roadway System](#). Items marked with an asterisk (*) below are available in the TIP Data Tool.

- Does this project address a location on the [DRCOG High-Injury Network or Critical Corridors](#) or corridors defined in a local Vision Zero or equivalent safety plan?*
 Yes No
- Does this project implement a safety countermeasure listed in the [countermeasure glossary](#)?
 Yes No

Provide the current number of crashes involving motor vehicles, bicyclists, and pedestrians* <i>(using the 2015-2019 period – in the TIP Data Tool, use a 0.02 mile buffer of your project)</i> <i>NOTE: if constructing a new facility, report crashes along closest existing alternative route</i>		Sponsor must use industry accepted crash reduction factors (CRF) or accident modification factor (AMF) practices (e.g., NCHRP Project 17-25, NCHRP Report 617, or DiExSys methodology).
Fatal crashes	1	
Serious Injury crashes	1	
Other Injury crashes	12	
Property Damage Only crashes	67	
Estimated reduction in crashes <u>applicable to the project scope</u> <i>(per the five-year period used above)</i>		Provide the methodology below:
Fatal crashes reduced	0.30	DiExSys
Serious Injury crashes reduced	0.30	
Other Injury crashes reduced	3.60	
Property Damage Only crashes reduced	20.10	

Describe how this project will improve safety, *include quantitative information, including any items referenced above, in your response:*

Project will improve safety by adding a right turn lane (auxiliary lane) resulting in a 30% reduction in PDO, side swipes, over taking, and rear end crashes. the town's HSIP application is provided in the Supplemental Material for review.

Freight

Maintain efficient movement of goods within and beyond the region.

(drawn from [2050 MVRTP priorities](#); [Regional Multimodal Freight Plan](#); [Colorado Freight Plan](#), [federal freight reliability performance measure](#); [Metro Vision objective 14](#))

Examples of Project Elements: roadway operational improvements, etc.

How does this project improve the efficient movement of goods, specifically improvements identified in the [Regional Multimodal Freight Plan](#)? Note that any improvements on roadways must be on the DRCOG [Regional Roadway System](#). Items marked with an asterisk (*) below are available in the TIP Data Tool.

- Is this project located in or impact access to a [Freight Focus Area](#)?*
 Yes No If yes, please provide the name:
- Is the project located on the [Tier 1 or Tier 2 Regional Highway Freight Vision Network](#)?*
 Yes No
- If this project is located in a [Freight Focus Area](#) does it address the relevant Needs and Issues identified in the Plan (see text located within each Focus Area)?
 Yes No If yes, please describe in your response.
- Check any items from the [Inventory of Current Needs](#) which this project will address:
 Truck Crash Location Rail Crossing Safety ([eligible locations](#))
 Truck Delay Truck Reliability
Please provide the location(s) being addressed:
- Does this project include any innovative or non-traditional freight supportive elements (i.e., curb management strategies, cargo bike supportive infrastructure, etc.)?
 Yes No If yes, please describe in your response.

Describe how this project will improve the movement of goods, *include quantitative information, including any items referenced above, in your response:*

Plum Creek Parkway is a major arterial and on the Town's truck route map (see Supplemental Material). The intersection also serves Downtown Castle Rock which is a mixed use 'urban center.' Project improvements will reduce congestion at the intersection that creates a more reliable time for truck traffic. A right turn lane also makes it safer for truck traffic needing to access Downtown and the commercial center. Less delay also translates into less fuel consumption and costs, which also means less air pollution and GHG emissions.

Active Transportation

Expand and enhance active transportation travel options.

(drawn from [2050 MVRTP priorities](#); [Denver Regional Active Transportation Plan](#); & [Metro Vision objectives 10 & 13](#))
 Examples of Project Elements: shared use paths, sidewalks, regional trails, grade separations, etc.

How does this project help expand the active transportation network, close gaps, improve comfort, and/or improve connections to key destinations, particularly improvements in line with the recommendations in the [Denver Regional Active Transportation Plan](#)? Items marked with an asterisk (*) below are available in the TIP Data Tool.

- Does this project close a gap or extend a facility on a [Regional Active Transportation Corridor](#) or locally-defined priority corridor?*
 Yes No
- Does this project improve pedestrian accessibility and connectivity in a [pedestrian focus area](#)?*
 Yes No
- Does this project improve active transportation choices in a [short trip opportunity zone](#)?*
 Yes No
- Does this project include a high-comfort bikeway (like a sidepath, shared-use path, separated bike lane, bicycle boulevard)?
 Yes No If yes, please describe in your response.

Bicycle Use

NOTE: if constructing a new facility, report bike usage along closest existing alternative route

1. Current Average Single Weekday Bicyclists:	35	
Bicycle Use Calculations	Year of Opening	2050 Weekday Estimate
2. Enter estimated additional average weekday one-way bicycle trips on the facility after project is completed.	40	80
3. Enter number of the bicycle trips (in #2 above) that will be diverting from a different bicycling route. (Example: {#2 X 50%} or other percent, if justified on line 10 below)	0	0
4. = Initial number of new bicycle trips from project (#2 – #3)	40	80
1. Enter number of the new trips produced (from #4 above) that are replacing a trip made by another non-SOV mode (bus, carpool, vanpool, bike, etc.). (Example: {#4 X 30%} or other percent, if justified on line 10 below)	12.00	24.00
5. = Number of SOV trips reduced per day (#4 - #5)	28.00	56.00
6. Enter the value of {#6 x 2 miles} . (= the VMT reduced per day) (Values other than 2 miles must be justified by sponsor on line 10 below)	56.00	112.00
7. = Number of pounds GHG emissions reduced (#7 x 0.95 lbs.)	53.20	106.40
8. If values would be distinctly greater for weekends, describe the magnitude of difference: NA		
9. If different values other than the suggested are used, please explain here: NA		

Pedestrian Use

NOTE: if constructing a new facility, report pedestrian usage along closest existing alternative route

2. Current Average Single Weekday Pedestrians (including users of non-pedaled devices such as scooters and wheelchairs):	51	
Pedestrian Use Calculations	Year of Opening	2050 Weekday Estimate
3. Enter estimated additional average weekday pedestrian one-way trips on the facility after project is completed	60	125
4. Enter number of the new pedestrian trips (in #2 above) that will be diverting from a different walking route (Example: {#2 X 50%} or other percent, if justified on line 10 below)	0	0
5. = Number of new trips from project (#2 – #3)	60	125
6. Enter number of the new trips produced (from #4 above) that are replacing a trip made by another non-SOV mode (bus, carpool, vanpool, bike, etc.). (Example: {#4 X 30%} or other percent, if justified on line 10 below)	18.00	37.50
7. = Number of SOV trips reduced per day (#4 - #5)	42.00	87.50

8. Enter the value of {#6 x .4 miles}. (= the VMT reduced per day) (Values other than .4 miles must be justified by sponsor on line 10 below)	16.80	35.00
9. = Number of pounds GHG emissions reduced (#7 x 0.95 lbs.)	15.96	33.25
10. If values would be distinctly greater for weekends, describe the magnitude of difference: NA		
11. If different values other than the suggested are used, please explain here: NA		

Describe how this project will expand the active transportation network, close gaps, improve comfort, and/or improve connections to key destinations, *include quantitative information, including any items referenced above, in your response:*

The existing narrow sidewalk will be replaced with a high comfort multi-use sidepath as part of the project, which will result in a safer and more comfortable facility for all micromobility users. The project will also improve connections to destinations in Downtown, such as jobs, health care facilities, shopping, restaurants, recreational facilities, and all of the services offered by Douglas County and Town. Project is located in an 'urban center', 'pedestrian focus area' and on the edge of a 'short trip opportunity zone.'

C. Project Leveraging	WEIGHT	10%
------------------------------	--------	------------

What percent of outside funding sources (non-Subregional Share funding) does this project have? <i>(number will automatically calculate based on values entered in the Funding Request table)</i>	20.83%	60%+ outside funding sources 5 pts 50-59.9% 4 pts 40-49.9% 3 pts 20-39.9% 2 pts 10.1-19.9% 1 pt 10% 0 pts
--	---------------	--

D. Project Readiness	WEIGHT	10%
-----------------------------	--------	------------

Provide responses to the following items to demonstrate the readiness of the project. DRCOG is prioritizing those projects that have a higher likelihood to move forward in a timely manner and are less likely to experience a delay.

Section 1. Avoiding Pitfalls and Roadblocks

a. Has a licensed engineer (CDOT, consultant, local agency, etc.) reviewed the impact the proposed project will have on utilities, railroads, ROW, historic and environmental resources, etc. and have those impacts and pitfalls been mitigated as much as possible to date before this submittal?
 Yes No N/A (for projects which do not require engineering services)

If yes, please type in the engineer’s name below which certifies their review and that impacts have been evaluated and mitigated as much as possible before your application is submitted:
 Jacob Vargish

Please describe the status to date on each, including 1) anticipated/known pitfalls/roadblocks, and 2) mitigation activities taken to date:

- Utilities: Few utilities will have to be relocated
- Railroad: NA
- Right-of-Way: ROW may be needed from the US Postal Service
- Environmental/Historic: The USPS detention pond may need to be modified
- Other: depending on design a retaining wall may be necessary

b. Is this application for a single project phase only (i.e., design, environmental, ROW acquisition, construction only, study, bus service, equipment purchase, etc.)?
 Yes No

If yes, are the other prerequisite phases complete? Yes No N/A

If this project is for construction, please note the NEPA status: Not Started

c. Has all required ROW been identified? Yes No N/A
 Has all required ROW already been acquired and cleared by CDOT? Yes No N/A

d. Based on the current status provided in Project Information, question 11, do you foresee being able to execute your IGA by October 1 of your first year of funding (or if requesting first year funding, beginning discussions on your IGA as soon as possible), so you can begin your project on time?
 Yes No

Does your agency have the appropriate staff available to work on this project? Yes No

If yes, are they knowledgeable with the federal-aid process? Yes No

e. Have other stakeholders in your project been identified and involved in project development?
 Yes No N/A

If yes, who are the stakeholders?

Please provide any additional details on any of the items in Section 1, if applicable.
[ROW may be needed from the USPS.](#)

Section 2. Local Match

- a. Is all the local match identified in your application currently available, and if a partnering agency is also committing match, do you have a commitment letter?
 Yes No

Please describe:

[If selected a budget amendment is needed.](#)

- b. Is all funding for this project currently identified in the sponsor agency's Capital Improvement Program (CIP)?
 Yes No

Please describe:

Section 3. Public Support

- a. Has the proposed project previously been through a public review process (public comment period, public hearing, etc.)?
 Yes No
- b. Has the public had access to translated project materials in relevant languages for the local community?
 Yes No

Please describe:

[Intersection improvements have been discussed in previous CIP discussions but was not moved forward due to funding constraints at the time. However, Town Council is aware of the need from previous traffic studies performed by private developments in the Downtown area.](#)

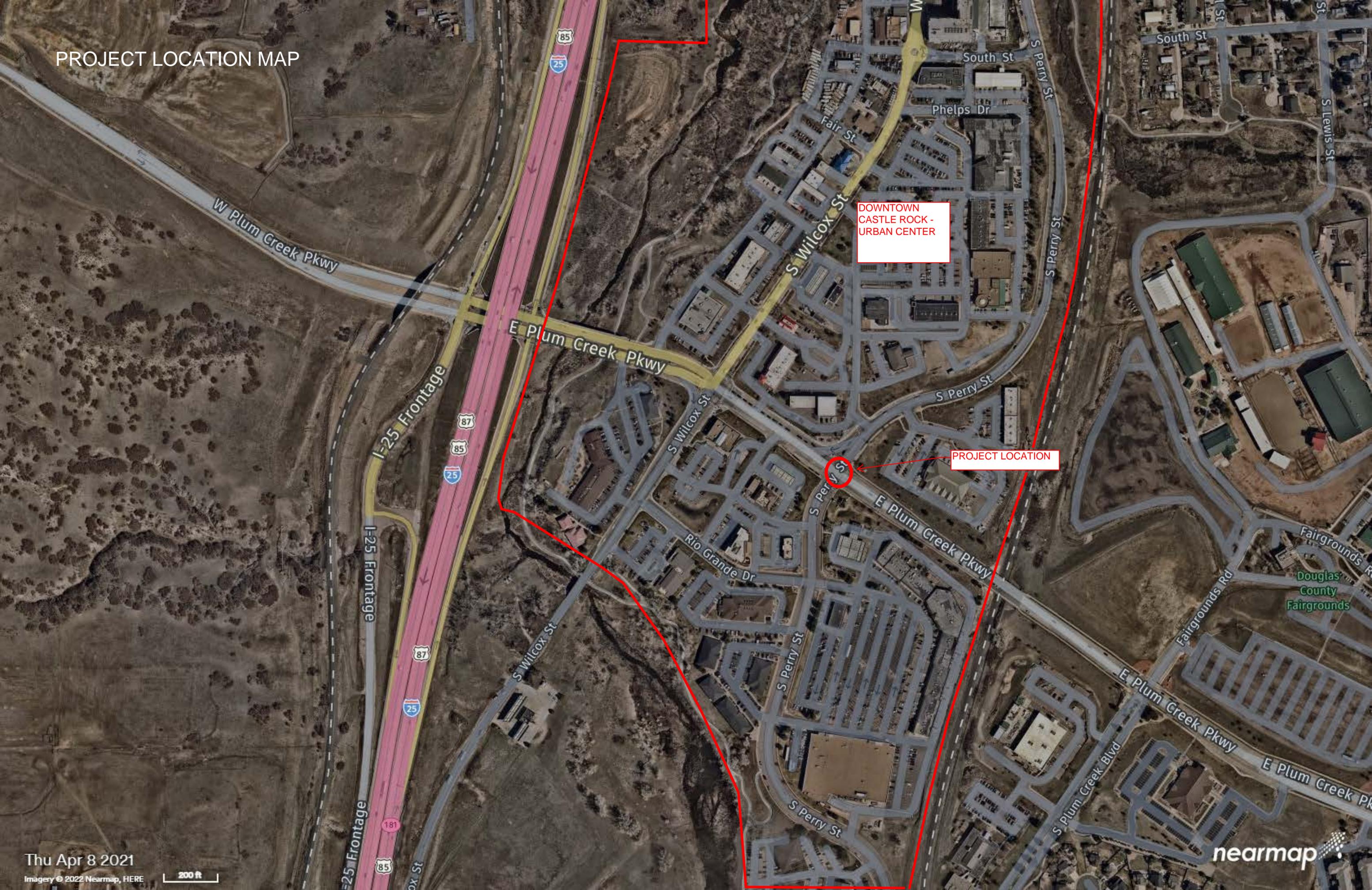
- c. Have any adjacent property owners to the proposed project been contacted and provided with the initial project concept?
 Yes No N/A

Please provide any additional details on the items in Section 3, if applicable.

[The right turn lane improvement was identified in the USPS relocation traffic study and also in the Library and other mixed use development projects.](#)

Submit completed applications through the [TIP Data Hub](#) no later than 3pm on June 24, 2022.

PROJECT LOCATION MAP



DOWNTOWN
CASTLE ROCK -
URBAN CENTER

PROJECT LOCATION

Attachment B

OPINION OF PROBABLE COST



PROJECT: Plum Creek Pkwy & Perry Street TIP Application

DESCRIPTION OF IMPROVEMENT(S): Construct WB right turn auxilliary lane and replace existing narrow sidewalk with wide multi-use sidepath

DATE BY: Town of Castle Rock

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST (\$)	TOTAL
CLEARING AND GRUBBING	LS	1.8	\$ 20,000.00	\$ 36,000.00
REMOVAL OF SIDEWALK	SY	408	\$ 24.00	\$ 9,792.00
REMOVAL OF CURB AND GUTTER	LF	644	\$ 10.00	\$ 6,440.00
REMOVAL OF CONCRETE MAT	SY		\$ 12.00	\$ -
REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	LS	1	\$ 20,000.00	\$ 20,000.00
REMOVAL OF INLET	Each	1	\$ 1,500.00	\$ 1,500.00
REMOVAL OF PAVEMENT MARKINGS	SF	260	\$ 1.50	\$ 390.00
ADJUST MANHOLE	Each	1	\$ 750.00	\$ 750.00
RESET STREETLIGHT	Each	2	\$ 2,750.00	\$ 5,500.00
RESET AIR VENT	Each	1	\$ 2,000.00	\$ 2,000.00
REMOVAL OF GURADRAIL TYPE 3	LF	457	\$ 7.50	\$ 3,427.50
EMBANKMENT MATERIAL (CIP)	CY	740	\$ 20.00	\$ 14,800.00
ABC CLASS 6	CY	120	\$ 50.00	\$ 6,000.00
HOT MIX ASPHALT	TON	25	\$ 100.00	\$ 2,500.00
CONCRETE PAVEMENT (9.5")	SY	718	\$ 110.00	\$ 78,980.00
WALLS - MSE (FILL)	SF	2500	\$ 75.00	\$ 187,500.00
PEDESTRIAN RAILING (STEEL)	LF	500	\$ 200.00	\$ 100,000.00
18 inch REINFORCED CONCRETE PIPE (COMPLETE IN PLACE)	Each	1	\$ 1,500.00	\$ 1,500.00
GUARDRAIL TYPE 3	LF	460	\$ 60.00	\$ 27,600.00
INLET TYPE R L (5 Foot)	Each	1	\$ 4,000.00	\$ 4,000.00
CONCRETE SIDEWALK (6")	SY	540	\$ 80.00	\$ 43,200.00
CURB RAMP	SY	20	\$ 167.00	\$ 3,340.00
CURB AND GUTTER TYPE VC2	LF	500	\$ 40.00	\$ 20,000.00
TRANSITION (Type 3G)	Each	1	\$ 1,750.00	\$ 1,750.00
RESET TRAFFIC SIGNAL	LS	1	\$ 40,000.00	\$ 40,000.00
SANITARY FACILITY	Each	1	\$ 1,750.00	\$ 1,750.00
			SUBTOTAL	\$ 618,719.50 A
	% Range		% Used	
LANDSCAPING	1-3% of (A)		1%	\$ 6,187.20 B
DRAINAGE	5-10% of (A)		5%	\$ 30,935.98 C
EROSION CONTROL	3-8% of (A)		3%	\$ 18,561.59 D
SIGNING/STRIPING	1-5% of (A)		2%	\$ 12,374.39 E
ENVIRONMENTAL	1 to 5% of (A)		5%	\$ 30,935.98 H
MATERIALS TESTING	1 to 5% of (A)	Note: Fed project	0%	\$ - I
CONSTRUCTION TRAFFIC CONTROL	5 to 25% of (A)		5%	\$ 30,935.98 J
SURVEYING	1 to 5% of (A)		2%	\$ 9,280.79 K
			SUBTOTAL OF (A+B+C+D+E+J)	\$ 757,931.39 L
MOBILIZATION	4 to 10% of (L)		4%	\$ 30,317.26 M
TOTAL OF CONSTRUCTION BID ITEMS	(A+B+C+D+E+J+K+L+M)			\$ 788,248.64 N
CONTINGENCIES	10-30% of (N)		10%	\$ 78,824.86 O
TOTAL CONSTRUCTION MANAGEMENT/INSPECTION	8-15% of N		8%	\$ 63,059.89 P
TOTAL PROJECT COST (CONSTRUCTION)	(O+P+Q)			\$ 930,133.40
PROJECT DESIGN (INCLUDES SUE)	10 to 20% of (O+P+Q)		10%	\$ 93,013.30
PROJECT ROW (VARIES)(INCLUDES ACQUISITION SERVICES)	(ESTIMATED LUMP SUM)			\$ 37,500.00
			SUBTOTAL	\$ 1,060,646.70
			INFLATION (Year)	6%

OVERALL PROJECT COST ESTIMATE \$1,191,742.00

PROGRAM ESTIMATE NOTES:

Intersection Improvements

This calculator will estimate the emission reductions resulting from improving traffic signals at a four-way intersection

INPUT

EXISTING CONDITIONS

Evaluation Year	2025
Area Type	Urban
Business District	Yes
Total peak hours per day(AM+PM)	2
Existing Intersection is	Signalized

Use the table below to estimate delay
(HCM 2010, Exhibit 21-1)

Level of Service Reference Table

LOS	Delay (s/veh)	
	Unsignalized Intersection	Signalized Intersections
A	0 - 10	0 - 10
B	>10 - 15	>10 - 20
C	>15 - 25	>20 - 35
D	>25 - 35	>35 - 55
E	>35 - 50	>55 - 80
F*	>50	>80

*LOS F typically indicates that traffic demand has exceeded capacity

	Roadway 1	Roadway 2	
Average Annual Daily Traffic volume (AADT) (both directions)	23,201	10,243	veh/day
Peak-hour Volume (both directions)	2,206	1,317	veh/hr
Number of Lanes (one direction)	2	1	
Truck Percentage	6%	6%	
Existing Delay per Vehicle	20.6	230.7	sec/veh
Existing Left-turn Phase	Yes	Yes	
Existing Right-turn Phase	No	No	

PROPOSED CONDITIONS

Cycle Length seconds

	Roadway 1	Roadway 2
Number of Left-Turn Lanes to Add (one direction)	0	0
Left-turn Phase	Yes	Yes
Right-turn Phase	No	No
Ratio of Green Time per Cycle Time	0.5	0.5

OUTPUT

PERFORMANCE

Roadway	PEAK-HOUR		OFF-PEAK		
	1	2	1	2	
Existing Capacity (both directions)	2,911	1,456	2,911	1,456	veh/hr
Proposed Capacity (both directions)	2,911	1,456	2,911	1,456	veh/hr
Volume (both directions)	2,206	1,317	854	346	veh/hr
Delay Reduction per vehicle	0.5	207.9	0.0	0.0	sec/veh

Roadway	1	2	hours
Roadway Intersection Delay Reduction per day	0.6	152.1	
Total Intersection Delay Reduction per day	152.7		

EMISSION REDUCTIONS

Pollutant	Peak Hours	Off-Peak Hours	Daily Total
	Kilograms/day	Kilograms/day	Kilograms/day
Carbon Monoxide (CO)	0.375	0.000	0.375
Particulate Matter <2.5 µm (PM _{2.5})	0.024	0.000	0.024
Particulate Matter <10 µm (PM ₁₀)	0.027	0.000	0.027
Nitrogen Oxide (NO _x)	0.288	0.000	0.288
Volatile Organic Compounds (VOC)	0.054	0.000	0.054
Carbon Dioxide Equivalent (CO _{2e})	458.946	0.000	458.946
Total Energy Consumption (MMBTU)	6.030	0.000	6.030

Navigator

Intersection Improvements

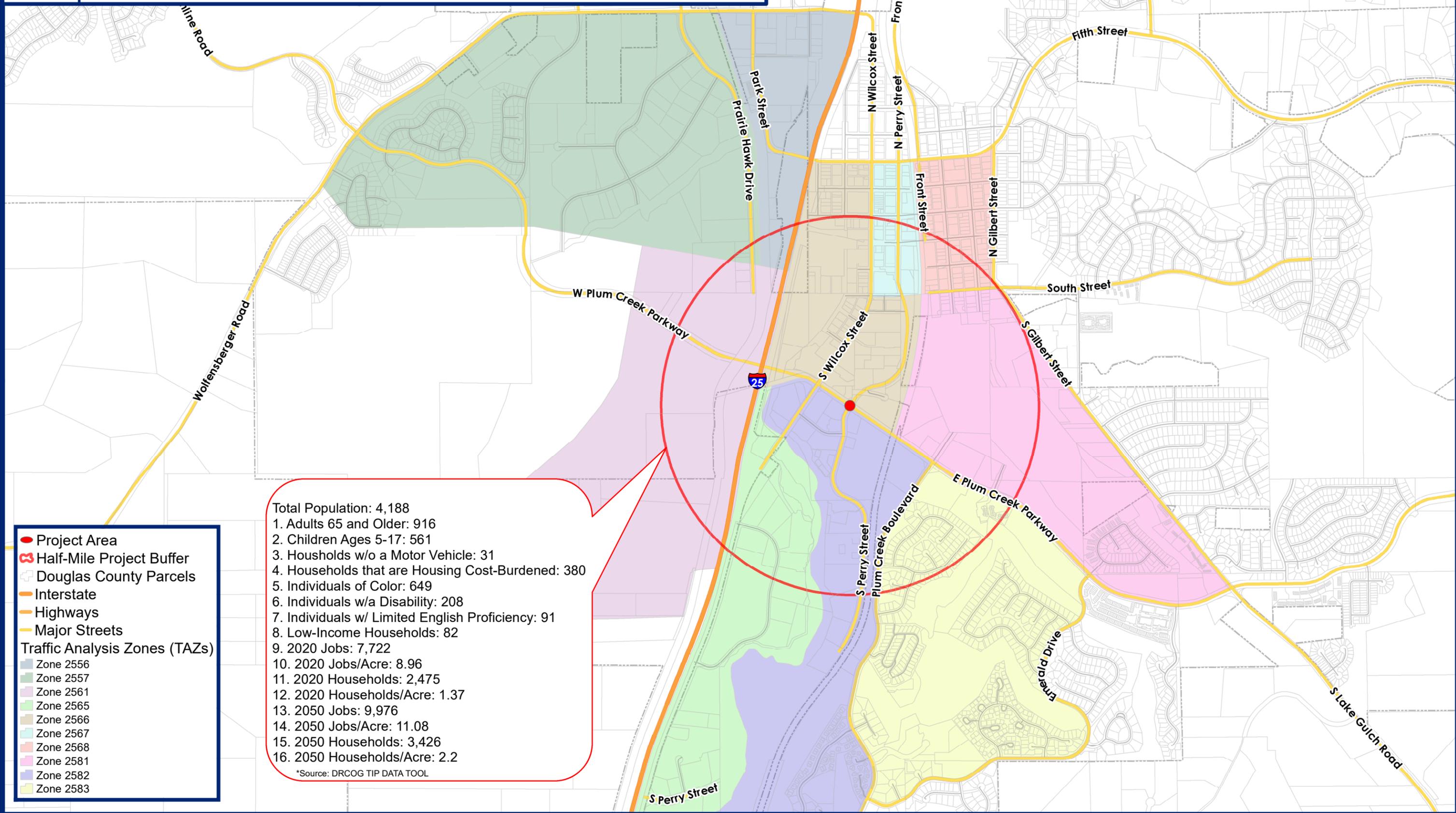
Traffic Signal Synchronization

Roundabouts



PLUM CREEK PARKWAY AND PERRY STREET INTERSECTION

Disproportionately Impacted & Environmental Justice Population Groups within Half-Mile of Project Area



- Project Area
- Half-Mile Project Buffer
- Douglas County Parcels
- Interstate
- Highways
- Major Streets
- Traffic Analysis Zones (TAZs)
- Zone 2556
- Zone 2557
- Zone 2561
- Zone 2565
- Zone 2566
- Zone 2567
- Zone 2568
- Zone 2581
- Zone 2582
- Zone 2583

- Total Population: 4,188
- 1. Adults 65 and Older: 916
- 2. Children Ages 5-17: 561
- 3. Households w/o a Motor Vehicle: 31
- 4. Households that are Housing Cost-Burdened: 380
- 5. Individuals of Color: 649
- 6. Individuals w/a Disability: 208
- 7. Individuals w/ Limited English Proficiency: 91
- 8. Low-Income Households: 82
- 9. 2020 Jobs: 7,722
- 10. 2020 Jobs/Acre: 8.96
- 11. 2020 Households: 2,475
- 12. 2020 Households/Acre: 1.37
- 13. 2050 Jobs: 9,976
- 14. 2050 Jobs/Acre: 11.08
- 15. 2050 Households: 3,426
- 16. 2050 Households/Acre: 2.2

*Source: DRCOG TIP DATA TOOL



Disclaimer: The data presented has been compiled from various sources, each of which introduces varying degrees of inaccuracies or inconsistencies. Such discrepancies in data are inherent and in supplying this product to the public the Town of Castle Rock assumes no liability for its use or accuracy. For questions or comments regarding omissions, corrections, or updates please visit CRgov.com/directory for contact information. Copyright 2022, Town of Castle Rock