P	art 1	Base in	Tormatio	n				
1.	Project Title			285 C	Congestion Manageme	nt 8	Associated Operational Improve	ments
2.	Geographic Area Provide a map with submittal, as			Lowell Boulevard/Knox Court to Interstate 25 (I-25)				
3.	construct/con	NSOF (entity that nplete and be find r the project)	1 11	y of E	nglewood			
4.	responsible for the project)  4. Project Contact Person, Title, Phone Number, and Email				Andrea, Director of Pub ea@englewoodco.gov	olic	Works, 303-762-2506,	
5.	•	*	_		volve a CDOT roadway, ent to operate service?		Yes No  If yes, provide applicable concurrent documentation with submittal	ce
			□ DRCOG	2040	Fiscally Constrained Rep	gior	nal Transportation Plan (2040 FCRT	<u>'P)</u>
6.	What plann document(s this project	s) identifies	Local plan:		City of Englewood Com	pre	hensive Plan, pages 3-7 through 3	-13
			Other(s	):				
			Provide link t		ment/s and referenced po	ge .	number if possible, or provide docume	ntation
7.	Identify the	project's key	elements.					
					Grade Separation	n		
	Rapid	Transit Capaci	ty (2040 FCRTP)	)	Road	way		
	Transit	Other:			Railw	ay		
	Bicycle	Facility			☐ Bicycl	le		
	Pedest	rian Facility			Pedes	stria	n	
		Improvement			Roadway Pa	ven	nent Reconstruction/Rehab	
			Managed Lane	25	Bridge Repla	ice/	Reconstruct/Rehab	
	(2040 F				<b>∑</b> Study			
	Koadw	ay Operationa			Design			
					Other:			
8.	address? The US 285 DRCOG's 20	corridor is a n	najor regional a port on Roadwa	rterial ay Trai	l providing east-west co	nne env	m/issue will the transportation pro ectivity between C-470 and I-25. er Region identifies the US 285 cor ion Mobility Grade of D or F). The	
	intersection	s of US 285 w	ith Federal, Uni	versit	y, Colorado and I-25 we	ere a	also listed as currently congested.	
							ltimodal network by completing a	
N.	-	_					ay and increase mobility in the US	
1					t of Federal Blvd.) to I-25. This will be accomplished by utilizing the address recurring & non-recurring congestion through the evaluation &			
		-					tive roadway management, travel	

demand management/alternative travel modes, and physical roadway capacity. The primary goal of the congestion mitigation efforts is to alleviate congestion and enourage travelers to avoid and adapt to congested conditions. Side benefits include the potential for improved air quality and reduced fuel/energy consumption if these strategies are implemented. Missing segments in the pedestrian network and opportunities to improve multi-modal connections will also be evaluated. Improvements will be prioritized for implementation based on benefit provided, ease of implementation, and cost.

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

The US 285 corridor is a major regional arterial providing east-west connectivity between C-470 and I-25. A congestion management study will evaluate measures to alleviate congestion and identify ways to help people and businesses avoid or adapt to it. The DRCOG Congestion Mitigation Toolkit would be used to address recurring & non-recurring congestion through various mitigation strategies including: active roadway management, travel demand management/alternative travel modes, and physical roadway capacity. Missing segments in the pedestrian network and opportunities to improve multi-modal connections will also be evaluated. Improvements will be prioritized for implementation based on benefit provided, ease of implementation, and cost.

10.	What	is t	he	status	of	the	proposed	project?
-----	------	------	----	--------	----	-----	----------	----------

No work has yet begun on this project.

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

X	Yes	No

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

If only \$500,000 was made available, the project limits would be modified to extend from Federal Blvd. (just west of Santa Fe Boulevard) to S. University Boulevard.

# A. Project Financial Information and Funding Request

1,	Total Project Cost		\$1,800,000
2.	Total amount of DRCOG Regional Share Funding Request (no greater than \$20 million and not to exceed 50% of the total project cost)	\$900,000	50% of total project cost
3.	Outside Funding Partners (other than DRCOG Regional Share funds) List each funding partner and contribution amount.	\$\$ Contribution Amount	% of Contribution to Overall Total Project Cost
	CDOT	\$450,000	25%
	City of Englewood	\$140,000	8%
	City of Cherry Hills Village	\$92,000	5%
	City of Sheridan	\$121,000	7%
	City and County of Denver	\$97,000	5%
		\$	0%
То	tal amount of funding provided by other funding partners (private, local, state, Subregion, or federal)	\$900,000	

Funding Breakdown (year	by year)*	DRCOG will do everythi assigned at DRCOG's d	ing it can to accommodate iscretion within fiscal cons	the project is selected for fu the applicants' request, fin traint. Funding amounts m or of 3% per year from 201	al funding will be ust be provided in
	FY 2020	FY 2021	FY 2022	FY 2023	Total
Federal Funds	\$	\$900,000	\$	\$	\$900,000
State Funds	\$	\$450,000	\$	\$	\$450,000
Local Funds	\$	\$450,000	\$	\$	\$450,000
Total Funding	\$0	\$1,800,000	\$0	\$0	\$1,800,000
4. Phase to be Initiated Choose from Design, ENV,	Choose an item	Study	Choose an item	Choose an item	

Study

Choose an item

Choose an item

5. By checking this box, the applicant's Chief Elected Official (Mayor or County Commission Chair) or City/County Manager for local governments or Agency Director or equivalent for others, has certified it allows this project request to be submitted for DRCOG-allocated funding and will follow all DRCOG policies and state and federal regulations when completing this project, if funded.

Choose an item

ROW, CON, Study, Service, Equip. Purchase, Other



# Part 2 Evaluation Criteria, Questions, and Scoring

### A. Regional significance of proposed project

WEIGHT

40%

Provide <u>qualitative</u> and <u>quantitative</u> (derived from Part 3 of the application) responses to the following questions on the regional significance of the proposed project.

1. Why is this project regionally important?

This project is regionally important because it affects a significant population of drivers (64,000 average ADT) on a daily basis. It also impacts school children walking to & from school, bus riders, light rail users, bicyclists and pedestrians. All of these users are traveling to access jobs, school, shopping, or recreation. Whatever their pursuit, this portion of US 285 has been and continues to be a congested corridor. By improving congstion and also addressing missing gaps in the pedestrian & bicycling network, significant improvements can be made for a large number of individuals. Adjacent to the corridor there is a large number of children (3,745), elderly (3,975), and disabled (2,965) populations all of whom will be positively impacted by potential improvements.

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

Yes, the project crosses the cities of Sheridan, Englewood, Cherry Hills Village and the city and county of Denver. Benefits to each of these entities is anticipated through reduced congestion, reduced cut-through traffic (especially during periods of peak travel times), improved reliability of travel times for motorists, improved access to the RTD Englewood light rail station, and improved access to the two major regional health care facilities located within the project corridor. Benefit will also derive from increased communication & coordination across jurisdictions such as incident response to non-recurring congestion resulting from vehicle crashes, vehicle breakdowns, construction, and weather events.

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

Yes, the project benefits the city and county of Denver subregion. Benefits are anticipated through reduced congestion, reduced cut-through traffic (especially during periods of peak travel times), improved reliability of travel times for motorists, improved access to the RTD Englewood light rail station, and improved access to the two major regional health care facilities located within the project corridor. Benefit will also derive from increased communication & coordination across jurisdictions such as incident response to non-recurring congestion resulting from vehicle crashes, vehicle breakdowns, construction, and weather events.

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

This project will identify ways to increase the reliability of the existing multimodal network by reducing traffic delay and increasing mobility in the US 285 corridor, between Lowell Blvd/Knox Court and I-25. This will be accomplished through the evaluation & recommendation of congestion mitigation strategies throughout the study corridor. The primary goal of the congestion mitigation efforts is to alleviate congestion and enourage travelers to avoid and adapt to congested conditions. Side benefits include the potential for improved air quality and reduced fuel/energy consumption if these strategies are implemented. In addition, the study will evaluate "gaps" in the bicycling and pedestrian network. These will be prioritized along with the congestion mitigation strategies for implementation.

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

The adjacent area serves a population of more than 22,400 which is predicted to grow to more than 24,000 by 2040. And, the area currently serves more than 18,500 employees on a daily basis. This is predicted to increase to

more than 26,500 employees by 2040. By relieving traffic congestion on US 285, traffic flow is improved thus ensuring residents and employees can access their homes & places of work efficiently. Businesses want to expand knowing their employees can consistenty get to work on time. Mitigation strategies to address both recurring and non-recurring congestion will be evaluated & priorized as well as gaps in the multimodal system to improve reliability to access two major hospitals, the City Center urban center, and the RTD Englewood light rail station.

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

18 crashes involving pedestrians or bicycles, including one fatality, occurred in the corridor in a 3-year period (June 30, 2014 thru June 30, 2017).

The project will identify and prioritize congestion mitigation strategies for the entire corridor. It will also identify & prioritize "gaps" in the multimodal system along the corridor such as missing sidewalk & trail segments, narrow sidewalks, and obstructions. By improving the bicycle & pedestrian network and/or improving congestion, access to different travel modes including transit, light rail, pedestrian & bicycling modes will all be improved. Vehicle travel will also be improved through more reliable travel times and reduced congestion.

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

CDOT has provided concurrence for the project. Potential funding from CDOT is not yet finalized. Similarly, the city and county of Denver has provided concurrence for the project but has not yet provided funding support. Project partners include Arapahoe County, the city and county of Denver, and the cities of Sheridan and Cherry Hills Village. Communication with the Swedish Medical Center and Craig Hospital's management will occur to assist with implementation of strategies such as parking facility management, telecommuting & rideshare travel services. The city's free trolley service will alse be evaluated for assistance in strategy implementation.

## **B. DRCOG Board-approved Metro Vision TIP Focus Areas**

WEIGHT

30%

Provide <u>qualitative</u> and <u>quantitative</u> (derived from Part 3 of the application) responses to the following questions on how the proposed project addresses the three DRCOG Board-approved Focus Areas (in bold).

1. Describe how the project will improve mobility infrastructure and services for vulnerable populations (including improved transportation access to health services).

Along the project corridor are two regional helath care facilities - Swedish Medical Center and Craig Hospital. On the west end of the project, the City Center urban center and the RTD Englewood light rail station provide regional access. By improviing connectivity and mobility along the corridor, vulnerable populations including children (3,745), persons over age 65 (3,975), and persons with disabilities (2,965) awill be better able to access the health services and the light rail system.

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

The adjacent area serves a population of more than 22,400 which is predicted to grow to more than 24,000 by 2040. And, the area currently serves more than 18,500 employees on a daily basis. This is predicted to increase to more than 26,500 employees by 2040. By relieving traffic congestion on US 285, traffic flow is improved thus ensuring residents and employees can access their homes & places of work efficiently. Businesses want to expand knowing their employees can consistently get to work on time. Mitigation strategies to address both recurring and non-recurring congestion will be evaluated & priorized as well as gaps in the multimodal system to improve reliability to access two major hospitals, the City Center urban center, and the RTD Englewood light rail station.

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

1,841 crashes were recorded in the project corridor over a three-year period from June 30, 2014 thru June 30, 2017. Of these, 348 were injury crashes and 5 involved fatalities. Sine June 2017, one additional fatality has occurred. 18 crashes involving pedestrians or bicycles, including one fatality, occurred in the corridor in a 3-year period (June 30, 2014 thru June 30, 2017).

Additional benefits of congestion mitigation strategies include a reduction in the number of vehicle as a result of increased capacity. For example, improving traffic signal timing & coordination will likely result in fewer vehicle stops and delays thus reducing the number of rear end crashes. Reducing periods of time when permissive left turns are allowed, results in fewer right angle crashes. Upgrades to signal controllers, for the purpose of improving signal operations, has the additional benefit of improved security of the signal system.

C.	Consistency & Contributions to Transportation-focused Metro Vision Objectives	WEIGHT	20%
	Provide <u>qualitative</u> and <u>quantitative</u> responses (derived from Part 3 of the application) to the how the proposed project contributes to Transportation-focused Objectives (in bold) in the adplan. Refer to the expanded Metro Vision Objective by clicking on links.	-	
	MV objective 2 Contain urban development in locations designated for urban growth ar	d service:	s.
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		
	Yes, the project corridor runs through the middle of a DRCOG-designated urban center: City C extends from Santa Fe to Downing Street or approximately 1/4 of the project limits. The adjac more than 18,500 employees on a daily basis. This is predicted to increase to more than 26,50 2040. By relieving traffic congestion on US 285, traffic flow is improved thus ensuring employe jobs efficiently and businesses want to expand knowing their employees can consistently get to	ent area s O employ ees can ac	serves ees by cess their
	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?	∀es	□ No
	Describe, including supporting quantitative analysis		
	Yes, the intent of the project would be to evaluate missing links in the sidewalk & trail networpossible bicycling improvements within the corridor. These improvements would be ranked for along with traditional congestion mitigation strategies. There are currently "gaps" in the sidewalth which limit efficient pedestrian movement in the corridor between the City Center urban Swedish & Craig hospital campuses.	or implem valk netw	entation ork on US
	MV objective 4 Improve or expand the region's multimodal transportation system, service connections.	ices, and	
3.		⊠ Yes	□ No
	Describe, including supporting quantitative analysis		
	Yes, the intent of the project would be to evaluate missing links in the sidewalk & trail network	k as well a	as identify

possible bicycling improvements within the corridor. These improvements would be ranked for implementation

along with traditional congestion mitigation strategies. The RTD light rail stop in the City Center urban center provides regional connection for pedestrians & bicyclists. Current "gaps" in the sidewalk network on US 285 limit direct pedestrian & bicyclist access to the light rail station.

	MV objective 6a	Improve air quality and reduce greenhouse gas emissions.					
4.		elp reduce ground-level ozone, greenhouse gas emissions, carbon late matter, or other air pollutants?	Yes	⊠ No			
	Describe, including	supporting quantitative analysis					
	It is anticipated the quality and redeuc resulting in specific						
	MV objective 7b	Connect people to natural resource or recreational areas.					
5.	improve other mulassets?	elp complete missing links in the regional trail and greenways network or ltimodal connections that increase accessibility to our region's open space a supporting quantitative analysis	⊠ Yes	☐ No			
	possible bicycling i	he project would be to evaluate missing links in the sidewalk & trail network mprovements within the corridor. These improvements would be ranked for nal congestion mitigation strategies					
	MV objective 10	Increase access to amenities that support healthy, active choices.					
6.	Will this project ex	pand opportunities for residents to lead healthy and active lifestyles?	Yes	☐ No			
	Describe, including	supporting quantitative analysis					
	possible bicycling i	he project would be to evaluate missing links in the sidewalk & trail network mprovements within the corridor. These improvements would be ranked for nal congestion mitigation strategies.					
	MV objective 13	Improve access to opportunity.					
7.		elp reduce critical health, education, income, and opportunity disparities ble transportation connections to key destinations and other amenities?	⊠ Yes	☐ No			
	Describe, including	supporting quantitative analysis					
		ategies will be evaluated & prioritized for implementtion to improve reliability e City Center urban center, and the RTD Englewood light rail station.	ty to acce	ss two			
	MV objective 14	Improve the region's competitive position.					
8.	Will this project he and vitality?	lp support and contribute to the growth of the region's economic health	⊠ Yes	☐ No			
	Describe, including	supporting quantitative analysis					
	Yes, the adjacent area serves a population of more than 22,400 which is predicted to grow to more than 24,000 by 2040. And, the area currently serves more than 18,500 employees on a daily basis. This is predicted to increase to more than 26,500 employees by 2040. By relieving traffic congestion on US 285, traffic flow is						

improved thus ensuring residents and employees can access their homes & places of work efficiently. Businesses want to expand knowing their employees can consistently get to work on time.

D. Project Leveraging	1 1		WEIGHT	10%
9. What percent of outside funding sources		80%+ outside funding s	ources	High
(non-DRCOG-allocated Regional Share	50%	60-79%		Medium
funding) does this project have?		59% and below		Low

# Part 3

# **Project Data Worksheet – Calculations and Estimates**

(Complete all subsections applicable to the project)

#### A. Transit Use

1. Current ridership weekday boardings

134,561

2. Population and Employment

Year	Population within 1 mile	Employment within 1 mile	Total Pop and Employ within 1 mile
2020	22,466	18,521	40,987
2040	24,084	26,503	50,587

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

9. If values would be distinctly greater for weekends, describe the magnitude of difference:

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

# **B.** Bicycle Use

1. Current weekday bicyclists unknown

2. Population and Employment

Year	Population within 1 mile	Employment within 1 mile	Total Pop and Employ within 1 mile
2020	22,466	18,521	40,987
2040	24,084	26,503	50,587

Bicycle Use Calculations	Year of Opening	2040 Weekday Estimate
3. Enter estimated additional weekday one-way bicycle trips on the facility after project is completed.	0	0
<ol> <li>Enter number of the bicycle trips (in #3 above) that will be diverting from a different bicycling route.</li> <li>(Example: {#3 X 50%} or other percent, if justified)</li> </ol>	0	0
5. = Initial number of new bicycle trips from project (#3 – #4)	0	0
<ol> <li>Enter number of the new trips produced (from #5 above) that are replacing an SOV trip.</li> <li>(Example: {#5 X 30%} (or other percent, if justified)</li> </ol>	0	0
7. = Number of SOV trips reduced per day (#5 - #6)	0	0
8. Enter the value of {#7 x 2 miles}. (= the VMT reduced per day) (Values other than 2 miles must be justified by sponsor)	0	0
9. = Number of pounds GHG emissions reduced (#8 x 0.95 lbs.)	0	0
10. If values would be distinctly greater for weekends, describe the magnitude	ude of difference:	
11. If different values other than the suggested are used, please explain her	e:	

# C. Pedestrian Use

1. Current weekday pedestrians (include users of all non-pedaled devices)

0

2. Population and Employment

Year	Population within 1 mile	Employment within 1 mile	Total Pop and Employ within 1 mile
2020	22,466	18,521	40,987
2040	24,084	26,503	50,587

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

12. Enter the value of {#7 x .4 miles}. (= the VMT reduced per day)  (Values other than .4 miles must be justified by sponsor)	0	0
8. = Number of pounds GHG emissions reduced (#8 x 0.95 lbs.)	0	0
9. If values would be distinctly greater for weekends, describe the magnit	tude of difference:	
10. If different values other than the suggested are used, please explain he	re:	

D. Vulnerable Pop	ulations	
	Vulnerable Populations	Population within 1 mile
	1. Persons over age 65	3,975
Use Current	2. Minority persons	0
Census Data	3. Low-Income households	1,818
	4. Linguistically-challenged persons	253
	5. Individuals with disabilities	2,965
	6. Households without a motor vehicle	1,440
	7. Children ages 6-17	3,745
	8. Health service facilities served by project	10

### 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	64,000
2.	2040 ADT estimate	92,000
3.	Current weekday vehicle hours of delay (VHD) (before project)	830

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

8. If values would be distinctly different for weekend days or special events, describe the magnitude of difference.

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

#### F. Traffic Crash Reduction

1. Provide the current number of crashes involving motor vehicles, bicyclists, and pedestrians (most recent 5-year period of data)

ratal crashes	5
Serious Injury crashes	69
Other Injury crashes	279
Property Damage Only crashes	1,488

2. Estimated reduction in crashes <u>applicable to the project scope</u> (per the five-year period used above)

AND	
Fatal crashes reduced	0
Serious Injury crashes reduced	0
Other Injury crashes reduced	0

**Property Damage Only** crashes reduced

Sponsor must use industry accepted crash reduction factors (CRF) or accident modification factor (AMF) practices (e.g., NCHRP Project 17-25, NCHRP Report 617, or DiExSys methodology).

### **G. Facility Condition**

Sponsor must use a current industry-accepted pavement condition method or system and calculate the average condition across all sections of pavement being replaced or modified.

Applicants will rate as: Excellent, Good, Fair, or Poor

0

### **Roadway Pavement**

1. Current roadway pavement condition

Fair

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

n/a

3. Average Daily User Volume

64,000

#### Bicycle/Pedestrian/Other Facility

4. Current bicycle/pedestrian/other facility condition

Poor

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

Several areas of missing "gaps" in pedestrian & bicycle connectivity

6. Average Daily User Volume

0

## H. Bridge Improvements

1. Current bridge structural condition from CDOT

n/a

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

n/a

	Average Daily Hear Volume over bridge	
٠٠.	Average Daily User Volume over bridge	- (
1.	Other Beneficial Variables (identified and calculated by the sponsor)	
1.	n/a	
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 🛛 I
	n/a	
2.	Negative impact on vulnerable populations	
	n/a	
2	Other:	
٥.		