

Part 1

Base Information

1. Project Title	SH-86/5th Street and Founders Pkwy/Ridge Road Operational Intersection Improvements
2. Project <i>Start/End</i> points or Geographic Area <i>Provide a map with submittal, as appropriate</i>	see attached project map (Appendix B)
3. Project Sponsor (<i>entity that will construct/ complete and be financially responsible for the project</i>)	Town of Castle Rock
4. Project Contact Person, Title, Phone Number, and Email	Thomas Reiff, Transportation Planner, 720-722-2483, treiff@crgov.com

5. Does this project touch CDOT Right-of-Way, involve a CDOT roadway, access RTD property, or request RTD involvement to operate service? Yes No
If yes, provide applicable concurrence documentation with submittal

6. What planning document(s) identifies this project?	<input type="checkbox"/> DRCOG 2040 Fiscally Constrained Regional Transportation Plan (2040 FC RTP)
	<input checked="" type="checkbox"/> Local plan: Town of Castle Rock Transportation Master Plan (http://www.crgov.com/1840/Transportation-Master-Plan) page ES-7
	<input type="checkbox"/> Other(s):

Provide link to document/s and referenced page number if possible, or provide documentation with submittal

7. Identify the project's **key elements**.
- | | |
|---|--|
| <ul style="list-style-type: none"> <input type="checkbox"/> Rapid Transit Capacity (2040 FC RTP) <input type="checkbox"/> Transit Other: <input checked="" type="checkbox"/> Bicycle Facility <input checked="" type="checkbox"/> Pedestrian Facility <input checked="" type="checkbox"/> Safety Improvements <input type="checkbox"/> Roadway Capacity or Managed Lanes (2040 FC RTP) <input checked="" type="checkbox"/> Roadway Operational | <p>Grade Separation</p> <ul style="list-style-type: none"> <input type="checkbox"/> Roadway <input type="checkbox"/> Railway <input type="checkbox"/> Bicycle <input type="checkbox"/> Pedestrian <ul style="list-style-type: none"> <input type="checkbox"/> Roadway Pavement Reconstruction/Rehab <input type="checkbox"/> Bridge Replace/Reconstruct/Rehab <input type="checkbox"/> Study <input type="checkbox"/> Design <input type="checkbox"/> Transportation Technology Components <input type="checkbox"/> Other: |
|---|--|

8. **Problem Statement** What specific Metro Vision-related subregional problem/issue will the transportation project address?

SH-86 (Founders Pkwy) continues to be the primary regional east-west route in central and southern Douglas County connecting rural parts of Douglas County, such as Franktown, and Elizabeth in Elbert County, to more urban parts of the county such as Castle Rock and Castle Pines. The proposed project is a key intersection along the corridor and at the junction of 4 principal arterials as identified in the 2040 DRCOG regional roadway system; SH-86, Founders Pkwy, 5th Street, and Ridge Road. Because there are so few continuous east-west roadways in central and southern Douglas County, the intersection plays a very important role connecting SH-83 to Interstate 25, Wolfensberger Road, SH-105, and US-85 (see Appendix C - Central and Southern Douglas County Road Map).

This corridor is also a major route that provides people in Castle Rock and the surrounding area access to urban services, such as medical, jobs, shopping, higher education institutions, entertainment/cultural facilities, and government services. The County seat and courthouse are located in Castle Rock which attracts residents, businesses, and visitors from all over the County and region. It is the primary route from eastern Douglas County and Elbert County to Downtown Castle Rock, which is identified as a urban center in the DRCOG Metro Vision. It is also the major route for travelers on SH-83 that need to access the above mentioned services in Castle Rock.

As a result traffic volumes along these roadways and at the intersection are increasing exponentially. Currently daily volumes going through the intersection are 62,000 vehicles per day, and are projected to increase to 90,000 per day by 2040. That is a 45% increase in traffic. Recent traffic studies show the intersection experiences 30 seconds of vehicle delay today, which is near the higher range of a Level of Service (LOS) C according to the Highway Capacity Manual. And will reach LOS D by 2023 without improvements, which is the minimum acceptable LOS standard for both CDOT and Castle Rock. It will exceed the minimum acceptable LOS for the County, which is LOS C. The southbound left turn in the PM peak hour is already operating at a LOS D. Without the improvements, and continued growth in Douglas and Elbert counties as well as Castle Rock will deteriorate the LOS below the acceptable LOS D by 2030.

Meanwhile new residents and businesses rely on this intersection to operate efficiently and function safely so they can access the above mentioned urban services. Castle Rock is also the only urban center in central and southern Douglas County that provides access to a hospital for emergency services. An intersection safety analysis was recently conducted which showed this intersection has an abnormally high injury crash rate when compared to the Statewide average. It also reports that crash rates at the intersection have been increasing higher than normal over the last several years. Between 2013 and 2017, 38 crashes were reported at the intersection. There were 15 crashes that resulted in injuries, with 20 people injured overall. The majority of the crash types were classified as 'Front to Rear.' This typically signifies that there is a congestion problem at the intersection. The analysis goes on to state that improvements at this intersection is best described as having a high to moderate to high potential for crash reduction. And improvements at this intersection have a high probability of reducing injury crashes.

Currently, there are two corners of the intersection that do not have bike/pedestrian facilities. This makes it very difficult for people who live across the street and may want to walk or bike to the nearby shopping centers, or other destinations in the area. There are also many curb ramps within the intersection that do not have ADA compliant truncated domes. This further hinders the walking environment for individuals with visual impairments.

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

The scope of the project is to design, acquire necessary right-of-way and environmental clearances, and construct the intersection improvements. Specific elements known at this time include adding bike/pedestrian facilities to all legs of the intersection and adding ADA compliant curb ramps with truncated domes. Roadway improvements will be determined early in the design phase. It may involve converting the existing intersection into a modern roundabout, continuous flow intersection, or add more through and turn lanes to accommodate the growth in traffic and address safety issues.

10. What is the status of the proposed project?

Improving the SH-86/Founders Pkwy/Ridge Rd/Fifth St. intersection is a high priority for the Town and Douglas County. The proposed project is currently in the Town's 5-year fiscally constrained Capital Improvement Program to begin this year FY 2019.

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

Yes No

If yes, define smaller meaningful limits, size, service level, phases, or scopes, along with the cost for each.
 \$500,000 less than asking

A. Project Financial Information and Funding Request

1. Total Project Cost	\$6,500,000	
2. Total amount of DRCOG Subregional Share Funding Request	\$4,250,000	65% of total project cost
3. Outside Funding Partners (other than DRCOG Subregional Share funds) List each funding partner and contribution amount.	\$\$ Contribution Amount	% of Contribution to Overall Total Project Cost
Douglas County	\$1,000,000	15%
Town of Castle Rock	\$1,250,000	19%
	\$	0%
	\$	0%
	\$	0%
	\$	0%
Total amount of funding provided by other funding partners <i>(private, local, state, Regional, or federal)</i>	\$2,250,000	

Funding Breakdown (year by year)*	<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 2019.</i>				
	FY 2020	FY 2021	FY 2022	FY 2023	Total
Federal Funds	\$	\$	\$4,250,000	\$	\$4,250,000
State Funds	\$	\$	\$	\$	\$0
Local Funds	\$500,000	\$400,000	\$1,350,000	\$	\$2,250,000
Total Funding	\$500,000	\$400,000	\$5,600,000	\$0	\$6,500,000
4. Phase to be Initiated <i>Choose from Design, ENV, ROW, CON, Study, Service, Equip. Purchase, Other</i>	Design	ROW	CON	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. Subregional significance of proposed project

WEIGHT **40%**

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

1. Why is this project important to your subregion?

SH-86 (Founders Pkwy) continues to function as a primary regional route connecting rural parts of Douglas County, such as Franktown, and Elizabeth in Elbert County, to more urban parts of the county such as Castle Pines, and Castle Rock. The proposed project is a key intersection at the junction of 4 principal arterials as identified in the 2040 DRCOG regional roadway system; SH-86, Founders Pkwy, 5th Street, and Ridge Road. Because there are so few continuous east-west roadways in central and southern Douglas County, the intersection plays a very important role on the route connecting SH-83 to Interstate 25, Wolfensberger Road, SH-105, and US-85. The intersection acts as a transportation hub distributing people to the arterial roads that connect to I-25, Downtown Castle Rock (urban Center) and urban services within the region, such as medical, jobs, shopping, government services, and recreational/cultural facilities. If this intersection were to fail or become congested it would severely impact people's travel times trying to get to their destinations.

Intersection improvements are shown to reduce travel delay by an average of 20 seconds. And improve the overall intersection LOS to a LOS A in 2023 when the project is completed. It will also improve the overall LOS to a LOS D in 2040 which achieves the acceptable LOS for CDOT and Castle Rock. The maximum delay for the intersection is projected to be 32 seconds in 2040 as a modern roundabout.

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

The intersection project is situated between the Town of Castle Rock and unincorporated Douglas County on the northwest and southwest corners. These adjacent residents and businesses in Douglas County, and the Town of Castle Rock will benefit greatly from the proposed intersection improvements by experiencing less delay and improved safety. Additionally, the improvements will create bike and pedestrian facilities on corners of the intersection that currently do not have them.

Benefits are also provided to interregional travelers who travel between Colorado Springs and Denver because the proposed project is located on regional roads that connects state highways to I-25 and US-85. The project will improve mobility, reduce vehicle delay, improve air quality, reduce fuel consumption, and significantly improve public safety by reducing conflict points for all travel modes. As a roundabout it would eliminate head to head, right angle, and left turning vehicle crashes. In addition, the surrounding communities will see the economic benefit of reduced collisions and severity of crashes resulting in less insurance, medical, and other costs.

Furthermore, multiple municipalities will directly benefit from the proposed project. Both Douglas and Elbert counties and communities, such as Franktown and Elizabeth are located along SH-86. Residents in these areas frequently travel this corridor and go through the project intersection on a daily basis to access I-25, jobs, shopping, government services, or go to medical appointments located in Castle Rock or another city along I-25. These travelers will benefit from less delay, and improved safety at the intersection. Furthermore, as stated previously Castle Rock is home to the County Courthouse and the County seat and people or businesses in the surrounding municipalities that need to conduct business or need services from Douglas County will also benefit should they need to travel through this intersection.

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

As previously stated the proposed project would benefit other subregions because of the project's location at four principal regional arterials and regional and interregional travel routes. There are very few continuous east-west routes in central and southern Douglas County. The proposed project is located on one of these routes that

connects SH-83 to I-25, Wolfensberger Road, SH-105, and US-85, which is part of the Canadian-American highway that connects Mexico to Canada through the United States.

In addition, Downtown Castle Rock has become a regional attraction for people throughout the Denver metropolitan area. Special events held by the Town and area businesses are popular metro area destinations for many people in the surrounding cities and counties. This includes events such as the Elephant Rock Bike Race, Ocktoberfest, Classic Car show, Starlighting, and the Douglas County Fair and Parade. People in these surrounding municipalities will often use the project intersection to access these Downtown events. Thus benefitting from improved safety and reduced travel time resulting from the proposed improvements. Other regional benefits include less congestion, improved air quality, less fuel consumption and economic benefits as a result of a safer intersection in lower insurance and medical costs.

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

The proposed project will construct operational improvements at the intersection of Highway 86/5th Street and Founders Pkwy/Ridge Rd in order to minimize congestion and decrease travel delay due to current and forecasted traffic volumes. The intersection currently experiences 30 seconds of vehicle delay, which is near the higher range of a Level of Service (LOS) C according to the Highway Capacity Manual. And it is quickly approaching LOS D, which is the minimum acceptable LOS standard for both CDOT and Castle Rock. The southbound left turn in the PM peak hour is already operating at a LOS D. Improvements will reduce travel delay by an average of 20 seconds. And improve the overall intersection LOS to a LOS A in 2023 when the project is completed. If it is a modern roundabout. It will also improve the overall LOS to a LOS D in 2040 which achieves the acceptable LOS for CDOT and Castle Rock. The maximum delay for the intersection is projected to be 32 seconds in 2040 (see Appendix D - LSC traffic Impact Study).

There are also two corners of the intersection that do not have bike/pedestrian facilities. The project will construct these improvements to improve the biking and walking environment. It will also construct ADA compliant curb ramps with truncated domes greatly improving mobility for individuals with visual impairments.

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 traveling public, including the delivery of goods to businesses will spend less time wasted in traffic since the project will improve mobility and reduce vehicle delay. Nearby developers have already expressed approval of the project and are moving forward with their development plans. People and businesses will also benefit with improved air quality, reduced fuel consumption, and improved public safety by reducing conflict points for all travel modes. The surrounding communities will also see the economic benefit of reduced collisions resulting in less insurance, medical, and other costs.

Enhancing the bike/pedestrian facilities will also encourage healthier lifestyles for people who may decide to walk or bike to work, go shopping, or participate more in recreational activities by accessing the nearby trail systems. According to the National Association of City Transportation Officials, improving the multimodal network can result in increased property values and higher retail sales.

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

There are currently missing segments in the sidewalk network. The proposed project will complete these missing links. It will also improve pedestrian crossing at the intersection through improved signing and technology. Additionally, new streetlight luminaires will be added improving visibility for both motorists and pedestrians. Curb ramps will be brought up to new ADA standards for truncated domes. With these improvements connectivity to the homes in the area and commercial development will be greatly improved. The sidewalk widths will be designed to accommodate bicyclists and pedestrians. It will be a minimum 8 feet in width.

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

Proposed funding for this project consists of several funding partners, including the following.

- Douglas County
- Town of Castle Rock
- Private development contributions

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)**.

Proposed improvements to the intersection can be utilized by all members of the traveling public, including the vulnerable populations. People who are considered part of the vulnerable population who drive vehicles will benefit from increased safety and reduced travel delay. Seniors that don't drive, individuals with disabilities, low income, or individuals without access to a car will benefit from the improvements if they are using the Town's taxi voucher program, Senior Shuttle service, or other service provider in Douglas County that provide rides to individuals that make up the vulnerable population. Many of these rides are individuals that need a lift to a medical appointment, school, grocery store, or work. Facilities could be located along SH-86, Downtown Castle Rock via Fifth Street, or along I-25. All of these routes go through the proposed project intersection. People accessing I-25 from the surrounding neighborhoods or counties would also need to travel through this intersection.

An analysis shows there is a total population of 5,573 individuals that make up the vulnerable population within a mile of the project.

- Children 6-17 (1,882),
- Minorities (1,764),
- Seniors (963),
- Individuals with disabilities (535),
- Low income households (199),
- Linguistically challenged (180)
- Households without a car (50)

There are also currently 4 schools, 3 senior facilities, and 2 shopping centers within a mile of the project.

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

Constructing the proposed improvements will reduce projected congestion and create a more reliable transportation network. Reduced congestion will improve travel for all users of the intersection. The improved crosswalks and sidewalks in the project will enable people across the spectrums of age, ability and socioeconomic status to access a more reliable and safer transportation option. Currently, there are missing links in the sidewalk network and non-compliant ADA curb ramps. The proposed project would eliminate these deficiencies. It will result in a network that will allow users without access to a motor vehicle or those who do not drive a means to access the adjacent shopping centers from the nearby homes.

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

Annual crash rates at the intersection have been increasing over the last several years along with traffic volume. Between 2013 and 2017, 38 crashes were reported at the intersection. There were 15 crashes that resulted in injuries, with 20 people injured overall, but no deaths were reported. The majority of the crash types were classified as 'Front to Rear.' This typically signifies that there is a congestion problem at the intersection, which will be remedied by the project.

An intersection analysis shows that improvements at this intersection is best described as having a high to moderate to high potential for crash reduction (see Appendix E - Safety Assessment Report). Furthermore, crash reports show that the project intersection is currently elevated for injury crashes when compared to the statewide average. And improvements at this intersection have a high probability of reducing injury crashes. Depending on the intersection design the overall number of crashes and injury crashes can be reduced as follows for 3 design types.

Single Lane Modern Roundabout:

- Overall reduction = 26%
- Injury crash reduction = 55%

2-Lane Modern Roundabout:

- Overall reduction = 71%
- Injury crash reduction = 71%

Traditional 4-Lane Widening w/ Double Left

- Overall reduction = 40%
- Injury crash reduction = No Reduction likely to increase due to adding more conflict points

Additional Benefit / Cost analysis was performed for both crash reduction, project cost, and the break even point. According to the report the 2-lane modern roundabout with bypass lanes had the greatest expected safety benefit and the greatest benefit in terms of delay cost savings.

Other project benefits that can be expected include;

- improved mobility for visually impaired by installing ADA compliant crosswalks/ramps
- improve air quality with less congestion,
- reduced fuel consumption,

In addition, the surrounding communities will see the economic benefit of reduced collisions and severity of crashes resulting in less insurance, medical, and other costs. Reducing fuel consumption will help alleviate the need to import foreign oil.

In addition, the new street lights and improved crosswalks will increase comfort and safety for people walking or biking across the intersection that are going to and from the surrounding homes and shopping centers.

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

WEIGHT

15%

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

Urban development currently exists or is under construction in much of the immediate area of the proposed project. It is also just outside the one mile radius of a DRCOG urban center, or Downtown Castle Rock. The project will also serve future growth not only in the Town of Castle Rock, but urban growth that is also planned in parts of Douglas County and Elbert County. The current population within one mile of the project is 10,454, and the existing employment is 1,380. Projections for the 2040 population is 21,366 people and the number of jobs within one mile is projected to be 1,508. This equates to a 10% increase in jobs, and a 100% increase in population.

Castle Rock Water Department has recently installed new water lines 1/2 mile to the east of the project to support the projected growth and the Town's Public Works Dept. has plans to improve 5th Street and widen Ridge Road from SH-86 to Plum Creek Pkwy within the next 5 years.

[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

The proposed project is on the SH-86 and 5th Street corridor that serves the Downtown Castle Rock, which is an identified urban center in Metro Vision. Multimodal facilities are included in the proposed project and will provide a direct connection to Downtown Castle Rock along the 5th Street corridor, which is also planned and listed in the Town's 5-year CIP for multimodal improvements.

The Town is committed to improving the transportation and other public infrastructure in the project area to support the planned growth. Within the last two years several public and private developments in the area have been approved or planned, which have dedicated right-of-way for the project and will be constructing improvements long their frontage. Below is a list of public and private projects;

1. New water lines to serve the planned developments
2. Widen Ridge Road and improve 5th Street corridor, both improvements projects will add multimodal facilities to the streets where current bike/pedestrian facilities do not exist.
3. A recently approved 261 unit housing project
4. A 33,000 square foot mixed use commercial development, including an urgent care facility, restaurants, and a day care facility
5. A 130 unit townhome project

Once the project is completed all the developments mentioned above will have a direct multimodal connection to Downtown Castle Rock.

[MV objective 4](#)

Improve or expand the region’s multimodal transportation system, services, and connections.

3. Will this project help increase mobility choices within and beyond your subregion for people, goods, or services?

Yes No

Describe, *including supporting quantitative analysis*

Improvements identified as part of this project will provide multimodal benefits to Douglas County because of the projects location at four principal regional arterials. The addition of multimodal facilities will safely connect cyclists and pedestrians to existing and newly planned housing subdivisions in Castle Rock and the surrounding communities to nearby shopping centers, and the larger regional system planned for 5th Street and Ridge Road. Thus, providing connections to recreation facilities, schools, and Downtown Castle Rock. The proposed improvements include constructing missing gaps in the bike/pedestrian network and installing ADA compliant curb ramps and new streetlights.

Motor vehicles are also an important element of a multimodal transportation system. Constructing improvements that reduce intersection delay and congestion will benefit people that may be driving, carpooling, or using the Town's taxi voucher program, senior shuttle, or other service provided by agencies in Douglas County. It will also improve travel times for people who may use 3rd party ridehailing applications such as Uber or Lyft. Delivery of regional goods will also benefit greatly because there will be less time wasted in traffic. As mentioned earlier the LOS will be improved to a LOS A once the project is completed and maintain an acceptable LOS D to 2040. The maximum expected vehicle delay is 32 seconds in 2040.

[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*

Proposed improvements would reduce congestion along the street and provide new safe routes for people who may be biking or walking to the area destinations. According to the worksheet in Part 3, and estimated 41 pounds of green house gas emissions would be removed from the air with the project. However, please note that these reductions do not take into account the reduction in green house gases that would result from less vehicle congestion on the road, which would further improve all aspects of air quality. If the design is a modern roundabout there would be much less green house gases due to less idling, and congestion.

[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*

There are a number of recreation areas and natural opens spaces within a mile of the project. An analysis shows that there are 3 recreational trails within a mile and 5 recreation and open spaces. Example recreational facilities and natural areas include Founder's Park, Bowl Open Space, Memmen Ridge Open Space, and several other large open space areas and parks (see Appendix F - Project Facilities Map). Within these parks and opens spaces are preserved natural environments along with regional hiking and biking trails. The Bowl Open space contains a

regional east/west trail that connects to the regional Plum Creek Trail, which is part of the greater Colorado Front Range Trail network. This trail is also planned to connect the regional Cherry Creek Trail. Thus expanding the regional connectivity even more. This trail system is proposed to connect cities and communities along the entire Front Range from the Wyoming border to the New Mexico border.

With the addition of the project improvements people who do not drive or have access to a car will be easily able to utilize the new multiuse facilities and ADA curb ramps to access all the parks and open spaces in the area.

[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*

The project will add new multimodal facilities at the intersection where they currently do not exist. This will allow for people to walk, bike or perform other physical activities in a safe facility along the street rather than in the road. As mentioned above it will also provide people who do not drive, have access to a car, or are too young to drive access to the surrounding trails and natural open spaces in the area. Here people can go on outdoor hikes and bike rides. Furthermore, should people want to walk or bike to the nearby shopping centers the new path and intersection improvements will allow them to reach their destination safely.

Metro Vision calls out for the region’s street network to be designed for convenient and comfortable travel for all ages and abilities regardless of travel choice . The project will make the corridor safer for all that travel the corridor, especially by bike or foot. By adding the proposed improvements it is expected that bicycle and walking trips will more than triple at the intersection. Today few people walk or bike in the area because of a lack of a path or perceived safety issues. Area developers are also building the off street trail system by adding connections to the multiuse paths along Founders Pkwy, SH-86, or Ridge Road. Soon this area will consists of a network of Complete Streets to provide healthy mobility choices to individuals in the area.

[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*

The intersection improvement project is at the hub of 4 regional principal arterial streets. They play an important role connecting people to jobs, housing, and urban services. These arterials also connect rural parts of Douglas and Elbert counties to services, such as medical, shopping, higher educational facilities, and entertainment/cultural facilities. Most of these subregional trips travel through the project intersection because of a lack of east/west continuous routes. There are projected to be over 1,500 jobs within a mile of the project area, and nearly 21,000 residents that commute through this intersection. However, the intersection plays a bigger role by connecting commerce and people to the interstate system where they can easily access commercial areas and jobs in the Denver metro region, as well as the Colorado Springs metro area.

[MV objective 14](#)

Improve the region’s competitive position.

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

Yes No

Describe, *including supporting quantitative analysis*

The proposed intersection project supports a vibrant and economically diverse Castle Rock and region. It also will continue to serve the region and function as a hub for the four principal arterials that come together at the intersection and serve various parts of Castle Rock and subregion. Castle Rock is one of the fastest growing cities in the region and country. According to the 2017 U.S. Census data it is one of the 7 fastest growing cities in America. The population is growing at a rate of 6 percent per year. Housing and commercial development in the project area continues to try and keep pace with the public demand. Current population for the Town is roughly 65,000 people and is expected to grow to 90,000 by 2030. The population within a mile of the project is expected to double by 2040. But not only is the population growing, so is the commercial development. New commercial development is currently being constructed on the project's northeast edge. It is providing construction jobs and future commercial jobs for the area and region. The improvements proposed with this project will keep the Town, County, and region competitive by offering jobs, housing, all while improving a strong economic base. The project will be able to keep traffic and people moving in this fast paced growth area of the region.

D. Project Leveraging

WEIGHT 15%

<p>9. What percent of outside funding sources (non-DRCOG-allocated Subregional Share funding) does this project have?</p>	<p>35%</p>	<p>60%+ outside funding sources High 30-59%Medium 29% and belowLow</p>
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Part 3

Project Data Worksheet – Calculations and Estimates

(Complete all subsections applicable to the project)

A. Transit Use

1. Current ridership weekday boardings	0
2. Population and Employment	

Year	Population within 1 mile	Employment within 1 mile	Total Pop and Employ within 1 mile
2020	0	0	0
2040	0	0	0

Transit Use Calculations	Year of Opening	2040 Weekday Estimate
3. Enter estimated additional daily transit boardings after project is completed. <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	8
2. Population and Employment	

Year	Population within 1 mile	Employment within 1 mile	Total Pop and Employ within 1 mile
2020	10,454	1,380	11,834
2040	21,366	1,508	22,874

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.	24	48
4. Enter number of the bicycle trips (in #3 above) that will be diverting from a different bicycling route. (Example: {#3 X 50%} or other percent, if justified)	12	24
5. = Initial number of new bicycle trips from project (#3 – #4)	12	24
6. Enter number of the new trips produced (from #5 above) that are replacing an SOV trip. (Example: {#5 X 30%} or other percent, if justified)	3	7
7. = Number of SOV trips reduced per day (#5 - #6)	9	17
8. Enter the value of {#7 x 2 miles} . (= the VMT reduced per day) (Values other than 2 miles must be justified by sponsor)	18	34
9. = Number of pounds GHG emissions reduced (#8 x 0.95 lbs.)	17	32
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)	12
2. Population and Employment	

Year	Population within 1 mile	Employment within 1 mile	Total Pop and Employ within 1 mile
2020	10,454	1,380	11,834
2040	21,366	1,508	22,874

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	36	72
4. Enter number of the new pedestrian trips (in #3 above) that will be diverting from a different walking route (Example: {#3 X 50%} or other percent, if justified)	18	36
5. = Number of new trips from project (#3 – #4)	18	36
6. Enter number of the new trips produced (from #5 above) that are replacing an SOV trip. (Example: {#5 X 30%} or other percent, if justified)	5	10
7. = Number of SOV trips reduced per day (#5 - #6)	13	26

12. Enter the value of {#7 x .4 miles} . (= the VMT reduced per day) <i>(Values other than .4 miles must be justified by sponsor)</i>	5	10
8. = Number of pounds GHG emissions reduced (#8 x 0.95 lbs.)	4	9
9. If values would be distinctly greater for weekends, describe the magnitude of difference:		
10. If different values other than the suggested are used, please explain here:		

D. Vulnerable Populations

Use Current Census Data	Vulnerable Populations	Population within 1 mile
	1. Persons over age 65	
2. Minority persons		1,764
3. Low-Income households		199
4. Linguistically-challenged persons		180
5. Individuals with disabilities		535
6. Households without a motor vehicle		50
7. Children ages 6-17		1,882
8. Health service facilities served by project		0

E. Travel Delay *(Operational and Congestion Reduction)*

Sponsor must use industry standard Highway Capacity Manual (HCM) based software programs and procedures as a basis to calculate estimated weekday travel delay benefits. *DRCOG staff may be able to use the Regional Travel Model to develop estimates for certain types of large-scale projects.*

1. Current ADT (average daily traffic volume) on applicable segments	62,840
2. 2040 ADT estimate	92,500
3. Current weekday vehicle hours of delay (VHD) (before project)	0

Travel Delay Calculations	Year of Opening
4. Enter calculated future weekday VHD (after project)	0
5. Enter value of {#3 - #4} = Reduced VHD	0
6. Enter value of {#5 X 1.4} = Reduced person hours of delay <i>(Value higher than 1.4 due to high transit ridership must be justified by sponsor)</i>	0
7. After project peak hour congested average travel time reduction per vehicle (includes persons, transit passengers, freight, and service equipment carried by vehicles). <i>If applicable, denote unique travel time reduction for certain types of vehicles</i>	0
8. If values would be distinctly different for weekend days or special events, describe the magnitude of difference.	

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

F. Traffic Crash Reduction

1. Provide the current number of crashes involving motor vehicles, bicyclists, and pedestrians (<i>most recent 5-year period of data</i>)		Sponsor must use industry accepted crash reduction factors (CRF) or accident modification factor (AMF) practices (<i>e.g., NCHRP Project 17-25, NCHRP Report 617, or DiExSys methodology</i>).
Fatal crashes	0	
Serious Injury crashes	0	
Other Injury crashes	15	
Property Damage Only crashes	23	
2. Estimated reduction in crashes <u>applicable to the project scope</u> (<i>per the five-year period used above</i>)		
Fatal crashes reduced	0	
Serious Injury crashes reduced	0	
Other Injury crashes reduced	0	
Property Damage Only crashes reduced	0	

G. Facility Condition

Sponsor must use a current industry-accepted pavement condition method or system and calculate the average condition across all sections of pavement being replaced or modified. Applicants will rate as: Excellent, Good, Fair, or Poor

Roadway Pavement

1. Current roadway pavement condition	Choose an item
2. Describe current pavement issues and how the project will address them.	
3. Average Daily User Volume	0

Bicycle/Pedestrian/Other Facility

4. Current bicycle/pedestrian/other facility condition	Choose an item
5. Describe current condition issues and how the project will address them.	
6. Average Daily User Volume	0

H. Bridge Improvements

1. Current bridge structural condition from CDOT
2. Describe current condition issues and how the project will address them.

3. Other functional obsolescence issues to be addressed by project

4. Average Daily User Volume over bridge 0

I. Other Beneficial Variables *(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: