



DRCOG FY2022-2025 TIP – Adams 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 \$24,903,000 for Adams 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		Thornton Protected Bike Facility Study	
2. Project Location <i>Provide a map, as appropriate (see Page 1)</i>		Start point: See attached Location Map - Figure 1a and Figure 1b End point: See attached Location Map - Figure 1a and Figure 1b OR Geographic Area: Pecos Street from Milky Way to Thornton Parkway; Huron Street from 84th Avenue to 88th Avenue; and 128th Avenue from I-25 to York Street.	
3. Project Sponsor <i>(entity that will be financially responsible for the project)</i>		City of Thornton	
4. Project Contact Person:			
Name	Marta Junyent	Title	Senior Civil Engineer - Traffic
Phone	720 977 6486	Email	marta.juntent@thorntonco.gov
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: Thornton's Transportation and Mobility Master Plan (TMMP) https://www.thorntonco.gov/government/citydevelopment/planning/Documents/master-plans/transportation-plan/tmmp-adopted-april-2022.pdf Adopting agency (local agency Council, CDOT, RTD, etc.): City of Thornton's Council Provide date of adoption by council/board/commission, if applicable: 4/23/2022	
	Please describe public review/engagement to date:	The development of Thornton's TMMP included a comprehensive outreach to gather meaningful input from many residents, employees, stakeholders, and City Council. The project sought feedback through targeted outreach by small focus groups meetings, special interest meetings, City Council Planning sessions, and ongoing staff involvement. Broad outreach included an online survey, an interactive mapping tool, one virtual public event, print and media relations, and detailed information on the city website. (Thornton's TMMP Chapter 3 Community Engagement.) An online survey conducted on February 2021 identified as the biggest barrier to biking in Thornton feeling unsafe and uncomfortable when biking along busy streets (Figure 6.1 Online Survey Results, page 6.3 of Thornton's TMMP)	

	Other pertinent details:	<p>The three corridors included in this project are identified in the TMMP as prioritized projects to be implemented in the short range, 2021-2030. (Table 11.7 page 11-9 of Thornton's TMMP)</p> <p>The overall vision of Thornton's TMMP is a transportation network and mobility plan that expands transportation options to enable a resident to access all areas of Thornton in a timely manner without using a private vehicle. Thornton desires a holistic multimodal and mobility view, approach and evaluation of current and future transportation needs.</p> <p>The goal of the TMMP is to provide an interconnected multimodal transportation network and mobility plan for all people to access goods, services, residences, and employment and accommodates safely moving people, goods, and services using a variety of modes that includes vehicle, bicycle, pedestrian, bus, shuttle, and passenger rail based on the future land use projections and overall vision for the City.</p>
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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)	
<input type="checkbox"/> Design	Design contract Notice to Proceed (NTP) issued (if using a consultant):	
	Design scoping meeting held with CDOT (if no consultant):	
<input type="checkbox"/> Environmental	Environmental contract Notice to Proceed (NTP) issued (if using a consultant):	
	Environmental scoping meeting held with CDOT (if no consultant):	
<input type="checkbox"/> Right-of-Way	Initial set of ROW plans submitted to CDOT:	
	ROW acquisition completed: Estimated number of parcels to acquire:	
<input type="checkbox"/> Construction	FIR (Field Inspection Review):	
	FOR (Final Office Review):	
	Required clearances:	
	Project publicly advertised:	
<input checked="" type="checkbox"/> Study	Kick-off meeting held after consultant NTP (or internal if no consultant):	12/2024
<input type="checkbox"/> Bus Service	Service begins:	
<input type="checkbox"/> Equipment Purchase (Procurement)	RFP/RFQ/RFB (bids) issued:	
<input checked="" type="checkbox"/> Other: up to 10% design as budget allows	First invoice submitted to CDOT/RTD:	12/2024

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

This project addresses multimodal mobility needs in the city of Thornton, specifically along Pecos Street from Milky Way to Thornton Parkway; Huron Street from 84th Avenue to 88th Avenue; and 128th Avenue from I-25 to York Street. This project aligns with Thornton's goal of providing an interconnected multimodal transportation network accessible to all people.

Thornton's existing multimodal network includes bike lanes located on higher speeds, higher volume arterial roadways. These bicycle facilities are considered "high stress" bicycle environments and are not suitable for all bicyclist ages and abilities. The online survey conducted in February of 2021 as part of the development of Thornton's TMMP, showed concerns about bicycling on busy streets as the number one barrier to bicycling identified by residents. Another challenge is lack of connectivity of comfortable bicycling facilities. Survey respondents identified disconnected trails and insufficient or poorly marked bike lanes as the second and third biggest barriers to bicycling.

The three corridors included in this project are identified for implementation in the Thornton's TMMP. The three corridors are key to addressing bicycle network gaps but have higher vehicle volumes and higher vehicle speeds. Two of the three corridors are located within environmental justice population groups. The third corridor shows high bicycle demand based on current Strava heat map data, but has no bicycle facilities. Installing protected bike lanes in these three corridors will provide multimodal facilities that are safer, more efficient, easier to navigate, and comfortable to road users of all ages and abilities

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)

Safety Improvements

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:

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 scope of the project consists of a comprehensive study to evaluate feasible options to install protected bike facilities along three corridors in the city of Thornton. The study will include a data collection effort, an operational analysis, an evaluation of alternatives (road diet, curb widening, side path, other), and it will produce a conceptual design with potential right-of-way and utilities impact to install separated bike facilities along the three corridors studied. The project may include up to 10% design as budget permits.

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 three specific locations studied in the proposed scope have been identified in the Thornton's TMMP for installation of protected bike facilities and prioritized for short term implementation, 2021-2030. Alternatives to be included in the feasibility study such as road diet for Pecos Street from Milky Way to Thornton Parkway, and curb widening for Huron street from 84th Avenue to 88th Avenue and for 128th Avenue from I-25 to York Street have also been identified in the Thornton's TMMP. (Table 11.7 page 11-9 of Thornton's TMMP)

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)

<p>Total amount of Subregional Share Funding Request (in \$1,000's) <i>(No less than \$100,000 and not to exceed 90% of the total project cost)</i></p> <p><input type="checkbox"/> Check box if requesting only state MMOF funds (requires minimum 50% local funds)¹</p>	<p>\$459</p>	<p>90.00% of total project cost</p>
<p>Match Funds (in \$1,000's) List each funding source and contribution amount.</p>	<p>Contribution Amount</p>	<p>% Contribution to Overall Project Total</p>
<p>City of Thornton</p>	<p>\$51</p>	<p>10%</p>
<p></p>	<p>\$</p>	<p>0%</p>
<p>Total Match <i>(private, local, state, another subregion, or federal)</i></p>	<p>\$51</p>	<p>10.00%</p>

Project Total

\$510

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	\$459	\$	\$	\$459
CDOT or RTD Supplied Funds²	\$	\$	\$	\$0
Local Funds (Funding from sources other than DRCOG, CDOT, or RTD)	\$51	\$	\$	\$51
Total Funding	\$510	\$0	\$0	\$510
Phase to be Initiated	Study	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.

Protected bike facilities accommodate a broad range of users, enhance multimodal mobility, and incorporate complete street improvements. Protected bike facilities also improve safety by decreasing conflicts between bicycles and moving motor vehicles. This project directly aligns with the mobility desired outcomes of DRCOG's Metro Vision Regional Transportation Plan (MVRTP) of providing a regional transportation system that is well-connected and serves all modes of travel and a transportation system that is safe and reliable.

Separated bike facilities have the potential to improve traffic safety for all street users, especially when implemented as part of a "road diet" or other traffic calming project. Separated bike facilities can help to organize all traffic modes, while also reducing pedestrian crossing distances and decreasing "leapfrogging" between buses and bicyclists. Separated bike facilities can contribute to increased bicycling volumes and mode shares, in part by appealing to less confident riders and this could eventually result in a more diverse ridership across age, gender, and ability. Studies show that protected bike facilities can contribute to between 3-7% of mode shift away from motor vehicles. (NCHRP 08-102 Bicyclist Facility Preferences and Effects on Increasing Bicycle Trips).

Shifting a greater share of commute, errand, or social trips to the bicycle also offers a potential solution for relieving traffic congestion, improving road safety, improving air quality, and reducing greenhouse gas emissions. Studies show that installing bike facilities can reduce property damage crashes by about 12%, and fatal and injury crashes by about 22% (Development of Crash Modification Factors for Bicycle Lane Additions While Reducing Lane and Shoulder Widths" Report No. FHWA-HRT-21-013. Federal Highway Administration).

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 feasibility study proposed as this project will address the following challenges identified in the problem statement: an alternative to high-stress bike lanes, fill in current gaps in Thornton's bicycle network, and improve equity in environmental justice areas.

The locations included in this project are identified as potentially high-stress bike lanes due to the higher speeds and volumes on those corridors. Average daily volumes on Pecos Street are 16,400 vehicles with 85th percentile speeds of 44 MPH. Average daily volumes on Huron Street are 19,300 vehicles with 85th percentile speeds of 44 MPH. Average daily volumes on 128th Avenue are 20,100 vehicles with 85th percentile speeds of 48 MPH. Protected bicycle facilities provide a physical separation between moving motor vehicles and bicyclists that improves perceived comfort and safety. Examples of vertical separation include posts, bollars, curbs, planters, or parked cars. A side path can also provide the desired separation and offers a high-quality experience for non-motorized users of all ages and abilities. Protected bike facilities can be at street level or raised. Implementing protected bike facilities will provide low-stress connections and enhance multimodal mobility. It is estimated that between 51-56% of bicyclists are not comfortable with bike lanes and prefer separated bicycle facilities or traffic-calmed residential streets (2018 AASHTO Bike Guide Review or Bikeway Selection Guidance). Thornton's TMMP identified the three locations in this study as high-stress. Attached is the Bicycle Level of Traffic Street map from the TMMP - Figure 2

The locations included in this project are key to fill in current gaps in Thornton's bicycle network. Thornton's existing network includes 95 bicycle lane miles. These three corridors will add about 5.2 additional bicycle lane miles, increasing the network by 6%, and will connect to existing bicycle lanes expanding the city's bicycle

network and providing multimodal mobility and accessibility to a greater number of residents. Attached is the Future Bike Network map from TMMP - Figure 3.

The locations included in this project will improve equity by providing multimodal mobility and accessibility to disproportionately impacted areas in the City. Pecos Street from Thornton Parkway to Milky Way, and Huron Street from 84th Avenue to 88th Avenue are located in environmental justice population groups with 64% of individuals of color, 7% of individuals with limited English proficiency and 13% of low-income households. Pecos Street from Thornton Parkway to Milky Way and 128th Avenue from Interstate 25 to York Street show high bicycle demand based on the Strava data heat map. Attached is the Strava Heat map - Figure 4

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.

The proposed project benefits multiple municipalities and subregions as the three locations included provide direct and indirect connection to Thornton's neighboring jurisdictions as well as regional transit stations. Specifically Pecos Street from Thornton Parkway to Milky Way borders with Federal Heights. Federal Heights fully supports this effort and even though there is currently no funding partnerships established, conversations have started to collaborate in the future to build a more robust and safe multimodal network. A Peer Support Letter from Federal Heights is attached.

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	68,831	-	-
	b. Total households	26,759	-	-
	c. Individuals of color	35,838	52%	33%
	d. Low-Income households	2,600	10%	9%
	e. Individuals with limited English proficiency	3,530	5%	3%
	f. Adults age 65 and over	7,524	11%	13%
	g. Children age 5-17	13,299	19%	16%
	h. Individuals with a disability	3,394	5%	9%
	i. Households without a motor vehicle	939	4%	5%
	j. Households that are housing cost-burdened	8,236	31%	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:*

There are important environmental justice considerations associated with bicycle infrastructure. Protected bicycles facilities contribute to greater multimodal mobility at low cost to lower-income populations, providing a "last mile" link to transit, and expanding access to employment opportunities.

Populations within this project are disproportionately impacted and in environmental justice groups. Specifically, Pecos Street from Thornton Parkway to Milky Way, and Huron Street from 84th Avenue to 88th Avenue have populations that show significant higher percentages than the regional average in environmental justice groups with 64% of individuals of color, 7% of individuals with limited English proficiency, and 13% of low-income households.

One of the benefits of protected bike facilities is that they provide a multimodal facility accessible to all ages and abilities. Younger bicyclists are more likely to use a separated facility such as a protected bike lane or a side path because of the added perceived comfort and increased safety. Populations within this project show significant higher percentages than the regional average of individuals aged 5-17 years. Specifically, Pecos Street from Thornton Parkway to Milky Way, and Huron Street from 84th Avenue to 88th Avenue have 20% of the population 5 to 17 years old.

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. Protected bicycle facilities can contribute to increased bicycling volumes and mode shares, in part by appealing to less confident riders and this could result in a more diverse ridership across age, gender, and ability.
- Contain urban development in locations designated for urban growth and services. This project does not address urban growth.
- Increase housing and employment in urban centers. Investing in multimodal enhancements along corridors such as protected bicycle facilities will increase housing and employment in urban centers by creating safe, convenient, and affordable travel choices.
- Improve and expand the region's multimodal transportation system, services, and connections. The addition of protected bicycle facilities improves the capacity of the multimodal regional roadway system and also improves bicycle accessibility.
- Operate, manage, and maintain a safe and reliable transportation system. Protected bicycle facilities separate bicycles from moving motor vehicles by a physical barrier which increases safety by decreasing conflicts between bicycles and motor vehicles.
- Improve air quality and reduce greenhouse gas emissions. Protected bicycle infrastructure encourages an increase in quantity and quality of non-motorized trips which improve air quality and reduced greenhouse emissions.
- Connect people to natural resource and recreational areas. Protected bicycle facilities in the selected locations will improve multimodal linkages to and between the region's parks, open spaces, and developed areas. The locations included in this project will provide direct and indirect connections to Pinnacle Charter School, Mountain Range High School, Water World, STEM Launch, Camenish Park, Bell Roth Park, North Creek Community Park, Niver Creek Open Space, and Niver Creek Trail, Signal Ditch Trail, Lee Lateral Ditch Trail, and Eastlake Park and Nature Preserve, etc.
- Reduce the risk of hazards and their impact. This project does not address hazard mitigation.
- Increase access to amenities that support healthy, active choices. Protected bicycle facilities increases safe and convenient options for all ages and abilities. They also create more opportunities to incorporate active transportation modes to encourage healthier lifestyles.
- Improve transportation connections to health care facilities and service providers. This project does not address health care.
- Diversify the region's housing stock. The addition of protected bicycle facilities may increase opportunities for diverse housing accessible by multimodal transportation.
- Improve access to opportunity. The installation of protected bicycle facilities in areas with higher environmental justice groups will improve access for traditionally underserved populations.
- Improve the region's competitive position. Investing in bicycle infrastructure ensures that the region remains globally competitive by providing an alternative mode of transportation for accessing jobs, shopping, schools, and recreation to those who cannot or choose not to use a motor vehicle.

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: [Eastlake and West 120th Avenue Activity Center](#)
- Does the project connect two or more urban centers?*
- Yes No If yes, please provide the names: [Eastlake and West 120th Avenue Activity Center](#)
- Is there a transit stop or station within ½ mile of the project limits?*
- Bus stop: Yes No If yes, how many? [96 bus stops total: 40 bus stops within 1/2 miles of Pecos Street, 41 bus stops within 1/2 mile of Huron Street, 15 bus stops within 1/2 mile of 128th Avenue.](#)
- Rail station: Yes No If yes, how many? [1 rail station total near 128th Avenue.](#)
- Is the project in a locally-defined priority growth and development area?
- Yes No
- If yes, provide a link to the relevant planning document: [Thornton's 2020 Comprehensive Plan. https://www.thorntonco.gov/government/citydevelopment/planning/Documents/2020-comp-plan/2020-comprehensive-plan-adopted.pdf](#)
- If yes, provide how the area is defined in the relevant planning document: [All three corridors identified in this study connect Complete Neighborhoods. Complete Neighborhoods are defined in the 2020 Comprehensive plan as areas that create local destinations where residents can live, work, and play. Complete Neighborhoods are intended to provide quality neighborhoods that offer a variety of housing choices and accommodate a wide range of lifestyles for Thornton residents.](#)
- 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): [Thornton's 2020 Comprehensive Plan adopted 7/15/2020. Attached is the Future Land Use Map - Figure 5](#)

Provide households and employment data*	2020	2050
Households within ½ mile	26,759	34,285
Jobs within ½ mile	20,229	27,199
Household density (per acre) within ½ mile	1.37	12.54
Job density (per acre) within ½ mile	7.98	10.45

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

[Pecos Street from Thornton Parkway to Milky Way will provide multimodal access and connection to Thornton Park-n-Ride on 88th Avenue by establishing a multimodal facility connection to the existing bike lane network. Thornton's Park-n-Ride is about 1 mile from Pecos Street. Huron Street from 84th Avenue to 88th Avenue will also provide multimodal access and connection to Thornton's Park-n-Ride on 88th Avenue by establishing a multimodal facility connection to the existing bike lane network. Thornton's Park-n-Ride is about 1/2 mile from Huron Street. 128th Avenue from Interstate 25 to York Street will provide multimodal access and connection to the RTD's Eastlake – 124th Station. The Eastlake - 124th Station is less than 1/2 mile from 128th Avenue. 128th Avenue will also connect two urban centers: Eastlake and West 120th Avenue Activity Center.](#)

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**.

[The three corridors selected for this feasibility study will improve access by bicycle and connections to employment centers, commerce, recreational opportunities, and transit stops.](#)

Pecos Street from Thornton Parkway to Milky Way will provide bicycle connection among others to: Thornton Park-n-Ride on 88th Avenue, Water World Park, Camenish Park, Highland Hills, Bell Roth Park, STEM Launch, Little Ceasar's Pizza, and Maverik Adventure's First Stop.

Huron Street from 84th Avenue to 88th Avenue will provide bicycle connection to: Thornton's Park-n-Ride on 88th Avenue, North Creek Community Park, Niver Creek Open Space, Niver Creek Trail, Huron Animal Hospital, Pinnacle Charter School, and New Hope Bible.

128th Avenue from Interstate 25 to York Street will provide bicycle connection to RTD's Eastlake - 124th Avenue, Signal Ditch Trail, Lee Lateral Ditch Trail, Eastlake Park and Nature Preserve, Mountain Range High School, Primrose School of Thornton, City Bark, Crossroads Church Thornton, The Northern Business Center, Amazon Distribution Center, and Adams 12 District.

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.): [Protected Bike Lanes](#)
- 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:*

Street typology: Pecos Streets from Milky Way to Thornton Parkway is a Neighborhood Connector Street; Huron Street from 84th Avenue to 88th Avenue, and 128th Avenue from I-25 to York Street are Regional Connector Streets. Design guidance from the DRCOG Regional Complete Streets Toolkit identifies bicycles as a high modal priority in Neighborhood Connector Streets, and as a medium modal priority in Regional Connector Streets. Selection guidance for streets with higher volumes and higher speeds, consider a bikeway such as a shared-use path or a separated bike lane, that is more separated from motor vehicle traffic, to increase the safety and comfort for bikeway users.

Bicycle infrastructure projects improve air quality and reduce greenhouse gas emissions by increasing the quantity and quality of non-motorized trips, increasing the facilities' ease of use and encouraging mode shift. It is estimated that shifting trips to bicyclist and pedestrians could reduce greenhouse emissions by 350 pounds a day by 2050. This aligns with the Metro Vision goal of improved air quality and lower greenhouse gas emissions.

Air Quality

Improve air quality and reduce greenhouse gas emissions.

(drawn from [2050 MVRTP 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
	22.75	1.566	1.48	0.22

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:*

Bicycle infrastructure projects improve air quality and reduce greenhouse gas emissions by increasing the quantity and quality of non-motorized trips, increasing the facilities' ease of use and encouraging mode shift. To estimate the reduction in emissions, it is assumed that protected bike lanes will be installed by 2025 and 5% of trips would shift from motor vehicles to bicycles after the installation, this translates into a reduction of CO gas of about 50 pounds per day after installation in 2025. Emission calculations are attached in Figure 6.

**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:*

Protected bicycle facilities on Pecos Street from Thornton Parkway to Milky Way will provide multimodal access and connection to Thornton's Park-n-Ride on 88th Avenue Station by establishing a bicycle facility connection to the existing bicycle lane network. Thornton's Park-n-Ride is about a mile from Pecos Street. Protected bicycle facilities on Huron Street from 84th Avenue to 88th Avenue will also provide multimodal access and connection to Thornton's Park-n-Ride on 88th Avenue by establishing a bicycle facility connection to the existing bicycle lane network. Thornton's Park-n-Ride is about half a mile from Huron Street. Protected bicycle facilities on 128th Avenue from Interstate 25 to York Street will provide multimodal access and connection to the RTD Eastlake - 124th Avenue Station. RTD's Eastlake Station is less than half a mile from 128th Avenue.

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> <small>NOTE: if constructing a new facility, report crashes along closest existing alternative route</small>		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	2	
Serious Injury crashes	10	
Other Injury crashes	113	
Property Damage Only crashes	346	
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	1.72	CRASH MODIFICATION FACTORS CLEARINGHOUSE. STUDY: SEPARATED BIKE LANE CRASH ANALYSIS, ROTHENBERG ET AL. 2016
Serious Injury crashes reduced	8.58	
Other Injury crashes reduced	96.95	
Property Damage Only crashes reduced	296.87	

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

All three corridors selected for this study are identified on the DRCOG High-Injury network. Protected bike lanes is a safety countermeasure listed in the recommendations in Taking Action on Regional Vision Zero. Protected bicycle lanes that are separated from vehicle traffic by a physical barrier (such as bollards, landscaping or parked cars) can increase safety for everyone by decreasing opportunities for encroachment on the bike lane by people driving. Separated bike lanes have the potential of reducing pedestrian crossing distances. Separated bikeways also reduce the risk of dooring.

It is estimated that installing separated bicycle facilities can reduce all crashes by 14%. According to the Crash Modification Clearinghouse, the Crash Modification Factor (CMF) for the countermeasre of installing separated bike lanes when the prior condition was no bike lane is 0.858 for all crashes. (STUDY: SEPARATED BIKE LANE CRASH ANALYSIS, ROTHENBERG ET AL., 2016)

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:*

[This project does not address freight needs.](#)

Active Transportation	Expand and enhance active transportation travel options. <small>(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.</small>
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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:		60
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.	211	274
3. Enter number of the bicycle trips (in #2 above) that will be diverting from a different bicycling route. <i>(Example: {#2 X 50%} or other percent, if justified on line 10 below)</i>	45	77
4. = Initial number of new bicycle trips from project (#2 – #3)	166	197
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.). <i>(Example: {#4 X 30%} or other percent, if justified on line 10 below)</i>	8.00	10.00
5. = Number of SOV trips reduced per day (#4 - #5)	158.00	187.00
6. Enter the value of {#6 x 2 miles} . (= the VMT reduced per day) <i>(Values other than 2 miles must be justified by sponsor on line 10 below)</i>	316.00	374
7. = Number of pounds GHG emissions reduced (#7 x 0.95 lbs.)	300.20	355.30
8. If values would be distinctly greater for weekends, describe the magnitude of difference:		

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

Weekday bicyclist data is estimated based on comparison of current Strava Heat maps of the project locations and existing data in similar facilities. The estimated number of opening day additional weekday one-way bicycle trips is based on data from Bicycle and Pedestrian TIP Projects - User Counts After Completion of Project (Last Updated April 21, 2021) on bicycle facilities of potentially similar characteristics (Alameda Parkway in Lakewood, Kipling Parkway in Wheat Ridge, and West 86th Parkway in Arvada). The estimated number of bicycle trips that will be diverting from a different route was estimated by 50% of estimated trips at opening minus current trips (105-60). The 2050 estimate is based on a 20% growth. It is estimated that 5% of trips would be from another non-SOV mode.

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):		120
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	180	216
4. Enter number of the new pedestrian trips (in #2 above) that will be diverting from a different walking route <i>(Example: {#2 X 50%} or other percent, if justified on line 10 below)</i>	36	43

5.	= Number of new trips from project (#2 – #3)	144	173
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)	0.00	0.00
7.	= Number of SOV trips reduced per day (#4 - #5)	144.00	173.00
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)	58.00	69.00
9.	= Number of pounds GHG emissions reduced (#7 x 0.95 lbs.)	55.10	65.55
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: Weekday pedestrian data is estimated based on existing data in similar facilities in the Region from CDOT's non-motorized traffic database (Westminster and Broomfield). The estimated number of opening day additional weekday one-way pedestrian trips is based on data from Bicycle and Pedestrian TIP Projects - User Counts After Completion of Project (Last Updated April 21, 2021) on facilities of potentially similar characteristics (Alameda Parkway in Lakewood, Kipling Parkway in Wheat Ridge, and West 86th Parkway in Arvada). The estimated number of pedestrian trips that will be diverting from a different route was estimated by 20%. The 2050 estimate is based on a 20% growth. It is estimated that 0% of trips would be from another non-SOV mode.		

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:*

This project will close gaps in the active transportation network by providing bicycle facility connections to the existing bicycle network. See Location Map Figure 1a and Figure 1b.

This project will improve connections to key destinations by filling in gaps in the existing bicycle network that will expand multimodal mobility and accessibility to Thornton's Park-n-Ride on 88th Avenue, RTD's Eastlake Station - 124th Avenue, Eastlake urban center, and West 120th Avenue Activity Center.

This project will improve comfort by providing low-stress protected bicycle facilities.

In addition, the Pecos Street location is within close proximity of a pedestrian focus area (Area along Thornton Parkway from Knox Court to Pecos Street). Both Pecos Street and Huron Street are within close proximity of short-trip opportunity zones (Area bounded by Pecos Street, Huron Street, 84th Avenue and 88th Avenue). Pedestrian focus areas and short-trip opportunity zones represent places where a high level of bicycling or walking currently occurs or where it would likely occur if comfortable and safe walking facilities were present. Investment within these areas is essential to increasing the number of people who walk or bicycle and to improve the safety of active transportation. (DRCOG Active Transportation Plan).

C. Project Leveraging	WEIGHT	10%
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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>	10.00%	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
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D. Project Readiness	WEIGHT	10%
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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:
[Marta Junyent](#)
- Please describe the status to date on each, including 1) anticipated/known pitfalls/roadblocks, and 2) mitigation activities taken to date:
- Utilities: [This project is a feasibility study that will identify potential right-of-way impacts.](#)
 - Railroad: [N/A](#)
 - Right-of-Way: [This project is a feasibility study that will identify potential right-of-way impacts.](#)
 - Environmental/Historic:
 - Other:
- 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: [Choose an item](#)
- 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? [Federal Heights](#)

Please provide any additional details on any of the items in Section 1, if applicable.

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:

The identified local match will be available on 1/1/2023 after approval of the city's 2023 budget.

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

Please describe:

The funding for this project will be identified as a Thornton CIP in 1/1/2023 after approval of the city's 2023 budget.

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:

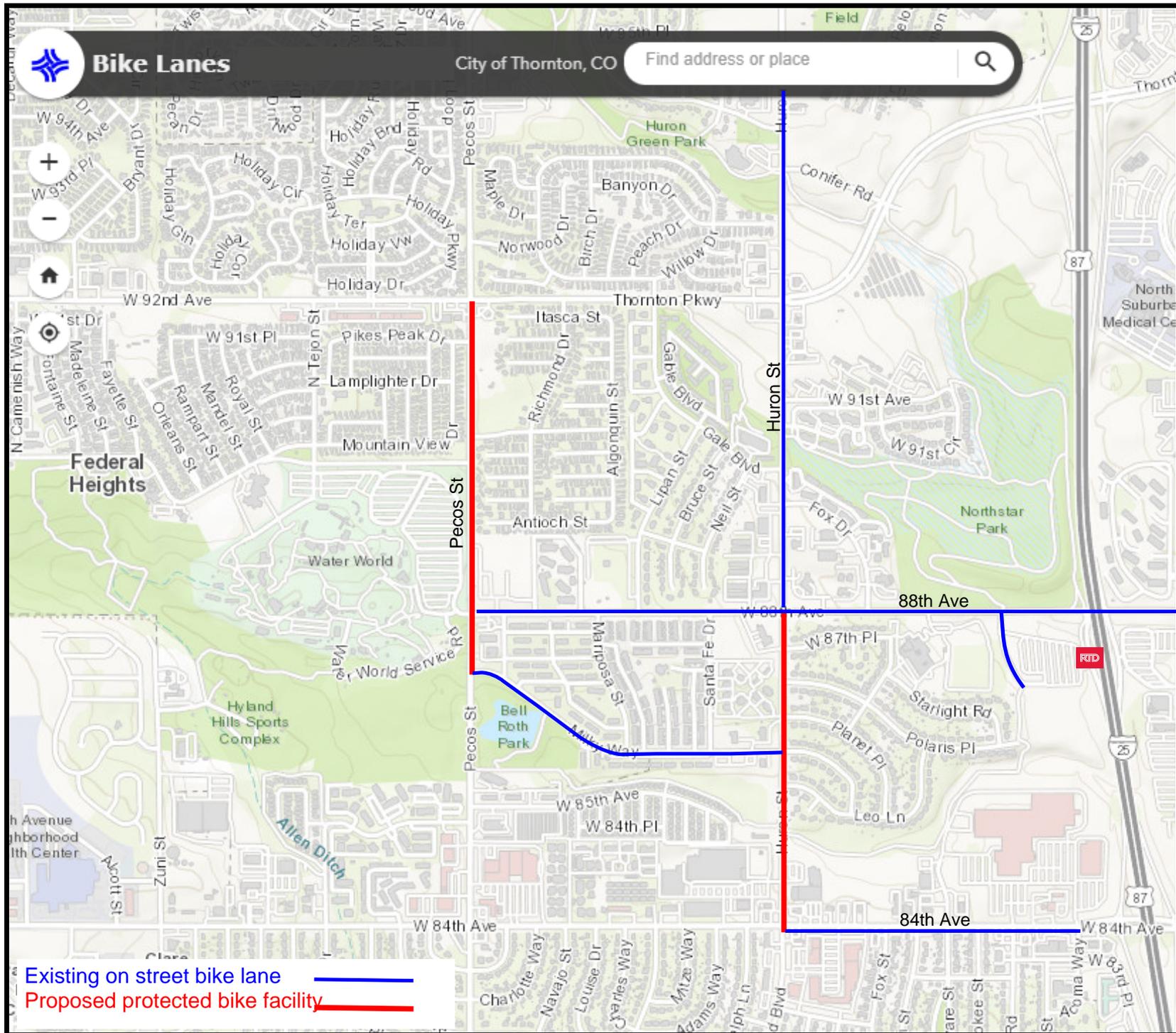
The proposed project is a direct product of the recommendations for bicycle network implementation projects as identified in the Thornton's TMMP Chapter 11. The development of Thornton's TMMPS included a comprehensive public outreach and community engagement. Specifically, an online survey conducted on February 2021 identified as the biggest barrier to biking in Thornton feeling unsafe and uncomfortable when biking along busy streets (Figure 6.1 Online Survey Results, page 6.3 of TMMP)

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

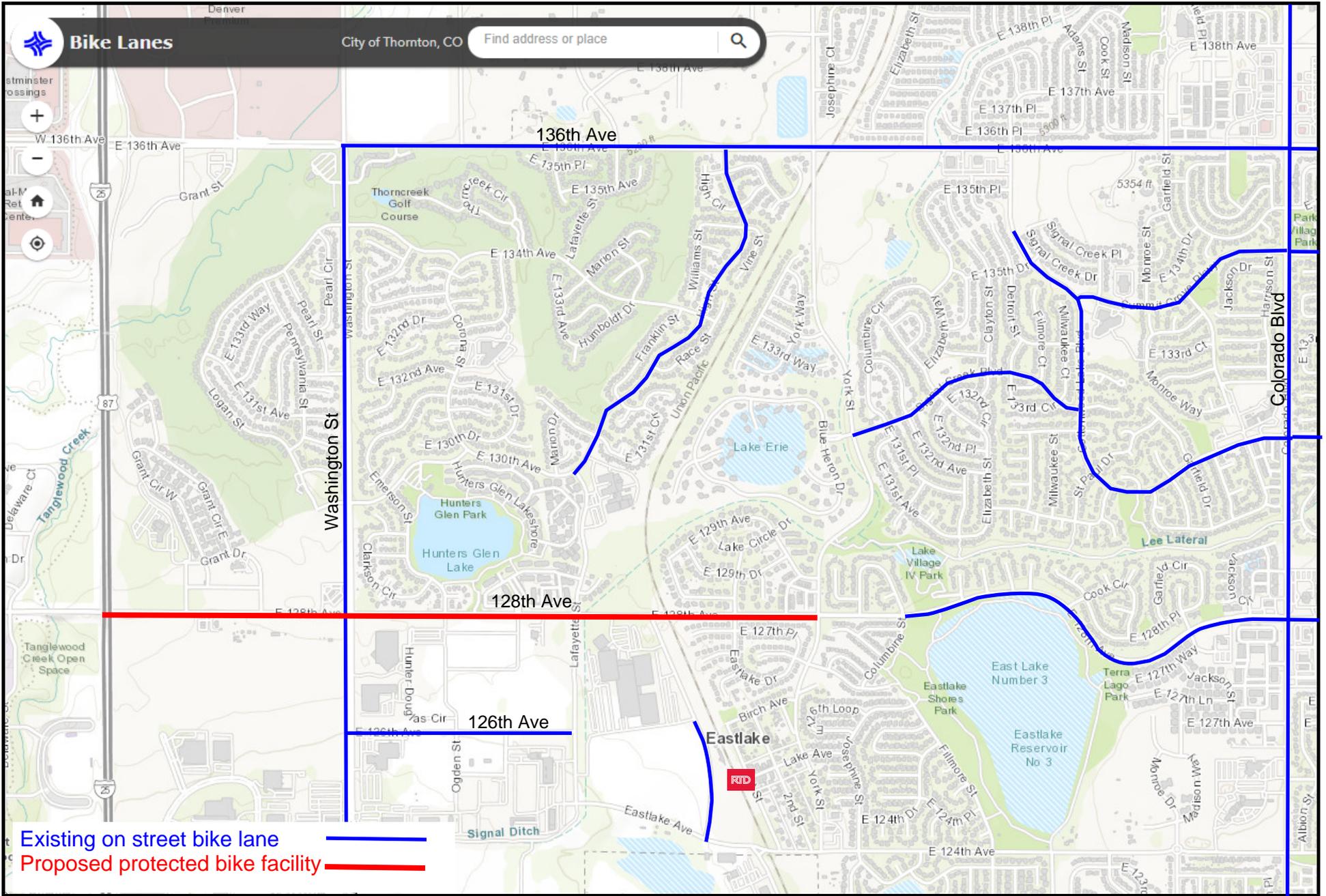
Please provide any additional details on the items in Section 3, if applicable.

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

LOCATION MAP Figure 1a

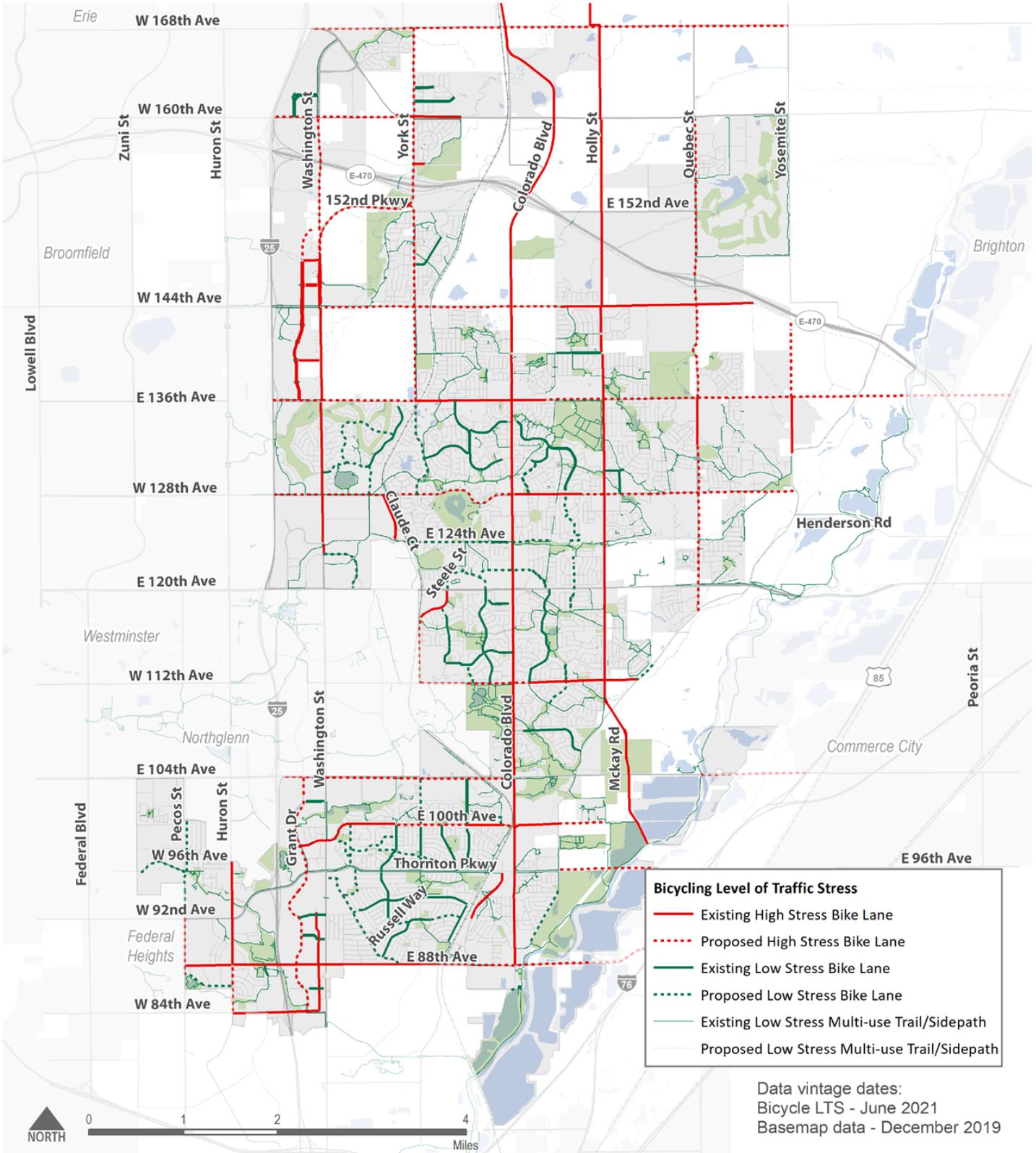


LOCATION MAP Figure 1b



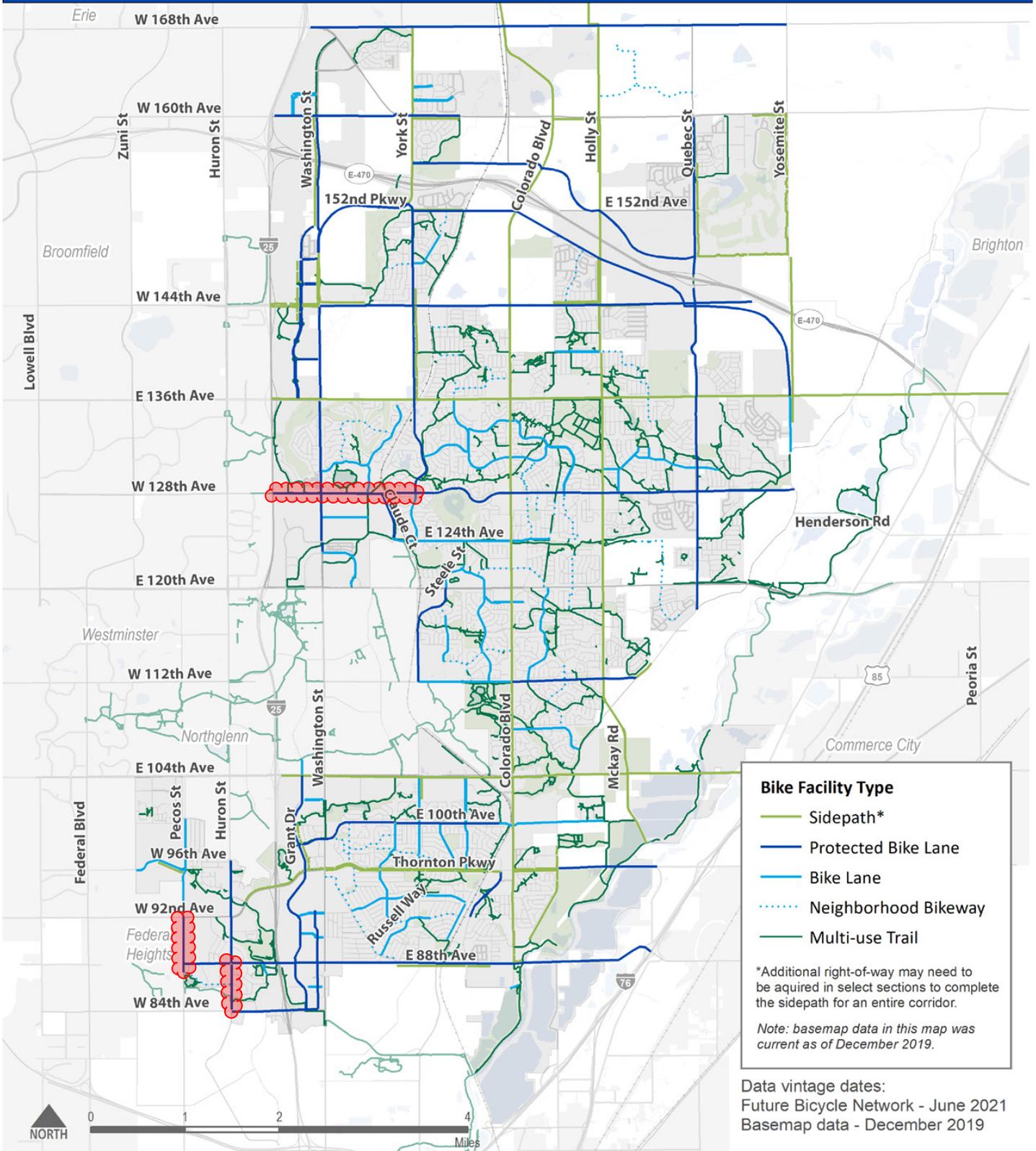
Bicycle Level of Traffic Stress

Figure 2

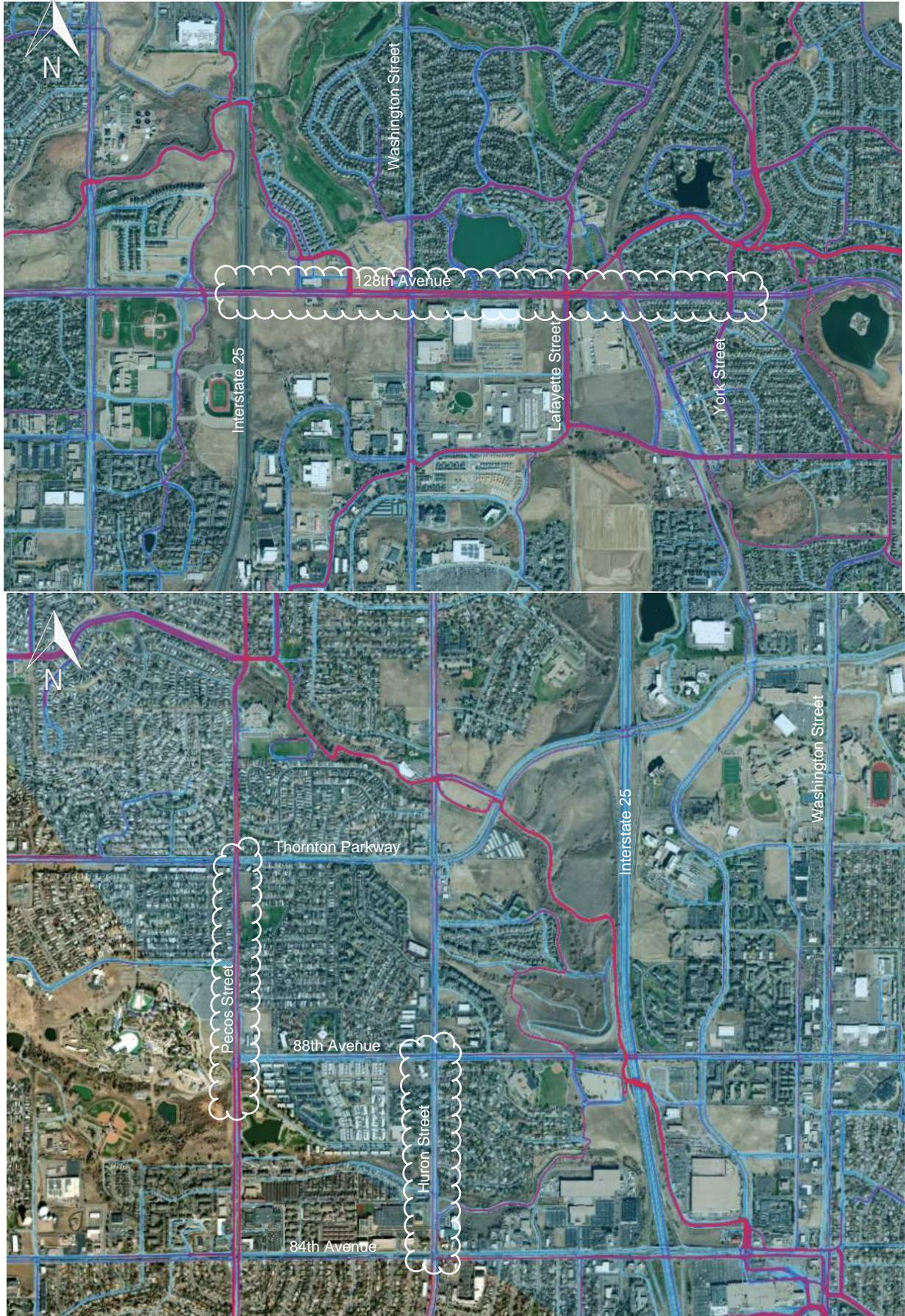


Future Bike Network with Trails

Figure 3



STRAVA HEAT MAP Figure 4

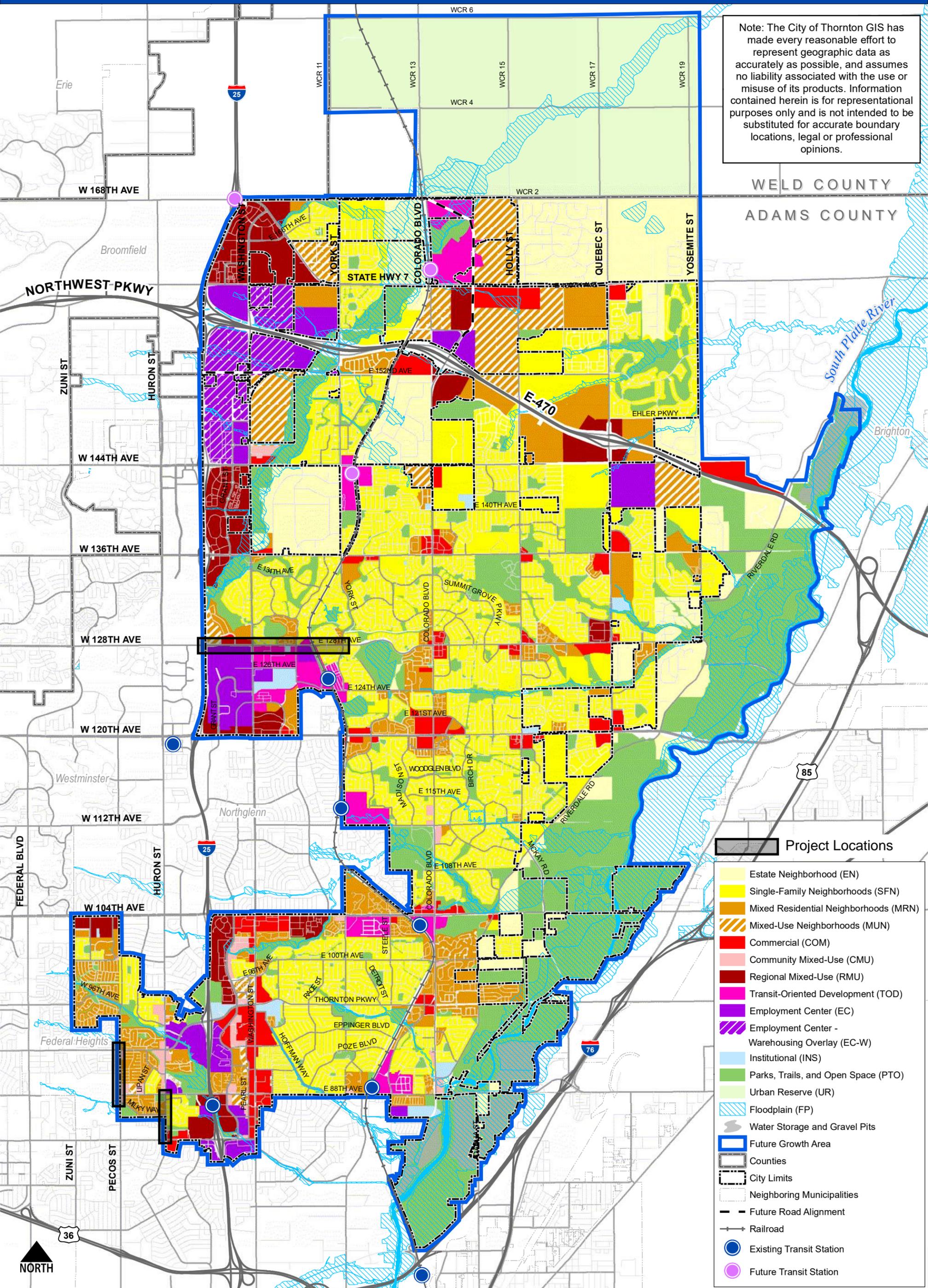


Source: www.strava.com heatmap

Future Land Use Map

Figure 5

Note: The City of Thornton GIS has made every reasonable effort to represent geographic data as accurately as possible, and assumes no liability associated with the use or misuse of its products. Information contained herein is for representational purposes only and is not intended to be substituted for accurate boundary locations, legal or professional opinions.



- Project Locations
- Estate Neighborhood (EN)
- Single-Family Neighborhoods (SFN)
- Mixed Residential Neighborhoods (MRN)
- Mixed-Use Neighborhoods (MUN)
- Commercial (COM)
- Community Mixed-Use (CMU)
- Regional Mixed-Use (RMU)
- Transit-Oriented Development (TOD)
- Employment Center (EC)
- Employment Center - Warehousing Overlay (EC-W)
- Institutional (INS)
- Parks, Trails, and Open Space (PTO)
- Urban Reserve (UR)
- Floodplain (FP)
- Water Storage and Gravel Pits
- Future Growth Area
- Counties
- City Limits
- Neighboring Municipalities
- Future Road Alignment
- Railroad
- Existing Transit Station
- Future Transit Station

Figure 6

Bicycle and Pedestrian Improvements

This calculator will estimate the reduction in emissions resulting from improvements to bicycle and pedestrian infrastructure and associated mode shift from passenger vehicles to bicycling or walking, including but not limited to sidewalks, dedicated bicycle infrastructure, improved wayfinding, mid-block crossing installations, bike share systems, and bike parking improvements.

Navigator

Bicycle and Pedestrian Improvements

INPUT

(1) What is your project evaluation year?

(2) Estimate the shift in daily motorized passenger vehicle trips to non-motorized travel due to the bicycle and pedestrian project.

Daily Passenger Vehicle Trips		
Before	After	Change
57,500	54625	2875

(3a) Select the data type used for entering the typical one-way trip distance of passenger vehicles below:

Trip Distance Source

(3b) If you selected "Average" above, enter the typical one-way trip distance. If you selected "Distribution" above, enter the typical distribution of one-way trip distances.

Typical Trip Distance (miles one way)	Distribution of Trip Distances (daily fraction per mileage bin)					Sum
	x < 1	1 ≤ x < 2	2 ≤ x < 3	3 ≤ x < 4	4 ≤ x ≤ 5	
<input type="text" value="2"/>						

OUTPUT

EMISSION REDUCTIONS

Pollutant	Total
Carbon Monoxide (CO)	22.757
Particulate Matter <2.5 μm (PM _{2.5})	0.064
Particulate Matter <10 μm (PM ₁₀)	0.223
Nitrogen Oxide (NOx)	1.566
Volatile Organic Compounds (VOC)	1.488
Carbon Dioxide Equivalent (CO ₂ e)	1929.133
Total Energy Consumption (MMBTU/day)	25.041

*Units in kg/day unless otherwise noted

ENGINEER'S ESTIMATE

PROJECT TITLE: Thornton Protected Bike Facility Study	Summary	Year	Amount
PROJECT LOCATION/LIMITS: Pecos Street from Thornton Parkway to Milky Way; Huron Street from 84th Avenue to 88th Avenue; 128th Avenue from Interstate 25 to York Street	Study	2023	\$510,000
DATE PREPARED: 6/6/2022			
PREPARED BY: Marta Junyent	Infl-5% yr		YES
	Total		\$510,000
PROJECT SCOPE: The scope of project consists of a comprehensive study to evaluate feasible options to install protected bike facilities along three corridors in the city of Thornton. The study will include a data collection effort, an operational analysis, an evaluation of alternatives, and it will produce a conceptual design with potential right-of-way impact to install separated bike facilities along the three corridors studied. The project may include up to 10% design as budget permits.			

STUDY

ITEM #	ITEM DESCRIPTION	UNIT	QUANTITY	PRICE	AMOUNT
1	Data Collection	LS	1	\$40,000.00	\$40,000.00
2	Operational analysis and evaluation of alternatives	LS	1	\$260,000.00	\$260,000.00
3	Documentation & Reports	LS	1	\$80,000.00	\$80,000.00
4	Communication/meetings/administration	LS	1	\$25,000.00	\$25,000.00
Subtotal =					\$405,000.00
20% Contingency =					\$81,000.00
STUDYTOTAL =					\$486,000.00

12. Does your subregion/agency pledge financial support to this project, if requested?

Yes No N/A

If yes, provide amount: \$ Fiscal year(s) funds are provided in:

If yes, where are funds coming from:

Local Agency (i.e., non-DRCOG funds)

Subregional Funding Target (forum must approve)

13. Please enter your name and date below which certifies the above information is accurate and complete, and your subregion/agency will honor any financial commitments made above:

Name: Don Stahurski

Date: 6/17/2022