Appendix A: Glossary of Terms

Accessibility: The ability of a facility, product, or service to be used by people with disabilities.

Active transportation: Self-propelled, human-powered transportation modes like walking or biking.

Alightings: Number of exits from a train, bus, or other form of transit.

American Association of State Highway and Transportation Officials (AASHTO): Organization which sets standards and policies used in highway construction, air, water, rail, and public transportation.

Arterial: A higher capacity roadway that delivers traffic from collectors to highway and through urban settings.

Autonomous and Connected Vehicles (AV/CV): Autonomous vehicles use technology to steer, accelerate, and brake with little to no human input. Connected vehicles use technology to either communicate with each other; connect with traffic signals, signs, and other road items; or obtain data from a cloud.

Bicycle facilities: Amenities created to accommodate people bicycling; these include bicycle routes, bicycle lanes, sidepaths, and multi-use trails.

Branded Loop Trail: A distinct Town of Erie-branded trail that takes travelers around Erie.

Buffered Bike Lane: A buffered bike lane is a bike lane with a marked buffer space separating the bike lane from vehicular travel or parking lanes. Buffered bike lanes can be marked by paint or other pavement markings.

Bus rapid transit (BRT): A bus route or system that performs similarly to rail due to dedicated bus lanes, high-capacity transit stations, and design features that reduce delays,

Collector: A lower to moderate capacity roadway that serves to connect local street traffic with arterial roadways,

Comfortable: Accommodating of and safe for users of all abilities.

Complete Streets: Streets that are designed to allow for convenient and comfortable travel by users of all transportation modes.

Congestion: Traffic while driving, including slower speeds, longer trip times, and increased vehicular queueing.

Connectivity: The density of the path or road network and the directness of those links to provide travel access with minimal out of direction travel.

Constrained funding/fiscal constraints: Transportation projects (vehicular, bicycle, pedestrian, and transit), operations, and maintenance are funded at current levels with adjustments for inflation.

Curbside management: The reallocation of curbside space for flexible uses other than parking, including bicycle facilities, bus lanes, pick-up and drop-off areas, and delivery vehicle areas.

Denver Regional Council of Governments (DRCOG): An association of local governments in the Denver region that works to enhance the regional quality of life. DRCOG is the federally designated metropolitan planning organization for the region.

Enhanced transit service: Additional features that make transit more convenient, reliable, and efficient (e.g., more frequent service, expanded hours).

First-last mile: The challenge of connecting passengers between their origin and a transit stop and between a transit stop and their destination.

Freight: Commodities moved in large amounts by truck, train, ship, or aircraft.

Grade separation: Separation of facilities by elevation, such as a cycle track, a few inches above the roadway, or a pedestrian overpass or underpass.

Green Alley: Green alleys are an additional facility type that can be used in place of typical alleys to create an inviting public space for people to walk, play, and interact

Headways: The average interval of time between vehicles, particularly transit vehicles on the same route.

High Injury Network (HIN): The set of roadway segments that have the highest number of fatal and severe crashes.

Hybrid beacon: A flashing signal activated by people walking and biking at a crosswalk mid-block or at an intersection.

Intelligent Transportation Systems (ITS): Technologies that aim to improve efficiency and safety of roadways in real time.

Level of Service (LOS): A measure of vehicle congestion at intersections that grades projects from "A" to "F" based on how much delay drivers experience.

Level of Traffic Stress (LTS): An approach that quantifies the level of comfort felt by people walking or biking based on factors such as the speed and volumes of adjacent vehicular traffic and presence of bicycle or pedestrian facilities.

Local Trails: Consist of a concrete trail within neighborhoods to form secondary connections to other residences, schools, businesses, and the spine trail.

Micromobility: Small lightweight vehicles travelling at slower speeds including electric and nonelectric bikes, scooters, and skateboards. Shared micromobility refers to these devices that are shared amongst many users through a subscription-based system.

Microtransit: Privately or publicly operated, technology-enabled transit service that typically uses multi-passenger/pooled shuttles or vans to provide on-demand or fixed-schedule services with either dynamic or fixed routing.

Mixed-use: Development, site, or building that contains more than one type of land use, such as residential units above offices.

Mobility hubs: Transit stations and the surrounding area seamlessly connecting different modes of transportation (bike share, car share, etc.).

Mobility as a Service (MaaS): A newer concept in transportation planning that describes the integration of multiple transportation modes into a single application where a user can pay for, reserve, and plan trips.

Mode share: Share of people that travel by vehicle, transit, biking, walking, etc.

Multimodal: A transportation system that provides safe and convenient options for getting around by all transportation options, including walking, biking, transit, and driving.

Multi-use Paths or Trails: Multi-use paths or trails are paths that are at least eight feet wide and entirely separated from the roadway. Multi-use paths and trails can accommodate both pedestrians and bicyclists traveling in both directions.

National Association of City Transportation Officials (NACTO): A coalition of municipal departments of transportation that publishes research, best practices, and design guidelines for streets and transportation.

Neighborhood Bikeway: Streets with low motorized traffic volumes and speeds that use signs and pavement markings to create comfortable streets for bicyclists to share the road with people driving.

Paratransit: Transportation services that supplement traditional fixed-route transit, including human services transportation for people with disabilities.

Peak volume: Volume of vehicle traffic traveling during the morning and evening/afternoon peak hours (when most people are on the road commuting to and from work).

Pedestrian network: All the components that comprise the facilities used by pedestrians, including sidewalks, mid-block and signalized crossings, and curb ramps.

Performance measures: Data metrics that help track progress toward specific goals.

Primitive Trails: Consist of a stabilized crusher fine or other natural surface trail within open space or rural areas where frequency of use is low and a more natural experience is desired.

Raised Cycle Track: A raised cycle track is an exclusive bicycle facility that is elevated from street level and spatially separated from vehicular traffic. Raised cycle tracks are different from sidewalks and are not intended for non-bicycling uses.

Rapid flashing beacon: A type of pedestrian infrastructure that includes yellow diamond-shaped signage, LED (light emitting diode) flashing lights, and a clearly demarcated crosswalk to allow people walking and rolling to cross safely at key points.

Road diet: Lane reduction or right-sizing (reduction of the number of general travel lanes) to add improvements for other modes.

Ride-Hailing: Point-to-point transportation service provided in a car, van, or bus that can be requested using a phone or web application (e.g., Uber or Lyft).

Safe Systems: An evidenced-based approach defined by FHWA to reduce fatal and severe traffic crashes.

Shared mobility: Shared use of a vehicle, bicycle, or other transportation mode that allows users to access transportation services on an as-needed basis; made more common with emerging app-based on-demand transportation technologies.

Sidepath: A wide sidewalk that will operate like a multi-use trail located along a roadway that may be separated by a wide vegetated buffer.

Single-occupancy Vehicle (SOV) Trips: Car trips made by a solo driver.

Spine Trails: Consist of a wide (10') concrete trail with an attached crusher fines trail and, whenever possible, are the primary off-road connections between neighborhoods and major activity centers.

Transit coverage: The amount of area that is covered by a bus or rail route.

Transit frequency: The number of transit vehicles that arrive to pick up passengers at a stop during a specified unit of time.

Transit-Oriented Development (TOD): The practice of designing and planning areas where residential and commercial spaces are more conveniently connected with various forms of transportation to make communities more livable, vibrant, and accessible.

Traffic or Transportation Analysis Zone (TAZ): The unit of geography commonly used in transportation planning to estimate trip generation.

Transportation Infrastructure: The foundational structures and systems for transporting people and goods. Some of the infrastructure required for the transportation networks addressed in this plan include roads, railways, walkways, transit stations, and bicycle infrastructure.

Transportation Network Companies (TNCs): Ride-hailing companies like Uber and Lyft.

Vehicle Miles Traveled (VMT): The sum of all the miles driven by motor vehicles in a specific area (e.g., Town of Erie) over a specific period (often daily).

Vulnerable Populations: Include people with disabilities, low-income households, and households without a vehicle (including residents, future residents, visitors, and employees).

Wayfinding: The information system, usually comprised of signs, that helps users navigate an area.

Appendix B: Community Engagement Summary

ELEVATE ERIE

Planning Our Future Together

Phase 1 Engagement Summary

Comprehensive Plan & Transportation Mobility Plan

May 24, 2023

Contents

What is Elevate Erie?

Elevate Erie is the process of updating the Comprehensive Plan and the Transportation Mobility Plan (TMP). The updated and integrated plans will provide a foundation for Erie to continue to thrive, while elevating the Town's quality of life into the future. These plans will provide long-term guidance for the community around growth, land use, transportation, housing, design and community character, parks and open spaces, tourism and recreation, sustainability and resilience, and economic development, among other topics.

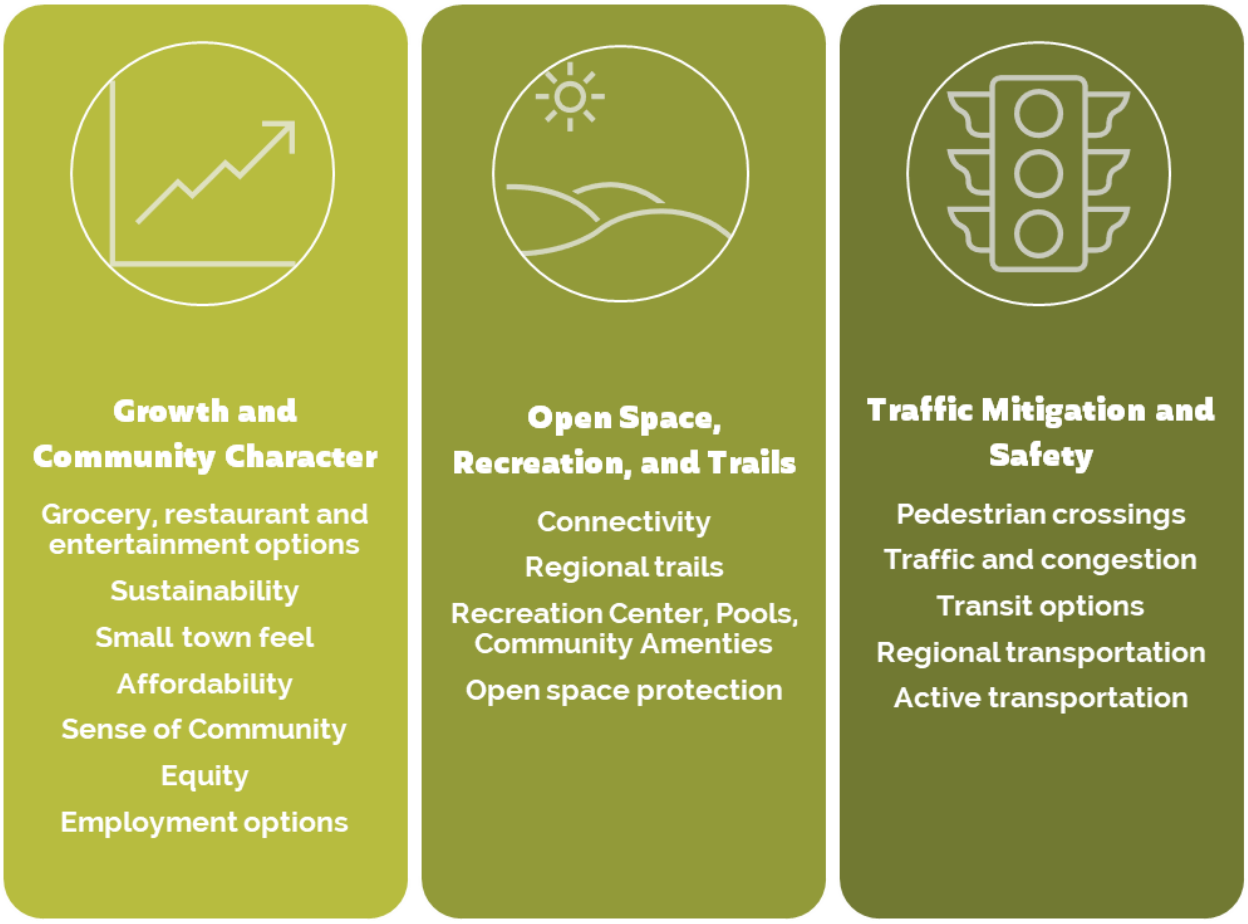
Erie's current Comprehensive Plan was adopted in 2005 and updated in 2015. The Transportation Plan was last updated in 2018. Since the previous updates, the Town has continued to change, not only as the result of growth and development, but also due to changing priorities and evolving values of the community. To ensure these high-level planning and policy documents represent an accurate, comprehensive, and inclusive vision for the Town's future, Elevate Erie will focus on key topics such as mobility and enhanced transportation options; sustainability and resilience; affordable housing; and diversity, equity, and inclusion.

Executive Summary

This document summarizes the findings from the engagement activities completed during Phase One of the Elevate Erie Comprehensive Plan and the Transportation Mobility Plan (the Plans). This initial phase of community engagement lays the foundation plan development that reflects the community's needs, values, and strengths.

Between December 2022 and May of 2023, community members and representatives were asked to share their perspectives on the Town of Erie; local leaders kicked off the planning process, two advisory committees were assembled to provide technical expertise and local knowledge, and an online questionnaire was available from the end of December 2022 through January 2023.

Below is a summary of input collected throughout Phase 1. Most of the topics that emerged in Phase 1 can be sorted into the overarching themes of growth and community character; open space, recreation, and trails; and traffic mitigation and safety.



The following graphics summarize the public engagement findings in Phase One by type of engagement: online, advisory meetings, in-person events.

Online Engagement: Vision & Values Survey and Engage Erie Activities

What do you love about Erie?

- Community members love their open space; they want to see open space protected and new parks and recreation resources.
- The small town feel and sense of community is highly valued.

What would you improve?

- Community members want more retail, restaurants, and entertainment. There is a preference for these to be locally owned and located near the heart of town.
- Sustainable growth needs to account for resources and maintenance of community character.
- Community members are interested in seeing better roadways and car access, active transportation, and transit options almost equally.
- Traffic safety is a concern, especially at pedestrian crossings.

Advisory Meetings: PAC, TAC, Leadership and Stakeholder Meetings

What are the biggest issues and opportunities?

- Housing affordability and housing diversity are increasingly important issues to address.
- Employment options don't serve current residents. Most residents commute elsewhere for work.
- Growth
  - transportation connections that mitigate traffic
  - enhance economic sustainability
  - provide transportation options
  - address water and resource availability

What would make this project a success?

- If City departments use the plans often, can implement the plans, and track progress.
- If the Plans and the planning process are inclusive and equitable.
- If the Plans are living documents that address the needs of the community moving forward.

In-Person Events: Pop-Up Events, Arbor Day, Strider Bike Derby, and Town Fair

Describe the best version of Erie.

- Active transportation and transit options are available and safe.
- Erie maintains its small town feel and an enduring sense of community.
- Grocery, restaurants, and retail options are available and convenient across Town.
- Diverse and affordable neighborhoods that fit the community's character.
- A Town that grows sustainably.

Engagement By the Numbers

699
Responses to online Vision & Values Questionnaire
December 20, 2022 to February 2, 2023

330
Participants at the Arbor Day, Strider Bike Derby, and Town Fair
April 29 and May 13, 2023

70
Engagements at **4** Pop-Up Events
April 7, 12, 20, and 27, 2023

70
Online Interactions
February - May 2023

3
Technical Advisory Committee Meetings
December 2, 2022; February 10, 2023; and April 14, 2023

2
Plan Advisory Committee Meetings
February 27 and April 17, 2023

1
Board of Trustees and Planning Commission Joint Meeting
January 17, 2023

Summary of Advisory Meetings

Technical Advisory Committee (TAC) Input

The Technical Advisory Committee (TAC) represents the different Town divisions , including but not limited to, transportation, communications, planning, parks and recreation, police, engineering, sustainability, and economic development. These individuals contribute a broad spectrum of experience and technical expertise for which they were chosen to sit on this committee. During Phase 1 the TAC met three times virtually to help guide Phase 1 and address special topics and concerns.

Meeting 1: December 2, 2022

The first meeting provided an opportunity for the TAC members to discuss their expectations for the project and their role. The meeting gave each member a chance to outline the most significant issues for the Town of Erie. The TAC identified several outcomes that if attained would make Elevate Erie a success. Although there were many different answers and concepts, most touched on the following themes:

- Sustainability
- Actionable potential of the Plans
- Community involvement and engagement with the planning process
- Implementation

TAC members identified the following issues and opportunities for this planning effort:.

- Resistance to change, especially within residential neighborhoods and concern for loss of character
- Affordable housing and housing options
- Multi-modal transportation connecting the community and the broader region
- Managing resources and growth/development
- Public education integrated into the planning process and the plan may help reduce tension and increase understanding about issues.

TAC members are working on a variety of projects that relate to the planning effort some of these include park planning and design efforts, flex-ride services, a regional housing partnership, housing assessment, neighborhood speed mitigation program, Downtown streetscape improvements, ADA audit for physical and digital Town spaces, and regional mobility and transportation efforts.

Meeting 2: February 10, 2023

During the second meeting, the TAC identified themes from the Board of Trustees/Planning Commission joint meeting and the Your Vision Your Values Questionnaire (the questionnaire). Community aversion to growth especially housing development and support for certain types of growth like retail and employment were topics of discussion during this meeting.

Community sentiment from the questionnaire regarding growth, housing diversity, and affordability misaligned with priorities and programming in certain departments. Concepts like multimodal transportation, safety, and an interest in restaurants and retail options in town align with current town planning or initiatives. The TAC recommended that in future

phases of engagement consultants, staff, and technical experts discuss and reframe the idea of growth and change in the community and provide relatable examples and education regarding land use regulation and housing affordability.

Meeting 3: April 14, 2023

The third TAC meeting provided members a chance to discuss some overarching themes and concepts that have emerged in community engagement efforts and existing conditions research. Some overarching themes that overlap with TAC priorities are diversification of housing, economic opportunities, and funding for community amenities like parks and trails. TAC aspirations related to transportation include a multi-pronged and multi-modal approach that leverages many different funding options to provide inclusive transportation options that are reliable, safe, and efficient. Other concepts identified by the TAC were regional cooperation and putting more emphasis on the airport and its potential.

Planning Advisory Committee (PAC) Input

The Planning Advisory Committee (PAC) represents different Town boards, commissions, and task forces, including the Town Board, Planning Commission, Sustainability Advisory Board, Historic Preservation Advisory Board, Diversity Equity and Inclusion Task Force, Tree Board, and the Urban Renewal Authority,

Meeting 1: February 27, 2023

When asked what would make this planning process a success, PAC members note the following:

- Representativeness of the community engagement
- Tracking participation throughout the process
- Addresses climate change and adaptation
- Actionable strategies that are practical and usable

The PAC also discussed current action being taken by member's boards. About 1/3 of the projects or actions mentioned were related to diversity and equity, and about 1/2 of the projects or initiatives related to sustainability, conservation, or natural resources. PAC members were asked to recommend people or groups that should be included in the engagement process. Their responses included seniors, families, high school students, people who work in Erie but cannot afford to live in town, conservation groups, and diverse groups (race/ethnicity and socioeconomic status). PAC members had a substantial list of questions that they wanted to ask the community. Many of these questions had to do with affordability, mismatch between local jobs and resident workforce, and community expectations for infrastructure and community goods like parks, trails, and entertainment.

PAC members are hopeful that Elevate Erie will help align different departments of the Town especially as it relates to transportation and open space and trails. Additionally, the PAC members hope to see the plan incorporate diversity, equity, and inclusion in a holistic way.

Meeting 2: April 17, 2023

The second PAC meeting focused on two key themes that have emerged throughout the community engagement process, housing and land use. The key components of these themes are given below:

- Perceived “open space” throughout the community may actually be located on county or agricultural lands that may rightfully be sold by farmers to developers. The public may require educational material on the process of acquisition and preservation of open space.
- The Town Center concept allows density and mixed uses with public better perception.
- Education regarding the challenge of encouraging commercial development in neighborhoods and in Old Town should be available to the community so they understand the cost and trade-offs.
- Hwy 287 corridor is a potential growth area for commercial development, but also an asset for open space and community buffers.
- Public private partnerships will likely be the best way to encourage developers to build affordable housing units. Specific Town goals related to housing affordability should be expressed to developers.
- A communication strategy should be developed and used to address community perception of diverse housing.
- Housing that is close to services and doesn’t increase vehicle traffic.

Additionally PAC members discussed roadway design that encourages safety, diversifying transportation options especially viable bike transportation options, open space and natural and historic preservation like Schofield Farms that have been popular and successful. Additional discussion included asks from the community like arts and cultural opportunities and amenities for youth and teens.

Board of Trustees and Planning Commission Input

Joint Worksession

On January 17, 2023, the Town Board of Trustees and the Planning Commission met with Town staff and a group of project consultants to discuss their intentions for the planning effort, their top priorities, and to highlight important topics for the Plan update.

When these leaders were asked what would make this project a success they responded:

Leaders were also asked to discuss:

- Things that they are excited about going into the next 20 years
- Groups that should be involved in the planning process that have not already been reached
- Questions that are important to ask the community
- Long-term issues that residents have been talking about

The leadership group voted on topics that they are most concerned about in Erie. These are safety, employment opportunities, population growth, and town identity. Leaders voted for the most important changes that they would like to see in the next 20 years. The top three changes are:

1. More employment opportunities
2. More ways to get around
3. Greater diversity of shopping and retail stores

Transportation priorities were also ranked during the meeting. The top three priorities are:

1. Increased transit options
2. Safer streets
3. More/better sidewalks and safe street crossings

The leadership group was asked to give additional information to the planning team that was not covered in the meeting. The comments had a wide variety of topics including:

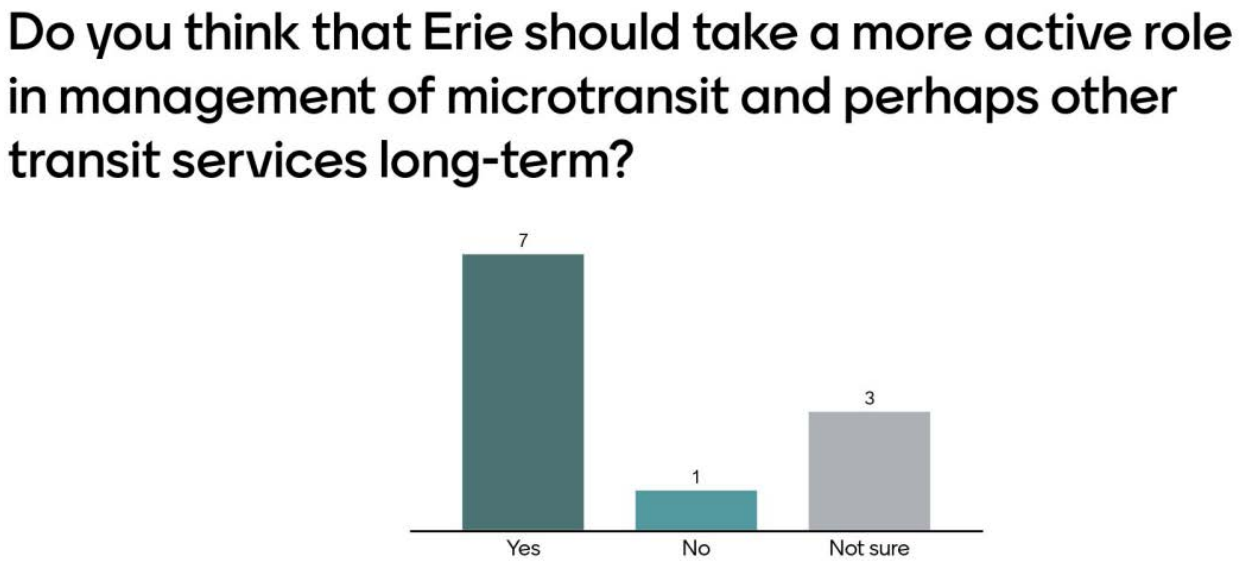
- The project group strive to make the plans living documents
- Regional cooperation to bring the plans together
- Concern for resource management

Transportation Futures Worksession

On May 16, 2023, the Town Board of Trustees and the Planning Commission met for a presentation and discussion on 'Transportation Futures.' This presentation included a conversation led by Jeremy Klop, Director of Strategy at Fehr & Peers, who discussed high level options for the Town of Erie. These included designing for legacy, safety for everyone, and investments that grow. Jason Miller, national transit expert at Fehr & Peers, shared various transit provision models and described more detailed recommendations for microtransit service in Erie. Feedback from this group included:

- A desire to incorporate both proven strategies that have worked in other communities as well as innovative approaches, depending on the place and context within the Town.
- A priority for creating safe roads followed by safe speeds through design treatments, considering the uses of different road types within Town.
- Attendees desired a balance of both internal and external funds to invest in the future of the transportation network.

Polling showed that Board of Trustees and Planning Commission members are supportive of on-demand, microtransit service in Erie in the future. This service type will help serve the younger population and provide a valuable supplement to fixed route transit service.



Summary of Stakeholder Engagement

Stakeholders were identified by the planning team and with consideration of TAC, PAC, and the leadership group's input. Stakeholder engagement was conducted through small public meetings, including the Arapahoe Neighborhood meeting and via one-on-one interviews. Twenty-four stakeholders belonging to one of four general groups completed an in-depth online interview independently via Google Forms. Each group was asked specific questions based on their background or expertise. Summaries of this input by group is given below:

Business Community (6 responses):

Business owners were asked to give examples of what they think can improve business development and success in town. Business owners hope the Town can help with parking and infrastructure that will get residents to businesses, financial support for local businesses, and one respondent is concerned about affordable housing for employees and patrons.

Developer Community (4 responses):

Developers believe there is a strong market for non-single family style housing in Erie. The biggest threats to housing development are long construction delays and heavy entitlement fees. A plan that includes affordable housing and gives an avenue for incentivizing it may help developers provide diversified housing options. One participant noted that they would like to see a market analysis, and that flexibility in requirements and process would help developers improve the diversity and affordability of the housing stock.

Residents (7 responses):

Residents would like to see more access to services and amenities. This includes more trails, recreation facilities, and open space. They are also interested in seeing more cooperation between communities, HOAs, and the Town. Residents want continued transportation growth, economic opportunities, affordable housing that is in line with community character, and increased access to outdoors and recreation.

School Community (7 responses):

Pedestrian safety, public transportation coordination, grant options, and parking are areas for the Town to coordinate with schools. Stakeholders note that there is uneven change in enrollment between schools across different cities and funding differences between school districts. Two members of this stakeholder group completed one-on-one interviews. Themes that emerged were very similar to those that came up from the resident stakeholder group, and included responsible growth, protection of community character, and love for community amenities like recreational facilities and trails.

Arapahoe Ridge Neighborhood Meeting:

Stakeholders from the Arapahoe Ridge neighborhood were gathered on March 15, 2023 to discuss their concerns and aspirations for the US 287 to 119th Street Corridor. This group had many of the same concerns regarding transportation as the community at large. The Arapahoe Neighborhood was particularly concerned about mitigating noise and dust from assorted traffic types, especially from through truck traffic. Generally the group is also concerned that future growth is strategic and that as development occurs traffic mitigation and traffic safety measures are implemented.

Summary of In-Person Events

Arbor Day Celebration Event

This event took place April 29th at Erie Community Park. The Town of Erie has hosted the Arbor Day Celebration for the last 25 years. The event is open to the public and includes vendors, an electric car demonstration, a poster competition for 5th grade students, arborist question and answer sessions, and other attractions that brought in a large group of community members.

Consultants and Town staff engaged with approximately 150 people over the course of the three-hour event. They spoke with older residents and seniors, parents and families (approximately 30 children), residents that have lived in Erie from 1 to 10+ years, and people who want to live in Erie but do not currently.

Several overarching themes coalesced over the three hours of the event. People are interested in having access to more grocery stores, creating walkable spaces with connected trails and paths, having more regional transportation options, expanding the recreation center and community pool, and encouraging commercial areas near neighborhoods.

Event attendees were asked several questions that were designed with the help of input from the PAC, TAC, and leadership group. Highlights are below:

What do you love about Erie?

- Small town feel and a sense of community
- Community amenities like the recreation center, parks, and trails
- Open space and views

Describe your best version of Erie.

- Small town and high quality
- A Town with grocery, retail, and service options
- A thriving downtown
- Affordable housing that fits
- A sustainable growth strategy

How do you like to move around Erie?

- Active transportation: walk, bike, e-bike, scooter

- Bus for regional transportation

What transportation connections are missing?

- Efficient and consistent bus throughout the region especially to Denver
- Bike trails that connect neighborhoods to services and retail
- Regional bike trail connections
- Pedestrian safety at street crossings

Strider Derby Event

This event took place April 29th at the Calvary Bible Church. The event is open to the public but with paid participation required for those kids racing. The event included vendors, a pump track, and multiple heats of a Strider "race."

Consultants and Town staff engaged with approximately 30 people over the course of the two-hour event. They spoke with parents and families, grandparents, young children, Erie residents, and visitors to Erie.

There were consistent themes heard from event attendees. People are interested in more transit options in Erie, both fixed route transit and an on-demand service. Strider Derby attendees really like the trail network, and many of them bike to school, the park, and for recreation. However, there are additional destinations they would like to go to that are not accessible by trail. They also feel like crossings and on-street bike facilities are uncomfortable.

Event attendees were asked to engage with several questions that were designed with the help of input from the PAC, TAC, and leadership group. Some highlights are given below:

What do you love about Erie?

- The trails
- The parks
- The Community Center

How do you like to move around Erie?

- Walking
- Bike, walk, electric bike, run
- Driving
- Car seats on microtransit

What transportation connections are missing?

- Trail between Erie and Boulder

- Need more transit connections with higher frequency
- Need a microtransit shuttle similar to what Broomfield has, with consideration to how to move children (i.e. car seats)
- Widen Arapahoe Avenue to accommodate development
- Wider shoulder on Highway 52
- More lanes on highway 52
- Better and safer crossings near schools
- Better connections without a car to get to library, parks and rec center
- Need more transit
- Wider shoulders for arterials
- Regional transit to Denver

Erie Town Fair Event

Information about Elevate Erie was presented at a booth at the annual Town Fair, held in Old Town Erie on May 13, 2023. Approximately 150 kids, teens, young adults, and older residents stopped by the booth. Similar to the Arbor Day and Strider Bike Derby events, community members were asked what they love about Erie, what their best version of Erie looks like, how they like to get around, and what transportation connections are missing.

What do you love about Erie?

- Small-town feel, community events, and friendly people
- Trails, parks, and recreational amenities
- Old town/downtown area

Describe your best version of Erie.

- More grocery store options
- Expanded recreation center, pool, programming, and sports complex
- Affordable housing
- Vibrant Old Town
- More businesses (small-businesses, restaurants, breweries, and services)
- Entertainment, performance space, and youth hangouts

How do you like to move around Erie?

- Biking, walking, and scootering
- Driving

What transportation connections are missing?

- More bike and trail connections
- More bus and transit options

- Safe walking and biking routes to schools and more drop off points
- Pedestrian crossings could be safer and more visible
- Road maintenance and potholes
- Light rail or trolleys
- E-bike and e-scooters

Community Pop-Up Events

Three pop-up events took place in the first phase of community engagement, in total engaging over 70 community members. These are opportunities for the community to engage in spaces that they may already be in throughout their day. These events provide an opportunity for community members to engage in conversations on topics they are concerned about. Common themes that came from each event are summarized below.

Different pop-ups reached different groups. Missing from most of the pop–ups were teenagers. Present at least one of the pop-ups were people who want to live in Erie, veterans, older residents and seniors, people who want to move out of Erie, new residents and long-term residents, parents, and children.

Fox Dog Coffee - April 7, 8:00-9:30 am

- Interest in alternative transportation like biking, walking, and public transit. Connect trails and improve public transit access
- Appreciation for family-oriented community
- Interest in more community amenities and services that keep up with population growth
- Sustainability should be considered especially as it concerns growth and resource restrictions and sustainable solutions like solar and EV charging

Pop-Up Event at Fox Dog Coffee - April 7

Erie Social Club - April 12, 5:00-6:30 pm

- Interest in slowing growth and growing responsibly
- Maintain the character of Erie
- Adjust and reframe growth so that it can continue to fund important services for the existing and future community
- Encourage grocery and restaurants in town



Pop-Up Event at Erie Social Club - April 12

Erie Community Center - April 20, 8:00-9:30 am

- Less housing in Erie and more commercial space
- More diverse and affordable housing
- More outdoor recreation and amenities (like a pool) in town
- Improve roads, trails, and connections between neighborhoods


Pop-up Event at Erie Community Center - April 20

Bring your child to work day - April 27

- Kids want to see more parks and spaces for sports and organized activities
- Move the landfill

Pop-Up Event: Bring your child to work day - April 27

Summary of Engage Erie's Online Engagement

The community has engaged with the planning process online since March 2023 with two activities; the "Mark the Map" tool and the "Idea Wall." The Engage Erie website is also regularly updated with meeting dates, notes, and agendas and upcoming events and engagement opportunities. Engagement summaries are available to the public online as well including the presentation of results from the Vision & Values Questionnaire.

Mark the Map

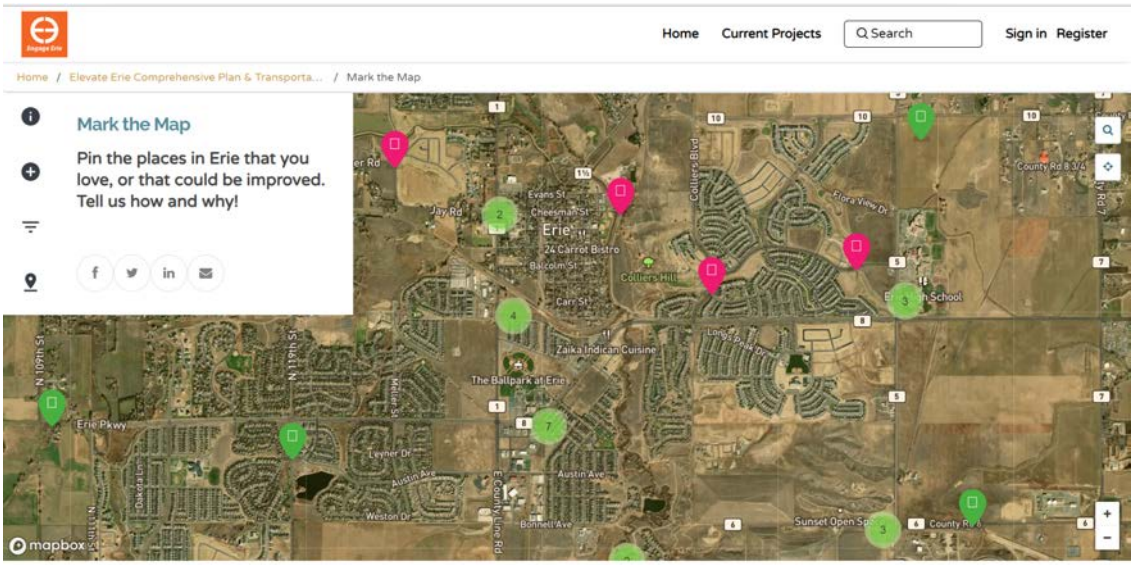
Since April 7th, this tool has allowed community members to place a pin on places in their community that they "Love" or things that "Could be improved." There have been 36 responses placed on the map as of May 24. Eleven of these comments are positive and 25 responses are suggestions of community features that could be improved. This page is still active and available to the community.

The Erie Community Loves:

The airport, Coal Creek Trail, Sunset Singletrack, the Ball Park at Erie, the Erie Community Center, the trail underpass at Colliers Boulevard and Colliers Parkway, pockets of open space, the roundabout on Lombardi Street, and multimodal trails.

The Erie Community Wants to Improve:

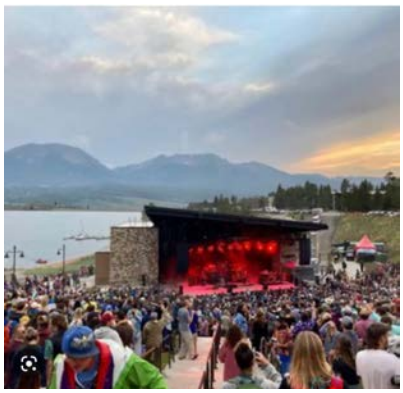
Most areas for improvement have to do with traffic and transportation. Responses note that there could be better access to Coal Creek Trail from Vista Parkway bike lanes and sidewalks. Other suggestions include converting intersections in Town Center to roundabouts, improving and building bike lanes to protect bikers and drivers, and improving safety conditions at specific intersections throughout town. An idea to improve safety included tightening curb radii and eliminating acceleration lanes for right turning vehicles. Community members also expressed disappointment in the changes made to the splash pad at Lehigh Park, and expressed interest in continued maintenance of existing recreation facilities and amenities. Commenters also asked to consider adding trees, increasing safe roadway crossings for trails, and adding wayfinding to the trails and open space network.



Idea Wall

The Idea Wall was made available to the public at the beginning of March. This board is still available on the Engage Erie website and community members are still posting, click here to see the most up to date ideas. As of May 24, 2023, 32 ideas had been posted.

Individuals posted many ideas for community amenities that they would like to see in Erie. Some of these ideas are focused in Town, like convenient stores, restaurants, event venues, recreation facilities (pool), historical museum, grocery stores, and space for local businesses. Another large category of ideas had to do with transportation, particularly regionally and locally connected active transportation, bus and rail transit options, and safety for all forms of transportation. Housing affordability and design standards that help ensure quality buildings also came up on the Idea Wall.



Ideas posted to the Idea Wall by respondents

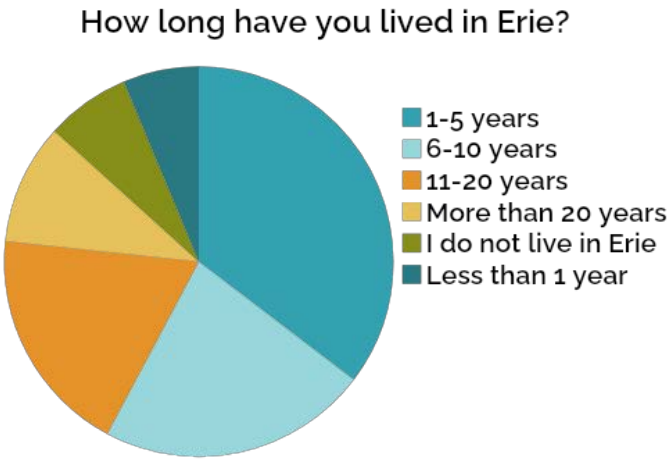
Summary of Envision Erie: Vision and Values Survey

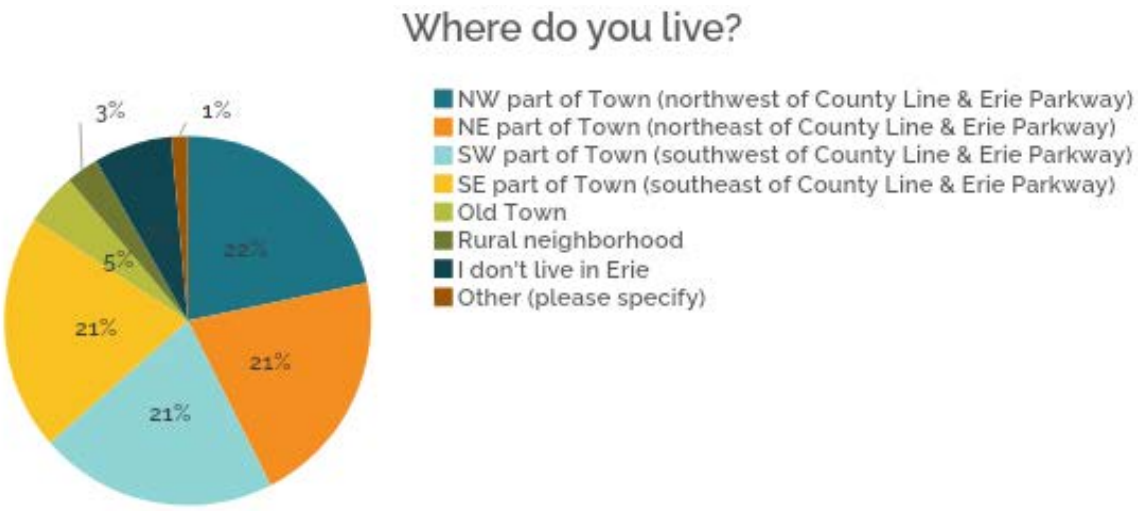
The Vision and Values Survey was available for 6 weeks from December 20, 2022 to February 2, 2023. The questionnaire had 699 responses over the 6-week period. The questionnaire was advertised on the Town of Erie Facebook Page, the Erie Colorado Facebook Group, a Utility Bill article, at TAC, Planning Commission and Board of Trustees meeting, and email newsletters.

Who We Heard From

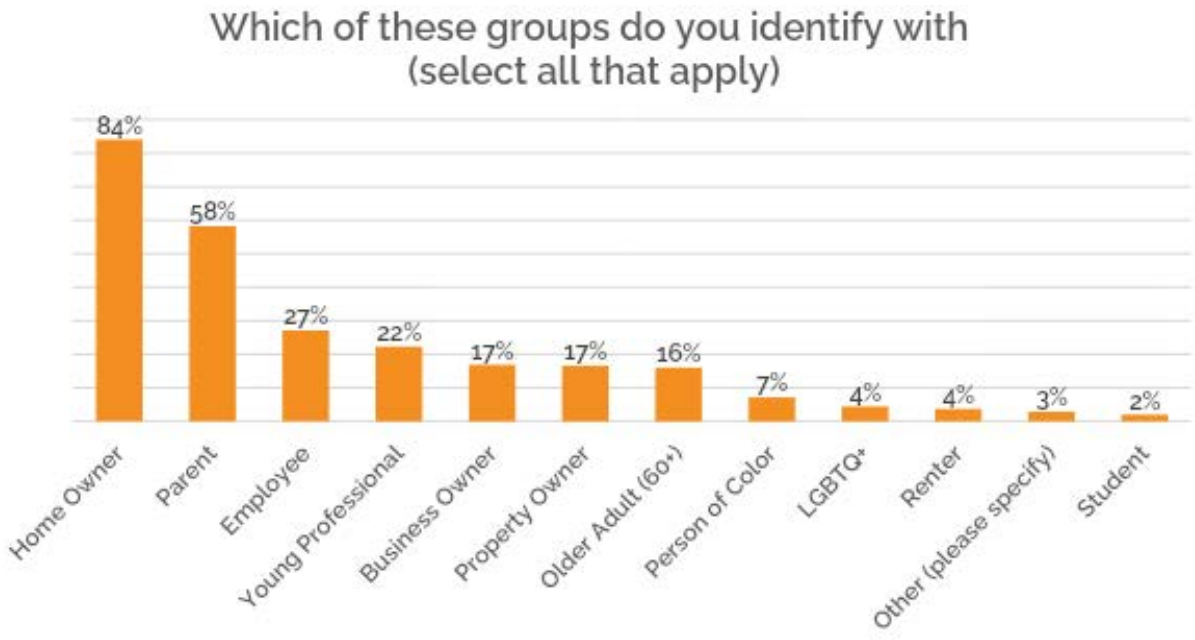
The largest group of respondents have lived in Erie for 1-5 years. In 2016 there were 20,801 households and in 2021 there were 29,367 households which is an increase of nearly 30%.

About 35% of respondents reported that they belong to this recent influx in population.





There were similar proportions of respondents from each of the four quadrants of the Town. A relatively small portion of respondents are from Old Town. Seven percent of respondents do not live in Erie. This was a group that advisory and leadership groups were interested in hearing from to understand the barriers to living or wanting to live in Erie.



Respondents were asked which groups they identify with, as shown in the above graph. These groups are not explicitly defined, and there is the option for respondents to not answer, select multiple groups, or to interpret their group membership in unique ways. It is helpful to compare some of these self-reported groups with the demographic breakdown of the community.

The self-reported data generally aligns with Census Data.

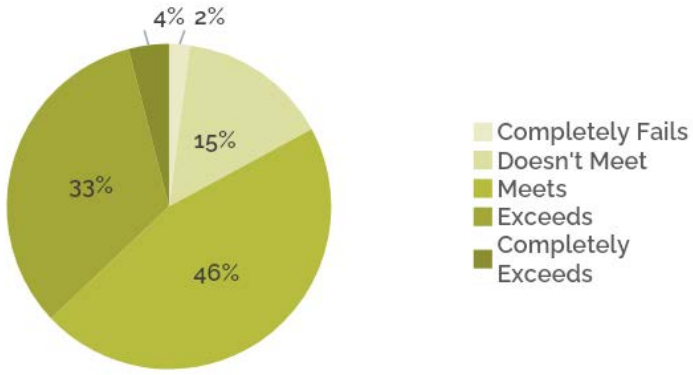
- **90%** of Erie households own their homes
- **10%** of Erie Households rent
- **48.3%** of Erie households have children under the age of 18
- **11.6%** of individuals identify as a race/ethnicity other than white
- **5.5%** of residents are currently enrolled in secondary education
- **14%** of residents are over 60 years of age

US Census Bureau ACS 5-year estimates 2016-2021

What Respondents Had to Say

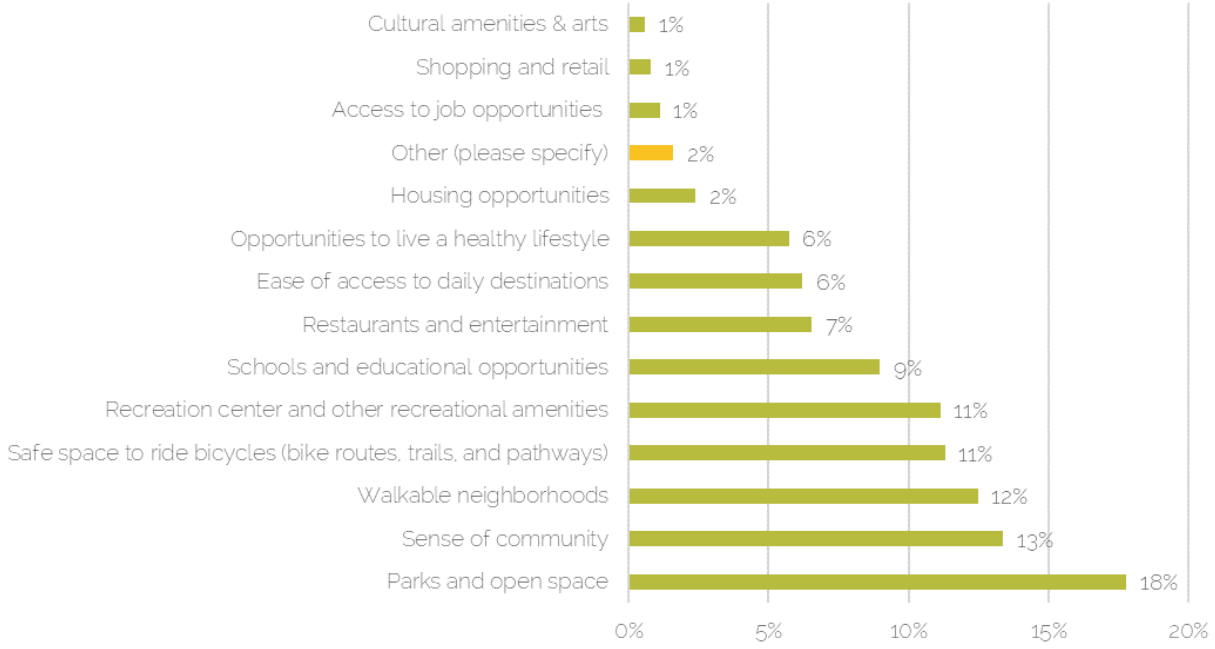
Question 1: How well does Erie meet your expectations of being a great place?

Although few respondents believe that Erie completely exceeds their expectations, many note that the community meets or exceeds their expectations for being a great place. Around **83%** of respondents note that Erie meets or completely exceeds their expectations for being a great place.



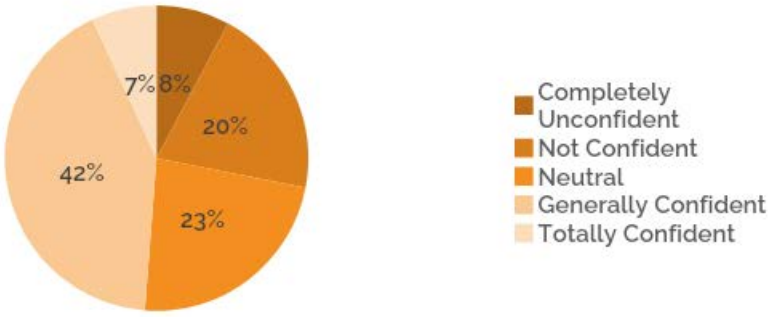
Question 2: What do you like most about Erie?

Respondents were asked to pick up to three elements of what they like most about Erie. Parks and open space, sense of community, and walkable neighborhoods were identified as what they like the most. Respondents that chose "other" noted that the small town feel or character, open space and farmland, mountain views, safety, quiet, and the people were things that they liked most about Erie. Respondents felt least strongly about Erie's cultural amenities and arts, shopping and retail and access to job opportunities. In other questions, and in advisory meetings, the lack of retail, restaurants, and entertainment have been noted.



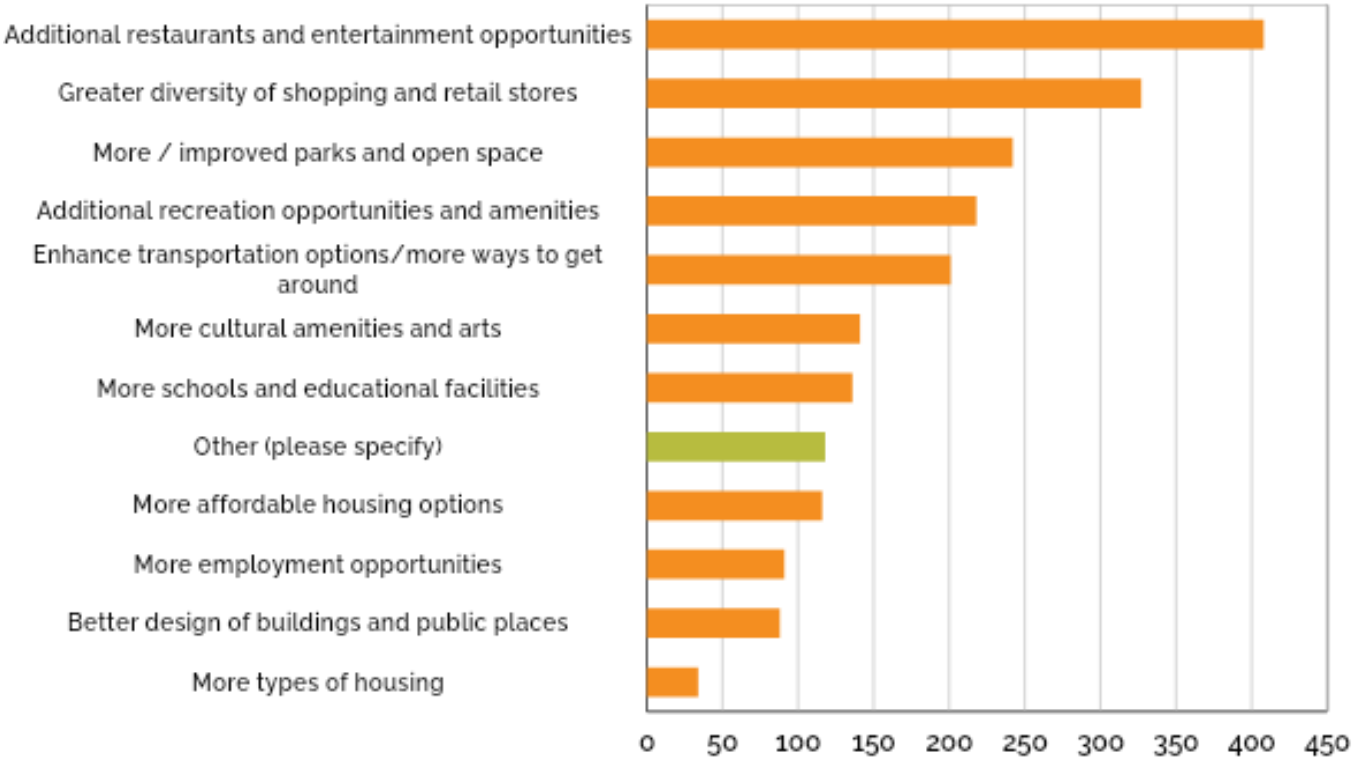
Question 3: How confident are you about Erie's future?

Just under half (49%) of survey respondents are generally confident or totally confident about the future of Erie. Respondents are relatively less confident in the future of Erie than they are in the current status and condition of the community (see Question 1).



Question 4: What are the top three changes would you like to see occur in Erie over the next 20 years?

Respondents were most interested in seeing more restaurants and entertainment opportunities in the future. In other questions this desire is reiterated (See Question 8). There may be a preference for these retail and restaurant options to be located near the center of the community (See Question 7).



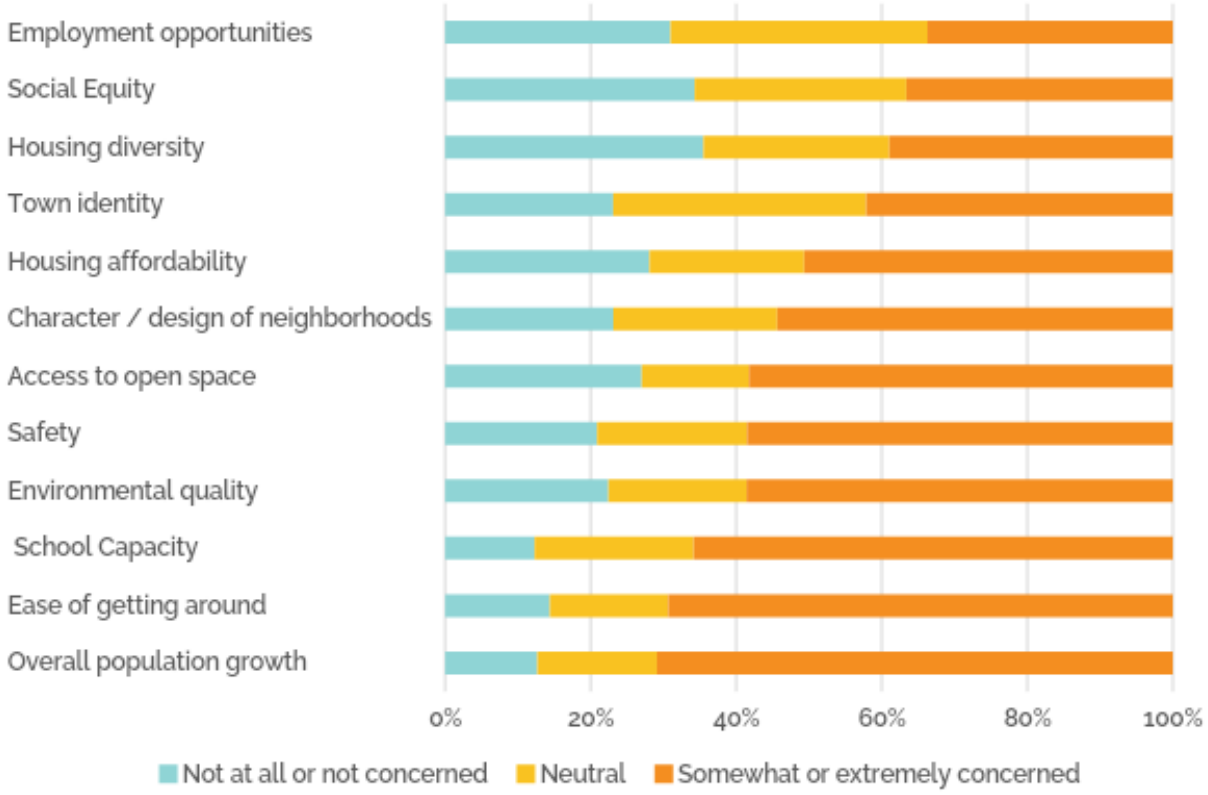
Surprisingly, even though respondents ranked school capacity as one of their greatest concerns in other questions, they are relatively less interested in seeing more schools or educational facilities, ranking this 7th out of 12 options.

Common themes from "other" write in answers:

- Reduce housing development
- Proximity to retail
- Improved infrastructure
- Farmland and open space preservation
- Government
- Regulated development
- Bike and pedestrian facilities
- Control oil and gas
- Employment

Question 5: In thinking about the future growth and change in the Town of Erie, how concerned are you with the following issues?

Respondents are most concerned about overall population growth, the ease of getting around, and school capacity. Respondents are least concerned about employment opportunities, social equity, and housing diversity. It is possible that respondents link housing diversity (and density) and increased employment opportunities with population growth, which is the most prominent concern.



Question 6: What is the single most important change you would like to see around transportation?

The biggest priorities for transportation changes were more/better roads for cars, increased/improved transit options, more/better sidewalks and street crossings, and more/better bike paths and lanes. Because there was a relatively even response across different modes (car, transit, pedestrians, and bikes), these results indicate that a balance of new and improved multimodal facilities would be supported.

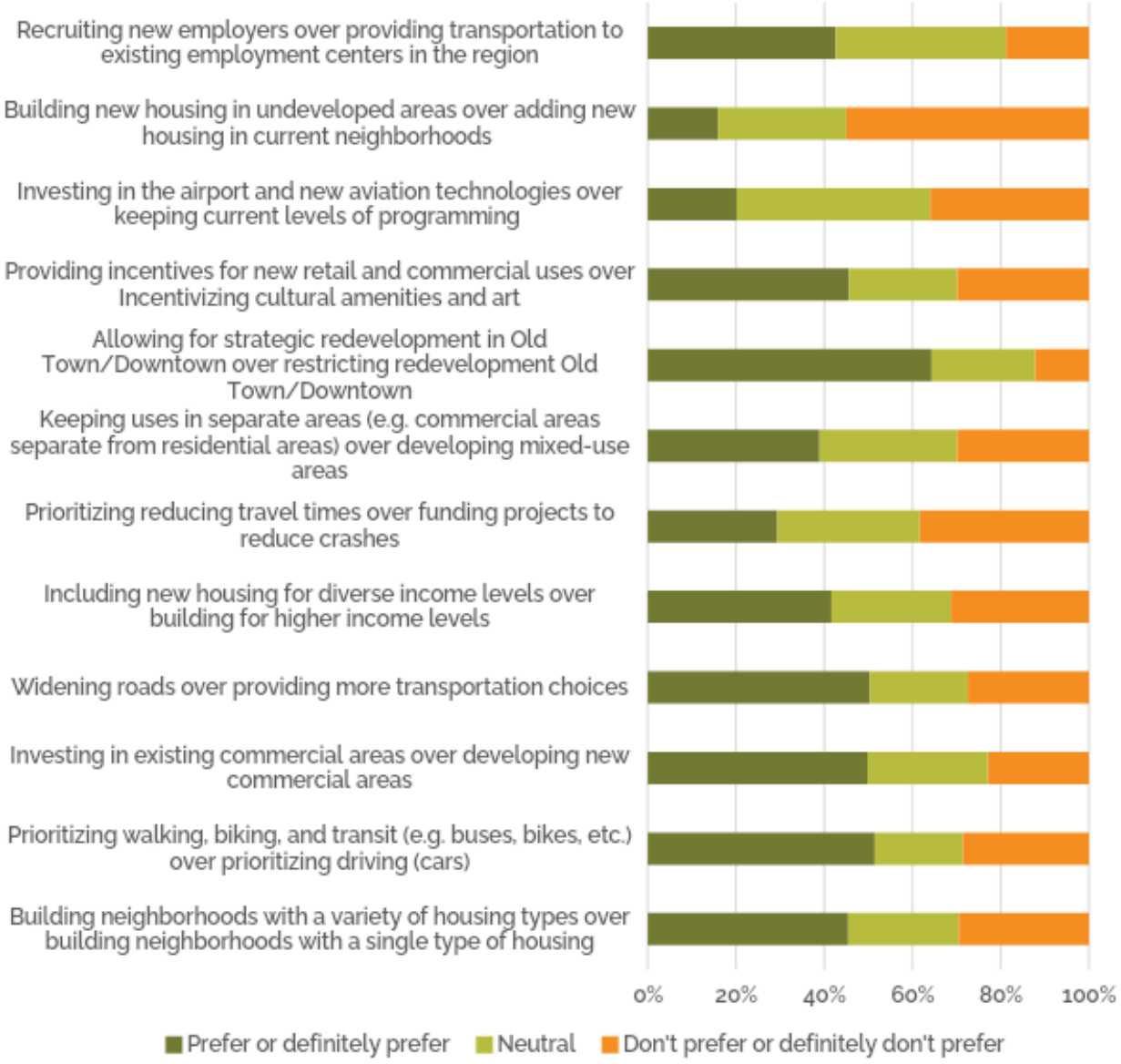
Safer streets and trails were relatively low priorities for respondents, however advisory meetings and open-ended responses in this questionnaire indicate that there is concern for traffic safety, and respondents rank safe street crossings and more sidewalks as a top priority. In open-ended comments and advisory meetings, traffic, traffic safety, and congestion have come up consistently, especially connections to regional corridors. Transit options are the second most selected transportation change and would in the long run reduce traffic.

Common themes from "other" write-in answers:

- Efficient traffic mitigation, including more stop lights and less stop signs
- More/better downtown parking
- Better snow removal
- Wider roads
- Better transit
- Reduced speeds
- Complete Streets

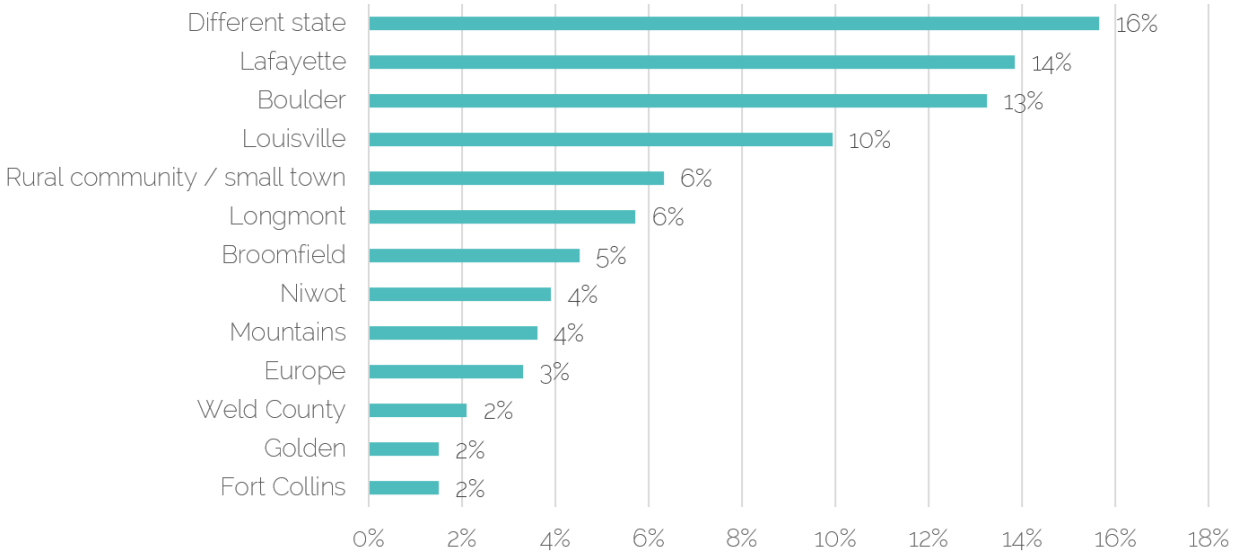
Question 7: We want to better understand what direction the community wants to go in the future and what topics should be a priority. Please provide your preferences between priorities.

Respondents most prefer redevelopment of Old Town over restriction of redevelopment and prefer active and alternative transportation over driving cars. The least popular direction/strategy was building new housing in undeveloped areas over adding new housing in current neighborhoods. This may show that respondents are more interested in protecting open space than maintaining current density. Both housing density and availability of open space are common emerging themes.



Question 8: If you could live in another place besides Erie, where would that be? And why?

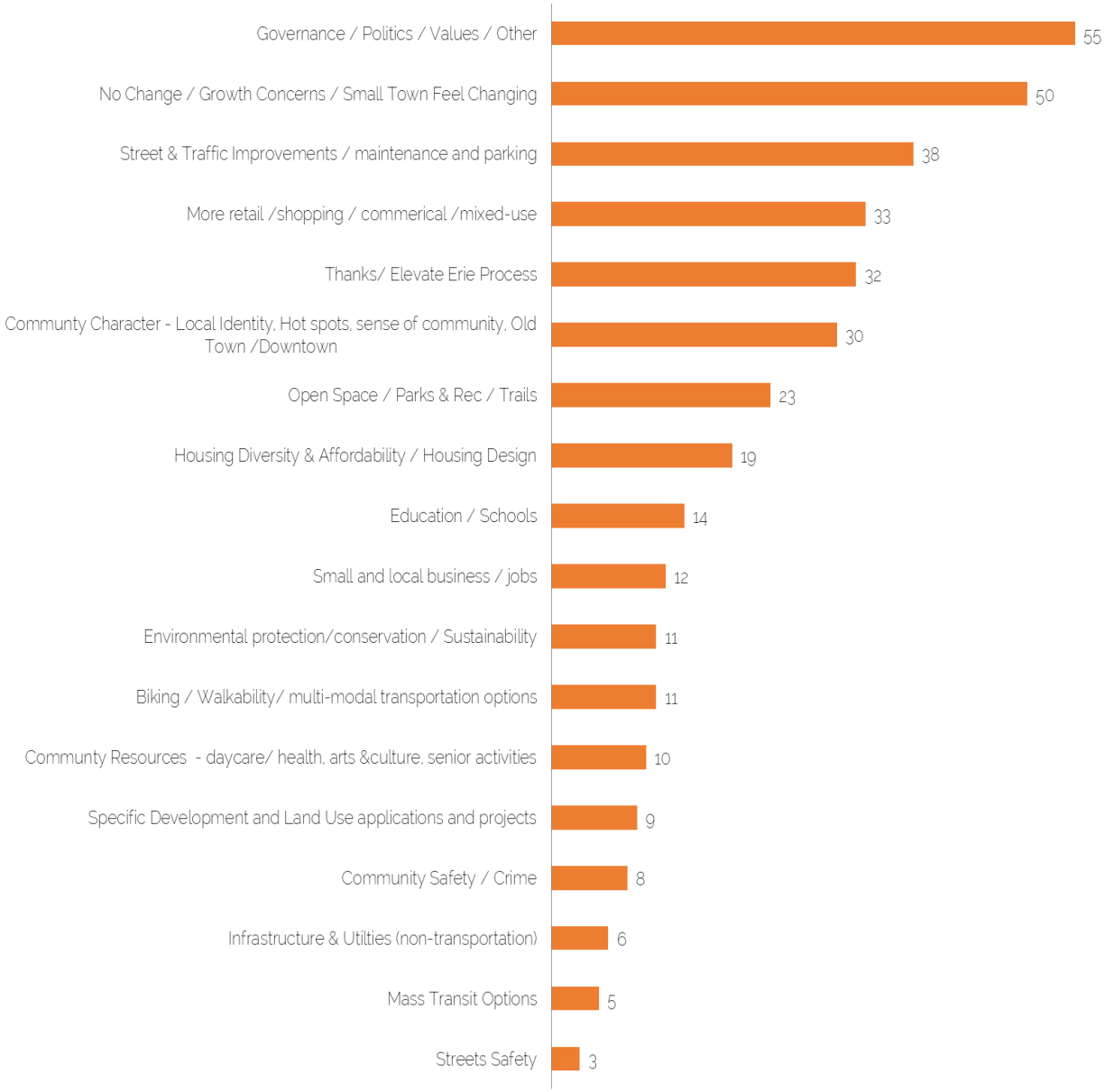
Many respondents explained their preference for other places to live. Many of these explanations included topics like affordability of housing, community character, traffic control and congestion, and available community services and amenities. Below is a sample of different responses linked to some of these topics. These and all responses to this question demonstrate some types of spaces and services that people may be missing in Erie and can help form a clearer picture of vision for the future of the community in a positive aspirational way.



- *"Somewhere with a thriving main street with a variety of shops and entertainment"*
- *"Lafayette, they seem to attract businesses while keeping the small-town feel."*
- *"I currently live in Longmont because it's more affordable than Erie. I work in Erie, but cannot afford to live here."*
- *"Denver. Diverse housing, easy transportation, walking accommodations, retail diversity, art, and culture"*
- *"I would live in Fort Collins because of their strong community, a very convenient bussing system that goes from south Ft. C to north Ft. C, and Old Town is a great place to be, no matter the time of day."*
- *"Louisville. It has a wider variety of restaurants, shopping, public functions (parades, fairs, community events) and businesses have much later open hours than Erie. Their utilities are more affordable. The main streets of Louisville are more community friendly with new business, cultural restaurants, and public event access compared to Briggs street."*
- *"Longmont has a strong regard for its aging population and more diversity in its population"*

Question 9: What else would you like us to know?

The final question allowed respondents to write in their final thoughts. There were 216 unique answers submitted, each of which was sorted into categories and summarized in the graph below. Respondents voiced considerable concern for town governance, representation, transparency, and values. They also expressed concern for growth and resistance to change**.** Unlike responses in Question 5 that showed a keen concern for growth, ease of getting around, school capacity, and environmental quality and open space, the breakdown for this question shows education and environmental protection and conservation as being relatively less significant. Both of these questions reflect the community's concern for growth and traffic improvement as top priorities.



Appendix C: Existing Conditions Report

Elevate Erie: Transportation Mobility Plan Existing Conditions

Prepared for:
Town of Erie

June 5, 2023 (Updated January 2024)

DN22-0747

FEHR PEERS

Table of Contents

Introduction

Erie is a rapidly growing town of about 34,000 people, as of 2022, located in both Boulder and Weld counties. It is bounded by CO-52 to the north, I-25 to the east, CO-7 to the south, and US-287 to the west.

The Elevate Erie project is an overhaul to the Town of Erie's Comprehensive Plan and the Transportation Mobility Plan (TMP). The TMP is a multifaceted effort to update the Town's infrastructure, programs, and policies for people driving, biking, walking, taking transit, and moving goods. It must be underpinned by a thorough understanding of the current transportation network and how it serves Erie and connects to the surrounding region. This existing conditions assessment, as well as the upcoming TMP itself, addresses all modes operating within the community. This existing conditions summary also details all aspects of the transportation network, including recent shifts in traffic volumes, safety concerns, emergency preparedness, environmental impacts of transportation, and financial investments.

This existing conditions document:

- Performs a plan audit of previous local, regional, and national planning documents relevant to the Town of Erie.
- Highlights where Erie's transportation system is today by describing the existing multimodal networks.
- Analyzes existing conditions data and historical trends of the transportation system including crashes, travel time, and budgetary practice.
- Informs key gaps or inefficiencies in the transportation network.

Erie's TMP will build on the existing conditions analysis to offer a complete vision for what mobility and accessibility in the Town will look like in 2050 along with a roadmap for achieving the planned networks. A summary of this document will be a single chapter in the Elevate Erie final document.

Highlights from Erie's Transportation Network

Walk, Bike, and E-Mobility

Erie has more than 40 miles of off-street trails and pathways that connect neighborhoods to parks, open space, shopping, and schools.. The spine trails are a great place to ride bicycles and e-mobility (as allowed under current ordinances), or use them to connect to Louisville, Lafayette, and Broomfield via the Coal Creek and Rock Creek regional trails. Erie's network of on-street bike lanes are a great place to ride e-bikes locally. More than 150 miles of detached sidewalk are a great place to walk pets, stroll with families, and connect to local transit services.

FUN FACT: Erie is home to the Boulder Valley Velodrome—one of only two track cycling arenas in the country that meet Olympic standards.

RTD Transit Service

RTD operates the JUMP bus route from the Erie Community Center, Erie Community Park, and the Erie Community Library to downtown Boulder and Lafayette. There are 15JUMP stops in Erie along Arapahoe Road, Erie Parkway, and 119th Avenue. You can walk or ride to the local stops using the spine trail network or park-n-ride at the Erie Community Center. Taking the JUMP to the Lafayette Station offers connections to regional routes to Longmont, Boulder, and Denver. Transit riders can catch the LD Route at stops along US 287 servicing to Longmont and Broomfield.

FUN FACT: More than 120 years ago Erie was a major transit stop located along a passenger rail line that connected Denver to Wyoming.

Driving in Erie

Erie's main north-south road is County Line Road which serves at the border of Weld and Boulder countiesIt provides access to Broomfield and the Erie Municipal Airport to the south and Longmont to the north. Along the corridor there areschools, shopping centers, and the Erie Community Center. The main east-west road is Erie Parkway. It provides unparalleled views of the foothills to the west and is the Town's primary access point to Interstate 25 to the east. County Line Road and Erie Parkway connect to other regional roads such as Colorado State Highways 7 and 52, US 287 and I-25.

FUN FACT: Erie had dirt roads up until 2000 when the Town completed is paved streets project.

Smart Commute and Commuting Solutions

Smart Commute Metro North and Commuting Solutions are non-profit transportation management organizations that provide transportation support to Erie residents at no charge. Both groups have discount fare programs, trip planning, carpool organization, van pools, guaranteed ride home, and earn-a-bike program to offer alternatives to commuting via automobile to local and regional destinations.

FUN FACT: Erie Residents typically commute 13 miles to reach work and approximately 30% of Erie residents have non-commute days when they work from home.

Senior Transportation and Services for People with Disabilities

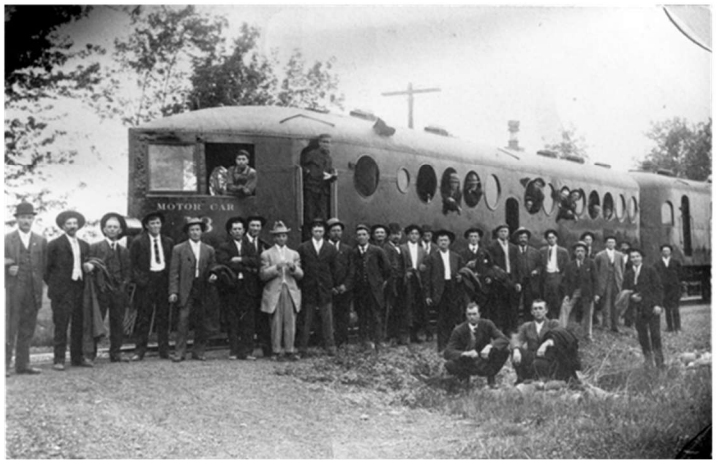
VIA Transportation is a private, nonprofit organization that provide Erie's senior residents and people with disabilities with transportation and mobility options to live a more self-sufficient and independent life. VIA provides reservation-based services in Erie and the surrounding area. RTD provides curbside service to people with disabilities in Erie that need to access the JUMP and other RTD routes. Boulder County's Mobility 4 All Program offers technical support, training, and ride reimbursements for people who are new to Uber and LYFT services.

FUN FACT: The Town of Erie Active Adults program offers more than 70 trips per year with transportation to events, appointments, and other activities.


TOWN OF ERIE


Access-a-Ride


WWW.RTD-DENVER.COM
55
JUMP


MOTOR CAR

Previous Plan Review

There have been several previous plans locally, regionally, and nationally that set the foundation for the upcoming *Elevate Erie Transportation and Mobility Plan (TMP)*. This document summarizes these previously developed planning documents that are relevant to the Town of Erie. These previous plans are also evaluated to understand: the progress of implementing their recommended projects, the key data points used in creating the plans, and the inclusion or identification of best practices.

Summary of Key Takeaways

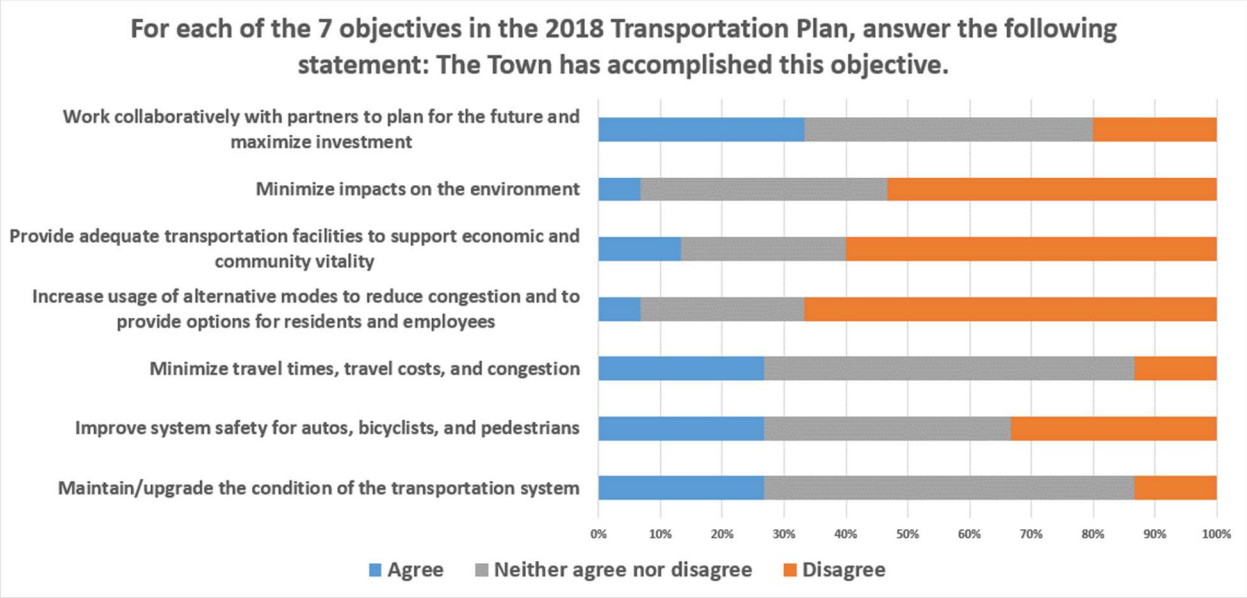
This section identifies the key takeaways of the previous Transportation Master Plan by presenting a summary of the following:

- What goals, actions, and projects of the prior transportation plan have been achieved?
- Which policies, design standards, and budgeting is currently best practice?
- What key data points were considered previously, and which ones should be considered currently?

What Prior TMP Goals, Actions and Projects were Achieved?

Town staff were asked to complete a survey in which they were asked to evaluate the status of achieving the goals and objectives in the 2018 *Erie Transportation Plan*. **Figure 1** summarizes their responses. The objective "Work collaboratively with partners to plan for the future and maximize investment" was ranked as the highest accomplished objective, and the objective "Increase usage of alternative modes to reduce congestion and to provide options for residents and employees" was ranked as the lowest accomplished objective.

Figure 1: Town Staff Perception of Completion of 2018 Erie Transportation Plan Goals and Objectives



Are the Town's Current Policies, Design Standards, and Budgeting "Best Practice"?

Staff shared they would like the following current policies, design standards, and budgeting practices to be assessed as part of the TMP:

Current Policies

- Policies for active and electric mobility.
- Incentives for alternative transportation uses.
- Pedestrian crossing guidelines.
- Vision Zero policies.
- Identification of additional studies (corridor plans).
- Median policies.
- Spine Trail policy.

Design Standards

- Comprehensive standards that emphasize multi-modal rather than single-vehicle travel.
- Traffic calming and speed mitigation strategies.
- Street and trail wayfinding.
- Green infrastructure.
- Streets and signals standards and specifications.
- Bike lane and sidewalk dimensions.
- Bike and pedestrian infrastructure connectivity.
- Safe Routes to School standards.

Budgeting Practices

- Equity-centered budgeting processes that reflect the Town's values.
- Project prioritization and implementation based on 5-, 10-, and 15-year forecasts and cost estimates.
- Establishment of a budget for Spine Trail replacement and maintenance.
- Incorporating CIP projects and other transportation investments into the TMP.

Have the Key Data Points (Traffic, Crashes, Mode Share, etc.) Changed?

The 2024TMP will include performance measures to inform project prioritization and develop a monitoring program for the town to track implementation of recommendations over time. These performance measures will ensure that the plan helps Erie achieve its vision and goals for transportation, which will be documented as a part of the TMP process. It is important that the data used to document the existing conditions and performance measures reflect best practices. This will ensure that the TMP is consistent with adjacent communities and that Erie is competitive in being awarded grants and additional funding.

The following key data points were included in the development of the 2018 *Erie Transportation Plan*:

- Mode split
- Travel patterns
- Roadway conditions and traffic control devices
- Vehicular Crashes
- Traffic volumes and capacity
- Bicycle and pedestrian facilities
- Transit services

Other plans, besides the 2018 *Erie Transportation Plan*, assessed additional unique key data points. These data points from other plans as described in **Table 1**, should be considered for incorporation into the 2023 TMP.

Table 1: Key Data Points in Other Plans

Boulder County Transportation Master Plan (2020)	• Bicycle and pedestrian level of traffic stress • Transit ridership analysis and usage, especially in hard-to-reach communities • Environmental impacts of transportation • Emergency response preparedness

Lafayette Multimodal Transportation Plan (2023)	• Financial data of operations and maintenance of transportation systems • Alternative fuel locations • Multimodal crashes • Multimodal crossings
Transportation Plan (City and County of Broomfield, 2016)	• Demand for short trips • Freight corridors
Mobility Choice Blueprint (RTD, 2019)	• Economic and social impacts of more efficient travel, crash reduction, congestion reduction, and pollution reduction
Regional Complete Street Toolkit (DRCOG, 2021)	N/A
NACTO Urban Street Design Guide (2013)	• Innovative street and intersection classification • Speed control elements • Environmentally focused infrastructure • Crosswalk design, including visibility and wayfinding/communication
Planning Urban Roadway Systems (ITE, 2011)	• Operational costs and funding of each transportation mode • Levels of service of each transportation mode
Erie Parkway Corridor Study	• How does this study inform recommendations on Erie Parkway?
Erie Median Policy	• Should this policy be changes? • What are the implications to roadway design, cost, and safety?
CO 7 Bikeway Design and BRT	• What are the recommendations for the segment that is within Erie? • How can Erie facilitate first and final mile connections?

Plan Comparison

Reviewing previous plans helps ensure the 2024 TMP is consistent with other regional planning efforts, incorporates national best practice, and builds off previous work completed in Erie. **Table 2** displays each plan reviewed, and whether it is a document describing a best practice, regional guidance, and/or a previous plan relating to Erie.

Table 2: Previous Plan Categorization

Plan	National Best Practice	Regional Guidance	Erie-Related Previous Plan
Erie Transportation Plan (2018)			X
Boulder County Transportation Master Plan (2020)		X	X
Lafayette Multimodal Transportation Plan (2023)		X	X
Transportation Plan (City and County of Broomfield, 2016)		X	X
Mobility Choice Blueprint (RTD, 2019)		X	
Regional Complete Street Toolkit (DRCOG, 2021)	X	X	
NACTO Urban Street Design Guide (2013)	X		
Planning Urban Roadway Systems (ITE, 2011)	X		

Erie Transportation Plan (2018)

The *Erie Transportation Plan* is a guide for strategic planning of all transportation modes as Erie grows. The plan builds on the Town's transportation vision to reduce neighborhood isolation through increased connectivity and the accommodation of various modes to provide access to all destinations. The plan analyzes future conditions of the transportation network and makes recommendations to improve travel for people using all modes.

Relevance to Elevate Erie

The 2018 plan will serve as a building block for the updated TMP. Primarily, it is important to track the status of completion of the projects recommended in this plan, and elevate and update projects that have not yet been implemented. Erie has grown significantly over the last five years, and the TMP should accurately reflect the values and priorities of the community. Transportation technology and best practice have also evolved, which should be encompassed in this planning effort.

Boulder County Transportation Master Plan (2020)

The *Boulder County Transportation Master Plan* builds off Boulder County's 2012 *Transportation Master Plan*, accounting for completed projects, technological improvements, and community changes that have impacted transportation challenges and opportunities. The plan's goals include system management, environmental impacts, multimodal safety, financial health, equity, and community character.

Relevance to Elevate Erie

The following plan recommendations impacting Erie are included in the *Boulder County Transportation Master Plan*:

- Intersection project at Highway 287 and Isabelle Road
- Bus rapid transit along Highway 287
- East-West regional trail south of Jasper Road
- Transit facility and service improvements along Highway 287

With Erie partially within Boulder County, it is important to align the County's transportation visions and projects with those of the Town. From an implementation perspective, it is important to know who is responsible for funding and completing improvement projects; multiple organizations can simultaneously track and hold each other accountable for completing the planned projects.

Lafayette Multimodal Transportation Plan (2023)

The *Lafayette Multimodal Transportation Plan* helps envision a multimodal network that provides connections to local and regional destinations while considering the surrounding environment. Upon development of this memo, the plan was still in development, set for finalization in early 2023. The plan focuses on factors of collaboration, connectivity, efficiency, the environment, equity, the state of good repair, and safety.

Relevance to Elevate Erie

The innovative, multimodal approaches in the City of Lafayette help set an example of the types of projects the Town of Erie can adopt into its TMP. It is important to understand what neighboring

municipalities are planning so that Erie not only has examples of multimodal approaches but creates consistency in standards and facilities for anyone traveling between jurisdictions.

Transportation Plan (City and County of Broomfield, 2016)

The 2016 *Transportation Plan* for the City and County of Broomfield envisions a connected and maintained multimodal transportation system that accommodates goods and people, while considering the surrounding environment. The plan focuses on the capacity of moving people and goods, alternative modes, a connected transportation system, livable streets, regional transportation planning, land use factors, and sustainability.

Relevance to Elevate Erie

Like Lafayette, the City and County of Broomfield is adjacent to Erie, which means that continuity of transportation projects are important to consider in ensuring a consistent travel experience. The following plan recommendations impacting Erie are included in the *Transportation Plan*:

- Multiple major and minor arterials
- Connections to a future shared-use mobility area (in coordination with Easy Ride and Seniors Resource Center)
- A multi-use path on the southwestern side of the city, and multiple 8-foot detached sidewalks in the vicinity of Sheridan Parkway and CO 7

Mobility Choice Blueprint (RTD, 2019)

The *Mobility Choice Blueprint* from the Regional Transportation District (RTD) envisions the use of technology and services to maximize safety and access to mobility for the sake of an increased and maintained quality of life for all people in the Denver metropolitan region. The document's objectives include regional collaboration, system optimization, shared mobility, data security/sharing, mobility electrification, driverless vehicle preparation, and new transportation funding.

Relevance to Elevate Erie

Although RTD service is limited in Erie, to be competitive with the region in providing reliable transit services, Erie can align its visions with those of the *Mobility Choice Blueprint*. Many of RTD's objectives can be applied as best practice to provide more mobility choices and regional connections to and from Erie.

Regional Complete Street Toolkit (DRCOG, 2021)

The *Regional Complete Streets Toolkit* from the Denver Regional Council of Governments (DRCOG) is a guide for planning, designing, and implementing complete streets in the Denver metropolitan region. Complete streets allow people to use all modes of transportation on all streets with the same level of

safety, access, and comfort as vehicles. The toolkit includes regional approaches, street typologies, design elements, implementation guidance, and the role of local jurisdictions, DRCOG, and CDOT.

Relevance to Elevate Erie

Erie, just like other Denver region municipalities, has streets of varying classification. DRCOG's toolkit can help accommodate different modes of transportation in a more complete and effective manner based on street classification. To be regionally competitive and consistent, DRCOG's toolkit should be applied to Erie's multimodal network. DRCOG also provides a multitude of funding opportunities, so aligning Erie's projects with the recommendations that are supported by DRCOG can position Erie well to receive regional funds.

NACTO Urban Street Design Guide (2013)

The *Urban Street Design Guide* from the National Association of City Transportation Officials (NACTO) describes the principles and practices of redesigning and reinvesting in streets to provide public spaces, while improving traffic flow. The guide consists of street classification, street design elements, interim design standards, intersections, intersection design elements, and design controls. All aspects of the guide support innovative solutions to invigorating the street network.

Relevance to Elevate Erie

As Erie designs and invests in its street network, best practices like this NACTO guide can help plan a multimodal network that is safe and convenient for all ages and abilities. The NACTO guide can help balance the growth that Erie is experiencing with providing spaces that are uniquely catered and enhanced for Erie.

Planning Urban Roadway Systems (ITE, 2011)

The *Planning Urban Roadway Systems* report completed by the Institute of Transportation Engineers (ITE) guides transportation professionals in understanding the principles of roadway system planning, roadway system characteristics, and the roadway system planning process. The report includes applications of the layered networks methodology in planning new urban roadway networks and modifying existing roadways systems. Layered networks ensure that roadways can be accommodating to the different needs of their users, ranging from freight vehicles to pedestrians. The approach emphasizes the need for prioritization of certain modes over others on given roadways to ensure the effectiveness of each roadway toward its user; this involves creating roadways which encourage bicycle, pedestrian, and transit use, while creating other roadways which encourage the movement of vehicles and goods at higher speeds.

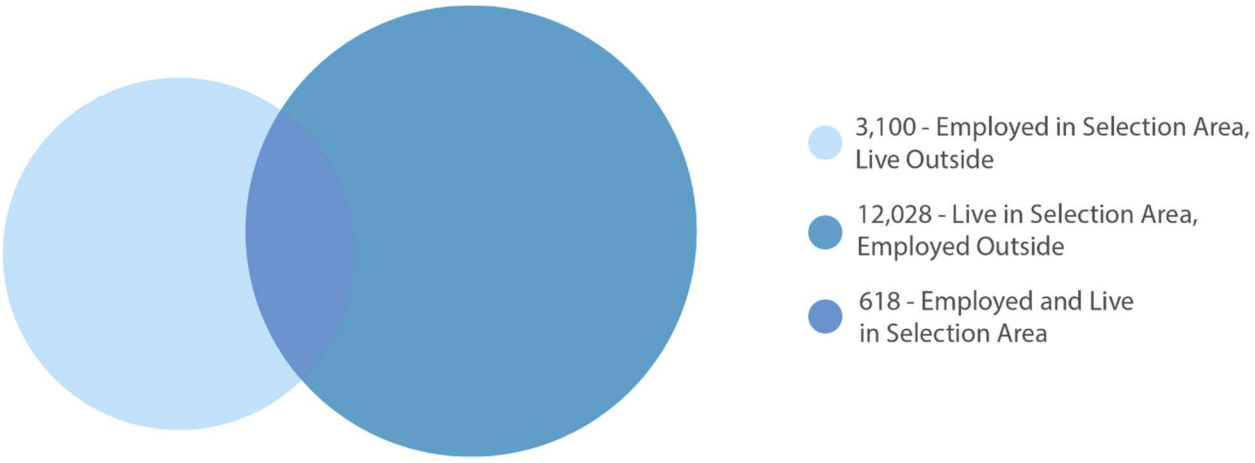
Relevance to Elevate Erie

Especially as it relates to the layered networks methodology, this report can help guide the plan in ensuring a balanced and equitable approach to developing a connected multimodal transportation network in Erie. Erie is a municipality with a mix of local and regional movement, which relies on a variety of streets that allow for the movement of all modes within and through Erie.

Travel Patterns

In 2019, only 4% of Erie residents and employees both lived and worked in town, meaning 96% of Erie's workforce and residents commuted in and out of town, as shown in **Figure 2.** Most of these commutes take place during the peak periods (7-9 a.m. and 4-6 p.m.). With four times as many residents as employees, most commuters are leaving Erie in the morning and returning in the afternoon. This commute pattern puts pressure on Erie's arterial network. Understanding these travel patterns provides a great opportunity to inform the Comprehensive Plan and TMP to balance the jobs-housing ratio and invest in regional connections.

Figure 2: Commute Flows



Source: U.S Census LEHD, 2019

Smart Commute Metro North is the transportation management organization serving northern Colorado. The organization annually surveys residents across the north area of the Denver metropolitan area on their commute patterns. The organization also focuses on connecting with and educating different municipalities on how to interpret the results and apply them to actionable recommendations. The takeaways from the 2022 survey are described in **Table 3**.

Table 3: Smart Commute Metro North Survey Highlights

Mode	North Denver Metro Area	Town of Erie
Single-Occupancy Vehicle Commuters (Considering days off)	54.2%	54.3%

Transit Commuters	0.9%	0.3%
Bike Commuters	1.5%	1.9%
Average Commute Distance	12.4 miles	13.4 miles
Average Commute Distance using Transit	15 miles	30 miles
Percent of people who do not know who to ask about different commuting options	64%	64%
Percent of people who are responsible for a child during their commute	27%	33%

Source: 2022 Smart Commute Metro North Commuter Survey

Erie is similar to the rest of the region in its commute patterns. When measuring mode split, Smart Commute calculates the contribution of people's off days to represent an average day more accurately. This means that although almost 80% of commuters use a single-occupancy vehicle as their commute mode, only about 54% of commuters use a single-occupancy vehicle on any given day due to the consideration for a day off. In other words, because people work varying schedules with differing days off, a more accurate percentage of people commuting in single-occupancy vehicles is closer to 54% on any given day.

The most striking differences between the north area region and Erie relate to transit use and top-ranked improvement needs. On average, commuters in the Denver north metro area commute for 12.4 miles, and those commuting using transit commute 15 miles on average. For Erie residents, however, the average commuting distance is 13.4 miles, and those commuting using transit commute 30 miles on average. This is double the regional average for transit commuting, which indicates that transit is used primarily by people traveling to Denver. Erie transit mode share is less than half of regional transit mode share, but bike mode share is almost double in Erie than regionally.

There are also slightly different priorities when it comes to the improvements that the entire Denver north metro area would like to see compared to those residing in Erie. Like the region, Erie residents desire improvements to bicycle and pedestrian facilities that would allow them to better connect and interact with the built environment. The top-ranked needed improvement in Erie that stands out from the regional priorities is transit service improvements near homes and destinations. There were also more comments regarding equity than regionally, with Erie residents expressing concerns with not having a bike to use on the bicycle facilities nor having sufficient access to transit. These expressed priorities, paired with the average commuting distance, suggest that local transit improvements will significantly improve the multimodal options commuters have.

Additionally, Smart Commute reports that as of Fall 2022, 22% of Erie residents work and live within the Town, an 18% increase from 2019. While this survey data might not capture the entire population's commuting patterns, it does highlight the trend of an increasing number of residents living and working within the Town as compared to previous years. This change points to a potential need for increased local transportation and active-mode connectivity.

For the Town of Erie, Smart Commute Metro North recommends exploring the following next steps in 2023:

- Being a regional TDM leader by investing resources in implementing strategic TDM programming and policies that maintain high quality of life while planning for community growth.
- Support the inclusion of TDM into new planning documents in an expressed effort that also supports policies which promote non-driving modes, mobility, multimodal options, and access.

Bicycle and Pedestrian Network

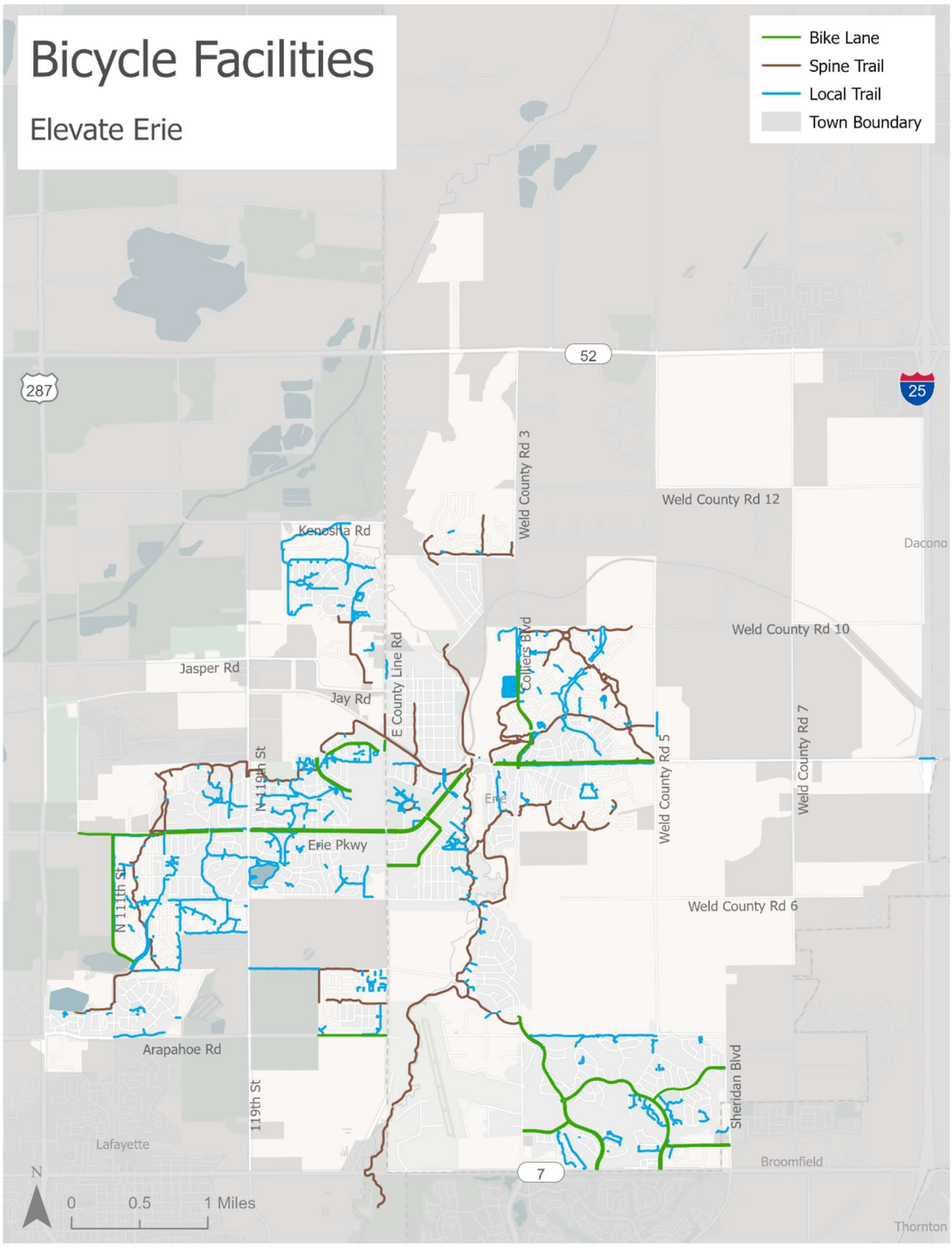
Bicycle and Pedestrian Facilities

Erie's bicycle facilities include bike lanes, local trails, and spine trails and are illustrated in **Figure 3**. Bike lanes in Erie are limited mainly to Erie Parkway, 111th Street, and Vista Parkway, portions of Weld County Road 5, and along collectors in residential streets. These bike lanes are often three feet wide with only paint separating bicyclists from vehicles. The desirable bike lane width according to National Association of City Transportation Officials (NACTO) is six feet.

Erie has a total of 70 miles of trails maintained by the Town, including spine trails, local trails, and primitive trails. Spine trails account for 15.7 miles of the total trails. They are defined as trails which "consist of a wide concrete trail with an attached crusher fines trail, and whenever possible, are the primary off-road connection between neighborhoods and major activities centers and regional trails." Geographically, the spine trails make East-West and North-South connections throughout Erie in conjunction with existing bike lanes. The local trails, which account for 23.17 miles of trails, act as secondary connections between neighborhoods and other bicycle facilities. Primitive trails (0.4 miles of the total trail network) are not depicted on the map.

Although this bike network serves as a connected off-street trail network, it is missing connections to key destinations. There are also missing links in the trail network, such as the crossing of arterials, that leaves users traveling on high stress streets. There are also limited bicycle facilities connecting to and through Downtown Erie.

Figure 3: Bicycle Facilities



Source: Town of Erie

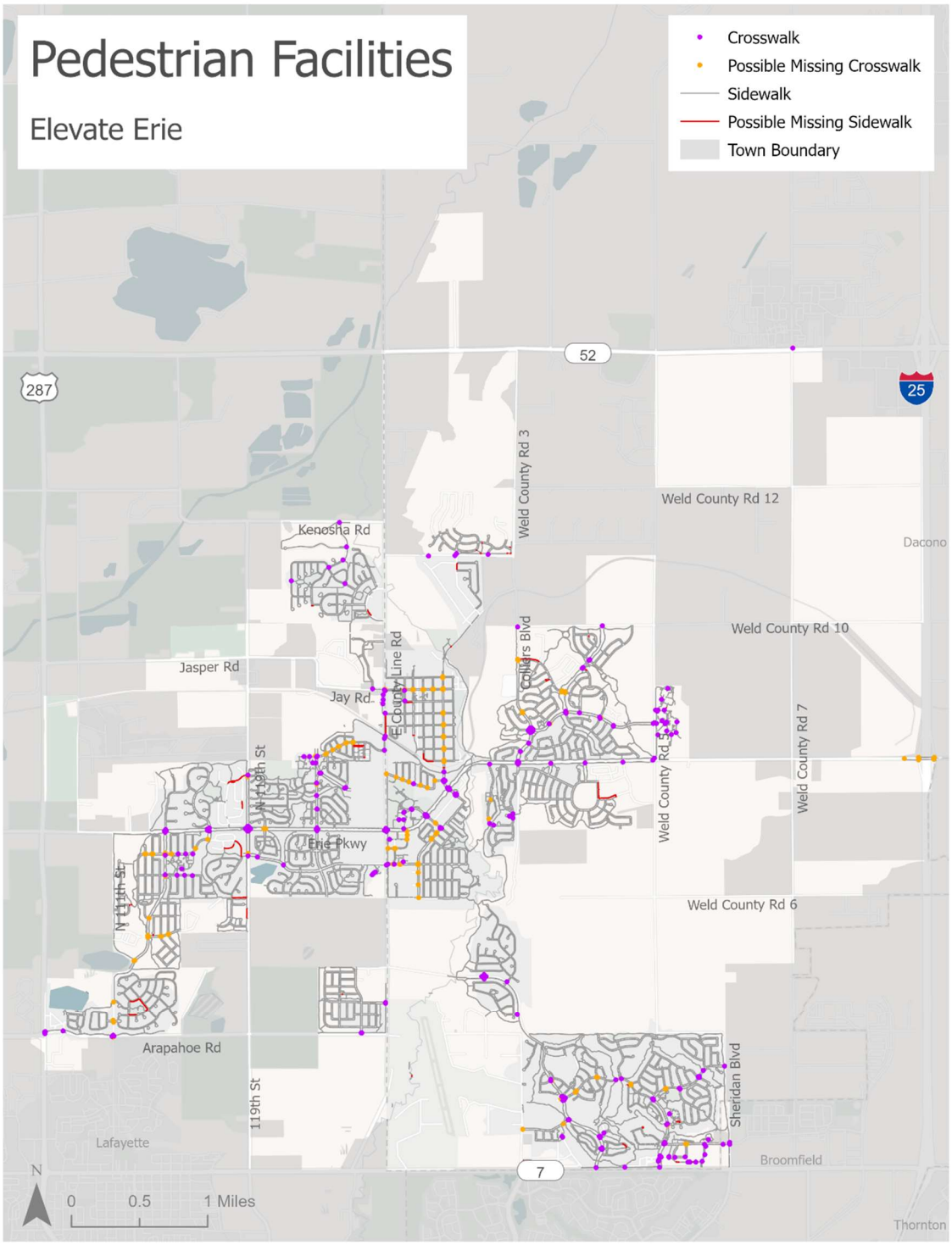
Erie's pedestrian facilities include crosswalks and sidewalks. **Figure 5** depicts these facilities, along with locations where crosswalks and sidewalks are missing. Notably, there are many missing crosswalks in Downtown Erie, specifically along Briggs Street and Cheesman Street. Even where crosswalks are present at signalized intersections, long distances between controlled intersections and pedestrian crossings may create a barrier for people to move about and require out-of-direction travel for people to comfortably cross the street.

Just like with the lack of bicycle facilities, this lack of pedestrian facilities on main Downtown Erie streets limits residents and visitors from comfortably moving about within Downtown Erie.. The data on missing sidewalks is not comprehensive, but based on the available data, most missing sidewalks are within residential areas. There is no data available on sidewalk quality and width, but sidewalks in Erie may be uncomfortable for people to move about or not accessible for people in a wheelchair due to cracks, narrow width, obstructions, or missing/deficient curb ramps. The trail network shown in **Figure 3** can also be used by people to move about.

Sidewalks can either be attached, with no buffer between the sidewalk and roadway, or detached (with a buffer between the sidewalk and roadway), as shown in **Figure 4.** Although data is not available for attached versus detached sidewalks, most of the sidewalks along arterials and in newer neighborhoods are detached. This buffer creates an opportunity for landscaping and creates space between people who move about and moving traffic, allowing for a more comfortable experience.

Figure 4: Sidewalk Types

Figure 5: Pedestrian Facilities



Source: Town of Erie

Level of Traffic Stress (LTS)

The Level of Traffic Stress (LTS) methodology (Mekuria, Furth, Nixon, 2012) was applied to determine the current level of comfort for people biking and moving about based on existing bicycle and pedestrian facilities and adjacent street characteristics (speed, number of travel lanes, and vehicle volume). Scoring is from LTS 1 to LTS 4, with LTS 1 being comfortable, "low-stress" bicycle/pedestrian environments for those ages 8 to 80, and LTS 4 being places where biking or moving about is very uncomfortable or even impossible, with limited or no accommodations for those moving about or bicyclists. LTS 1 and 2 are considered low-stress facilities, while LTS 3 and 4 are considered high-stress; therefore, only bike/pedestrian facilities that qualify as LTS 1 or 2 were recommended as a part of the bike network. **Figure 6** and **Figure 7** display the breakdown of bicycle rider and pedestrian types by LTS.

Mekuria, Furth, and Nixon's development of the original Level of Traffic Stress (2012) provided a framework that was adapted for Erie. Guidance from the National Association City of Transportation Officials (NACTO) and American Association of State Highway and Transportation Officials (AASHTO) was also used to determine LTS score based on street characteristics.

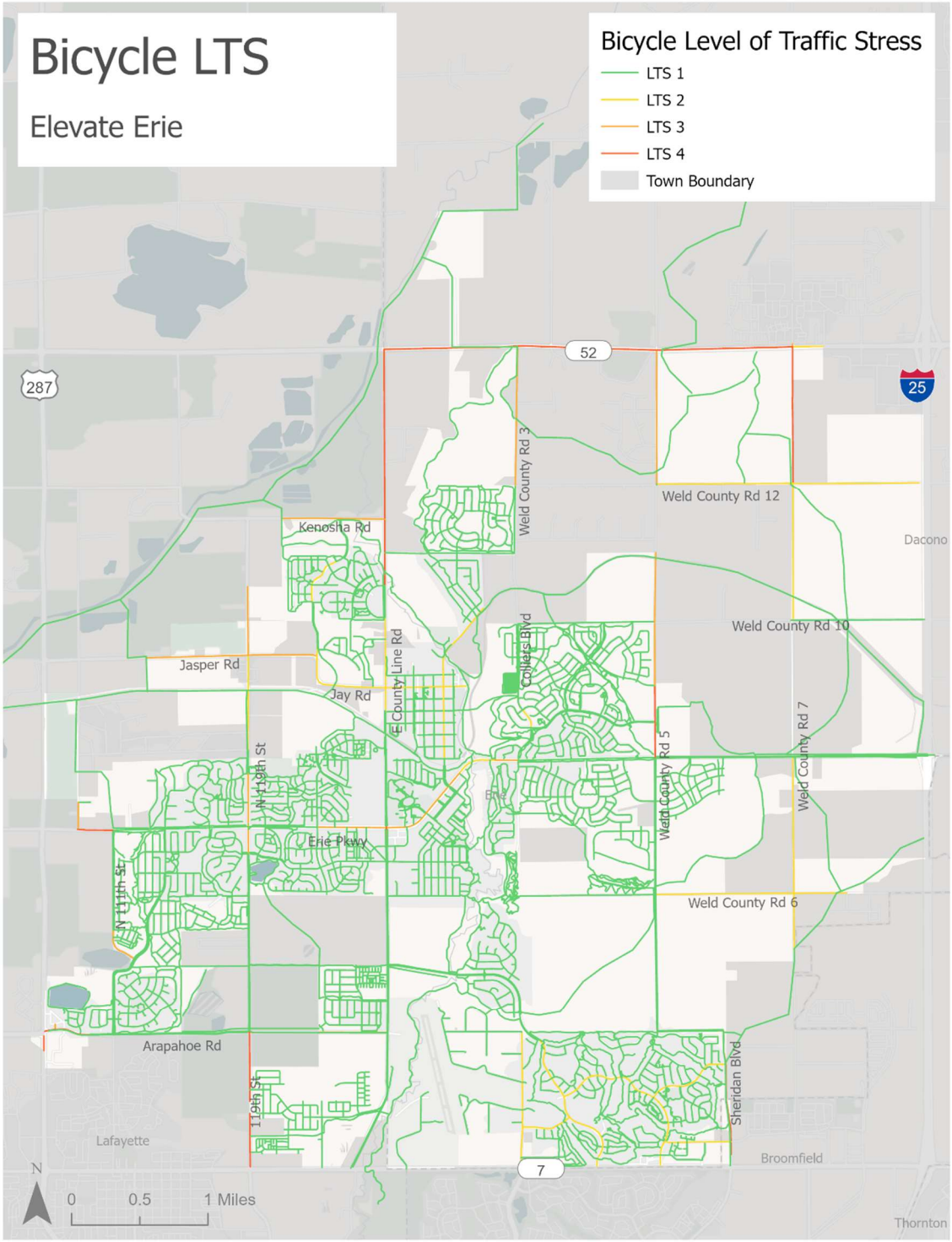
Figure 6: Bicycle Level of Traffic Stress Scoring

Figure 7: Pedestrian Level of Traffic Stress Scoring

Figure 8 shows the bicycle LTS of all streets in Erie. Due to the low volumes and speeds of local roadways, all local roadways are an LTS 1, regardless of the presence of a designated bicycle facility. This means that it is comfortable for most people biking on these roadways to share the road with vehicles. Only a few segments of select arterials are high LTS (3 or 4) due to the lack of bicycle facilities and high speed and volumes. **Figure 9** shows the pedestrian LTS of all streets in Erie. Although there are missing sidewalks in many of the neighborhoods, these streets scored an LTS 2 due to their low speeds and volumes. A number of arterials scored an LTS 4 due to their high speed, high volumes, and missing sidewalks.

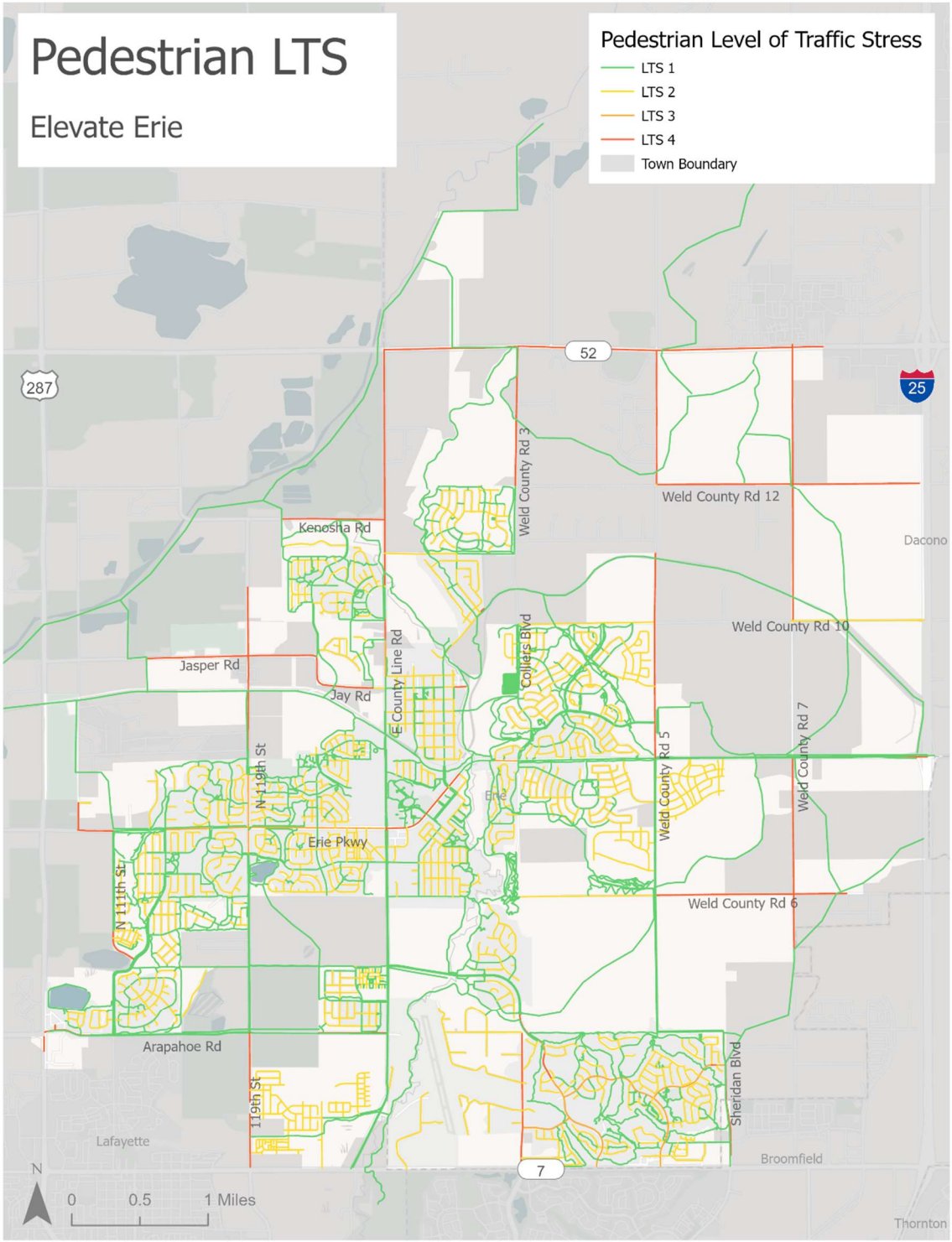
It will be important for the TMP to identify and prioritize bicycle and pedestrian facilities on streets that scored an LTS 3 or 4.

Figure 8: Bicycle Level of Traffic Stress in Erie



Source: Fehr & Peers

Figure 9: Pedestrian Level of Traffic Stress in Erie



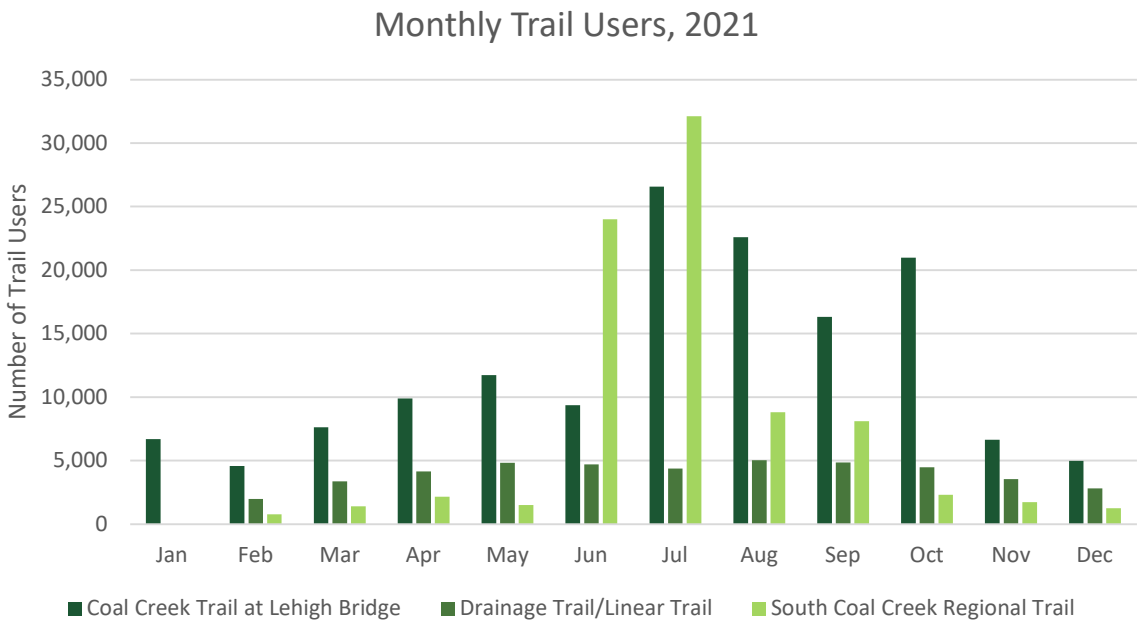
Source: Fehr & Peers

Bicycle and Pedestrian Counts

Trail Counts

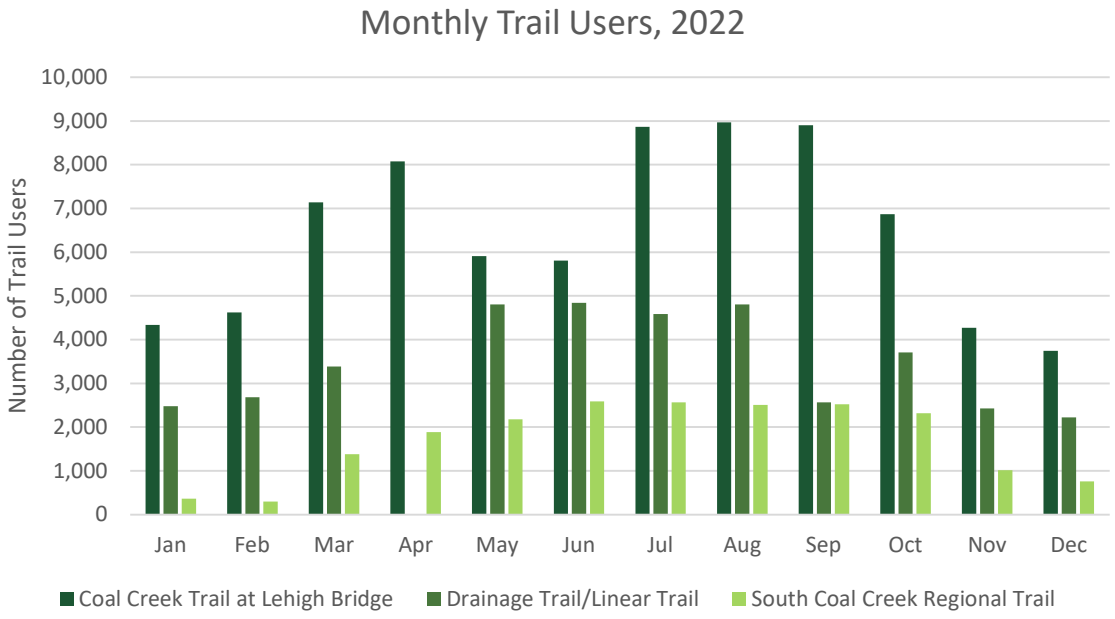
The Town of Erie collects counts of people biking and people moving about (combined) at three main trail locations—Coal Creek Trail at Lehigh Bridge, South Coal Creek Regional Trail, and Drainage Trail/Linear Trail. Data is depicted for 2021 and 2022 in **Figure 10** and **Figure 11** respectively. The Coal Creek Trail at Lehigh Bridge both in 2021 and 2022 had the most average daily bicycle and pedestrian traffic. Notably, 2021 had significantly higher volumes than in 2022. 2021 had more seasonal variation, with the summer months being busier than other months. In 2022, however, trail use was more consistent throughout the year. To continue growth of trail usage, it is important to ensure trails are maintained year-round, so people can use the trail for recreation and transportation. Having the trails be an accessible amenity across Erie allows residents and visitors to choose non-vehicular mobility options to navigate the Town.

Figure 10: Monthly Trail Users, 2021



Source: Town of Erie

Figure 11: Monthly Trail Users, 2022



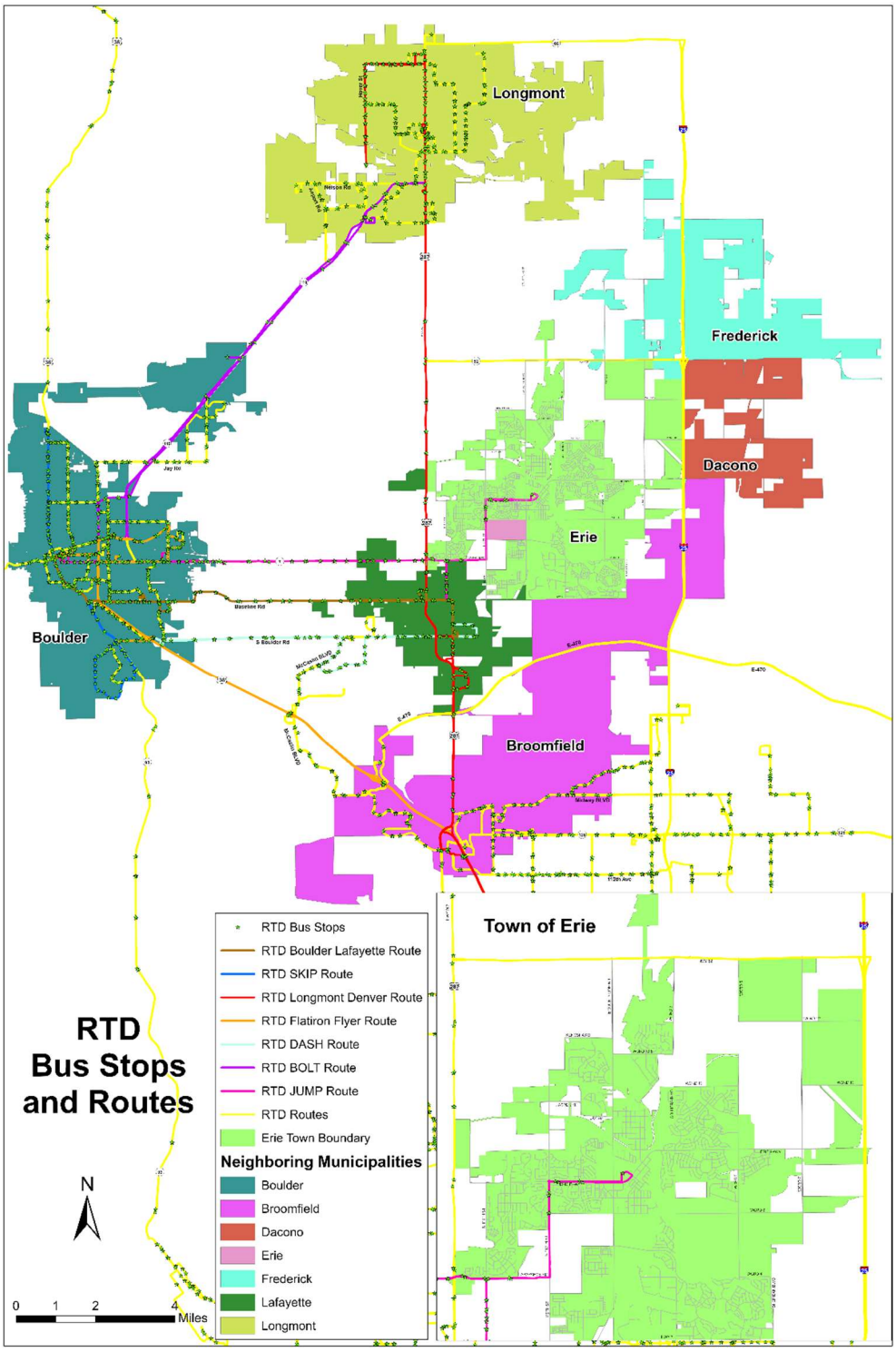
Source: Town of Erie

Transit Network

Existing Transit Services

The current transit system includes both traditional fixed-route public transit and human services transit. Operators in Erie include Regional Transportation District (RTD), Via Mobility Services, and the Town of Erie Day Trip Bus. RTD's only fixed route service that operates in Erie is the JUMP route—traveling to Erie Community Center, Erie Community Park, and the Erie Community Library. The JUMP links Erie to Lafayette and downtown Boulder via Arapahoe Road, with opportunities to access additional bus service connecting throughout the region. The JUMP has 30-minute headways in the peak period, hour headways in the off-peak periods, and no midday service. The Longmont to Denver Route (LD1) travels 14 times a day along US-287—the western edge of Erie. A map of the RTD stops and routes is depicted in **Figure 12**. The JUMP route has the highest ridership among all transit services in Erie; it completed 79,000 annual trips in 2022. There were an additional 6,000 transit trips taken annually on the remaining three main services combined—RTD paratransit service, Via paratransit, and Town of Erie Day Trip Bus. The RTD paratransit service completed 4,000 annual trips in 2022, up 200% from the previous year. Via Mobility, a private nonprofit organization offering paratransit service, completed 1,300 annual trips. The Town of Erie Day Trip Bus has approximately 760 riders annually.

Figure 12: RTD Bus Stops and Routes



Source: Town of Erie

RTD Bus Stops

There are currently 15 bus stops within the Town of Erie serviced by the JUMP, which is the only RTD service route within the Town. A recent assessment of each bus stop was conducted, with results depicted in **Table 4**. Most of the bus stops lack ADA compliance, important amenities, and safe street crossings to access the bus stop for the opposite direction.

Table 4: RTD Bus Stops Conditions and Amenities

Stop Location	ADA Compliant	Shelter	Bench	Trash	Safe Crossing
Arapahoe Rd (EB) at US 287	X	X	X		X
Arapahoe Rd (WB) at US 287	X				X
Arapahoe Rd (EB) at 111th St					
Arapahoe Rd (WB) at 111th St	X		X		
Arapahoe Rd (EB) at Hawk Ridge Rd					
Arapahoe Rd (WB) at Hawk Ridge Rd					
119th St (NB) at Pioneer Pl					
119th St (SB) at Pioneer Pl					
119th St (NB) at Austin Ave					X
119th St (SB) at Austin Ave					X
Erie Pkwy (EB) at Brennan St					
Erie Pkwy (WB) at Brennan St					
Erie Pkwy (EB) at Meller St					X
Erie Pkwy (WB) at Meller St					X
Erie Community Center	X				

Source: Town of Erie

Additionally, Erie High School is the only high school in the RTD service area not serviced by an RTD route. It is located two miles east of the Community Center, which is the last stop on the current RTD JUMP route. Because RTD has a strict budget for capital planning, it will not extend the route to the high school without funding for additional bus stops along the extended route. As a result, the Town of Erie is applying for grant funding in order to construct the 10 RTD stops that will enable RTD to extend the JUMP

to the high school. The funding will also help bring existing RTD bus stops to ADA compliance and add amenities where appropriate.

Previous Plans

The Town of Erie Transportation Master Plan (2008) and most recent Erie Transportation Plan (2018) identified a future transit network with services and infrastructure improvements to enhance mobility in Erie. The recommended transit network included improved local service, the addition of Bus Rapid Transit (BRT) and the extension of the North Metro Rail Line. Recommendations in these plans call for funding and launching new transit services to serve Erie residents. Areas of priority include transit-oriented development near rail, express bus routes, and improve connections for walking and wheeling to bus stops. The Sustainability Master Plan (2019) goals also align with increasing transit options, which aim to "provide options to increase the use of alternative modes" and "work with regional partners to reduce congestion and single-occupancy vehicle use".

Transit Demand

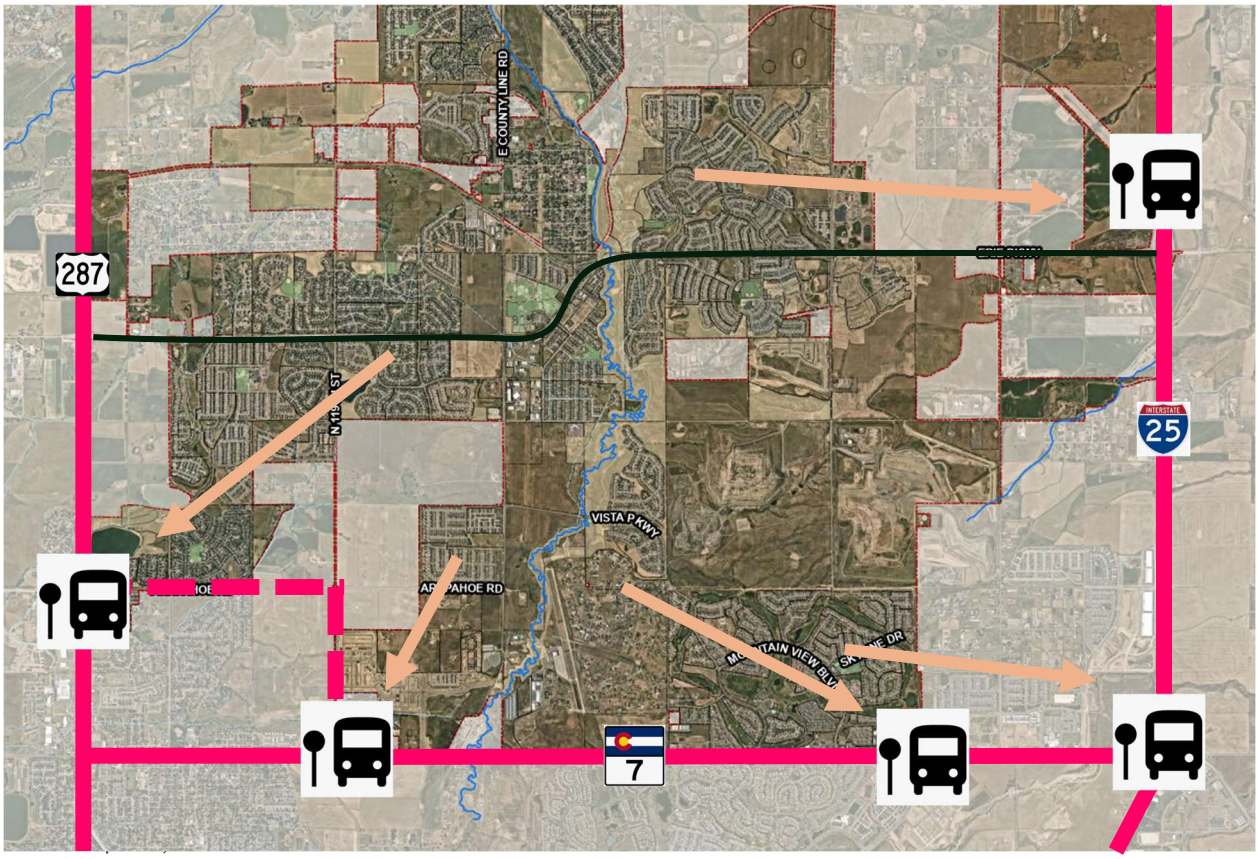
Based on existing travel patterns, the jobs-housing balance, and demographics, there is a high demand for additional transit in Erie. This demand is highest for those unable to drive, such as tweens, teens, and older adults. More than 30% of Erie's population is under 18 years of age indicating a demand for additional services to transport this demographic to and from school, after-school activities, and recreational spaces. Erie High School is the only high school in the RTD without transit service. Additionally, teens living in Weld County do not have transit service to downtown and the Community Center. Without transit, the younger demographic may be dependent on adults to transport them, which can restrict them from seeking opportunities that are dependent on a reliable transportation source. Transit services are also needed for older adults who may struggle to drive on their own and desire to age in place. More than 10% of Erie's population is over 65 years of age. This demographic is in need of transit services for medical appointments, grocery shopping, and social engagements so they may live independently.

As Erie continues to grow, new mixed-use developments will drive demand for additional transit services. New employment hubs, development integrated along future bus and rail routes, and future community spaces for tweens, teens, and older adults will be sought after destinations in need of transit connections. Development continues to thrive along CO-7. There will be about 5,000 Erie homes located within one-mile of the planned CO-7 BRT when it launches in 2025.

Figure 13 shows the planned BRT routes around Erie Currently, CDOT operates their Bustang service along I-25 from Fort Collins to Denver with the nearest stop soon to be in Longmont (Park-n-Ride opening in early 2024). Future BRT routes include:

- US 287 BRT
- CO 7 BRT
- North I-25 BRT

Figure 13: Planned BRT Routes and Stations



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2025 to 2027 Funding

- $50,000 from Town of Erie
- $400,000 from DRCOG Health and Human Services Grant
- $1,200,000 from DRCOG Transportation Improvement Program
- $150,000 from RTD Grant Partnership

Operations of Flex Ride

The Town of Erie was recently awarded several grants from DRCOG to establish and operate a Flex Ride service. Erie is currently developing a Flex Ride service plan that is to begin operations in early 2024. This

Flex Ride would service all of Erie, Monday through Friday roughly from 8 a.m.- 4:30 p.m. Riders can place reservations by calling, on the app, or by booking online. A private provider would likely run the operations, providing vehicles with wheelchair capacity, drivers for the vehicles, a dispatcher, a calling center (with Spanish speaking representatives), and provide monthly reports on ridership, origins, and destinations. The Town would be responsible for marketing components such as educating residents about this transportation option, promoting the service on its website, and developing a logo.

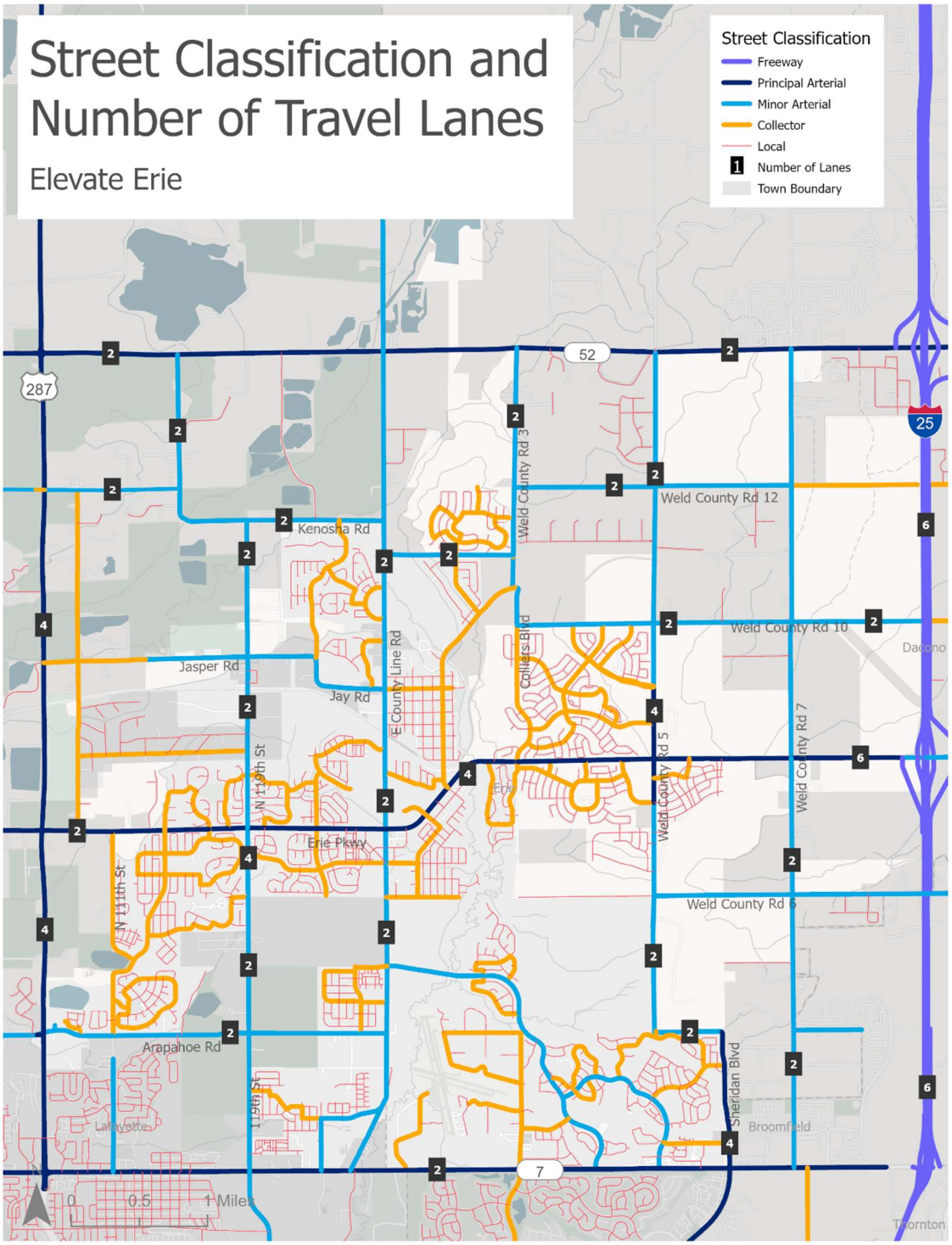
Driving Network

Streets

There are 138.5 total miles of roadway within the Town of Erie. Streets in Erie, as depicted in **Figure 14**, are classified into five classifications: freeway, principal arterial, minor arterial, collector, and local. Freeways provide the highest level of mobility with limited access to interstates. Arterials move a high volume of vehicles at high speeds through an area. Collectors provide a connection from local streets to arterials and sometimes provide access to land uses. Local streets are low speed, low volume, and provide access to driveways and adjacent properties.

I-25, CO-7, CO-52, and US-287 provide regional connections to nearby cities while a network of arterials and collector streets serve local mobility needs. While the arterial roadways are critical for moving traffic to, from, and throughout Erie, they can also act as barriers for people moving about and biking along or across them. All arterials in Erie have no more than four general travel lanes, which makes multimodal transportation more attainable.

Figure 14: Street Classification and Number of Travel Lanes

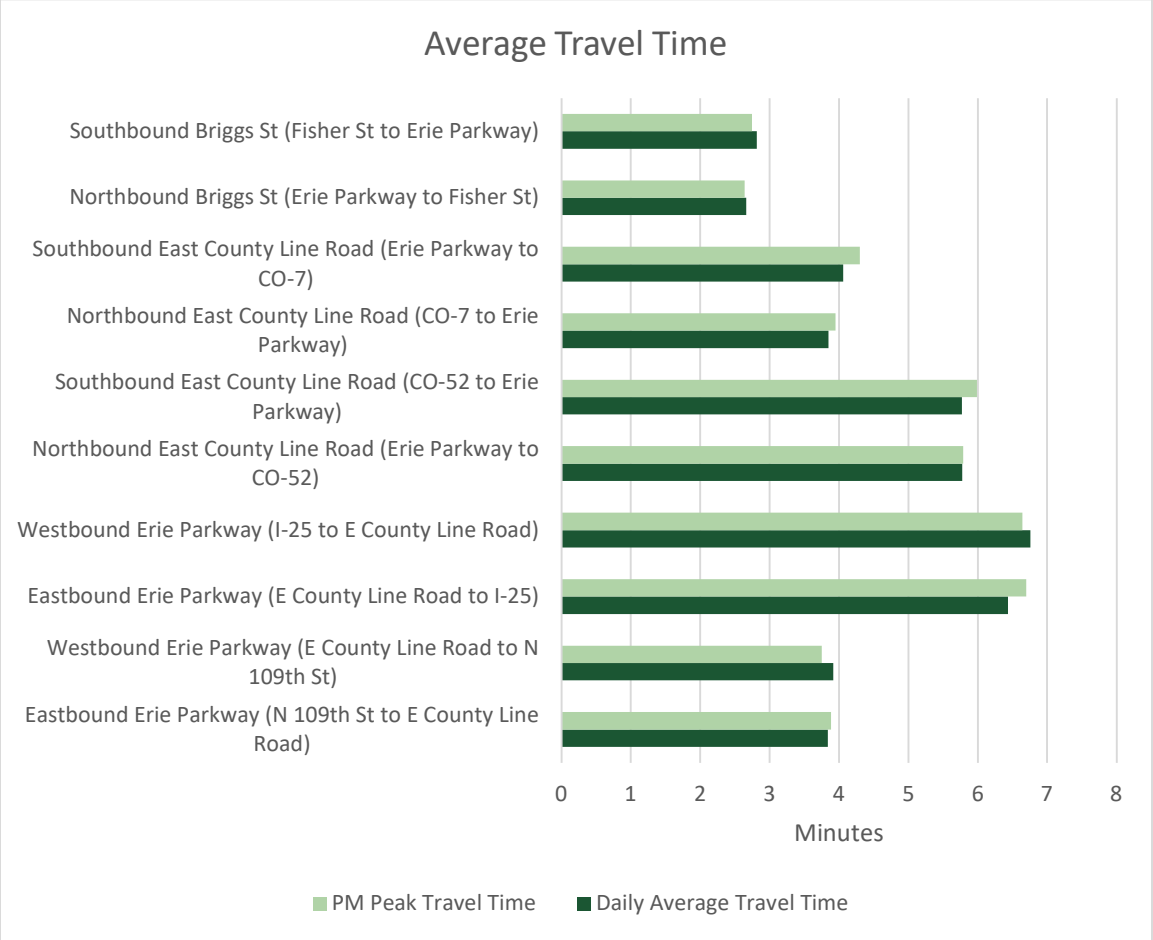


Source: Town of Erie

Travel Time

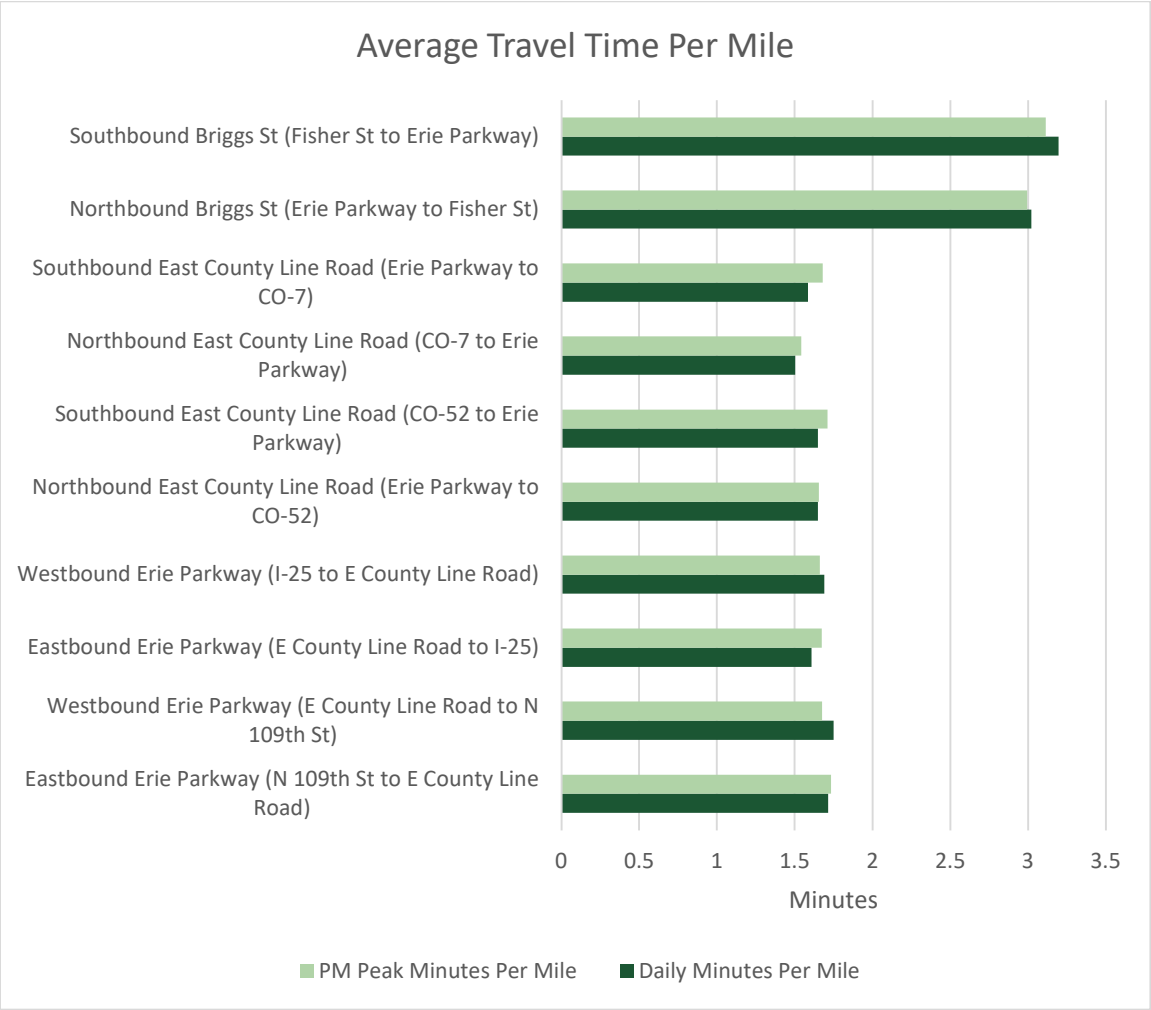
Understanding the average time it takes for people to travel through certain corridors at different times of the day communicates how well each corridor is suited for the demand, both at peak times and off-peak times. Both **Figure 15** and **Figure 16**depict the average travel time along Briggs Street, East County Line Road, and Erie Parkway within Erie in October 2019; **Figure 15** shows total travel time throughout shorter segments of each corridor, while **Figure 16**shows travel time per mile on the entire corridor. The charts compare the corridor travel times by direction and by time of day, comparing the average time it takes people to travel in the PM peak and over the course of the full day. There is not much difference between the average PM peak travel time and the average daily travel time, meaning the corridor does not have significant congestion during the highest demand times of day. It is important to track how travel time along the corridor changes over time with development and changes to the transportation network.

Figure 15: Average Travel Time on Key Corridors (2019)



Source: Wejo and Fehr & Peers

Figure 16: Average Travel Time per Mile on Key Corridors (2019)

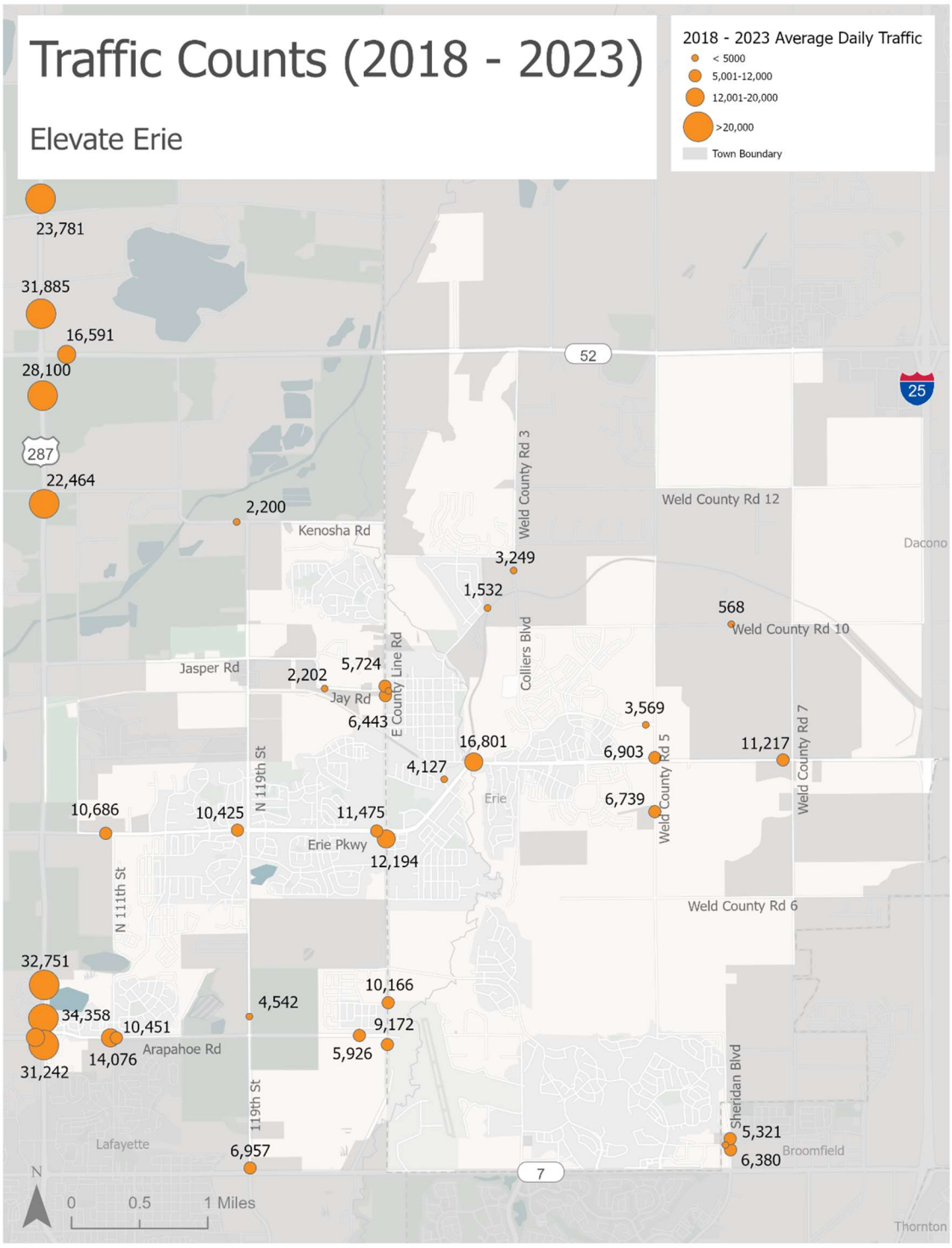


Source: Wejo and Fehr & Peers

Traffic Counts

US-287 experiences the highest average daily traffic, specifically around Arapahoe Road (**Figure 17**). This is due to the direct connection with Boulder to the west, and the many communities along US-287 including Broomfield, Lafayette, Longmont, Loveland, and Fort Collins. The intersection with the highest average daily traffic within the core of Erie is 111th Street and Arapahoe Road as well as along Erie Parkway, likely due to the regional connections these arterials provide.

Figure 17: Traffic Counts



Source: DRCOG Regional Traffic Counts; 2022-2023 counts collected by Ridgeview Data Collection

Traffic Growth

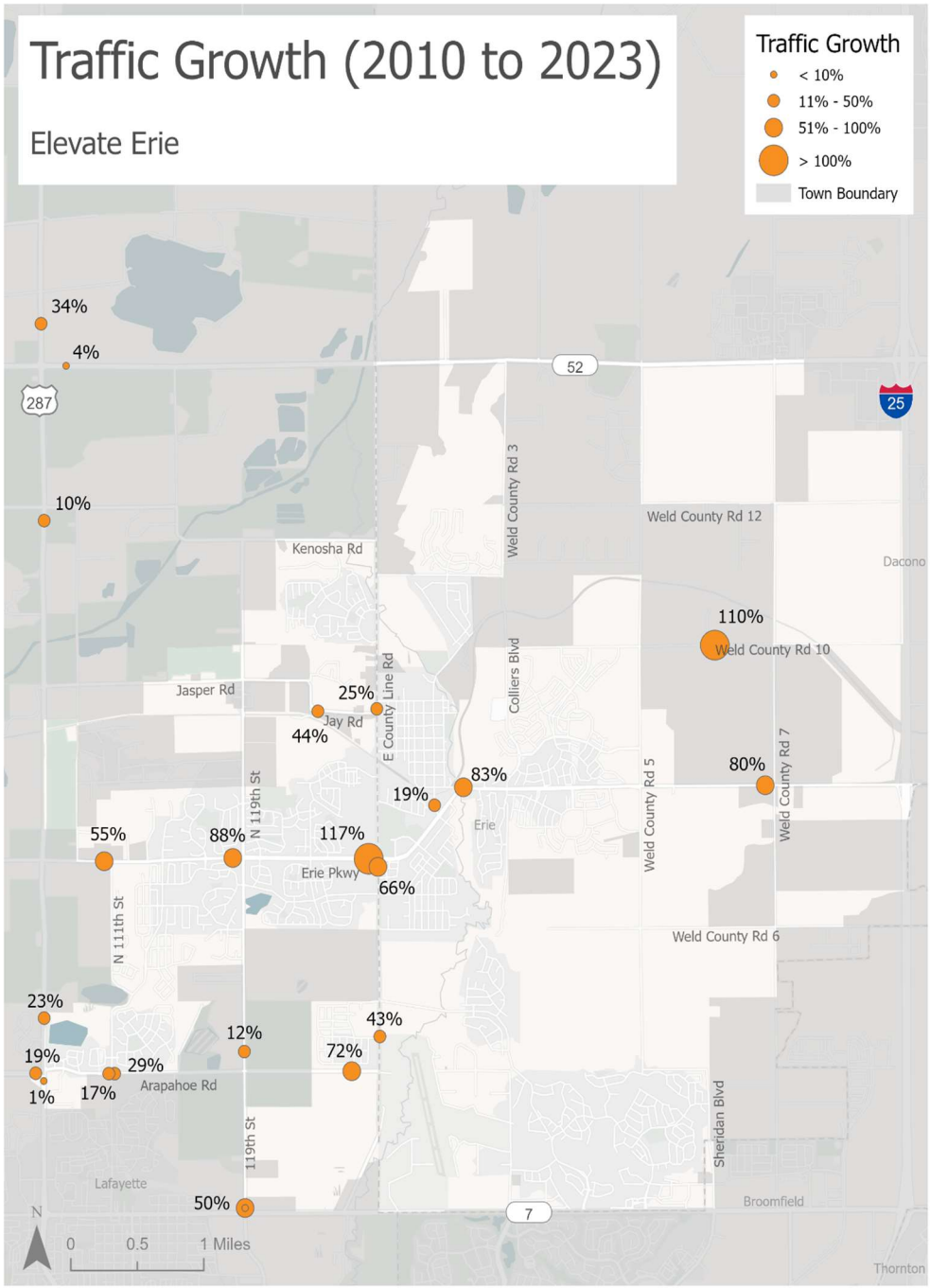
Intersections with high traffic volumes are important to analyze and track over time to understand traffic patterns and growth. Roadways and intersections where traffic volumes continue to grow indicate the ever-increasing importance of those roadways. Further, these intersections with large traffic counts indicate a potential source for congestion, and they emphasize the importance of investing in multimodal transportation options and traffic engineering solutions.

Over time, the way in which traffic flows to, from, and through Erie changes, as seen in **Figure 18**. Traffic has increased at a smaller rate in locations with higher volumes than in locations with lower volumes. In other words, the main corridors that connect Erie with surrounding cities and towns have had consistently high volumes, and this has not changed significantly over the last two decades. On the other hand, as central Erie has densified (specifically along Erie Parkway), traffic has grown significantly. Traffic has increased at the highest rate along Erie Parkway, 119th Street, County Line Road, and Briggs Street. With such growth rates, it will be important to assess if these roadways are accommodating the traffic demand efficiently and safely.

In terms of safety, corridors with high growth rates are correlated with high crash rates. The intersection with the highest number of crashes between 2016 and 2021, County Line Road and Erie Parkway, has seen 65% growth in traffic volume from the previous decade. Safety improvements are especially critical at these locations to accommodate multimodal demand in a safe manner.

An additional note must be mentioned about the impact of the COVID-19 pandemic. Some of the data points displayed in **Figure 18** represent traffic growth calculated based on traffic counts collected throughout 2020 and 2021, when the COVID-19 pandemic globally impacted travel patterns. Nevertheless, the data presented can still be viewed holistically for understanding traffic volume changes in the last two decades.

Figure 18: Traffic Growth



Source: Town of Erie 2010 Traffic Study, DRCOG Regional Traffic Counts, and 2022-2023 counts collected by Ridgeview Data Collection

Transportation Maintenance Data

The Town of Erie maintains 195 miles of road. In 2019, $1.5 million was spent on several street overlay projects, and $500,000 was spent on street reconstruction projects. Following a 2020 Street Improvement Project, the annual cost of street maintenance ranges from $3 to $4 million. Despite supply chain and labor shortages, road maintenance crews completed 7.7 miles of the 8.8 planned miles of road resurfacing, which is considered a successful commitment. However, out of the roads maintained by Erie, 15 miles have aged past their remaining service life of 20 years; these include County Line Road, Erie Parkway, Cheesman Street, Vista Parkway, Holbrook Street, and Briggs Street . These are critical corridors that will require major financial and social commitments, but it allows the opportunity to update these roads with an emphasis on environmental, safety, and multimodal design.

Safety

Improving the real and perceived safety of Erie's transportation network is a critical element to ensuring Erie is a desirable destination for residents and visitors. Although the number of crashes is the most direct indicator for evaluating safety, speed can be a good indicator of potentially severe or fatal crashes.

Crashes

Table 5illustrates the number of crashes that occurred in Erie between 2016 and 2021; and **Figure 19** illustrates hotspots of crashes in the same years, while also showing the locations of crashes which involved a person biking or walking.

The intersections with the highest number of crashes are Weld County Rd 7 and Erie Parkway, Weld County Road 5 and Erie Parkway, and Weld County Rd 7 and Highway 52. The corridors with the highest number of crashes are Erie Parkway, Weld County Line Road 7, and CO-52. Further, five of the seven bicyclist-involved crashes have occurred on or near Erie Parkway; pedestrian-involved crashes are more spread out in Erie.

Table 5: Top Crash Locations, 2016 - 2021

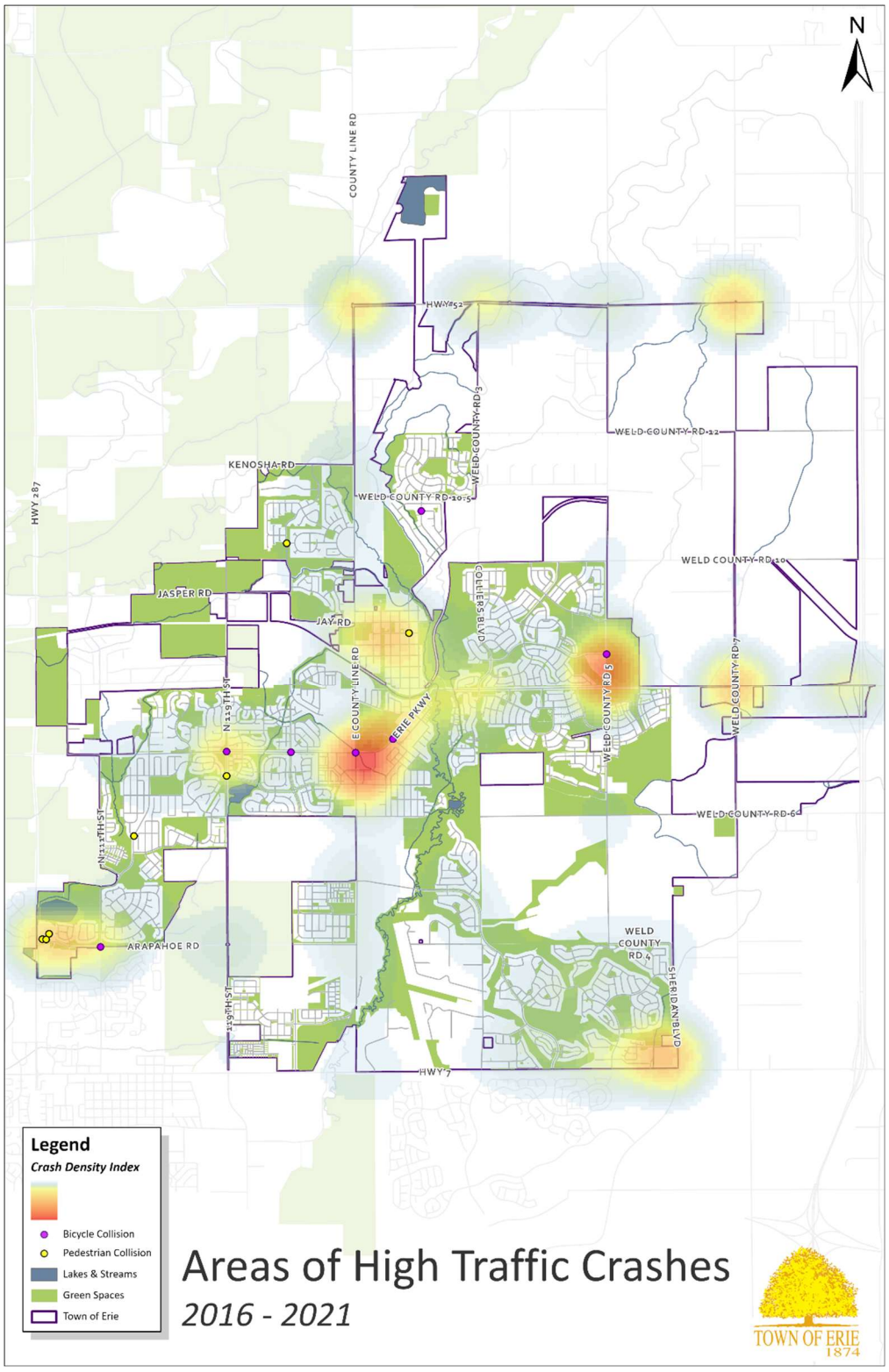
Top 10 Crash Locations	2016	2017	2018	2019	2020	2021	Total
Weld County Rd 7 & Erie Pkwy	4	16	9	13	6	7	55
Weld County Rd 5 & Erie Pkwy	8	4	12	11	7	10	52
Weld County Rd 7 & Hwy 52	11	9	9	13	3	5	50

Hwy 52 & E County Line Rd	15	5	4	9	6	6	45
Erie Pkwy & E County Line Rd	6	9	2	6	10	5	38
N 119TH St & Erie Pkwy	5	6	8	6	3	3	31
Hwy 52 & Weld County Rd 3	8	9	6	2	1	5	31
N 111TH St & Arapahoe Rd	10	8	3	2	2	5	30
Austin Ave & E County Line Rd	4	5	3	9	0	5	26
Erie Pkwy & W I-25 Frontage Rd	6	7	5	1	1	1	21
King Soopers Parking Lot Area	NA	NA	NA	NA	NA	NA	42
Safeway Parking Lot Area	NA	NA	NA	NA	NA	NA	23
High School Area	NA	NA	NA	NA	NA	NA	46

Source: Town of Erie

Many locations where a high number of crashes have occurred are near key destinations with vulnerable travelers such as schools, community centers, and grocery stores. It is of critical importance to improve the safety on Erie roadways and strive to reduce traffic-related fatalities and severe injuries. The TMP will prioritize improvements at these locations, targeting countermeasures that address common crash patterns.

Figure 19: Areas of High Traffic Crashes (2016-2021)

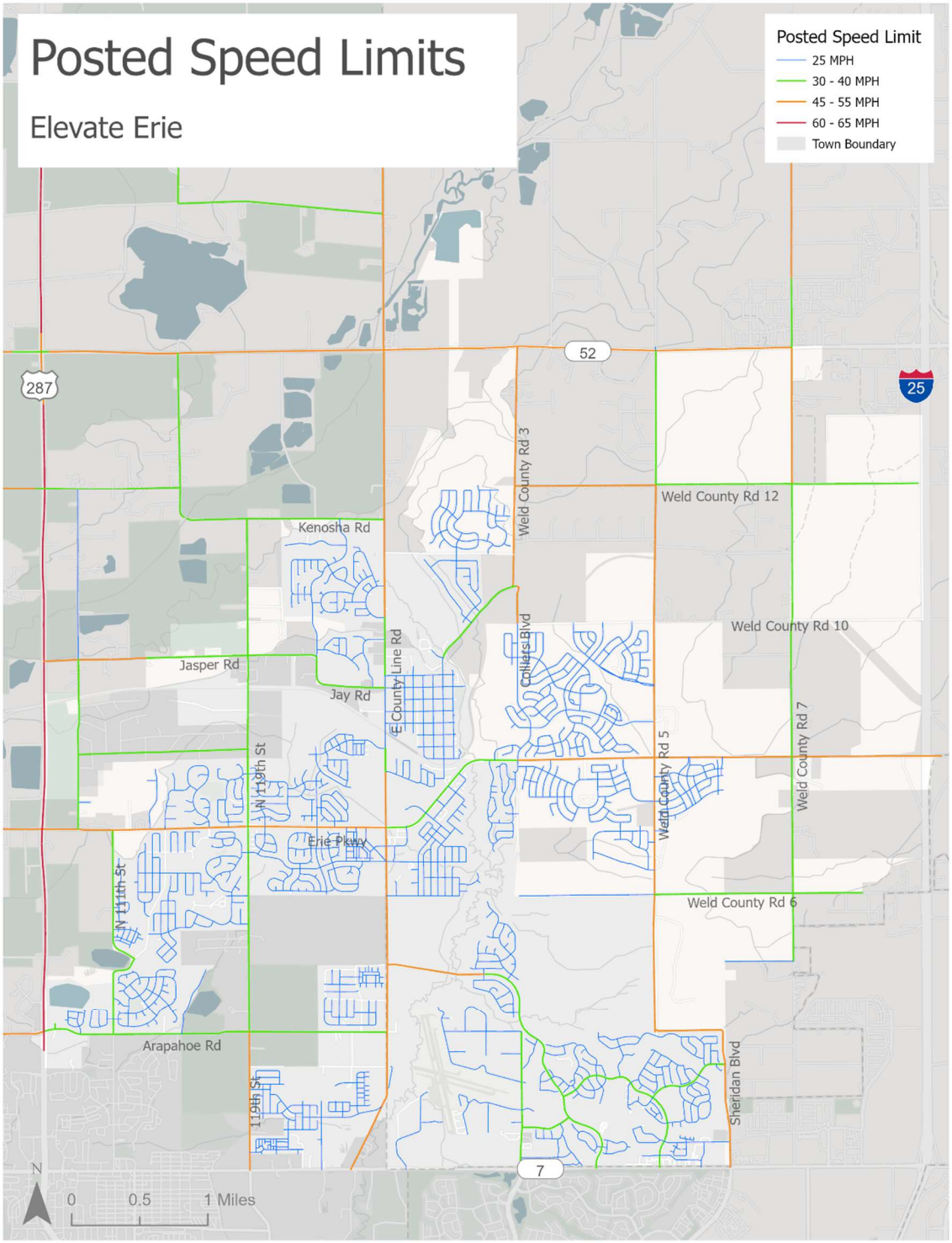


Source: Town of Erie

Vehicular Speeds

Figure 20 shows the posted speed limits in Erie. As a community with mostly residential land uses, the largest portion of streets have a posted speed limit of 25 MPH. Arterials have a posted speed limit between 30 and 55 MPH; only US-287 has a posted speed limit of more than 60 MPH. Posted speed limits on arterials decrease as travelers enter central Erie. These reductions in posted speed limits are beneficial for preparing vehicles to drive more slowly in areas where there are more potential conflicts. However, it is important that roadway design appropriately reflects the posted speed limit and drivers are given adequate time to reduce their speed according to the speed limit.

Figure 20: Posted Speed Limits



Source: Town of Erie

In addition to the posted speed limits, Ridgeview Data Collection collected bi-directional 85th percentile speeds at 10 locations (for a total of 20 data collection points) in Erie in Winter 2022-2023. These locations, posted speed limits, and 85th percentile speeds are shown in **Table 6**. At 13 locations, 85th percentile speeds were between six and 40% higher than the posted speed limit. Erie Parkway had the highest amount of speeding of any location where data was collected. Considering that speed significantly influences the severity of crashes, designing streets that discourage traveling at speeds higher than the posted speed limit is critical to reducing crash rates and severity.

Table 6: Posted Speed Limits vs 85th Percentile Speeds

Location	Posted Speed Limit	85th Percentile Speed	Percent Difference
Briggs Street, North of Maxwell Avenue, Northbound	25	30	20%
Briggs Street, North of Maxwell Avenue, Southbound	25	28	12%
County Line Road, South of Arapahoe Road, Northbound	50	48	-4%
County Line Road, South of Arapahoe Road, Southbound	50	57	14%
Weld County Road 5, North of Erie Parkway, Northbound	35	38	9%
Weld County Road 5, North of Erie Parkway, Southbound	35	44	26%
119th Street, North of Arapahoe Road, Northbound	40	44	10%
119th Street, North of Arapahoe Road, Southbound	40	44	10%
Arapahoe Road, West of 111th Street, Westbound	40	40	0%
Arapahoe Road, West of 111th Street, Eastbound	40	44	10%
Colliers Parkway, West of Weld County Road 5, Westbound	35	32	-9%
Colliers Parkway, West of Weld County Road 5, Eastbound	35	34	-3%
Erie Parkway, West of 111th Street, Westbound	35	44	26%
Erie Parkway, West of 111th Street, Eastbound	35	49	40%
Erie Parkway, West of County Line Road, Westbound	45	49	9%
Erie Parkway, West of County Line Road, Eastbound	45	52	16%
Erie Parkway, West of Weld County Road 7, Westbound	50	48	-4%
Erie Parkway, West of Weld County Road 7, Eastbound	50	44	-12%

Weld County Road 5, South of Glacier Drive, Northbound	50	48	-4%
Weld County Road 5, South of Glacier Drive, Southbound	50	53	6%

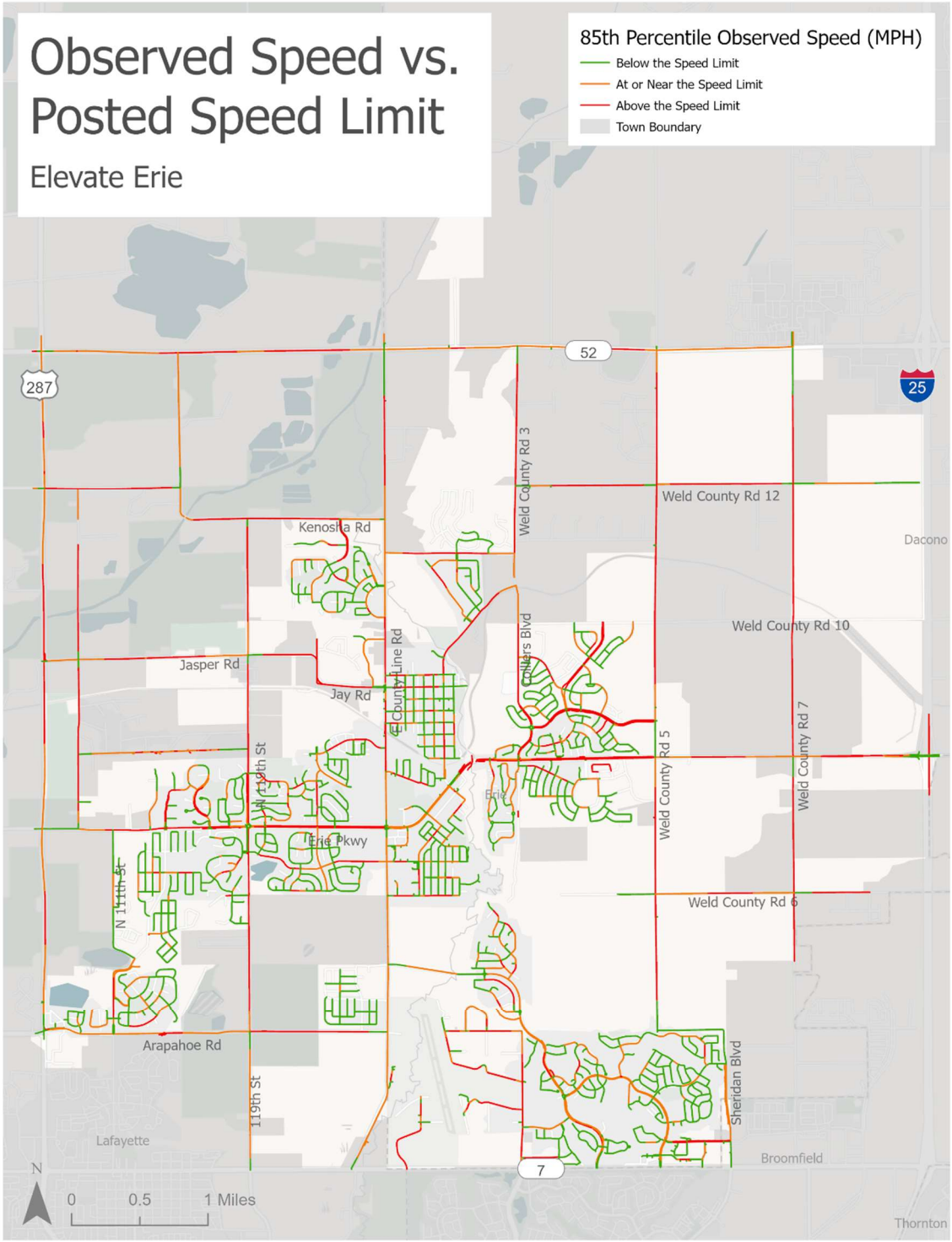
Source: Ridgeview Data Collection

Wejo collected 85th percentile speeds from connected vehicles in October 2019. The percent difference between the 85th percentile speeds and the posted speed limit is illustrated in **Figure 21**. The map illustrates where the 85th percentile observed speed is below 90% of the posted speed limit, between 90-110% of the posted speed limit, and above 110% of the posted speed limit. On most local streets, such as in the residential areas or downtown, people are traveling at speeds less than the posted speed limit. However, on arterials such as Erie Parkway or 119th Street, most people are traveling at speeds higher than the speed limit, up to double the speed limit in certain places. On roadways where people are traveling significantly faster than the posted speed limit, it is important to understand how design and infrastructure changes can be implemented to reduce speeding and encourage safe driving practices.

Two other components relevant to the safety of travel and driving patterns are the frequencies of harsh acceleration events and harsh braking events. This data was also compiled by Wejo from connected vehicle data in October 2019. On a per mile basis, many harsh acceleration events occur around the intersection of Erie Parkway and County Line Road, as well as along US-287 near CO-7 (**Figure 22**). Harsh braking events occur in similar locations as harsh acceleration events. (**Figure 23**). Both maps identify the top third of harsh acceleration events as "high amounts of harsh acceleration/braking events", and the rest of the harsh acceleration events as "low amounts of harsh acceleration/braking events". Areas with high amounts of harsh acceleration and breaking produce more greenhouse gas emissions, create a safety risk, and inhibit traffic flow. These areas can be considered for geometric changes that improve sight distance and operational changes such as signal timing that improve traffic flow.

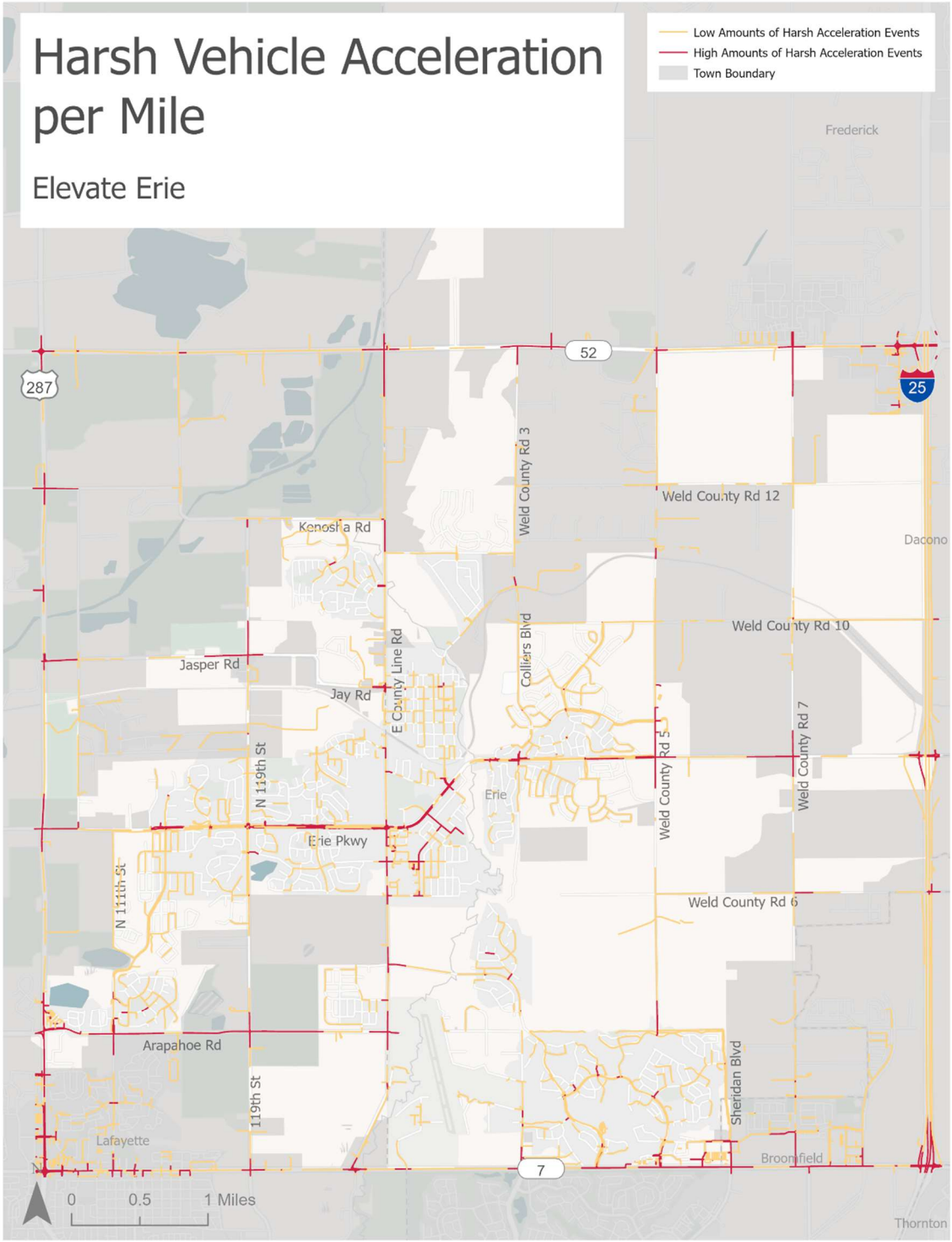
Figure 24 illustrates the locations of crashes from 2016 and 2021, as they relate to the posted speed limits. The arterials and the denser parts of Erie are where there are more crashes of all types. Speed is a factor that impacts the rate and severity of crashes, especially on arterials that see more traffic and higher speeds. Many crashes occurred in dense areas, where there are more conflicts and exposure. There is also a high rate of crashes that occur in areas where the speed limit changes often or drastically..

Figure 21: Observed Speed vs. Posted Speed Limit



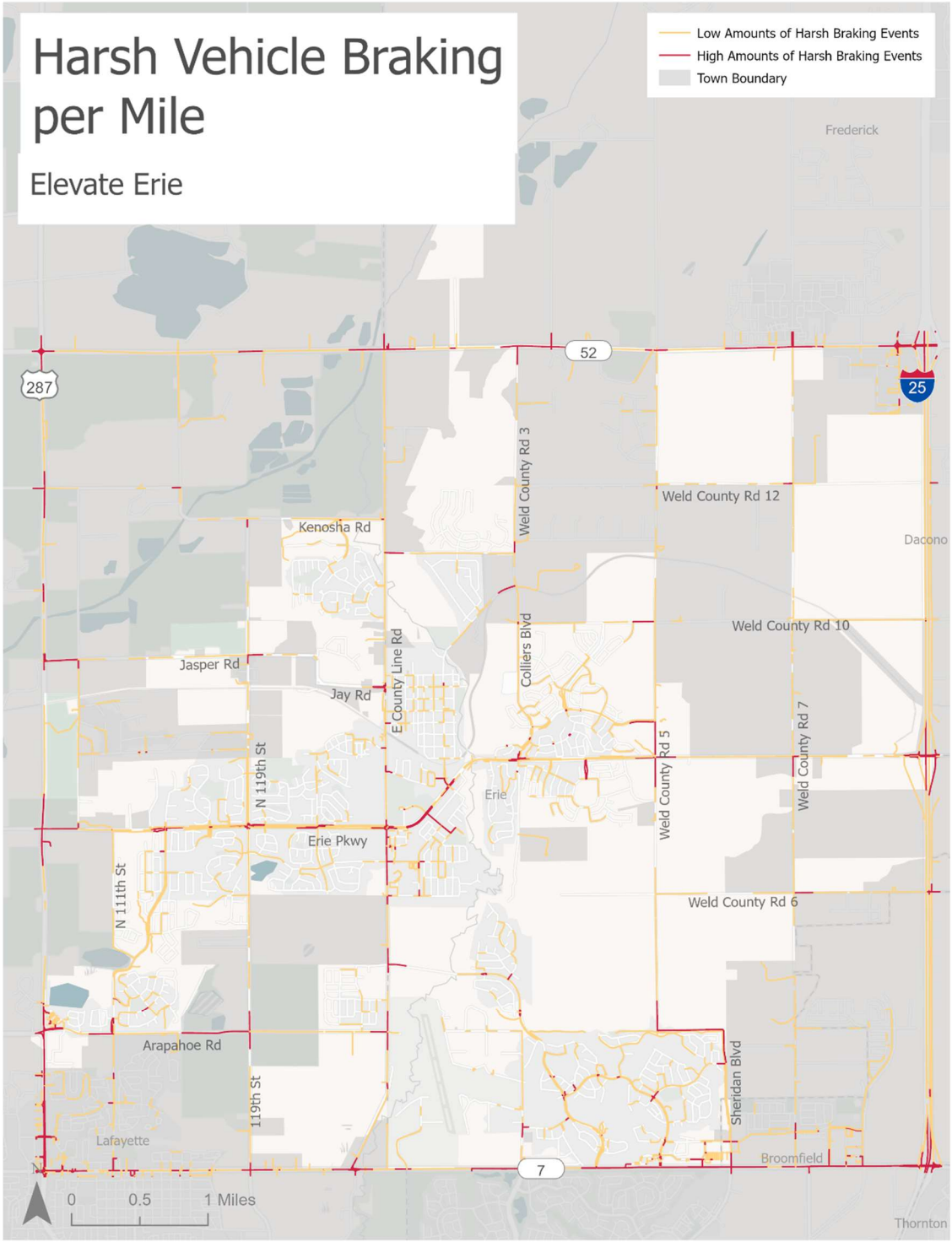
Source: Wejo and Fehr & Peers

Figure 22: Harsh Vehicle Acceleration (2019)



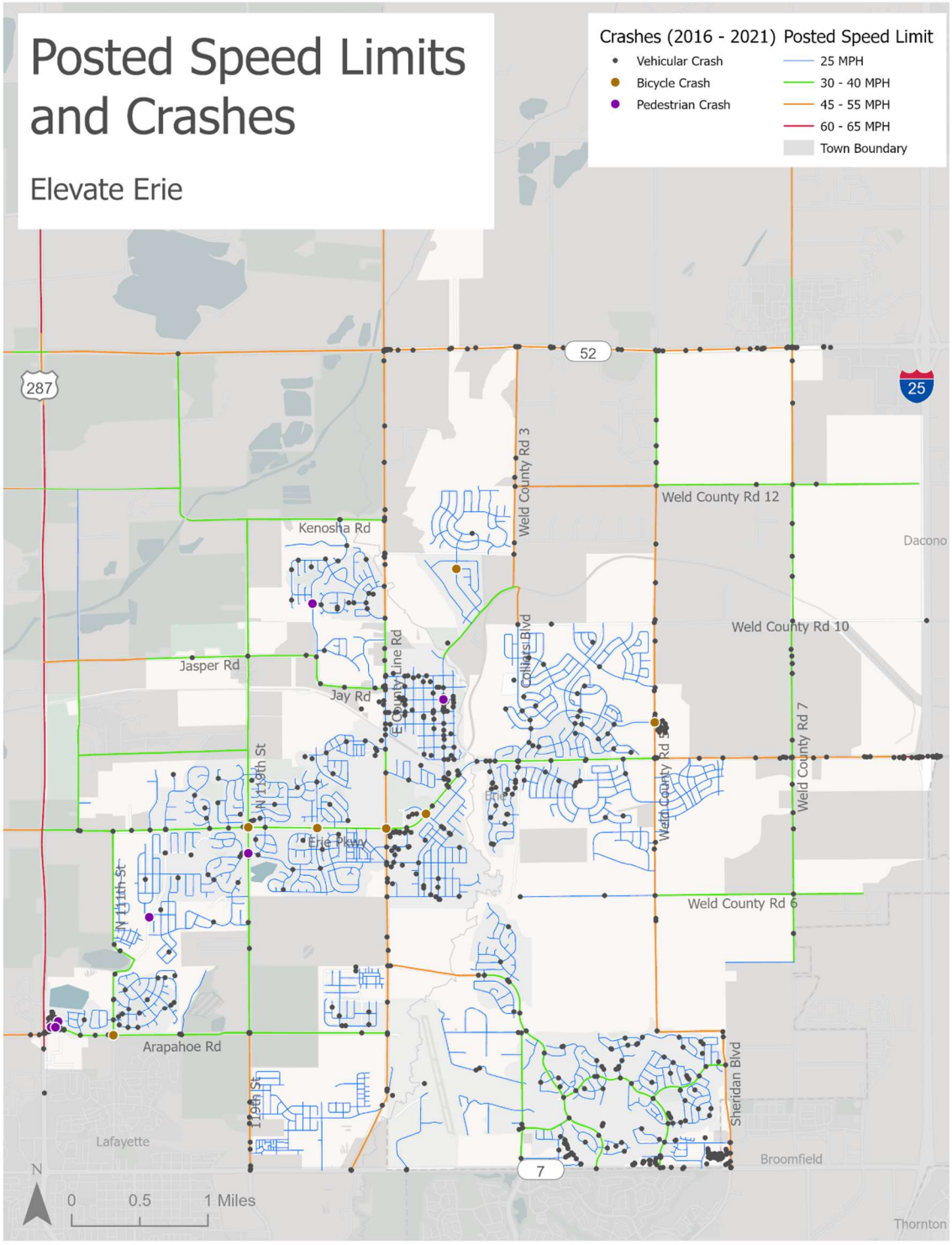
Source: Wejo and Fehr & Peers

Figure 23: Harsh Vehicle Braking (2019)



Source: Wejo and Fehr & Peers

Figure 24: Crashes Overlayed with Speed Limits (2016 - 2021)



Source: Town of Erie

Erie Municipal Airport

Erie Municipal Airport (EIK) is located within the southern limits of the Town of Erie in Weld County (**Figure 25**). adjacent to the intersection of CO-7 and County Line Road near the confluence of Weld, Broomfield, and Boulder counties. EIK is approximately five miles from Downtown Erie and is adjacent to the Coal Creek Regional Trail. Residential-airpark homeownership is found east of the runway and due west of the runway's southern end. The terminal area is found west of midfield and vehicle access to the terminal area is via CO-7 on Airport Road. EIK does not have the typical terminal area configuration with a terminal building and parking fronting an apron. Vehicle parking and the terminal building are separated. Vacant land is currently found northwest of midfield.

EIK is equipped with a rotating beacon atop the main hangar. The rotating beacon alternates green and white, indicating nighttime availability of a public-use, civilian airport. EIK is equipped with an Automated Weather Observing System (AWOS). An AWOS provides real-time local weather information for the flying public.

There is one runway that is 4,700 feet long and 60 feet wide. It is constructed of concrete with a 12,500 single-wheel gear (SWG) pavement strength. The pavement was designed to accommodate a limited number of aircraft operations, over time without substantial surface rehabilitation. The design does allow for a limited number of aircraft operations with weights greater than 12,500 pounds.

Several taxiways exist in various states of repair, material composition and widths, nearer to obligated property for east-side airpark residents. Hold lines are found approximately 115 feet from the runway centerline and at midfield. Access to those select airpark residents along Baron Court is somewhat different in that a few, but not all lots currently have access to Taxiway A or the apron, individually.

CO-7 to Airport Road also accesses EIK's terminal area. The terminal area features the Fixed Base Operation (FBO) hangar, fueling facilities and the apron along with 20 movable T-hangars and vehicleparking. Fueling facilities consist of two 12,000-gallon tanks located near the middle of the apron with Jet-A fuels. These facilities are fenced and gated in the immediate area and constitute on-airport facilities. Airport customers and patrons must park and walk across a taxiway to access the FBO hangar/offices.

Vector Air, EIK's FBO provides a full suite of small and larger aircraft general aviation services to the flying public from terminal area facilities. Other terminal area aviation-related businesses are located adjacent to the airport and access the airport via a taxiway that originates on off-airport property. Rocky Mountain Propellers and two hangar complexes are found due west of the terminal area along this taxiway. Other

businesses and the Spirit of Flight Museum north of the terminal area, on the west side of Coal Creek, access the terminal area in a similar fashion. These businesses and the museum are located on South Main Street via County Line Road. Aircraft Access is via a newly constructed/aligned taxiway bridge across Coal Creek. Not all businesses are aviation related.

Under contract with the Town, Vector Air manages the airport, providing routine airfield safety, security, and maintenance. The Town of Erie Police Department and Mountain View Fire Rescue provide law enforcement and fire/emergency medical services for the EIK and its environs. Xcel Energy provides power. Aside from the chain-link perimeter fencing partially surrounding the terminal area, no other fencing exists.

EIK will be situated along the future CO 7 BRT when service is established. The BRT will offer a 12-minute ride to catch the Bustang to Denver Union Station or a 24-minute ride to CU Boulder. As EIK looks to the future, it must consider accommodating the following potential demands:

- Epic pass connections to Eagle County, Teton County, and Steamboat Springs
- Amazon drone freight hub
- Personal mobility, like self-flying vehicles
- Hangars for corporate fleets with nearby offices
- On-property facilities for potential live-work communities
- E-airplane hub for flight training, including the necessary equipment storage and infrastructure

Figure 25: Erie Airport Layout

Source: ADG

Environmental Impacts

The average daily all week traffic in August 2021 obtained from Streetlight Data were used to estimate all vehicle trips (including passenger and commercial vehicles) observed traveling within the geographic boundary of the Town. Vehicle volume on each roadway segment is multiplied by link distance. Erie's average weekday vehicle miles traveled (VMT) and equivalent emissions of carbon dioxide (CO2) are displayed in **Table 7**. Although this VMT calculation includes trips traveling through Erie and does not include the full distance of the trip that enters/exits the town limit, the personal VMT per household is around 7.85 miles. The CO2 emissions were calculated using the 2022 *Emissions of Carbon Dioxide in the Transportation Sector* analysis from the Congressional Budget Office. Per the analysis, one mile traveled in a passenger vehicle results in 0.47 pounds of CO2 emissions; and one mile traveled in a truck results in 0.40 pounds of CO2 emissions per ton, and the average truck weighs 3 tons.

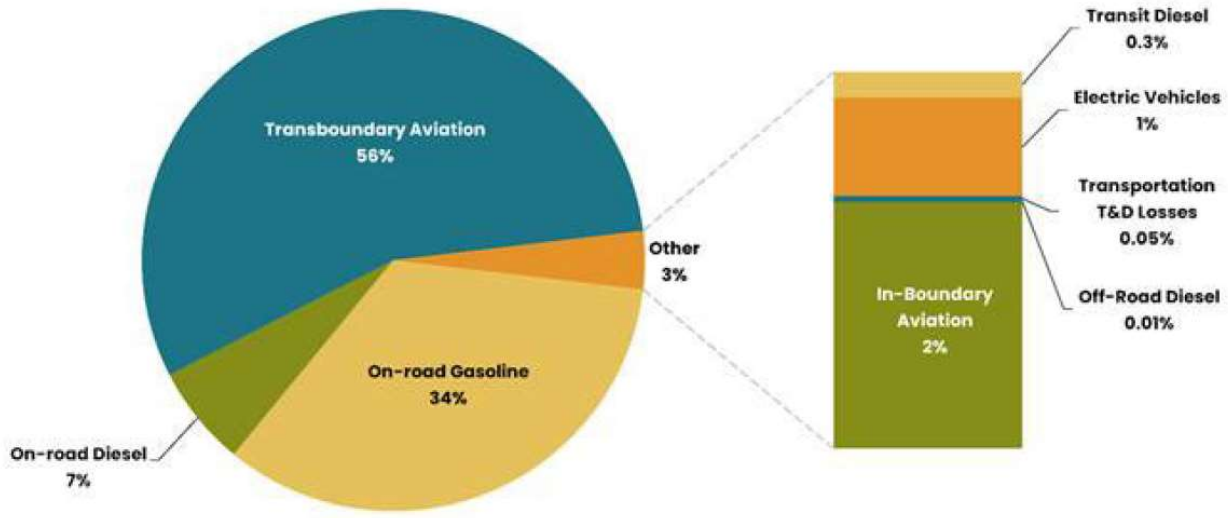
Table 7: Erie VMT

	Vehicle Miles Traveled	Equivalent Pounds of CO2
Total VMT	80,300	40,150
Truck portion of VMT	3,300	3,960
Personal Vehicle VMT	77,000	36,190

Source: VMT+, Fehr & Peers, Congressional Budget Office

The transportation sector accounted for 15% of Erie's total greenhouse gas (GHG) emissions (54,145 metric tons of carbon dioxide equivalent (mt CO2e). **Figure 26** shows the breakdown of that 15%. Over half of those emissions are from aviation and 40% are from gasoline and diesel on-road vehicles.

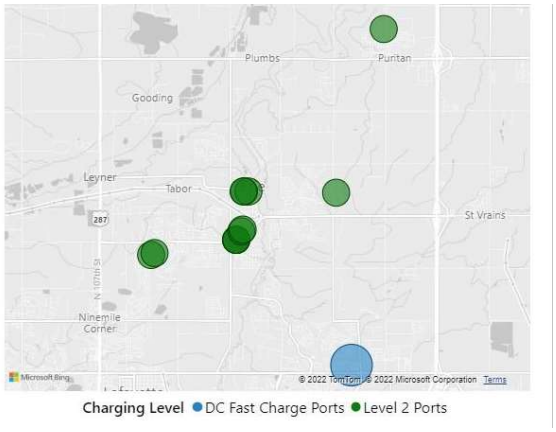
Figure 26: Transportation-related Emissions



Source: Town of Erie

Transitioning to an electric fleet will provide a valuable opportunity to reduce the environmental impact of the transportation sector. Approximately 670 electric vehicles (EVs) are registered to Erie residents as of November 2022, which is roughly 3% of the Erie-registered vehicles. Out of the vehicles registered since March 2022, 7% have been EVs. There are 26 charging ports throughout Erie (**Figure 27**) where people can charge their electric vehicle, but none of these are Tesla supercharger stations. This is important to note, given that almost half of Erie-registered EVs are Teslas. Additional charging infrastructure will be needed to support a fully electrified fleet.

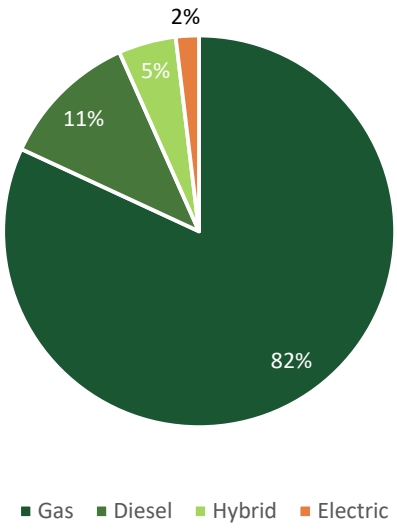
Figure 27: Charging Ports by Power Level



Source: Town of Erie

As shown in **Figure 28**, most vehicles (82%) operated by the Town are gas-powered. Only 7% of the Town's fleet are either hybrid or electric vehicles (5% and 2% respectively). To reduce the greenhouse gas emissions produced by the Town's vehicular fleet, and to be a leading example to its residents, the Town should consider increasing the share of hybrid and electric town fleet vehicles. Erie has a replacement schedule for each vehicle, and only three vehicles are currently categorized as "choose to keep". Excluding those three vehicles, all other Town vehicles are set to be replaced by 2028.

Figure 28: Town Fleet Types of Vehicles



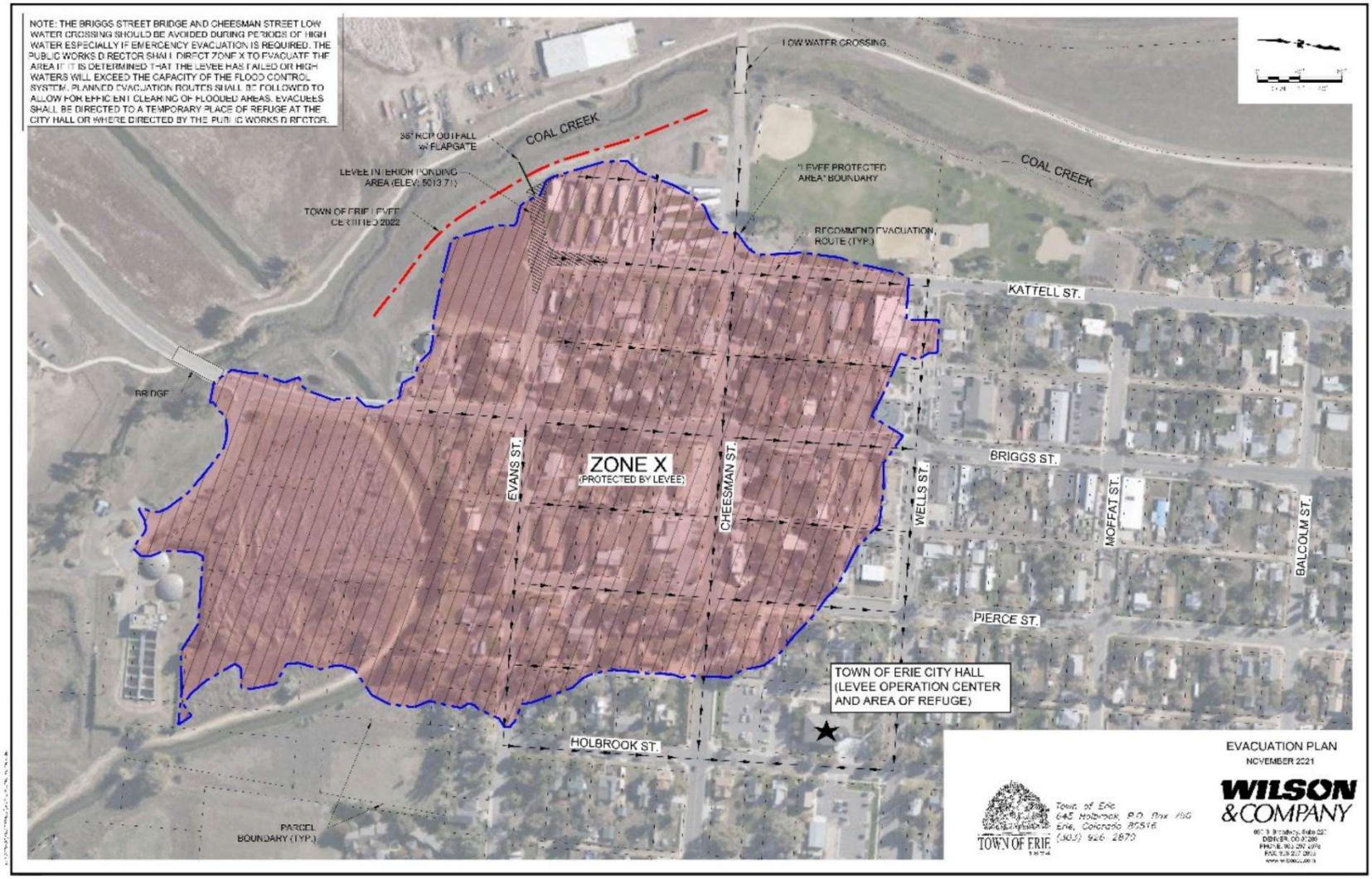
Source: Town of Erie

Emergency Response Preparedness

With projected increases in the frequency and severity of wildfire, heavy rains, and large storm events expected to occur due to climate change, emergency preparedness plans are critical. Erie's existing flood evacuation plan is depicted in **Figure 29**. The evacuation routes are depicted in **Figure 30,** showing that travelers should evacuate to one of the highlighted evacuation routes leading to a state highway depending on where and when the event occurs. While the timing and impact of an emergency event is unpredictable, the focus of a Town evacuation plan should be to direct people to arterial roadways where resources and responders are deployed to assist residents to travel in the direction of one of the surrounding highways away from the event.

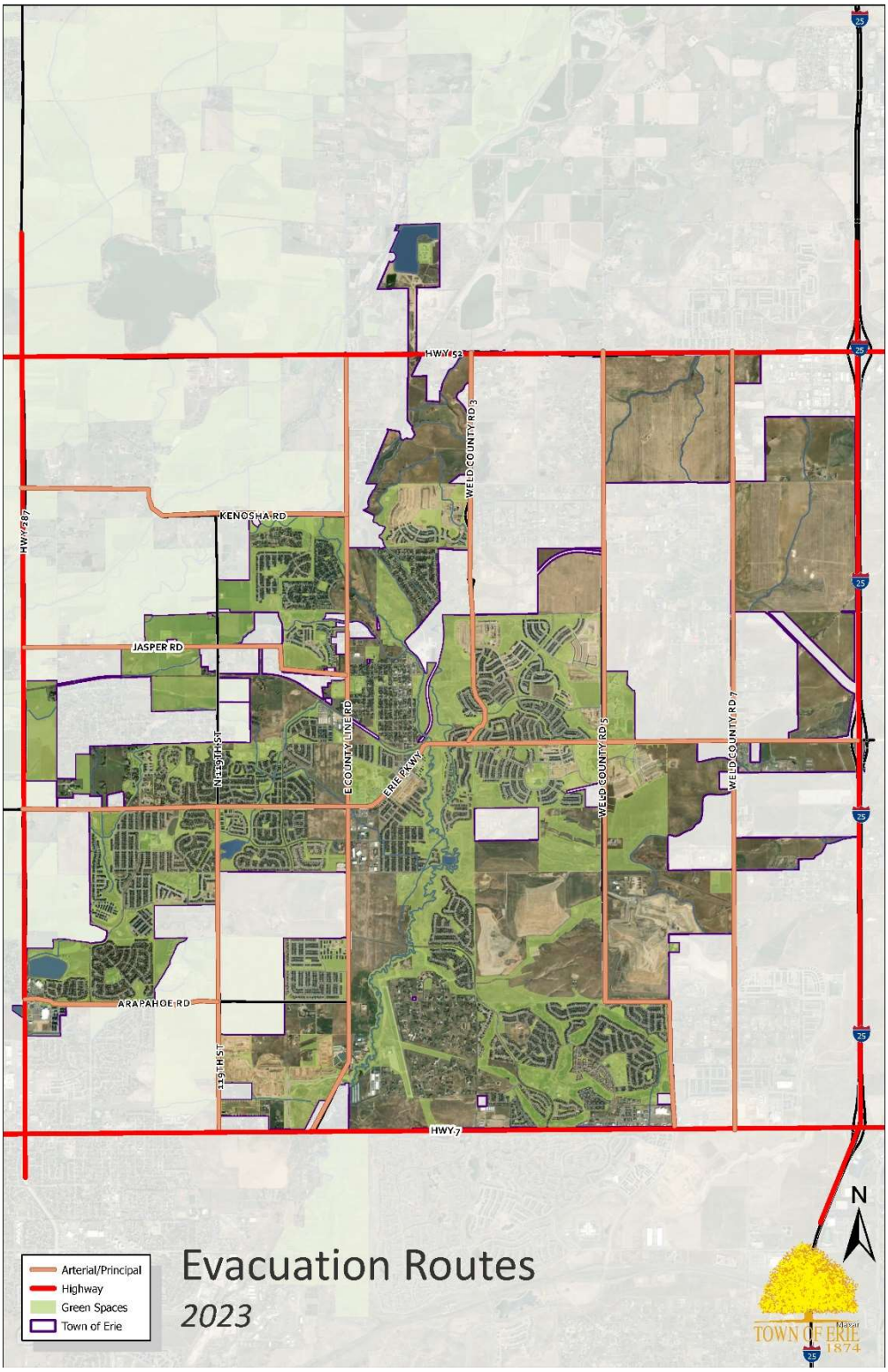
Elevate Erie is being developed concurrent to the refinement of evacuation routes by the Fire Department and Police Department, providing an important opportunity to coordinate these efforts. The largest lesson learned in the 2021 Marshall Fire for the emergency service providers in Boulder County, Weld County, and their respective municipalities is that evacuating people in a more organized fashion can increase how quickly evacuations can be accomplished. Therefore, the emergency services have since divided Boulder County into smaller polygons to which they can communicate to residents in a more organized fashion when to evacuate **(Figure 31)**. In other words, when emergency situations occur, emergency services can prioritize which areas need to be evacuated first, and messaging will be sent out to those people first, rather than sending emergency messaging to the entire county and creating unnecessary road congestion. Further, the emergency services are strategizing how to more clearly communicate to people where to head in an emergency to decrease confusion.

Figure 29: Levee Failure Evacuation Plan



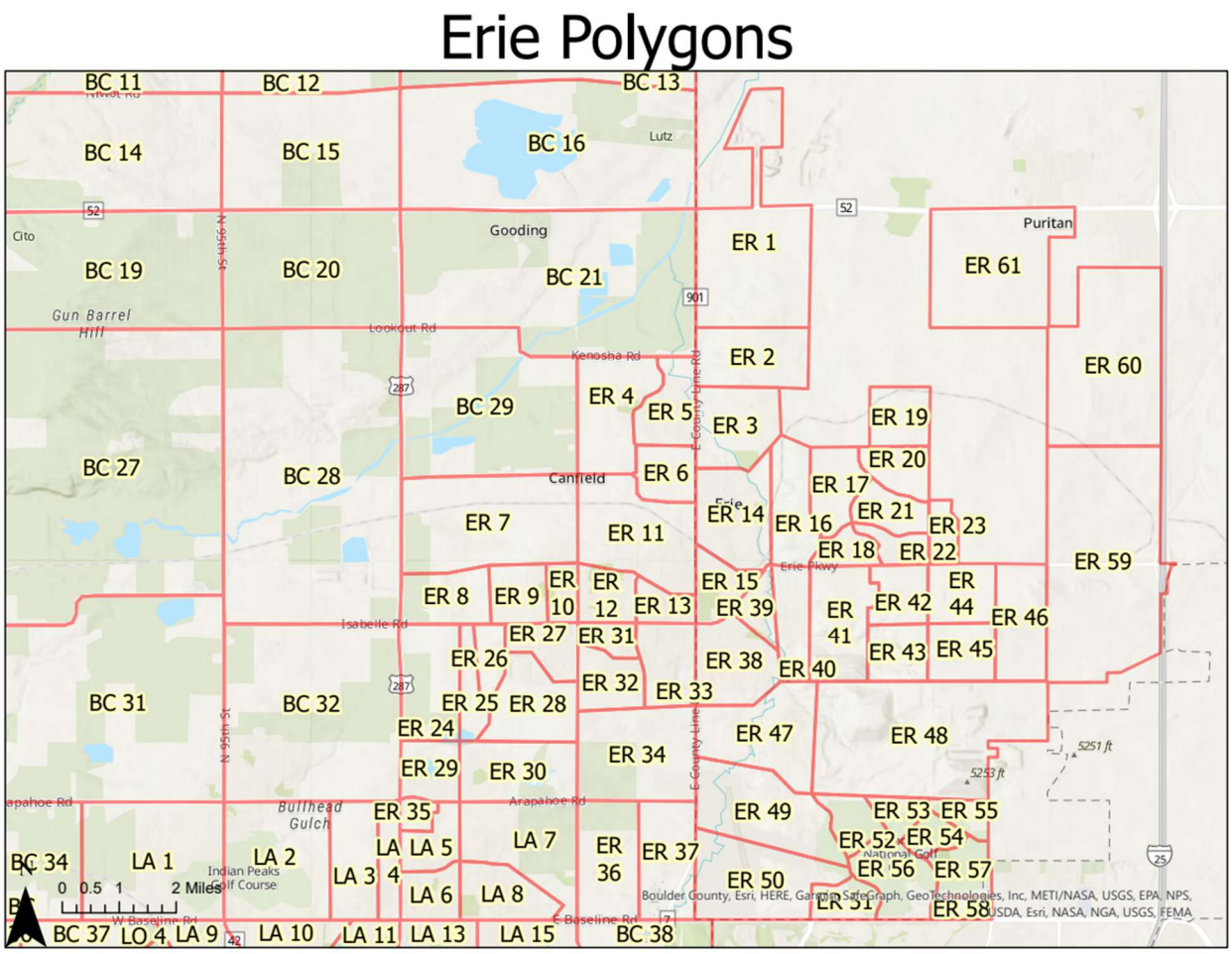
Source: Town of Erie, Wilson & Company

Figure 30: Evacuation Routes



Source: Town of Erie

Figure 31: Erie Evacuation Polygons (2023)



Source: Boulder County

Appendix D: Bicycle Crossing Guidance

FEHR PEERS

Memorandum

Subject: **Erie Transportation and Mobility Plan: Bicycle Crossing Guidance Appendix**

DN22-0747

Bicycle Crossing Guidance

In order to design a well-connected, low-stress bike network, it is important to consider where and how bicycle facilities cross at intersections. Midblock crossings should also be considered where necessary, per the Erie Pedestrian Crossing Guidelines. The weakest link approach acknowledges that a low-stress bicycle facility is only as comfortable as the lowest comfort component; this component is often the intersection.

The NACTO *Urban Bikeway Design Guide* provides guidance on best practices for intersection design treatments for urban bikeway crossings. In addition to the Urban Bikeway Design Guide, NACTO published *Don't Give Up at the Intersection*, a supplemental guide for designing low-stress bike facilities through intersections. NACTO recommends the following strategies for reducing conflicts and creating safer intersections for bicyclists:

- Reduce vehicle turning speeds
- Increase the visibility of bicyclists
- Give priority to bicyclists

Both roadway characteristics of the street being crossed and the bicycle facility type determine the recommended crossing treatment type. NACTO defines three main types of low-stress bicycle crossings: protected intersections, dedicated intersections, and minor street crossings. Erie also has a fourth bicycle crossing type, accommodating bicyclists at existing roundabouts. **Table 1** shows the crossing treatments that are most appropriate based on the crossing street classification and bicycle facility type.

Table 1: Bicycle Crossing Intersection Type Identification

		Local	Collector	Arterial	Driveway	Roundabout
Bicycle Facility Type	**Bike Lane**	Minor Street Crossing	Dedicated Intersection	Dedicated Intersection	Minor Street Crossing	Merge with traffic and/or provide ramps to multiuse trail
	Protected Bike Lane/Cycle Track	Dedicated Intersection	Protected Intersection	Protected Intersection	Minor Street Crossing	Provide ramps to multiuse trail
	Multiuse Trail	Minor Street Crossing	Dedicated Intersection	Dedicated Intersection/Grade-Separated Crossing	Minor Street Crossing	Provide ramps to multiuse trail

Intersection Type Definitions

Protected Intersections – Protected intersections, as shown in **Figure 1**, physically separate bicycles and motor vehicles up until the intersection. According to NACTO, "the bikeway is set back from the parallel motor vehicle traffic [and bicyclists] are given a dedicated path through the intersection and have the right of way over turning motor vehicles."

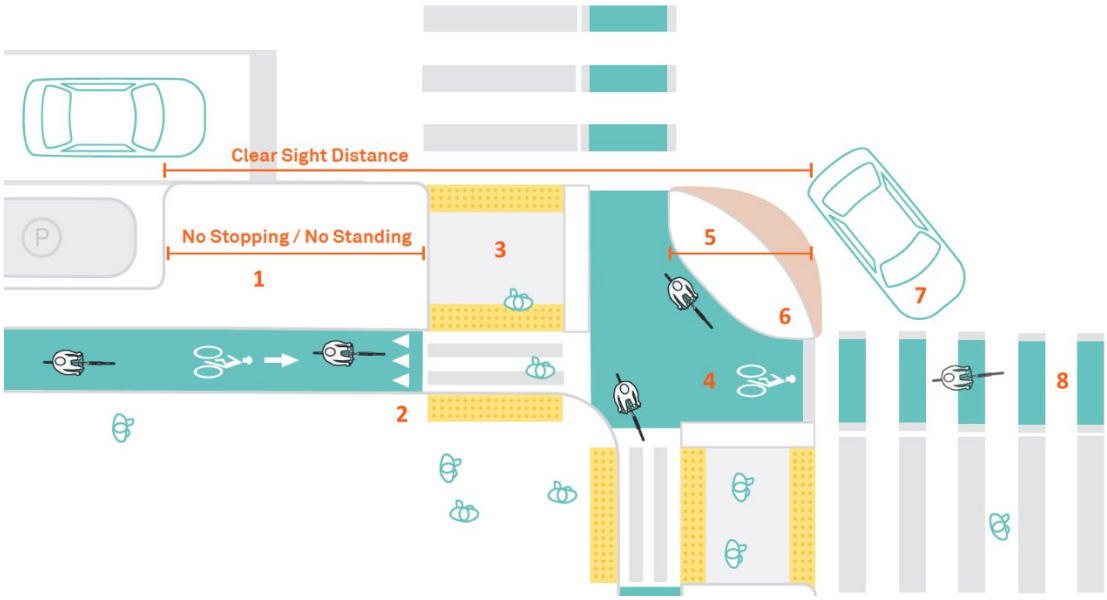


Figure 1: Protected Intersection (Source: NACTO)

1. No Stopping / No Standing Zone

Motor vehicle parking and stopping are prohibited on the approach to the intersection.

2. Bike Yield Line (optional)

3. Pedestrian Islands

Islands reduce crossing distances and improve visibility by keeping the intersection clear. Wider islands support high volumes of people walking and biking, raising the capacity of the intersection. In some cases, islands can reduce the signal time needed for pedestrians.

4. Bike Queue Area

People biking can wait ahead of the crosswalk for a green signal or a gap in traffic. This shortens crossing distances, and accommodates the natural positioning of people biking. Bike detection optional.

5. Bikeway Setback

The setback determines how much room will be available for drivers to wait and yield, and the angle at which they cross the bikeway. Larger setbacks provide better visibility and give people bicycling more time to notice and react to turning vehicles.

6. Corner Island

A corner island separates bikes from motor vehicles, prevents motor vehicles from encroaching on the bikeway, and creates a protected queuing area for people on bikes waiting to turn.

7. Motorist Waiting Zone

The space between the motor vehicle lane and the crossbike provides a place for motor vehicle drivers to wait before turning across the bike's path of travel.

8. Crossbikes / Intersection Crossing Markings

Markings provide conspicuity and directional guidance to bikes in the intersection. They are marked with dotted bicycle lane line extensions and may be supplemented with green color or bike symbols between these lines.

Dedicated Intersections – Dedicated intersections, as shown in **Figure 2,** utilize turn speed reduction techniques and new signal phasing patterns to reduce conflicts between bikes and turning vehicles. Turn speed reduction techniques include corner wedges that have a speed bump or similar element or pedestrian safety islands. Signal phasing patterns include protected-permissive bike signal phasing. Maintenance implications should be considered during design of this treatment.

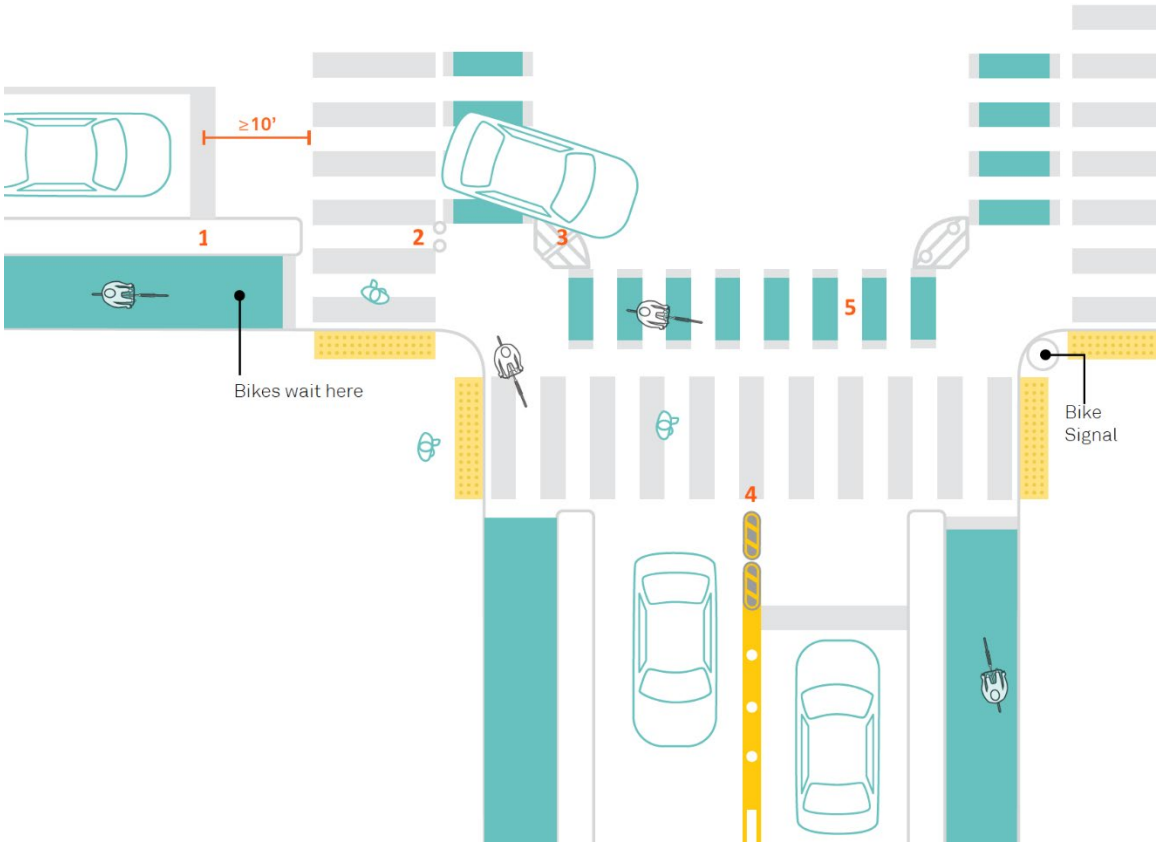


Figure 2: Dedicated Intersection (Source: NACTO)

Source: NACTO

1. Buffer or Curb

A marked, painted, or raised buffer provides people on bikes with a defined travel zone at the approach to the intersection.

2. Crosswalk Separator

A raised element such as mountable curb or a pair of flexible delineator posts discourages turning vehicles from cutting across the bikeway when turning right.

3. Corner Wedge & Speed Bump

Speed reduction devices, such as modular speed bumps, help prevent high-speed turns and are expected to improve driver yielding. They can extend over the space used by turning vehicles but not over the bikeway or crosswalk.

4. Centerline Hardening

Modular curbs with or without vertical delineators reduce the speed of turns across the bikeway and shorten the conflict zone.

5. Crossbike / Bike Lane Line Extensions

Minor Street Crossings – According to NACTO, "minor street crossings use compact corners and raised elements to keep turn speeds low." They have raised crosswalks and bikeways to indicate a low-speed environment, and usually do not have traffic control devices like signals. A minor street crossing is shown in **Figure 3.**

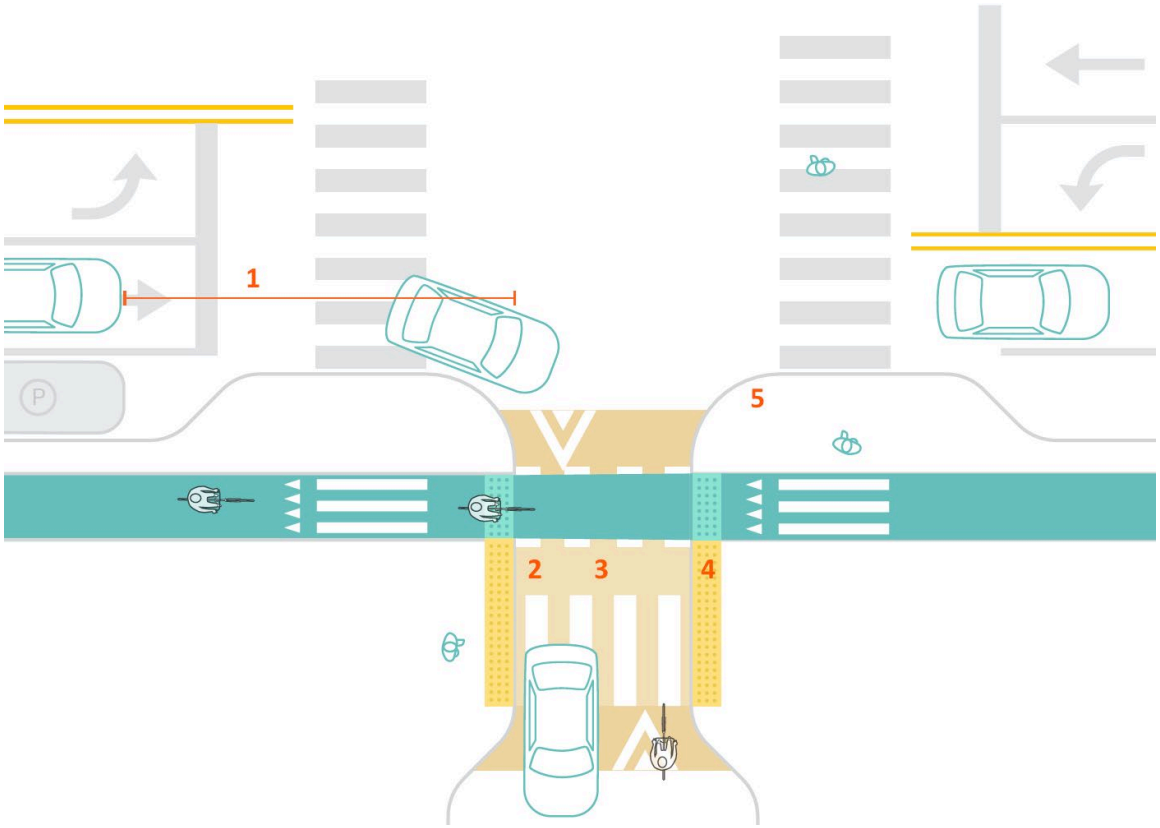


Figure 3: Minor Street Crossing (Source: NACTO)

1. Clear Sight Distance
A clear approach sightline gives drivers time to see and yield to people in the crossbike, and gives people on bike or on foot time to see and react to turning cars.

2. Crossbike & Crosswalk Markings
Crossbike and crosswalk markings provide conspicuity to people on bike or on foot. High-visibility markings provide the formal crosswalk and crossbike.

3. Raised Crossing
Raised crossings improve bicyclists' visibility and reduce the speed at which vehicles turn by bringing the vehicle crossing up to (or near) the sidewalk level. In addition, the raised crossing is a signal to turning cars that through-moving bikes and pedestrians have the right of way.

4. Detectable Warning Surfaces
Detectable warning surfaces alert people who are blind or have low vision that they are entering an intersection.

5. Compact Corners
Small turn radii force turning drivers to slow down. If there is no raised crossing, the corner radius is the primary method to reduce turn speed.

Grade-Separated Crossings – Grade-separated crossings, as shown in **Figure 4**, refer to crossings where different pathways of transportation (such as roads or trails) are separated vertically and do not intersect at the same level. Grade-separated crossings can be overpasses and underpasses.

Figure 4: Grade Separated Crossing (Source: City of Boulder)

Roundabouts – When bike facilities meet a single lane roundabout with a designated speed of ≤ 25 mph, neighborhood bikeways and bike lanes can merge with traffic. Additional signage should also be provided, as well as on-street painted sharrows. When a raised cycletrack or trail meets a roundabout, or when any bicycle facility meets a two-lane roundabout, separated bike facilities should be provided. Separated facilities can also be included when a standard bike lane meets a one-lane roundabout. The infrastructure should have ramps and clear crossing markings for where bikes are to cross the legs of the roundabout. An example is shown in **Figure 5**.

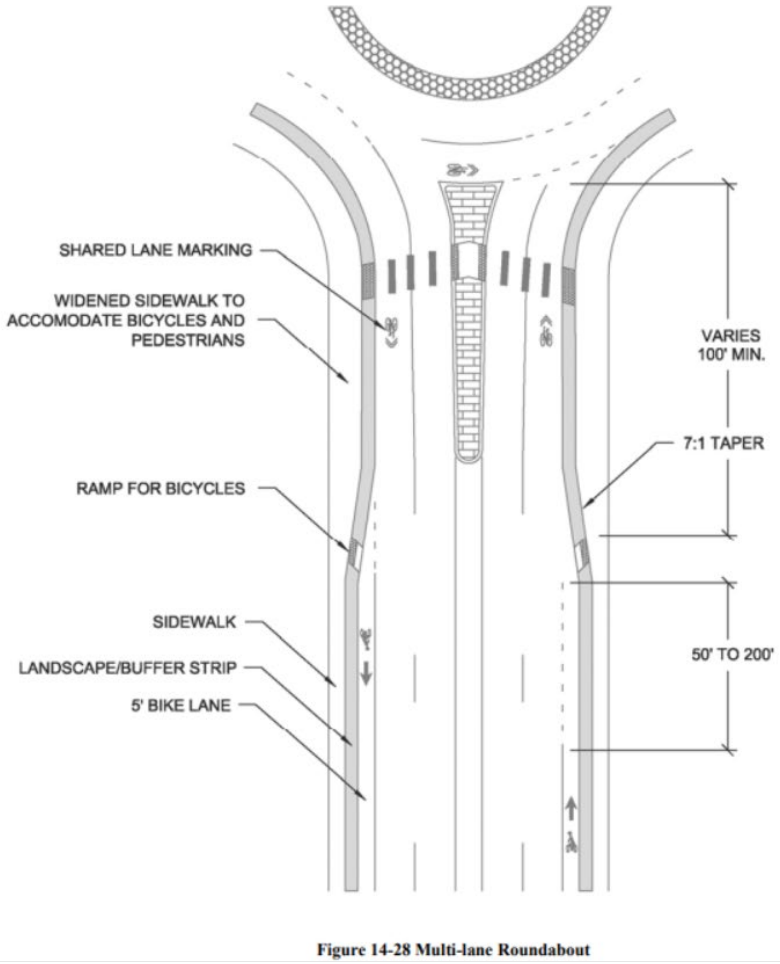


Figure 5: Bicycle Crossing at Roundabout (Source: CDOT)

Please refer to NACTO's *Urban Bikeway Design Guide* and *Don't Give Up at the Intersection* for additional information and design guidance for bicycle crossing treatments.

Intersection Treatments at Bicycle Crossings

Additional details are provided in this section on specific crossing treatments that are a part of the crossing types. **Table 2** shows the various intersection components as they relate to different crossing treatment types. There is a section including a description and image for each of the following crossing components:

- Neighborhood bikeway crossings
- Through bike lanes
- Signal phasing
- Signal detection and actuation
- Recessed stop bar or bike box

- Intersection crossing markings
- Raised cycle track intersection approach
- Bridges and underpasses
- Bicycle facilities over bridges

Table 2: Intersection Treatments for Different Intersection Types*

	Signal Phasing	Signal Detection & Actuation	Bike Box	Intersection Crossing Markings	Combined Bike Lane/Turn Lane
Grade-Separated Crossing				x	
Protected Intersection	x	x		x	
Dedicated Intersection	x	x		x	
Cycle Track Intersection Approach			x	x	x
Minor Street Crossing		x		x	x
Neighborhood Bikeway Crossing				x	x

** Note: This table is not comprehensive of all intersection treatment types available.*

Neighborhood Bikeway Crossings

NACTO provides treatment guidance for two basic types of intersections: minor street crossings and major street crossings.

Minor Street Crossings: At minor street crossings on neighborhood bikeways, the primary consideration is mitigating frequent stops, which can be a significant inconvenience for bicycle

mobility. This reduction in frequent stops should not be at the cost of reducing the density of the street grid and connectivity, it will be focused on the location of stop signs, not the frequency of intersections. Frequent placement of stop signs along low-volume, low-speed streets is a common strategy to mitigate speeding and cut-through vehicle traffic, especially in residential areas where most bike boulevards will occur. NACTO recommends that "bicycle boulevards should have right-of-way priority and reduce or minimize delay by limiting the number of stop signs along the route." Therefore, it is recommended to consider flipping the stop sign to be directed to the non-bike priority street, creating a two-way stop-controlled intersection, which could be paired with a neighborhood traffic circle to limit vehicle speeds. Other speed and volume control treatments should be used on the bike boulevard in lieu of frequent stop signs, such as speed humps, chicanes, bulb-outs, neighborhood traffic circles, and diverters.

Major Street Crossings: Because neighborhood bikeways are typically along local streets that have two-way stop control at major cross streets, the primary consideration at these locations is providing a safe and convenient way for bicyclists to cross. Effective treatments at major crossings will be essential to implementing effective neighborhood bikeways in Erie. NACTO provides guidance on potential treatments where bike boulevards cross major streets, including curb extensions, flashing beacons, median refuge islands, and signals.

Through Bike Lanes

At intersections, bicyclists need the opportunity to position themselves to avoid conflicts with turning traffic. This typically includes positioning bike lanes to the left of right turn lanes and providing a dotted transition lane for bikes of the appropriate width and distance in advance of the intersection (see **Figure 6**). Green skip paint can be used for intersections with high right turn volumes.

In addition, ending the bike lane prior to the intersection should be avoided as much as possible. This was a common barrier to bicycling identified by the community during the public engagement process. In constrained environments where there may not be enough space to accommodate a bike lane through the intersection under the existing lane configuration, the town should evaluate removing a turn lane, providing a combined bike/turn lane (see example in **Figure 7**), widening the intersection, or providing a ramp to/from a shared multiuse trail similar to a roundabout configuration.

Figure 6: Through Bike Lane in Boulder, CO (Source: NACTO)

Figure 7: Combined Bike Lane/Turn Lane (Source: NACTO)

Signal Phasing

At signalized intersections, there are several strategies related to signal phasing to enhance bicycle safety, visibility, and prioritization. They include:

Protected Left Turn Phasing: Vehicles making a left turn on streets with a bikeway may not be looking for crossing bicyclists. Permitted-protected and protected-only signal phasing are proven safety countermeasures that can mitigate crashes with left turning vehicles.

Lagging Left Turn: A lagging left turn provides the vehicle with a left turn green arrow after the through movement, to allow bicyclists to pass through the intersection first.

Bike Signal: A bike signal provides the bicyclist with a separate phasing from vehicles which can be useful at intersections with high volumes of right turning vehicles and where the bikeway is to the right of the turn lane. Phasing may be in the form of protected or protected-permissive right turns.

Leading Bike Interval (LBI): An LBI is where the bicyclist receives a green bike signal a few seconds in advance of vehicles, allowing the bikes to get a head start into the intersection to become visible, especially if there is not a dedicated right turn lane. This phasing requires a separate bike signal head.

Signal Progression: Setting signal progressions to bike-friendly speeds (around 12 mph) on streets prioritized for bike movements can reduce bicycle delay and improve bicycle compliance, while supporting bus transit reliability and disincentivizing vehicular speeding.

Prohibit Right-turn-on-Red: Beyond situations outlined in Section 2B.60 of the Manual for Uniform Traffic Control Devices (MUTCD) to consider a No Turn on Red sign, this prohibition should also be considered at intersections with streets where a multiuse trail is present to mitigate conflicts caused by drivers looking left for gap in traffic and failing to see a bicyclist on a multiuse trail approaching from the right.

According to NACTO: "A LBI can be provided if a shared through/turn lane is next to the bikeway. If a dedicated right or left turn lane is next to the bikeway, protected-permissive bike signal phasing should be considered. Protected signal phases should be considered if turn volumes from the adjacent lane exceed 120 to 150 vehicles per hour (vph). Protected signal phases should also be considered if conflicting left turn volumes (on two-way streets) across the bikeway exceed 60 to 90 vph, or if these turns cross multiple traffic lanes."

Signal Detection & Actuation

At all signalized intersections in Erie where an existing or planned neighborhood bikeway crosses the intersection the following should be considered in the signal design so a bicyclist can reliably actuate a green signal. There are several options to achieve this:

Automatic Bike Detection: The most effective bike detection uses video or radar to detect the presence of a bicyclist and actuate the signal. This should be paired with pavement markings and/or signage directing bicyclists where to position to actuate the signal (see **Figure 8**).

Push-Button: A user activated button (similar to a pedestrian push button) mounted on a pole adjacent to the bikeway and at a level that a bicyclist can activate without dismounting or leaving the bikeway.

Automatic Recall: The simplest way to ensure bicyclists can call a green signal is to set the signal phasing to automatic recall so that a green phase is actuated every signal cycle.

Providing a reliable and convenient way for bicyclists to actuate a signal is important to bicycle comfort, convenience, and safety when crossing busy streets, and will deter red light running.

Figure 8: Bicycle Detection at Signal (Source: NACTO)

Recessed Stop Bar or Bike Box

Installing recessed stop bars for vehicles at intersections increases the visibility of bicyclists and can be applied across all controlled intersection treatment strategies. **Figure 9** shows a recessed vehicle stop bar. This can also take the form of a bicycle box, which is a designated area in front of the travel lane at a signalized intersection that is safe and visible for bicyclists to wait. This allows bicyclists to get ahead of queueing traffic during the red signal phase which helps to mitigate conflicts with right turning vehicles. It is recommended that this be paired with prohibiting right turns on red. An example of a bike box is shown in **Figure 10**.

Figure 9: Recessed Stop Bar (Source: NACTO)

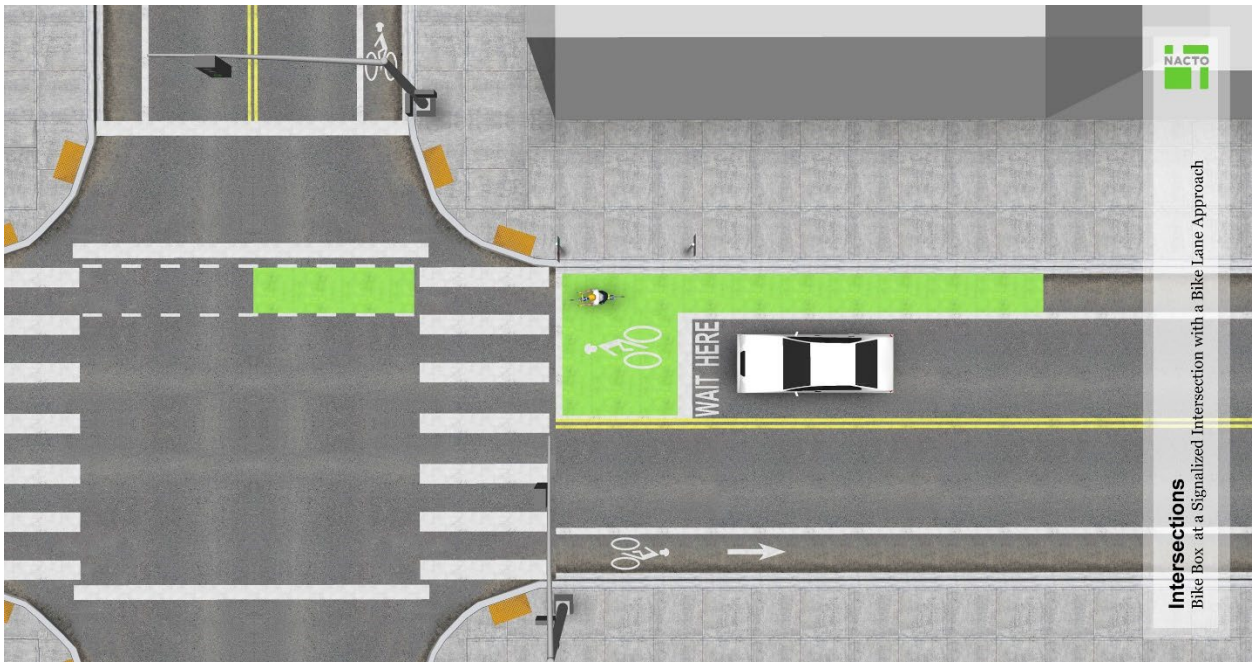


Figure 10: Bike Box at Intersection (Source: NACTO)

Intersection Crossing Markings

NACTO recommends the implementation of crossbike markings across the intersection; a crossbike is an intersection paint marking similar to a crosswalk. This can consist of bike lane line extensions with broken white lines and/or dashed green bars. An example of a crossbike is shown in **Figure 11.**

Figure 11: Crossbike (Source: NACTO)

Raised Cycle Track Intersection Approach

At raised cycle track intersections, NACTO recommends reducing turn conflicts by removing the protected cycle track barrier or raised surface and "shifting the bicycle lane to be closer to or shared with the adjacent motor vehicle lane. At these intersections, the experience is similar to a conventional bike lane and may involve similar applications of merging area treatments and intersection crossing markings. At the intersection, the cycle track may transition to a conventional bike lane or a combined bike lane/turn lane. Cycle track crossings of signalized intersections can also be accomplished through the use of a bicycle signal phase that reduces conflicts with motor vehicles by separating in time potentially conflicting bicycle and motor vehicle movements" (NACTO). A cycle track intersection is shown in **Figure 12**.

Figure 12: Cycle Track Intersection Approach (Source: NACTO)

Bridges and Underpasses

All future bridge and underpass crossings on dedicated low-stress bikeways should be designed to accommodate pedestrians and bicyclists via a low-stress facility generally following the pedestrian and bicycle facility design guidance in the TMP. Dedicated grade separated crossings for people walking and biking are also identified in the Proposed Bicycle Facilities map in the TMP.

Bicycle Facilities over Bridges

Given the unique nature of bridge and underpass crossings, possibly including narrower cross-sections, higher vehicle speeds, and walls or railings, special consideration should be given to pedestrian and bicycle accommodations in these contexts. Traffic volume, speed, number of travel lanes, and length of the bridge will determine the facility most appropriate for bicycles. The American Association of State Highway and Transportation Officials (AASHTO) *Guide for Development of Bicycle Facilities* provides recommendations for special considerations for bicycle facilities on bridges including the height and spacing of railings, and additional clear zone spacing. AASHTO also recommends that on longer bridges (a half mile or more) with a design speed of over 45 mph, bicyclists have a separate shared-use path with a concrete barrier. In these instances, merge ramps may be needed to allow bicyclists to transition from on-street to off-street facilities on either end of the bridge, similar to roundabouts. Connections to adjacent bicycle and pedestrian corridors on either side of the bridge or underpass should also be made to

ensure adequate access and connectivity to the bridge or underpass. Lastly, bridges and underpasses should be ADA accessible and well-lit.

Appendix E: Microtransit Analysis and Recommendations

Erie Microtransit Service Plan

Prepared for:
Town of Erie, CO

June 13, 2024

DN23-0774

FEHR PEERS

Table of Contents

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Chapter 1 – Introduction

This report details the Town of Erie's plan for an effective, innovative, and customer-focused transit solution for implementation and deployment within the Town boundaries. The project's goal is to provide an enhanced, flexible, convenient transportation solution for connections that may include first/final mile, community destinations, or specialty transportation needs. The purpose is to solve unmet transportation needs, and not to duplicate any existing transportation services. In particular, the service will improve transportation for marginalized population groups and those with less access to reliable transportation, including older adults, youth, individuals with limited English proficiency, individuals with a disability, and families with low incomes. The result of the project will be a service plan and microtransit procurement development for contracted service operations.

Project Approach

The project approach is described in **Figure 1**, with each step relating back to the project's core goals.

Figure 1: Project Approach

Report Contents

The report includes the following major sections:

- Background and Context
- Existing Transit Services
- Demographic Analysis
- Travel Patterns and Demand
- Community Input
- Transit Need & Travel Market Identification
- Recommended Microtransit Zone
- Implementation Plan

Chapter 2 – Background & Context

What is Microtransit?

Microtransit is an on-demand public transit service that matches and combines trip requests in real-time, similar to Uber or Lyft. Additional attributes of microtransit include:

- It typically operates in a smaller geographic area without a specific route.
- It picks up and drops off its passengers within a block of their origins and destinations.
- Smaller vehicles are used, with at least one vehicle able to accommodate wheelchairs.
- Riders are picked up in 30 minutes or less from when a trip is requested.
- Trip requests may serve one individual or can be shared among multiple passengers who request a ride along a similar route at the same time.
- Trips are requested via a smartphone application or through a call-in option.

Some of the advantages of microtransit over fixed-route transit include:

- Allows for a high degree of flexibility and adaptability in how the service is defined and operated.
- More effectively serve travel markets with lower population density, where origins and destinations are more dispersed.
- Can be more convenient to users than a low-frequency fixed route service by providing door-to-door service with pick-up in under 30 minutes.
- Smaller vehicles allow for more flexibility in locations served, are more fuel efficient, and make it easier to recruit and train drivers.

Microtransit in Erie

A primary goal of this project is to close the transit service gap within the Town of Erie. Erie is a community of over 30,000 and as the fastest growing community in Boulder County is expected to add another 10,000 residents in the next decade. Additionally, the Town has limited transit service today. Less than half the Town (the portion within Boulder County) is included within the Regional Transportation District (RTD). Even within that portion, the only route that penetrates the Town is the JUMP, which connects to Boulder and operates every 30 minutes during peak periods, hourly in the evening, with no midday service, and hourly on Saturdays with no Sunday service. Limited additional service is provided on the edge of Erie, including additional frequency of the JUMP, the LD Route along US 287 between Longmont and Broomfield and the recently launched North Broomfield FlexRide that serves the very

southeastern corner of Erie. Additional service along CO 7 is planned in 2026 between Boulder and Broomfield.

The 2018 Erie Transportation Master Plan identified the need to provide flexible transit solutions in places where RTD has been unable to provide service. Some of the core goals of this project identified in that plan and by the Town include:

- Fill the missing transit gap within Erie.
- Connect Erie residents to the existing adjacent RTD transit network (including Lafayette and Louisville).
- Provide a transit connection to future BRT starter service along CO 7.
- Connecting Erie residents, in particular those that have no means of transportation, to services via transit (destinations in town, medical facilities, education, employment, shopping, etc.).
- Improve transportation for marginalized population groups and those with less access to reliable transportation, including older adults, youth, individuals with limited English proficiency, individuals with a disability, and families with low incomes.
- Reduce the need to rely on driving to get around Erie and to/from Erie.

The Town of Erie was awarded DRCOG TIP funding in the amount of $1,200,000 to partially fund microtransit services in Erie over a two-year period to fill the transportation gap identified. Additional funds will be provided by the Town and potentially other sources.

Chapter 3 – Existing Transit Services

Routes and Coverages

The western portion of Erie, west of County Line Road, is within Boulder County and is included in the Regional Transportation District, RTD, which provides transit services to the Denver Region. This portion of the town is currently served by the JUMP route that directly connects Erie to Boulder via Arapahoe Road.

Three other transit services operate adjacent to the Town boundary:

- RTD Route LD – The LD3 operates from Longmont to Broomfield along US 287 on the West edge of Erie and the LD1 operates the same general route along US 287 with service continuing into Union Station in Denver.
- Ride Free Lafayette - On-demand service in Lafayette managed by Boulder County just south of the southwest corner of Erie.
- RTD Broomfield North Flexride, - On-demand service roughly between 144th Avenue and CO 7 between I-25 and Countyline Road. A small portion of the FlexRide service area operates in the southeast corner of Erie.

Additionally, RTD Route 225 and 228 serve Lafayette, adjacent to Erie. A map of the existing transit service in and around Erie is provided in **Figure 2.** The service operating characteristics of existing transit in Erie (specifically span and frequency) are detailed in **Table 1**.

Existing Transit

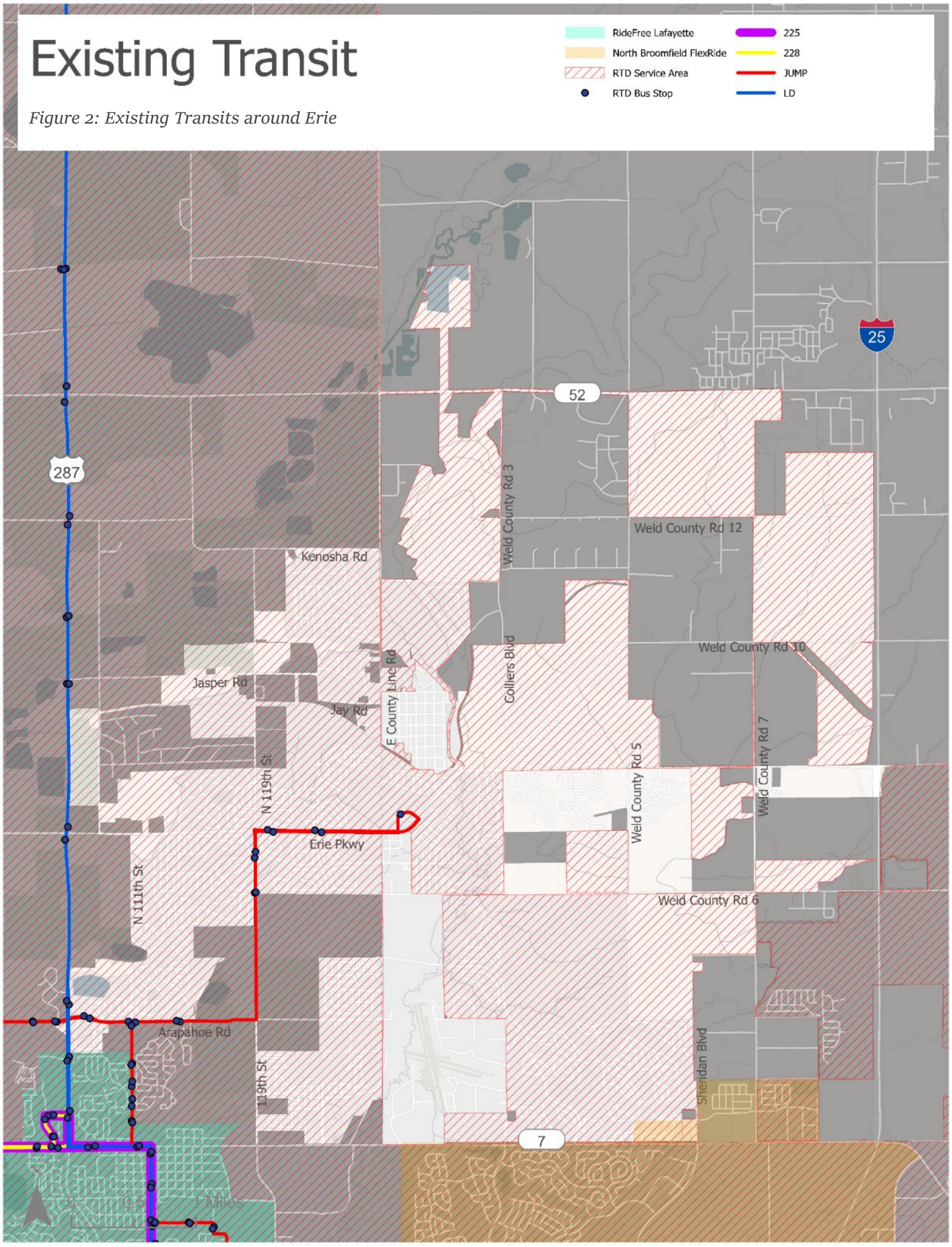


Figure 2: Existing Transits around Erie

Table 1: Existing Transit Operating Characteristics

Service	Direction	Operation Day	Operation Time	Frequency
JUMP (Erie Community Center runs only)	Eastbound	Monday-Friday	7 AM - 9 AM 3:30 PM - 7 PM	30 mins 30 mins
		Saturday	9 AM - 10 PM	1 hour
	Westbound	Monday-Friday	6 AM - 9 AM 4 PM – 6:30 PM 8:30 PM – 9:30 PM	30 mins 30 mins 1 hour
		Saturday	8:30 AM - 9:30 PM	1 hour
LD1 & LD3	Southbound	Monday-Friday	6 AM - 7 AM 7 AM – 8 AM 8 AM – 10 AM 10 AM – 2 PM 2 PM – 10 PM	30 mins 1 hour 2 hours 1 hour 2 hours
		Saturday	10 AM - 10 PM	2 hours
	Northbound	Monday-Friday	7 AM - 9 AM 9 AM - 5 PM 5 PM - 6 PM 6 PM - 11 PM	2 hours 1 hour 30 mins 2 hours
		Saturday	11 AM - 11 PM	2 hours
Ride Free Lafayette	On-demand, within the service area	Daily	7 AM - 8 PM	By reservation or on-demand
North Broomfield Flexride	On-demand, within the service area	Monday-Friday	9 AM - 4 PM	By reservation or on-demand if available

Source: RTD Services, Ride Free Lafayette

Frequency and Span

Table 2 illustrates the frequency of existing fixed-route transit service within and adjacent to Erie. During the peak periods, the JUMP (segment east of 111th Street along Arapahoe Road) and 225 (along Baseline Road) operate every 15 minutes. Midday most service operates hourly except the 225.

- **JUMP** - The RTD JUMP Route operates every 30 minutes to the Erie Community Center only in the morning and afternoon peak periods during weekdays and hourly all day on Saturdays. More frequent service (every 15 minutes) is provided west of 111th Street during weekday peak periods and every 30 minutes on Saturday. On Sunday there is no service to Erie Community Center and service west of 111th Street operates hourly.

- **LD** - The LD Route operates every 30 minutes for one hour in the peak direction (southbound in the morning peak and northbound in the afternoon peak) and operates every hour midday on weekdays. Otherwise, it operates every two hours, including in the off-peak direction, in the

evening, and on Saturday. There is no service on Sunday. Two peak direction runs operate to Denver Union Station. All other runs terminate at the US 36 & Broomfield Station.

- **Ride Free Lafayette** – The Ride Free Lafayette operates from 7 AM to 8 PM daily. Rides can be reserved in advance, on-demand, or riders can walk on if they see the bus.
- **North Broomfield Flexride** – The North Broomfield Flexride operates from 9 AM to 4 PM on weekdays. Rides can be reserved in advance or on-demand if the service is not already booked by a conflicting trip.

Table 2: Frequency of RTD Bus Routes in and Near Erie

Route	Destination	Weekday Peak	Weekday Midday	Saturday	Sunday
JUMP (Erie runs)	Erie - Boulder	30	-	60	-
JUMP (w of 111th)	Lafayette – Boulder	15	60	30	60
225	Lafayette - Boulder	15	30	30	30
228	Lafayette – Louisville - Broomfield	-	60	60	60
LD1 & LD3	Longmont - Broomfield	30-120	60	120	-

Source: RTD Services, Ride Free Lafayette

Ridership

The average daily boardings and alightings of existing fixed-route transit services at bus stops around Erie from the winter and spring of 2023 are shown in **Table 3** and mapped in **Figure 3**.

In general, the weekday ridership within Erie boundaries is higher than Saturday ridership. Erie Community Center has the highest boardings with an average of 25 passengers per weekday and 19 passengers per Saturday. Arapahoe Rd/Stonehenge Dr at the Southwest corner of Erie (west of US 287) served by the eastbound JUMP is the stop with the most alightings, with an average of 17 per weekday.

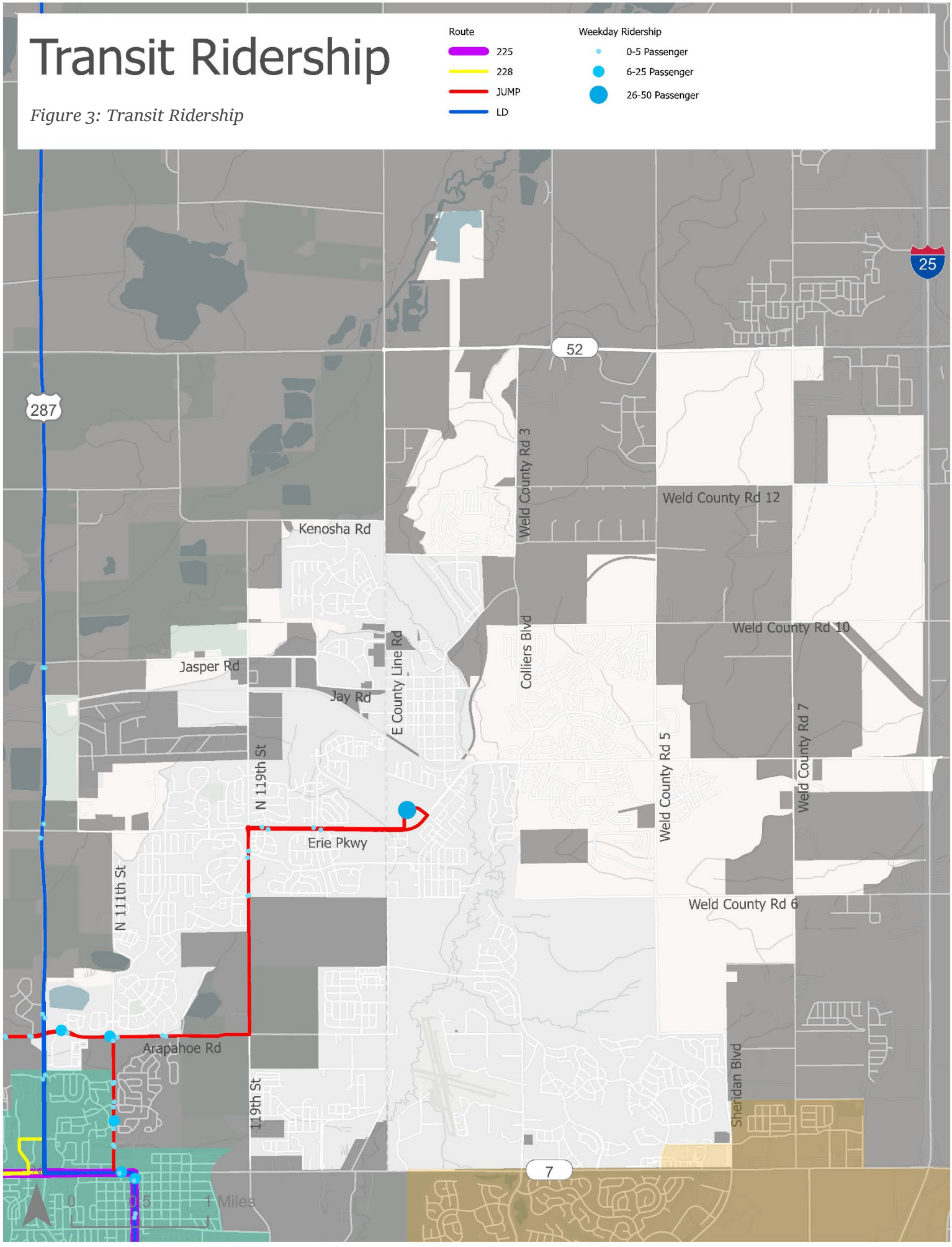
Table 3. Major Ridership Stops around Erie

Operation Day	Transit Stop	Transit Route	Direction	Average Daily Boardings	Average Daily Alightings
Weekdays	Erie Community Center	JUMP	Westbound	25	0
Saturday				19	0
Weekdays	Arapahoe Rd/US 287	JUMP	Westbound	11	3
Saturday				6	3
Weekdays	Arapahoe Rd/N 111th St	JUMP	Westbound	6	4
Saturday				2	1
Weekdays	Arapahoe Rd/Stonehenge Dr	JUMP	Eastbound	4	17
Saturday				2	7
Weekdays	Erie Pkwy/Meller St	JUMP	Westbound	3	0
Saturday				2	0

Source: RTD

Transit Ridership

Figure 3: Transit Ridership



Chapter 4 – Demographic Analysis

Demographics

The Town of Erie is located in Boulder County and Weld County and as of the 2020 Census had 30,000 residents. **Table 4** summarizes the demographic characteristics of the Town's population in comparison to Boulder and Weld Counties. There are fewer Hispanic/Latino residents in Erie (9%) compared to Boulder County (14%) and Weld County (30%). The median household income in Erie is $140,000 which is higher than Boulder County ($90,000), Weld County ($85,000), and Colorado ($80,000).

Table 4. Demographic Comparison of Erie, Boulder County, and Weld County

American Community Survey Data 5-Year Estimates (2021)		**Erie[1]**	**Boulder County[2]**	**Weld County[2]**
Population	Number of Residents	29,367	330,758	328,981
	Population Density (residents/square mile)	1,726	455.3	82.6
Race and Ethnicity	White alone (%)	82%	77%	63%
	Hispanic or Latino (%)	9%	14%	30%
	Black or African American (%)	0%	<1%	1%
	American Indian and Alaska Native (%)	<1%	<1%	<1%
	Asian (%)	5 %	5%	2%
	Native Hawaiian and Other Pacific Islander (%)	<1%	<1%	<1%
	Two or More Races (%)	5%	7%	4%
Income	Median Household Income ($)	$140,409	$90,168	$85,290
	Percent Below Poverty Line	4%	11%	10%

[1]Source: American Community Survey, 5-Year Estimates (2021)
[2]Source: Decennial Census (2020)

Age Group

Figure 4: Erie Age Distribution

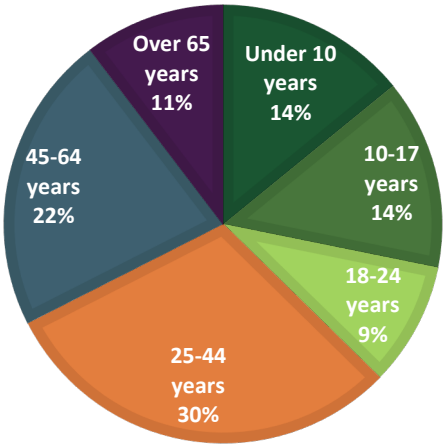


Figure 4 shows that people aged 25-44 years old account for approximately 30% of the population. Youth (0-17 years old) also make up a significant portion of the population (28%), and 22% of the population is aged 45-64.

Source: American Community Survey, 5-Year Estimates (2021)

The age groups that typically generate the highest demand for microtransit services (when not considering other factors, such as income or access to a vehicle) are teenagers and older adults.

Youth Population

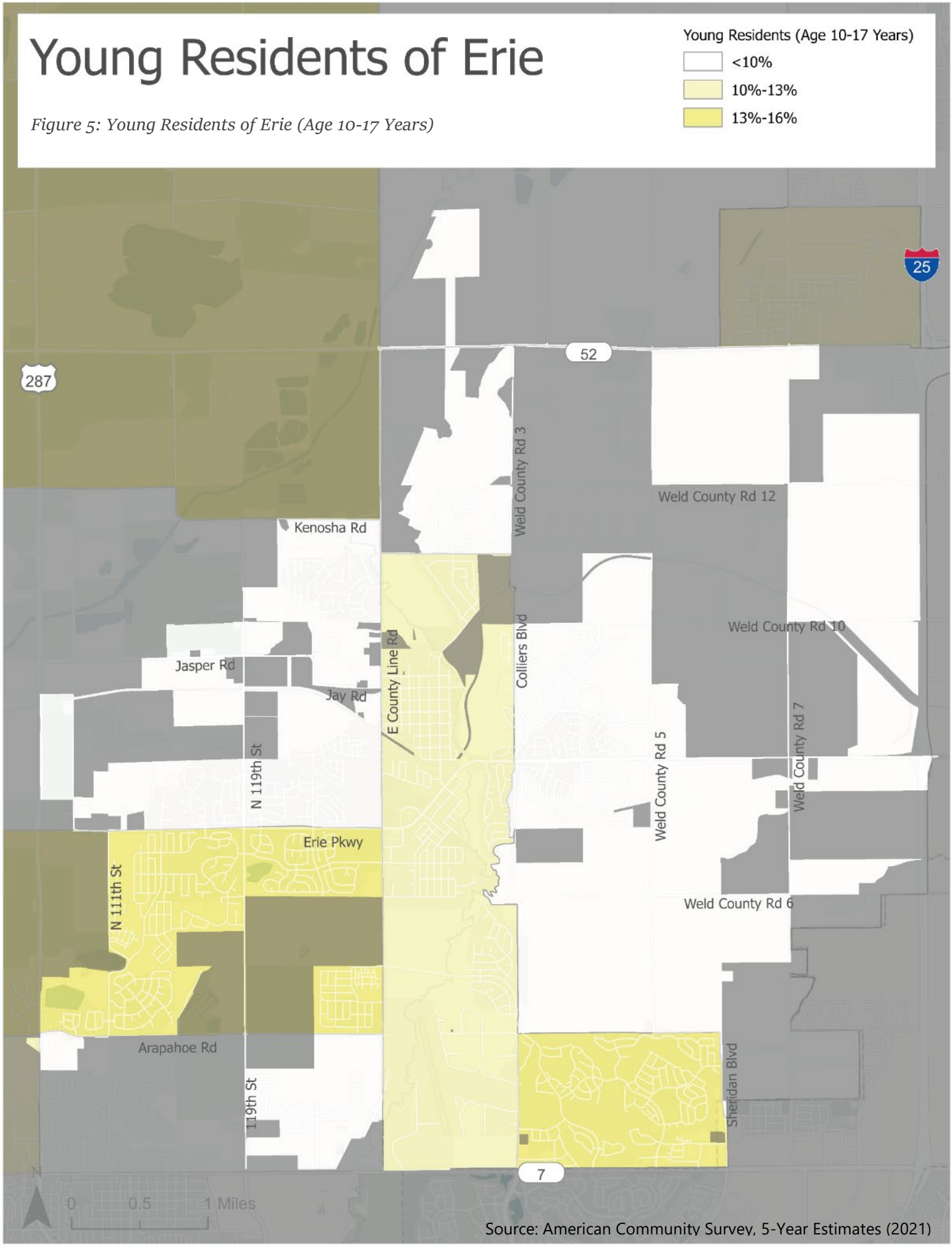
Figure 5 shows the distribution of the youth population in Erie (aged 10-17). This data is based on Census Tracts, which include areas both in and out of Erie, thus some of the data is representative of demographic characteristics of the portion of the census blocks outside of Erie. With this caveat in mind, the locations in Erie with a disproportionally higher concentration of youth (ages 10-17) appear to be west of County Line Road between Erie Parkway and Arapahoe Road and in the Vista Ridge neighborhood in southeast Erie (13% - 16%).

Older Adult Population

Figure 6 shows the distribution of the older adults in Erie (aged 65+). This data shows that the older adult population in Erie appears to be relatively distributed evenly across the Town (10% - 13%) with slightly higher concentration in the southwest area and far north of Erie (16% - 19%).

Young Residents of Erie

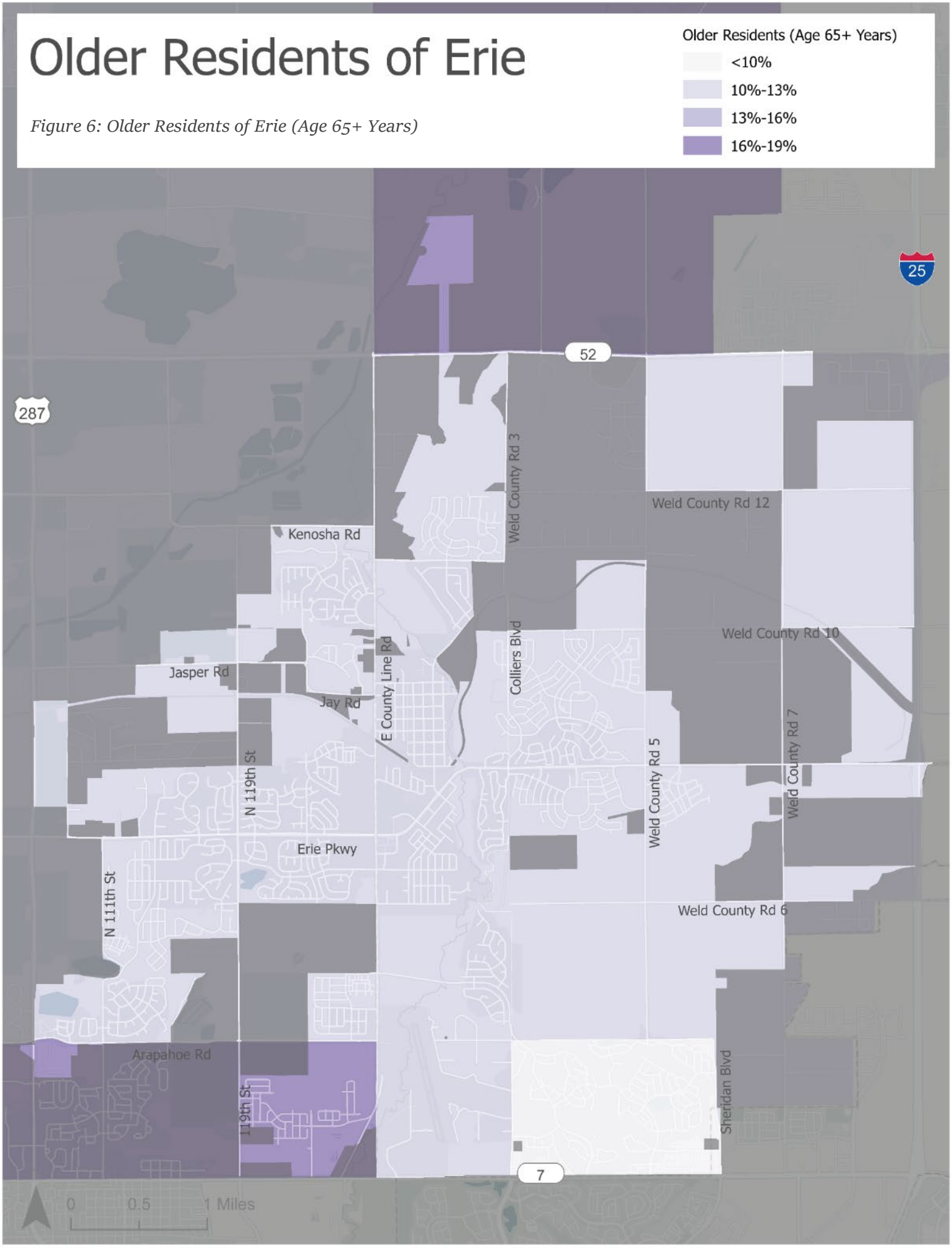
Figure 5: Young Residents of Erie (Age 10-17 Years)



Source: American Community Survey, 5-Year Estimates (2021)

Older Residents of Erie

Figure 6: Older Residents of Erie (Age 65+ Years)



Income

Transportation is the second highest household expense[1] after housing and income is an important determinant when evaluating transit demand.

Residents Living in Poverty

Four percent of the population in Erie is below the poverty line. **Figure 7** displays the percentage of residents in each census tract in Erie who live under the poverty line. This data shows that the west side of Erie (west of Colliers Blvd) likely has a slightly higher percentage of residents living under the poverty line (4% - 6%) compared to the east side of Erie (<2%), and greater concentration appears in the southwest area and far north of Erie (6% - 8%). It should be noted that because the data is based on census tracts this data includes areas both within and outside of Erie and the exact concentrations of the census tracts just within Erie are not represented.

Residents of Low and Moderate Income

The U.S. Department of Housing and Urban Development defines low-income populations as those earning 50 percent or less of the Area Median Income (AMI), and moderate-income populations as those earning between 50 percent and 80 percent of the AMI. Although some people with low and moderate incomes earn more than those living under the poverty line, they are still vulnerable to the burden of transportation costs.

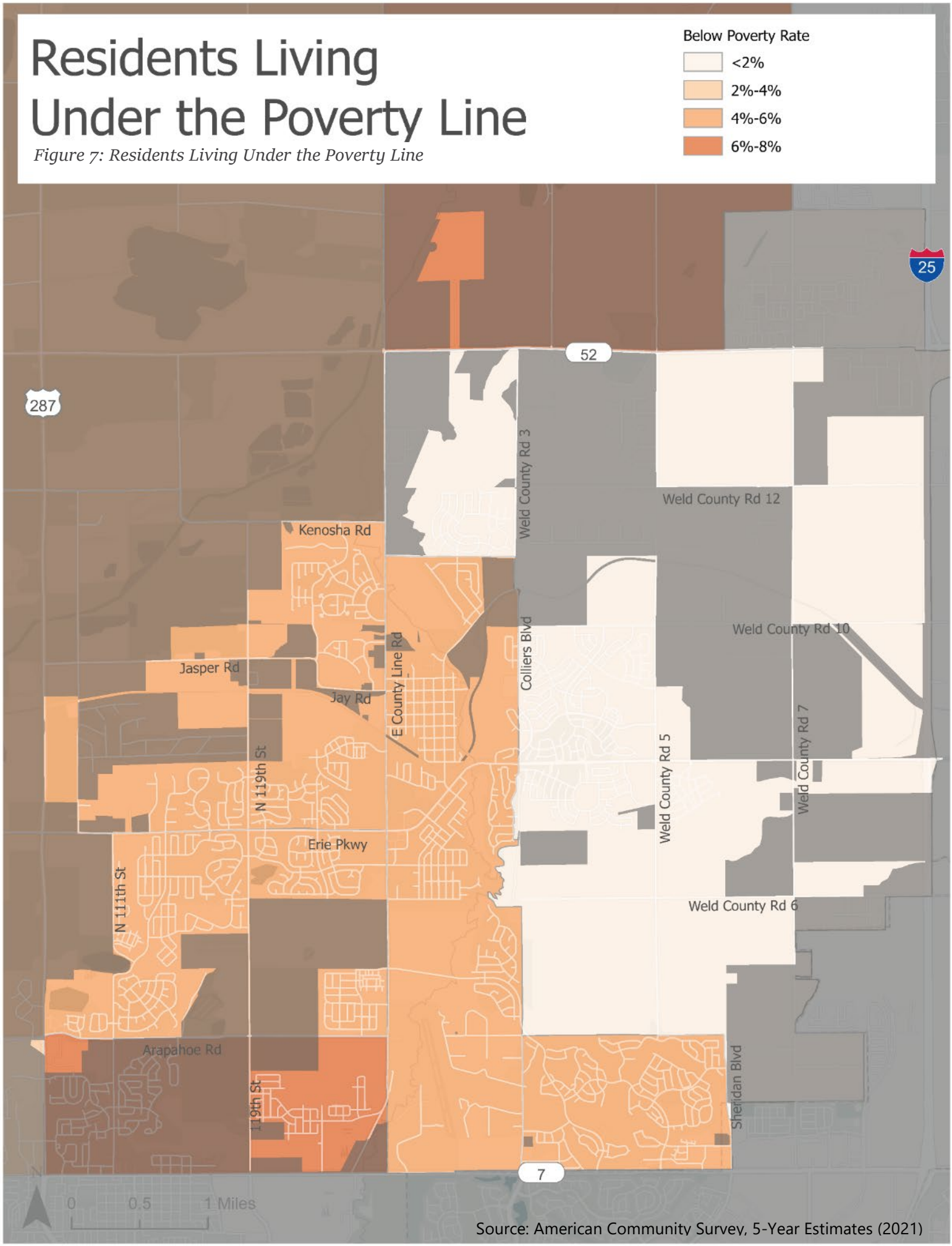
Figure 8 displays the percentage of residents in each census tract in Erie who are considered low and moderate-income. This data shows that low- and moderate-income households are fairly evenly distributed across Erie and generally represent about 10% - 20% of the population. The highest concentration also appears in the southwest area and far north of Erie (>30%), and the lowest proportion is the southwest corner of Erie (<10%).

Whether people are living with low and moderate-income, or they are living under the poverty line, transportation is a burdensome cost. Improving transit access can significantly improve the quality of life for these residents.

[1] Housing and Transportation Affordability Index

Residents Living Under the Poverty Line

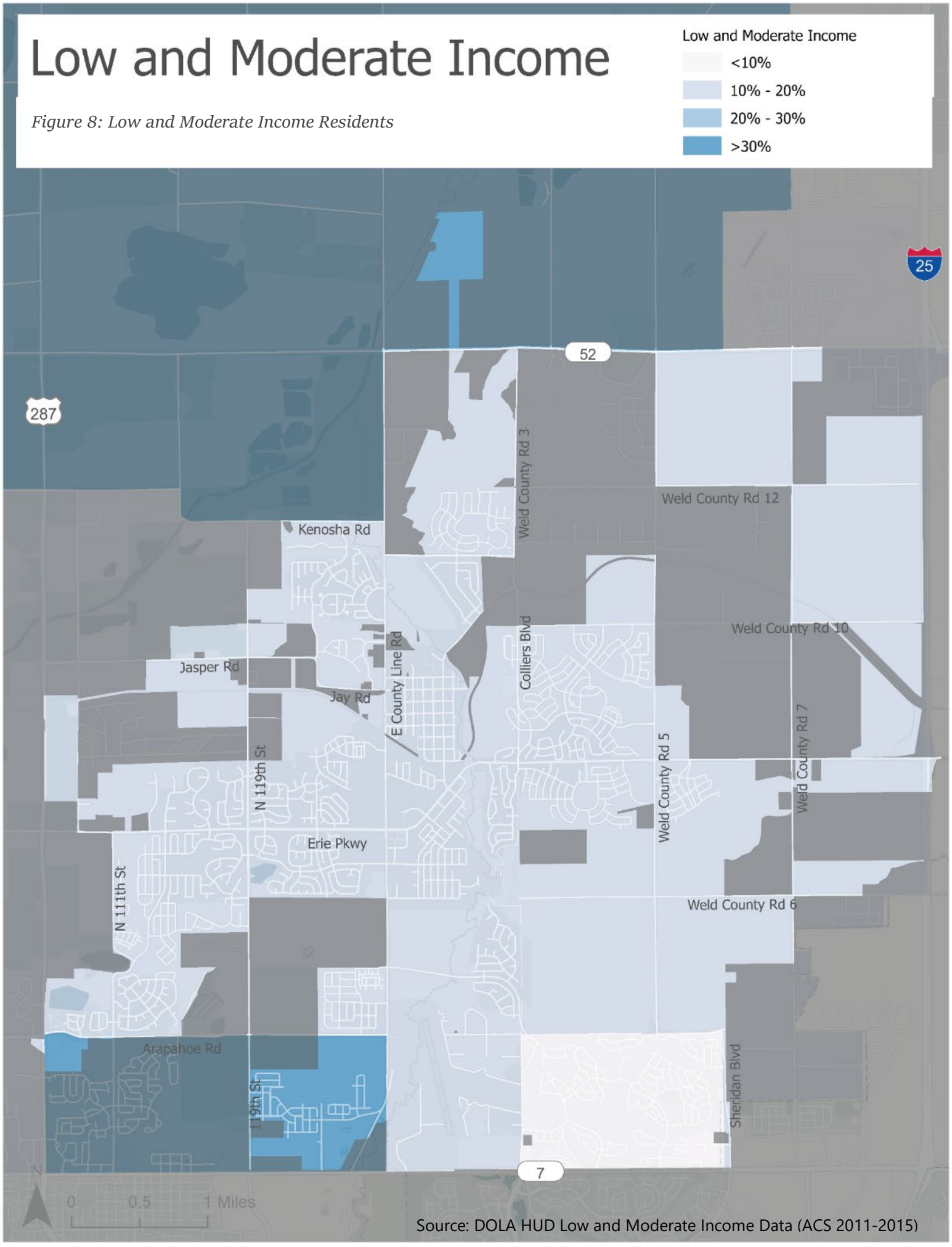
Figure 7: Residents Living Under the Poverty Line



Source: American Community Survey, 5-Year Estimates (2021)

Low and Moderate Income

Figure 8: Low and Moderate Income Residents

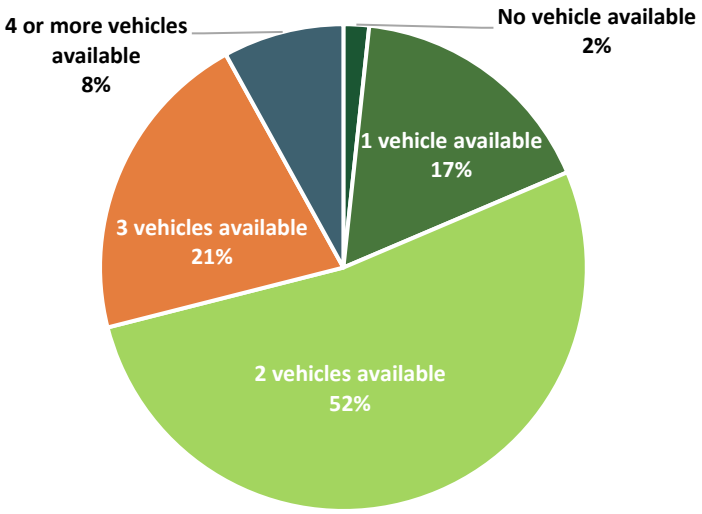


Source: DOLA HUD Low and Moderate Income Data (ACS 2011-2015)

Vehicle Availability

More than half (52%) of Erie households have two vehicles, 29% have more than two vehicles, and 17% have one vehicle. The data shows that only 2% of Erie households don't have private vehicles.

Figure 9: Household Vehicle Availability

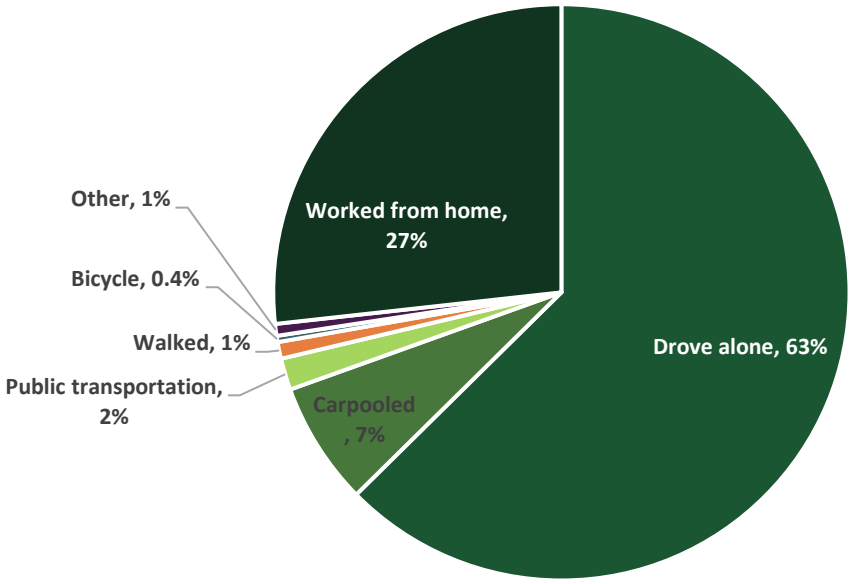


Source: American Community Survey, 5-Year Estimates (2020)

Commute Mode Split

Based on the most recent American Community Survey data from the U.S. Census between 2018 and 2022 most Erie residents, approximately 63%, drove alone to work. Seven percent carpooled to work and two percent used public transportation. About one percent walked, one percent used other modes, and less than one percent biked. Additionally, 27% of Erie's population worked from home (**Figure 10**). It should be noted that this data includes an average of both pre-pandemic and post-pandemic data.

Figure 10: Erie Commute Mode Split



Source: American Community Survey, 5-Year Estimates (2022)

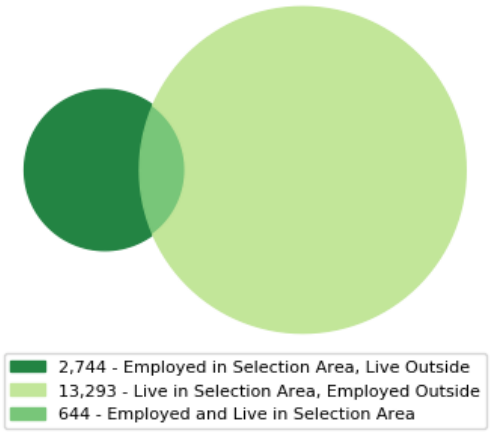
Chapter 5 – Travel Patterns & Demand

LEHD Commute Flows

The Longitudinal Employer-Household Dynamics (LEHD) from the U.S. Census collects survey data on travel and commute patterns. **Figure 11** shows that 95% of employed Erie residents worked outside of Erie in 2020. Additionally, about 80% of the 2,700 people who work in Erie commute from outside of Erie.

Commute-in/Commute-out Chart

Figure 11: Inflow/Outflow Jobs



Source: LEHD (2020)

Table 5. Erie Residents Inflow/Outflow Jobs

Category	2020	
	Count	Share
Living in the Selection Area	13,937	100%
Living in the Selection Area but Employed Outside	13,293	95%
Living and Employed in the Selection Area	644	5%
Employed in the Selection Area	3,388	100%
Employed in the Selection Area but Living Outside	2,744	81%
Employed and Living in the Selection Area	644	19%

Source: LEHD (2020)

About 40% of Erie residents who work outside Erie work less than 10 miles from Erie, mostly in Boulder and Longmont. Another 39% work in the Denver area which is approximately within 10-24 miles from Erie, and about 15% work 25-50 miles from Erie, mostly in Aurora. About five percent of commuters' workplaces are greater than 50 miles from Erie.

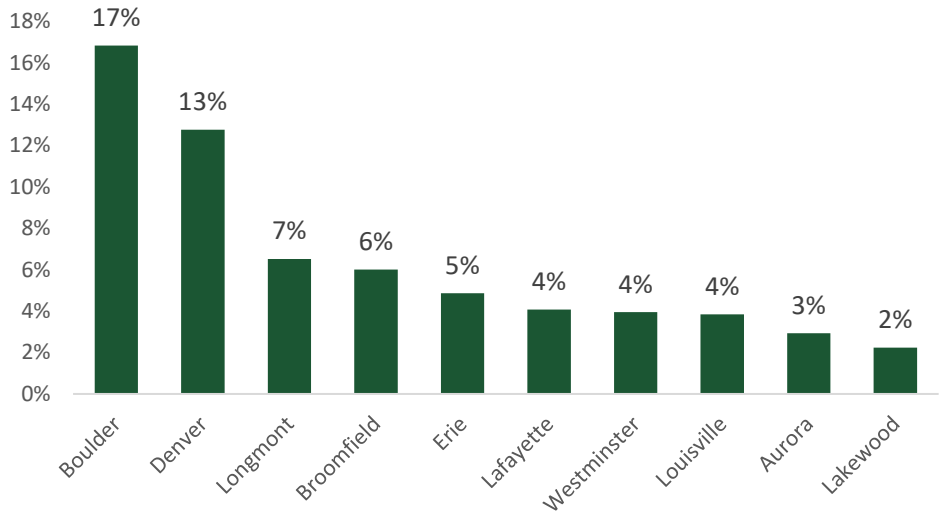
Table 6. Erie Residents Work Distance

Category	2020	
	Count	Share
Total All Jobs	13,937	100%
Less than 10 miles	5,632	40%
10-24 miles	5,424	39%
25-50 miles	2,144	15%
Greater than 50 miles	737	5%
Total All Jobs	13,937	100%

Source: LEHD (2020)

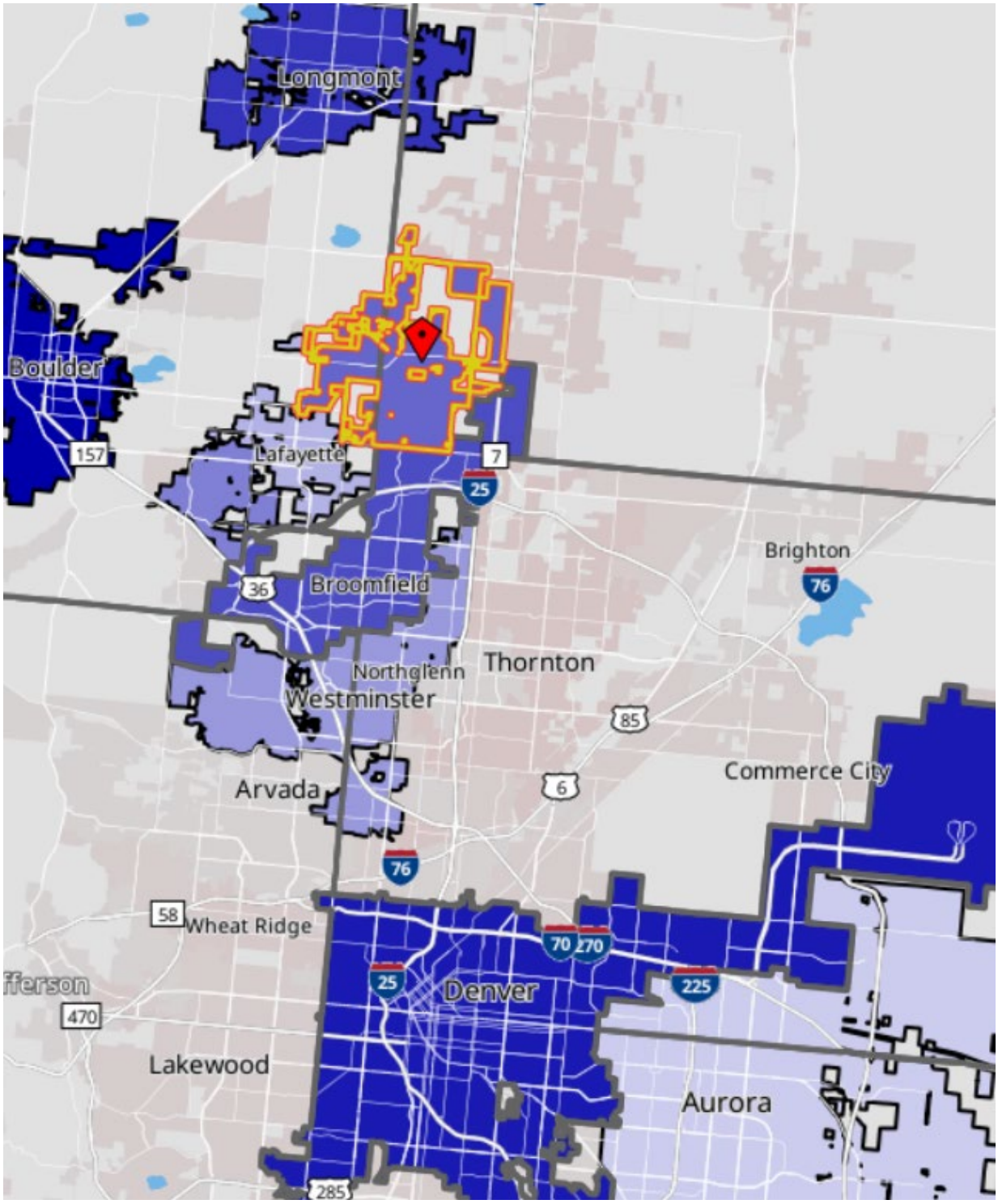
Figure 12 shows the top cities where Erie residents work, based on 2021 census data. About 30% of residents work in Denver or Boulder proper.

Figure 12: Where Erie Residents Work



Source: LEHD (2021).

Figure 13: Where Erie Residents Work



Source: LEHD (2020)

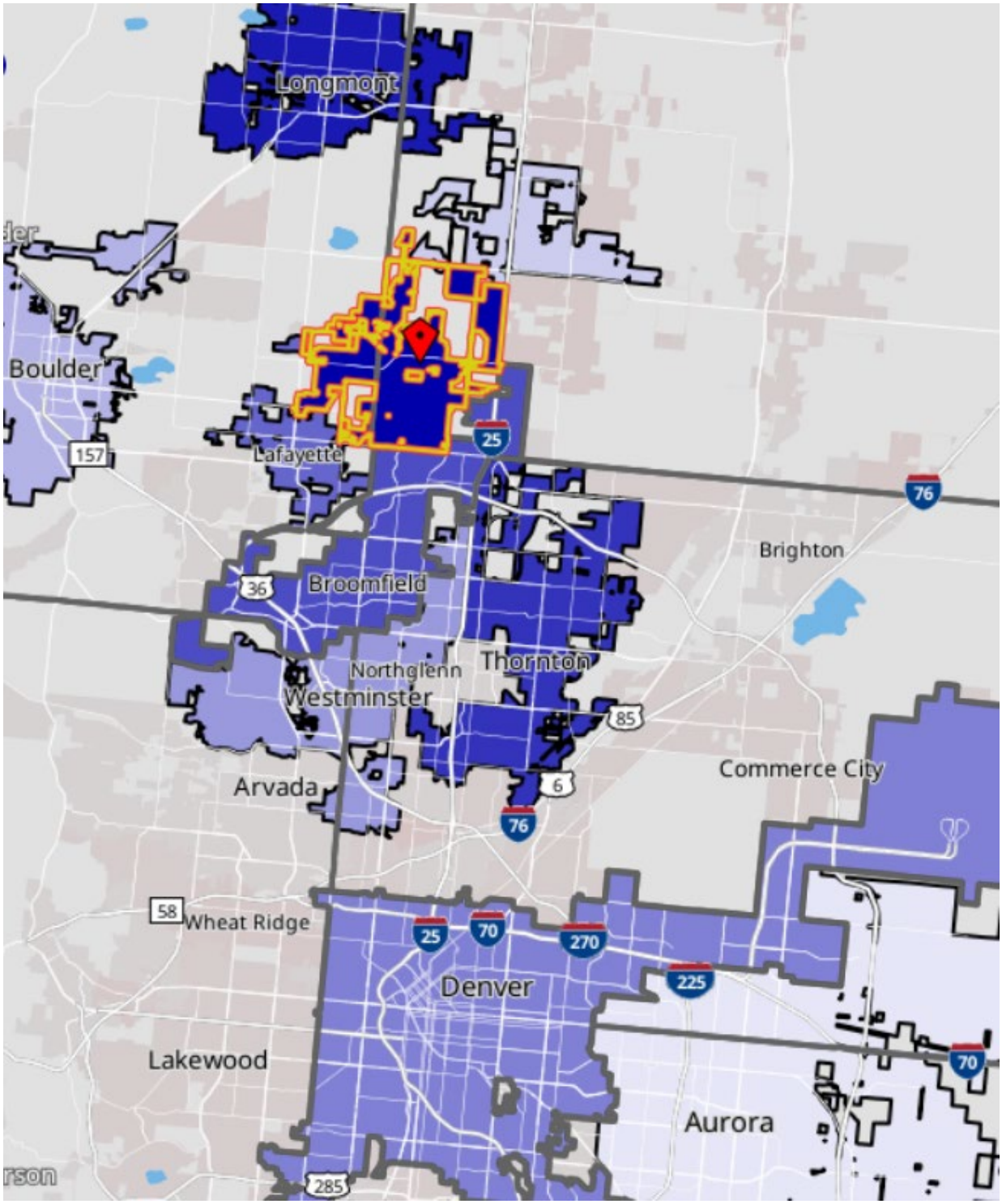
Table 7 shows that almost 50% of Erie workers live less than 10 miles away. A good share of these workers live in Longmont and Thornton. Another 32% live within 10-24 miles, mostly in Denver, and less than 20% live greater than 25 miles.

Table 7: Erie Workers Home Distance

Category	2020	
	Count	Share
Total All Jobs	3,388	100%
Less than 10 miles	1,656	49%
10-24 miles	1,087	32%
25-50 miles	476	14%
Greater than 50 miles	169	5%
Total All Jobs	3,388	100%

Source: LEHD (2020)

Figure 14: Where Erie Workers Live



Source: LEHD (2020)

Local & Regional Destinations

Figure 15 shows a map of the following key destinations in and near Erie:

- Important Public Facilities
- Middle & High Schools
- Grocery Stores
- Medical Facilities/Clinics

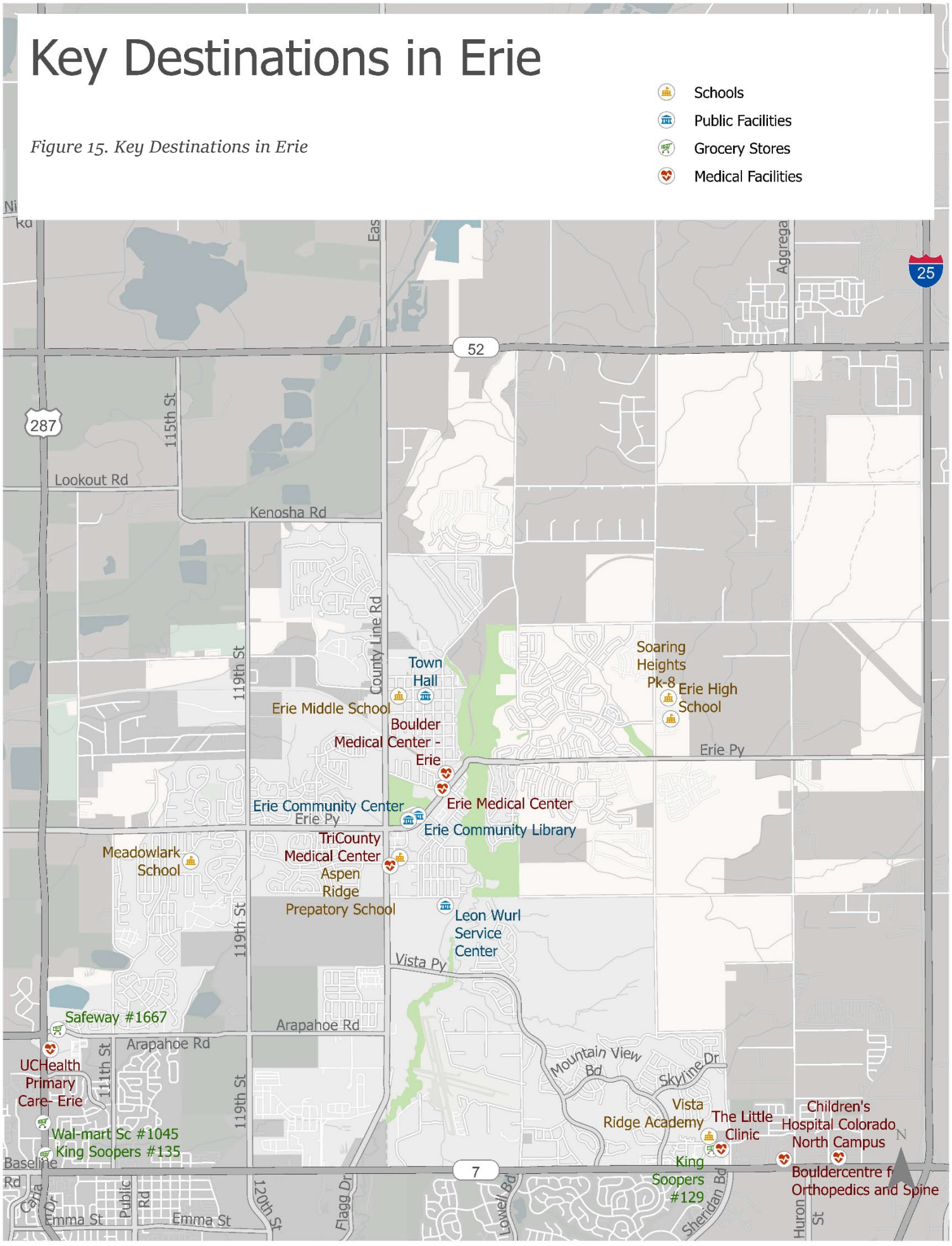
This map shows that the key destinations within Erie are concentrated around four general locations:

- **The Erie Community Center (central Erie) –** This area includes a mix of commercial and medical clinics, and a K-8 school, in addition to the main recreation center and community gathering place in town with many programed events.
- **Old Town Erie (north/central Erie)** – This area includes numerous small businesses and shops in historic Erie as well as Town Hall and Erie Middle School.
- **Arapahoe Road Commercial Area (southwest Erie)** - This area includes a Safeway supermarket, Lowe's improvement store, restaurants, a medical clinic, and several other businesses.
- **Vista Village Commercial Area (southeast Erie)** - The commercial area in the southwest corner of Erie along CO 7 includes a King Soopers supermarket, restaurants, banks, other businesses, and adjacent medical clinics in Broomfield.

Additionally, the commercial area along US 287 between Arapahoe Road and Baseline Road in Lafayette includes numerous commercial destinations, including Walmart, a King Soopers supermarket, a foodbank, and other services that are important local destinations for many Erie residents.

Key Destinations in Erie

Figure 15. Key Destinations in Erie



StreetLight Data Analysis

Origin-destination trip data for Erie and the surrounding area were collected using StreetLight Data. StreetLight Data is an on-demand mobility analytics platform and a "Big Data" provider that compiles origin-destination trip data from global positioning system (GPS) tracking technology provided through location-based services (LBS) data or connected vehicle data (CVD). CVD was collected for this analysis, which is data collected from vehicles equipped with advanced communication technology. The period for the vehicle trips was March 2023 through May 2023, and to capture peak flows and analysis at various times of the day and days of the week, data was collected for a typical weekday (Tuesday – Thursday), a typical weekend (Saturday – Sunday) on an hourly basis.

Zones

Transportation zones are the building blocks for running analyses on the StreetLight platform. Zones can be used to analyze traffic that stops and starts within an area. To capture all the critical origin and destination spots in and around Erie, 16 zones were developed for this analysis. The zones developed for this analysis were based on the land use patterns, including separate zones for major commercial areas and recreational facilities, separate zones for the major transit stations and Park-n-Rides, and separate zones for residential zones separated by major roads. **Figure 16** shows a map of the zones analyzed and **Table 8** shows the zone descriptions, with numbers corresponding to the map. To understand certain questions of the analysis, specifically regional trips to or from Erie, an additional analysis with pre-set Traffic Analysis Zones (TAZs) geographies was run.

Figure 16: StreetLight Analysis Zones

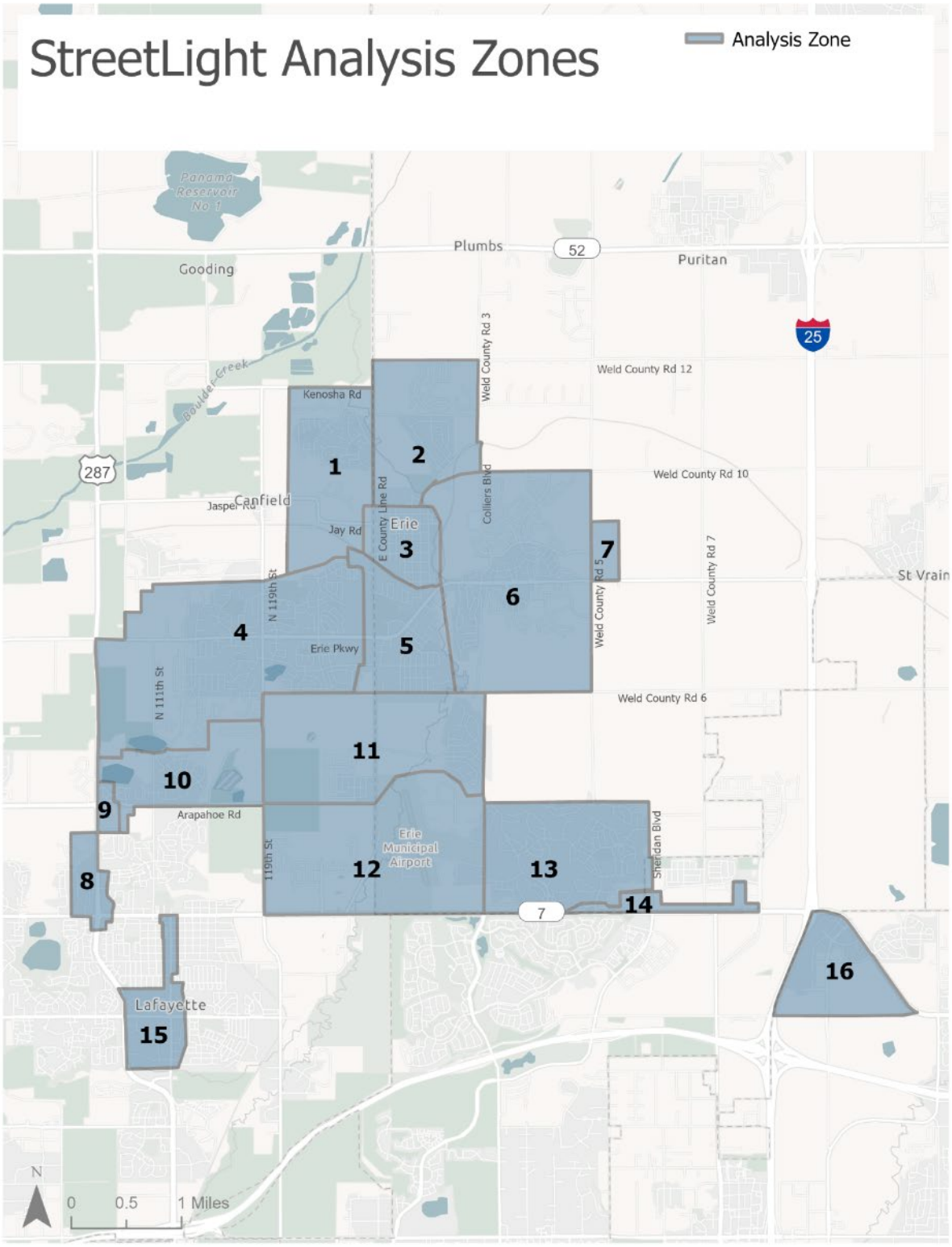


Table 8: StreetLight Analysis Zone Descriptions

Zone Name	Zone Number
Kenosha Farms/Erie Village/Lost Creek Farm	1
Northridge/Morgan Hill	2
Old Town Erie	3
Canyon Creek/Flatiron Meadows/W Erie Pkwy	4
Erie Community Park/Erie Commons	5
Grandview/Erie Highlands/Colliers Hill	6
Erie HS/Soaring Heights	7
Walmart/King Soopers/Hwy 287 Commercial	8
Safeway/Lowes/Hwy 287 and Arapahoe Commercial	9
Arapahoe Ridge/Nine Mile	10
Compass/Vista Pointe	11
Erie Airport/Parkdale	12
Vista Ridge	13
Baseline Rd Commercial and Children's Hospital	14
Lafayette Downtown/Commercial	15
Larkridge Commercial	16

Analysis Goals

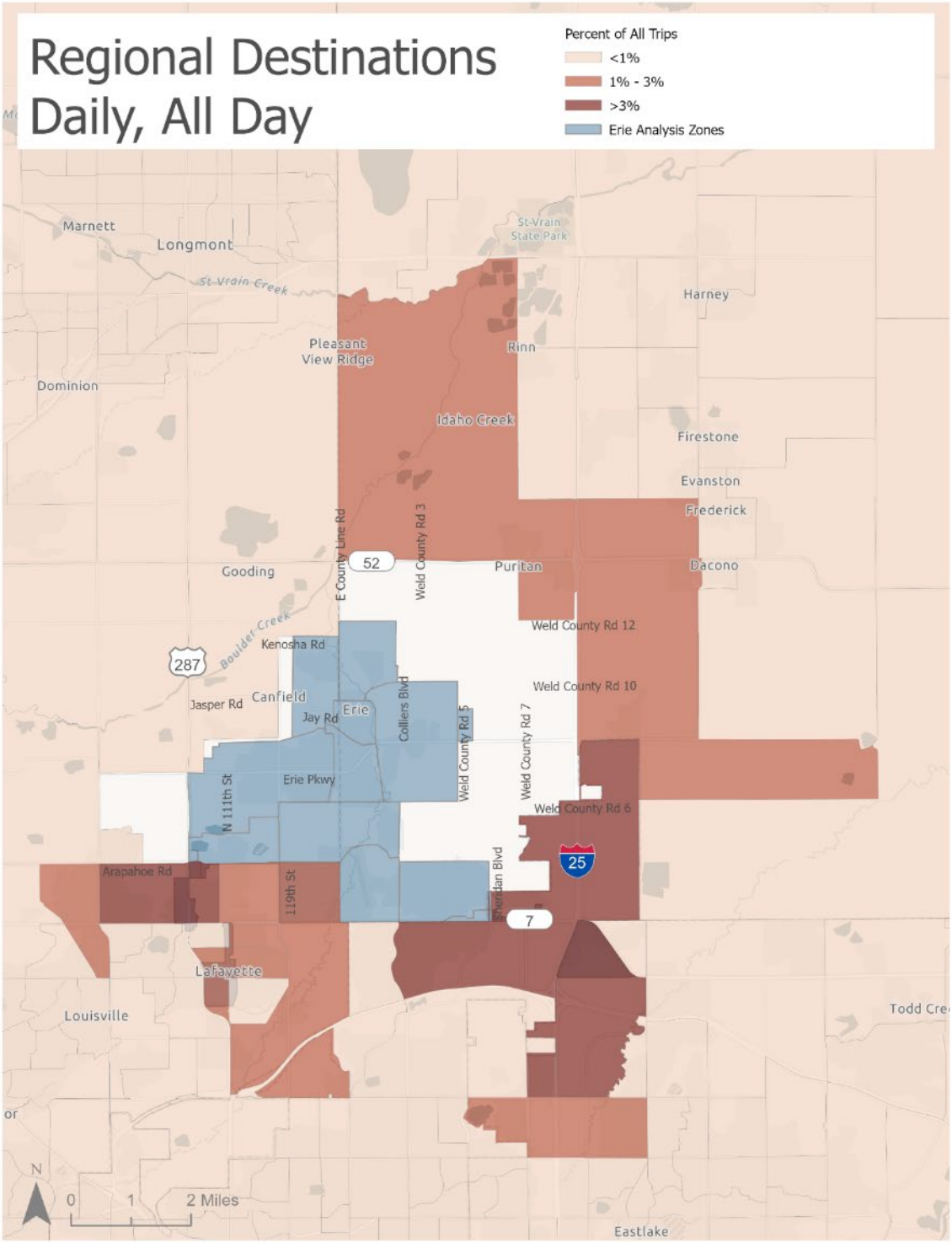
To best inform the study of the existing travel patterns and potential transit demand, the Streetlight analysis aimed to answer the following questions:

1. Where are Erie residents traveling within the region?
2. Where are the top trip pairings in and around Erie?
3. What are the top destinations in and around Erie?
4. What are the top destinations in and around Erie from select zones in Erie?
    a. Vista Ridge
    b. Arapahoe Ridge/Nine Mile
    c. Old Town Erie

Regional Travel

To understand where people are traveling outside of Erie, an origin-destination analysis with pre-set geographies was run. This is an analysis type where the origins are set as the custom zones within Erie, and the destinations are set as U.S Census Traffic Analysis Zone (TAZ) boundaries. **Figure 17** displays the average daily distribution of destinations from Erie on all days of the week at all hours between March and May 2023. Out of all trips destined to areas outside of Erie, the largest portion of trips are traveling to the three TAZs: the Larkridge shopping center in Thornton, the commercial area and Children's Hospital surrounding Baseline Road, and the commercial areas in Lafayette and surrounding the intersection of Baseline Road (CO 7) and US 287. Identifying where trips are already being taken outside of Erie's boundaries can help understand potential areas to which the potential Erie microtransit service could provide rides, or at least provide connections to regional transit headed in those directions.

Figure 17: Regional Destinations, All Day

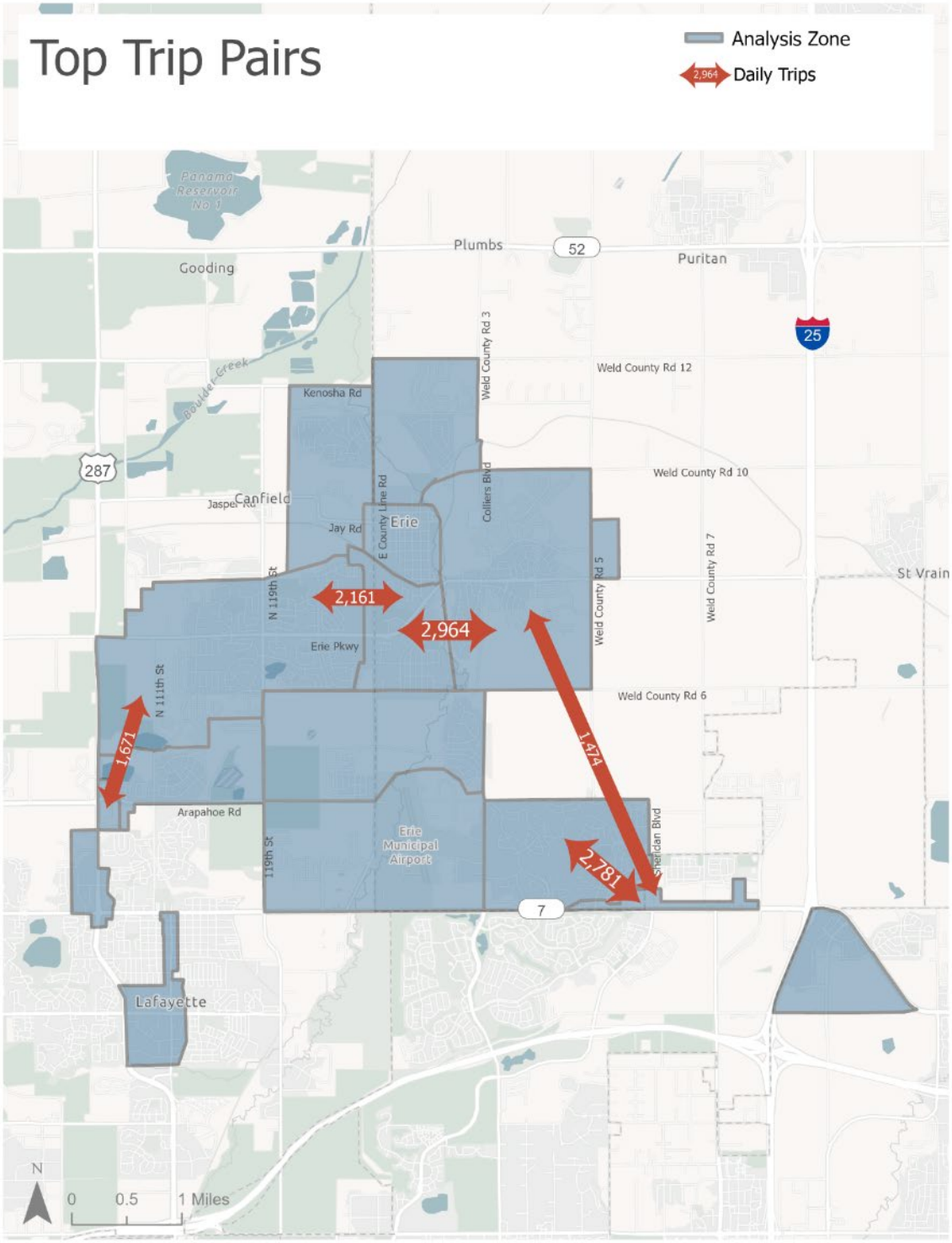


Source: StreetLight Data, Fehr & Peers

Top Trip Pairs within Erie

Figure 18 displays the top trip pairings within Erie and select areas near Erie. The trip pairs with the largest share of trips are between the Grandview/Erie Highland/Colliers Hill analysis zone and the Erie Community Park/Erie Commons analysis zone (2,964 daily trips), as well as between the Vista Ridge analysis zone and the Baseline Rd Commercial and Childrens Hospital analysis zone (2,781 daily trips). Both trip pairs are between analysis zones that are respectively adjacent to one another, which means that the top trip pairs are between origins and destinations that are near one another. The map displays trip pairs for all days, and when comparing weekday trips to weekend trips, there are not many differences in the patterns; the most notable pattern in the distinction between day types is that trips to/from commercial centers are more prevalent trip pairs on the weekends than on weekdays. Moreover, for all travel within Erie on all days and all hours of the study period, 66% of the trips have a travel time of zero to ten minutes, and 32% of the trips have a travel time of ten to twenty minutes. In addition, 78% of trips have a trip length of less than five miles, with 38% of the trips making a journey of less than two miles.

Figure 18: Top Trip Pairs within Erie (Daily Trips)

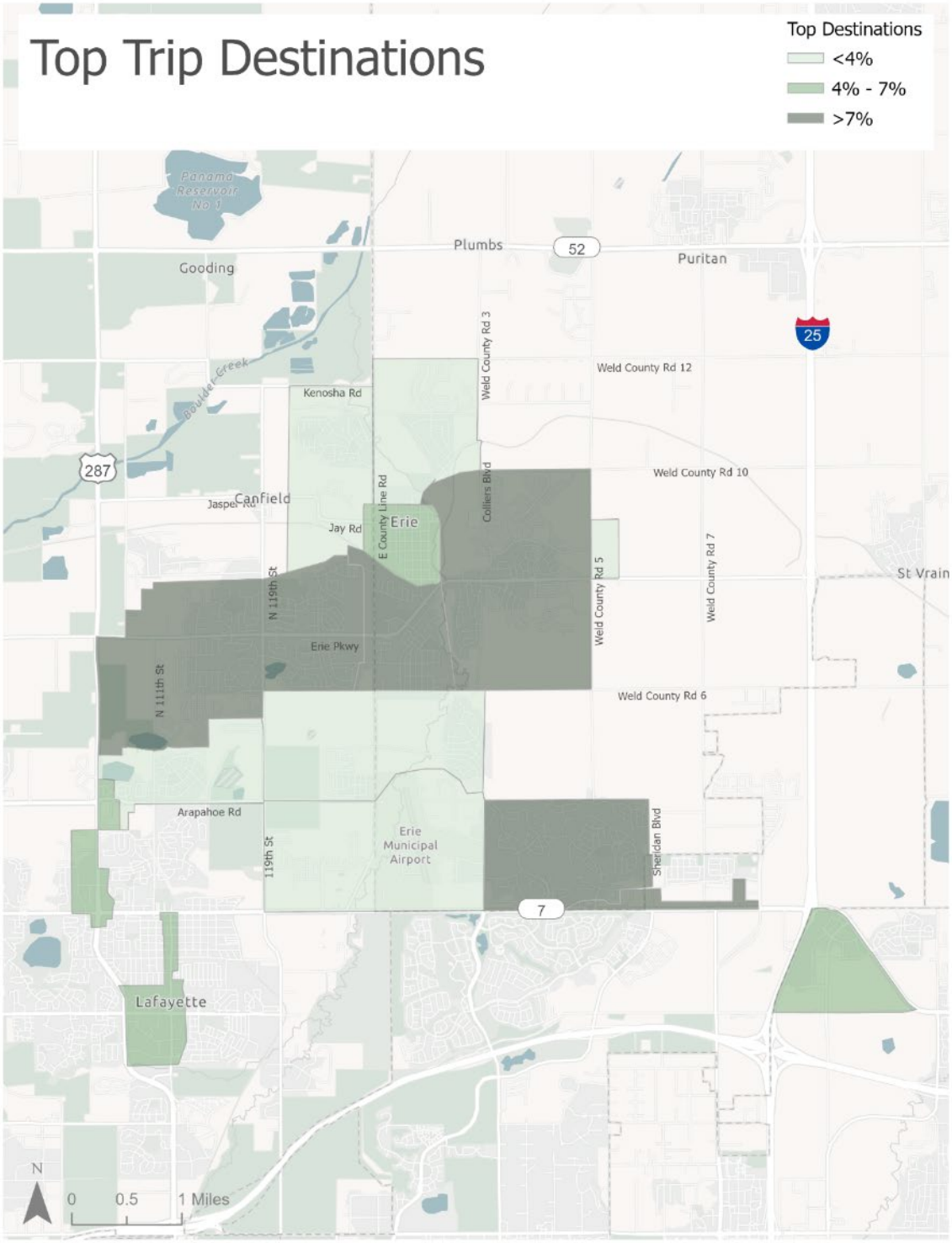


Source: StreetLight Data, Fehr & Peers

Top Destinations within Erie

The top destinations within and around Erie for trips that begin in and around Erie on an average day during the study period are displayed in **Figure 19**. These are locations where the greatest portion of vehicle trips end. The top five destinations in and around Erie include the Erie Community Park/Erie Commons zone, the Grandview/Erie Highlands/Colliers Hill zone, the Canyon Creek/Erie Highlands/W Erie Pkwy zone, Vista Ridge, and Baseline Road Commercial/Children's Hospital. Geographically, these top destinations are mostly located along Erie Parkway, and in the Southeast portion of Erie.

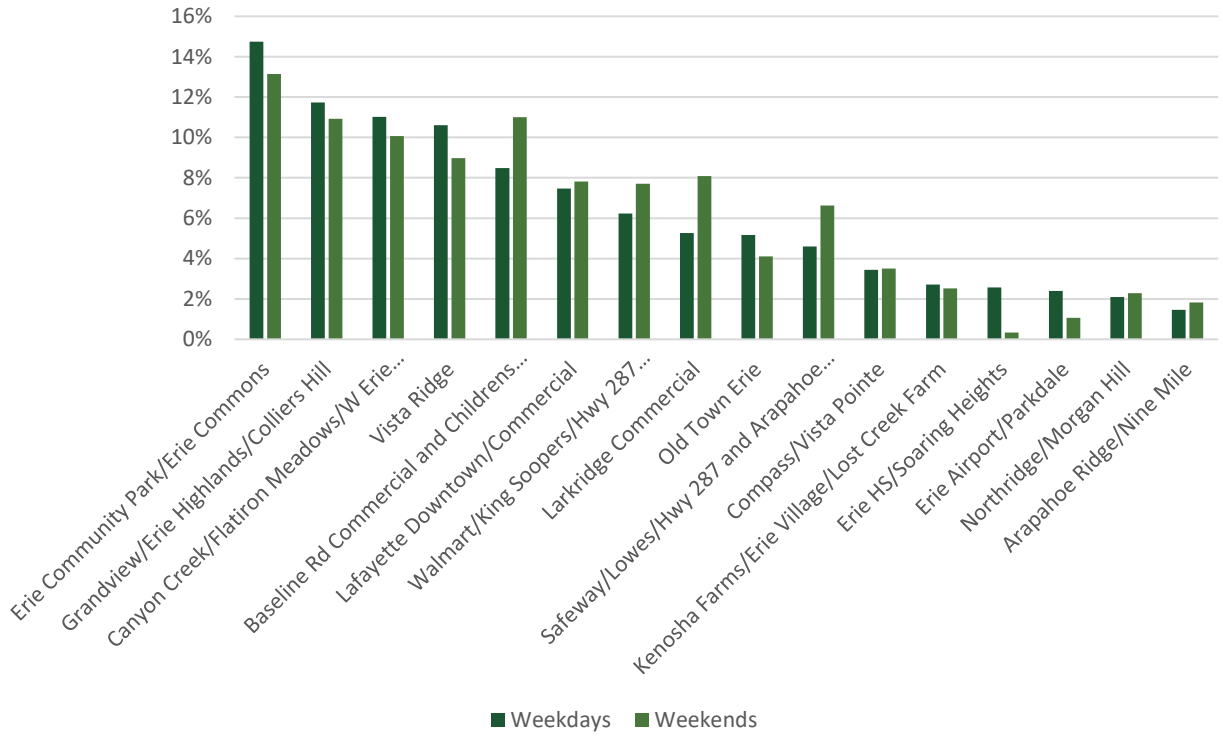
Figure 19: What are the top destinations in and around Erie? (March-May 2023, Daily, All Day)



Source: StreetLight Data, Fehr & Peers

Travel patterns vary slightly depending on the day of the week, as seen in **Figure 20**. Although the top three destinations for trips within Erie are the same as in the previous figure, the portion of trips to these destinations is smaller on weekends than on weekdays. However, a larger portion of trips are destined for commercial destinations on weekends, which is consistent with the top trip pairings previously discussed. The commercial zones to which a noticeably higher portion of trips are destined on the weekends than on weekdays include the following: Baseline Rd Commercial and Children Hospital; Larkridge Commercial; Safeway/Lowes/Hwy 287 and Arapahoe Commercial. Further, the analysis distinguished that the largest portion of trips to commercial destinations on weekdays happens during the middle of the day (10 AM to 3 PM), while residential destinations are more prominent during the evening hours.

Figure 20: What are the top destinations in and around Erie? (March-May 2023)



Source: StreetLight Data, Fehr & Peers

Top Destination within Erie from Select Zones

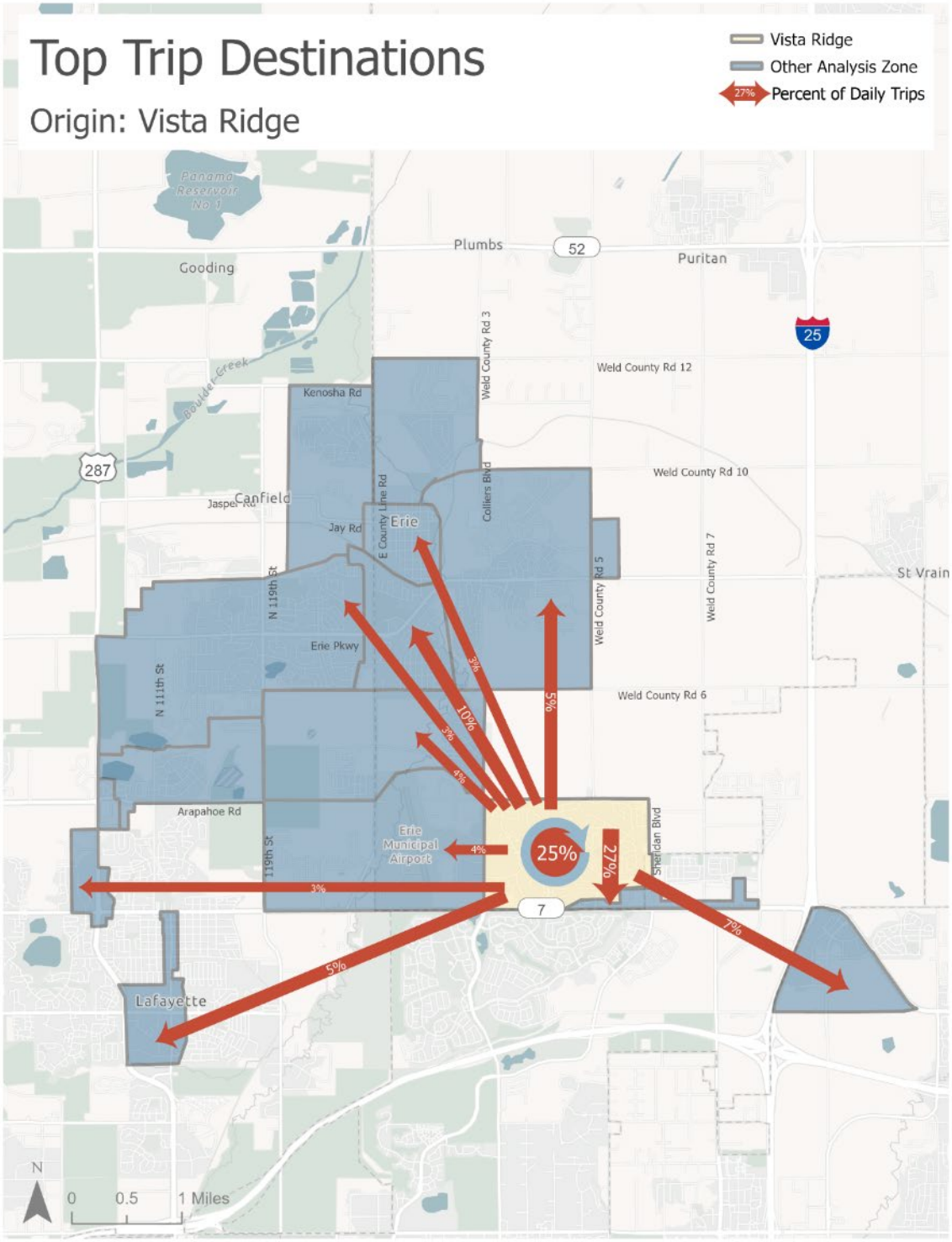
Understanding the destinations of trips from a given neighborhood in Erie can help identify potential travel markets and transit demand. For this analysis, three representative areas of Erie were selected to understand common destinations from these neighborhoods, including Vista Ridge, Arapahoe Ridge/Nine Mile, and Old Town Erie.

Vista Ridge

Figure 21 displays the top local destinations within and around Erie (thus, excluding regional destinations) for trips originating from the Vista Ridge zone. The map displays the trip patterns that makeup 3% or more of all daily trips originating in Vista Ridge. The top destination is internal, within the Vista Ridge Zone. The zone does include an elementary school, a community center, and a golf course. The next most common destination is the commercial zone directly near Vista Ridge, the Baseline Rd Commercial and Children Hospital zone. The next largest portion of trips are to the Erie Community Park and Larkridge Commercial area.

On weekends the largest portion of trips from Vista Ridge (35%) are headed to the nearby Baseline Rd Commercial and Children's Hospital zone. Similar to the Town-wide travel patterns, the portion of trips headed to other commercial areas in general is higher on weekends than on weekdays.

Figure 21: What are the top destinations from Vista Ridge? (March-May 2023, Daily, All Day)

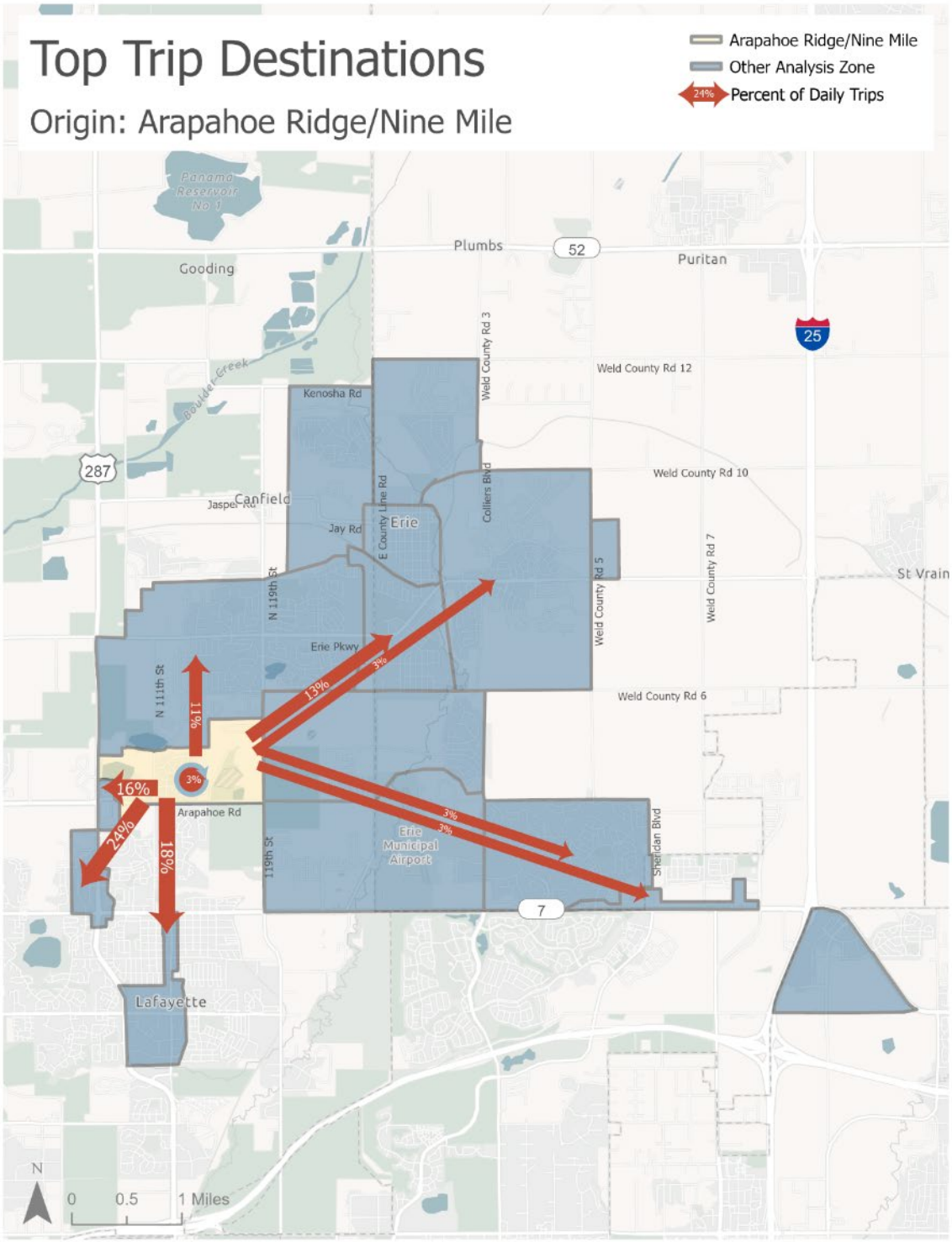


Source: StreetLight Data, Fehr & Peers

Arapahoe Ridge/Nine Mile

Figure 22 displays the top local destinations for trips originating from the Arapahoe Ridge/Nine Mile zone, displaying trip patterns that makeup 3% or more of all daily trips originating from that zone. The largest portion of local trips from this origin travel to the Walmart/King Soopers/Hwy 287 and Arapahoe Commercial zone (24%), followed by trips to the Lafayette Downtown/Commercial zone (18%). The third top destination is the Safeway/Hwy 287 and Arapahoe Zone zone, which has a large portion of trips on weekends. The Erie Community Park/Erie Commons zone and Canyon Creek/Flatiron Meadows/W Erie Pkwy zone are also common destinations.

Figure 22: What are the top destinations from Arapahoe Ridge/Nine Mile? (March-May 2023, Daily, All Day)

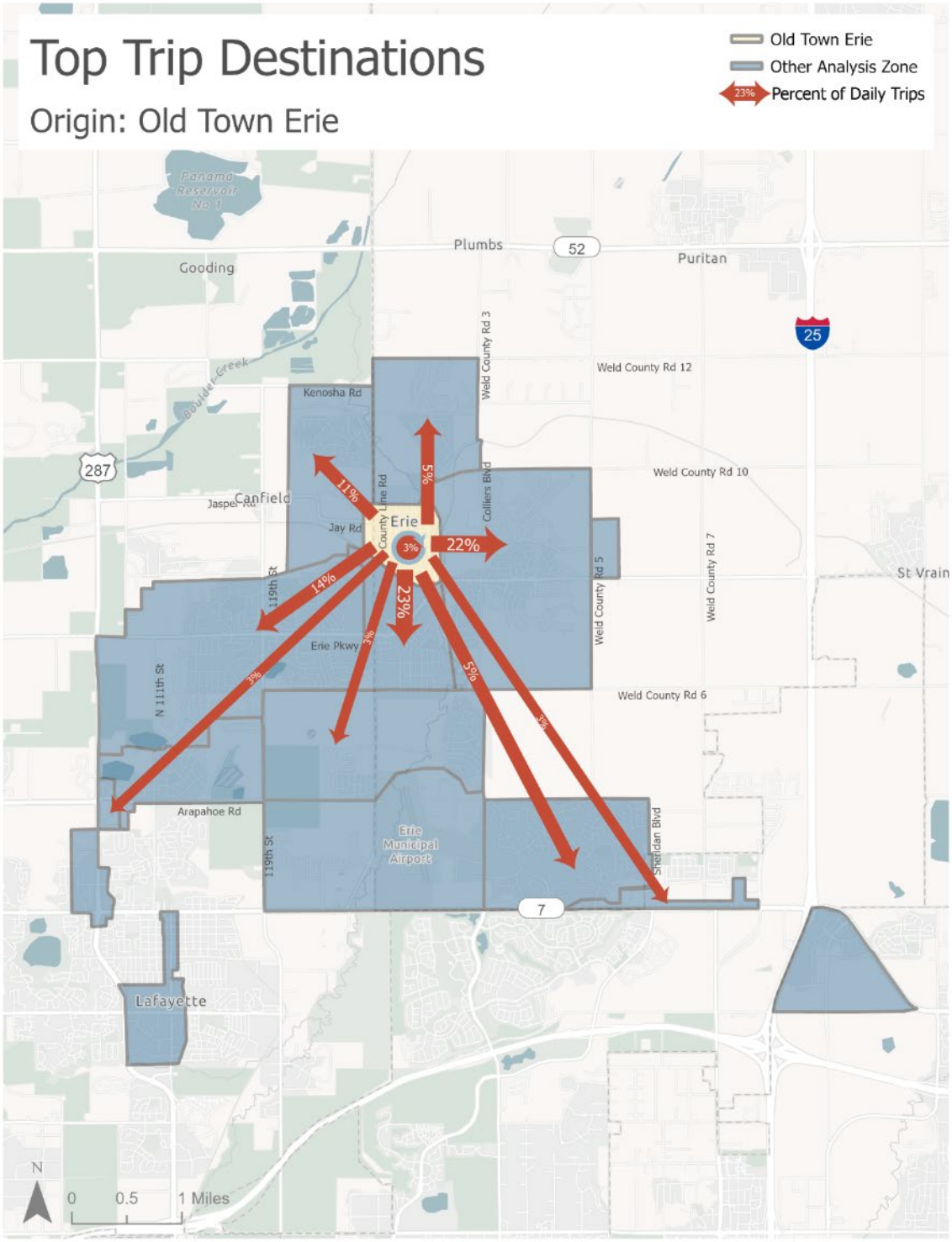


Source: StreetLight Data, Fehr & Peers

Old Town Erie

Figure 23 displays the top local destinations for trips originating from Old Town Erie, which include the Erie Community Park/Erie Commons zone (23%) and the Grandview/Erie Highlands/Colliers Hill zone (22%), followed by the Canyon Creek/Flatiron Meadows/W Erie Pkwy zone (14%). For trips originating from the Old Town Erie zone, the pattern between the weekdays and the weekends is similar, without any notable differences in travel patterns.

Figure 23: What are the top destinations from Old Town Erie? (March-May 2023, Daily, All Day)



Source: StreetLight Data, Fehr & Peers

Key Takeaways

The key takeaways for the travel pattern analysis can be summarized by the following:

- 95% of employed Erie residents work outside of Erie, nearly a third of which work in Denver and Boulder.
- 81% of people who work in Erie commute from outside of Town, and about 50% of those commuters live within 10 miles of Erie, mostly in Thornton and Longmont
- Out of all trips originating in Erie and destined to areas outside of Erie, the largest portion of trips are traveling to the Larkridge shopping center in Thornton, the Vista Ridge commercial area and Children's Hospital surrounding Baseline Road, and the commercial area around US 287 and Baseline Road in Lafayette.
- The top trip pairs within Erie are between nearby areas; in fact, most trips travel for less than twenty minutes and travel less than five miles.
- The top three destinations in and around Erie are mostly located along Erie Parkway, and in the Southeast portion of Erie, including the Erie Community Park/Erie Commons zone, the Grandview/Erie Highlands/Colliers Hill zone, and the Canyon Creek/Erie Highlands/W Erie Pkwy zone.
- For trips originating in the Vista Ridge neighborhood, the top destinations include destinations within the Vista Ridge neighborhood and the nearby commercial area on CO 7..
- For trips originating in the Arapahoe Ridge and Nine Mile neighborhoods, the top destinations are the commercial areas along US 287 and in downtown Lafayette.
- For trips originating in Old Town Erie, the neighborhoods along Erie parkway are the top destinations.
- The commercial areas around Erie, including along US 287 in Lafayette, CO 7 in Broomfield, and downtown Lafayette are all important destinations for people in Erie, but there does not appear to be one location that is more prevalent than the other.

6. Community Input

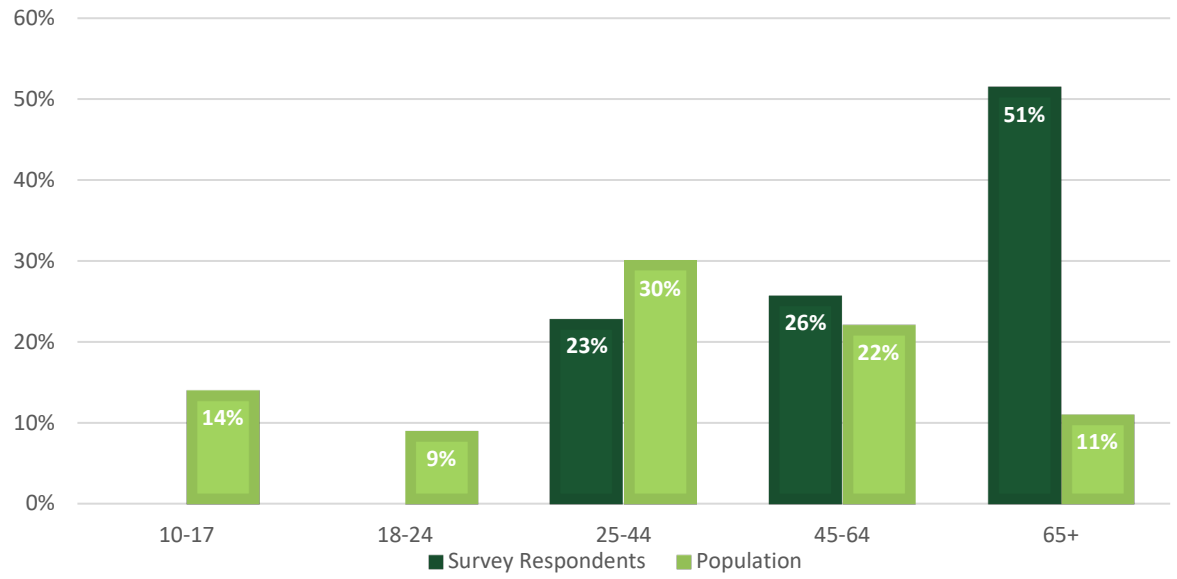
Community Survey

An online community survey in both English and Spanish was open from October to December 2023, and received 35 responses, all were taken in English. The following sections summarize the survey responses.

General Demographic Questions

Most respondents (97%) live in Erie neighborhoods, but only 11% work in Erie. Half (51%) of the respondents were 65 years of age or older, which is five times the percent of the Town population of that age group. 25% of respondents were 45-64 years of age, and the rest, 23%, were 35-44 years of age. It should be noted that the young adult and adolescent groups, which accounts for 23% of the population, did not complete the survey, including no one under the age of 35.

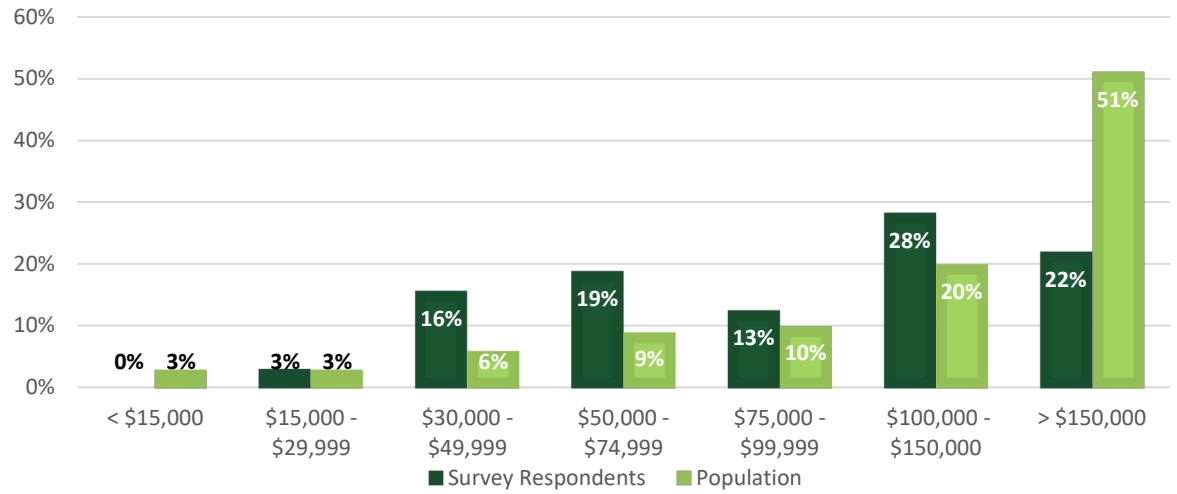
Figure 24: Age of Survey Respondents Compared to Population



Source: Erie Community Survey and American Community Survey, 5-Year Estimates (2021)

About 19% of the respondents indicated that their annual household income is less than $50,000, and 50% have an income over $100,000 annually. In general, survey respondents disproportionately represented households with middle-incomes compared to the population of Erie in which over 50% of households have incomes over $150,000 annually.

Figure 25: Annual Income of Survey Respondents Compared to Population

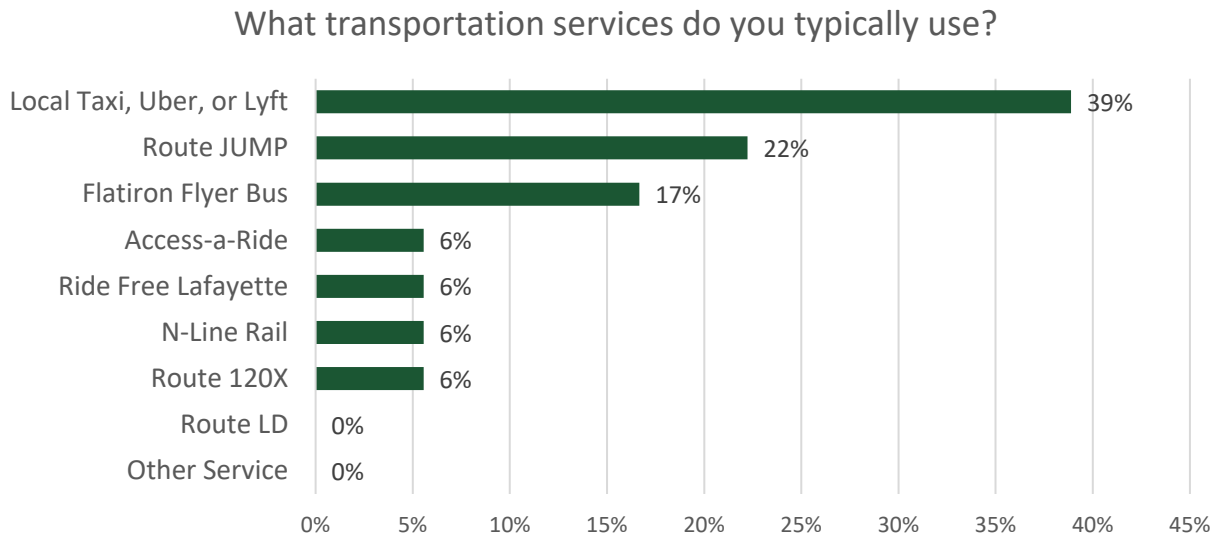


Source: Erie Community Survey and American Community Survey, 5-Year Estimates (2022)

Travel Behavior Questions

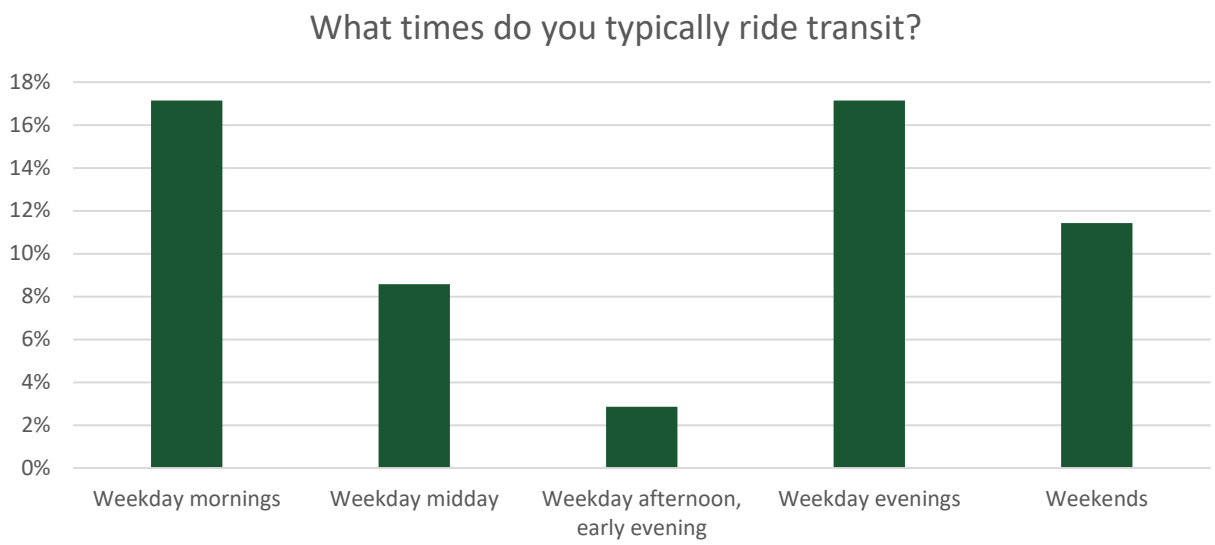
More than 90% of the respondents have consistent and regular access to a vehicle, and 63% indicated they do not use public transportation to get around. Out of the 37% who use public transportation services, Local Taxi, Uber, and Lyft are the most popular services (37%), followed by RTD route JUMP (22%), and RTD Flatiron Flyer (17%).

Figure 26: Survey Respondents Use of Existing Transportation Services (of the 37% that use transit/transportation services)



Weekday mornings and weekday evenings were the most popular time to ride transit as shown in **Figure 27**.

Figure 27: Survey Respondents' Existing Transit Use by Time



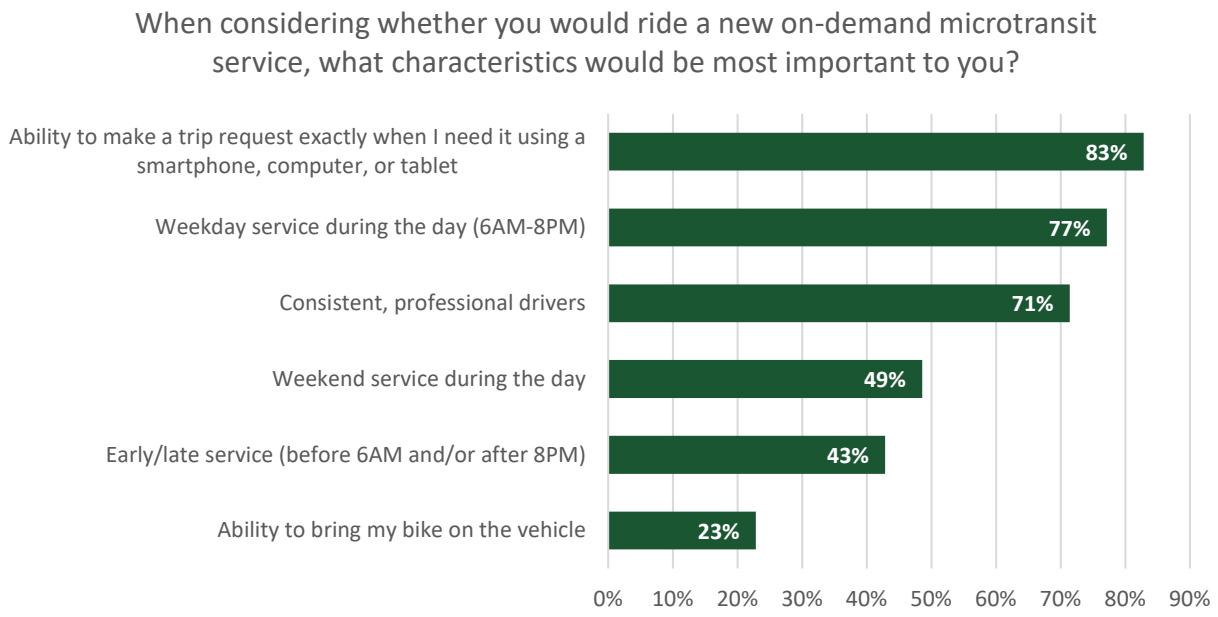
Household Members in Need of Mobility Options Identified in the Survey

Twenty one percent of respondents indicated they have a personal mobility challenge that impacts their ability to get around and 38% of respondents indicated they have household members in need of mobility options. Ten percent provided comments that they would like microtransit to serve their adolescent household members.

Questions Regarding Potential Microtransit Service

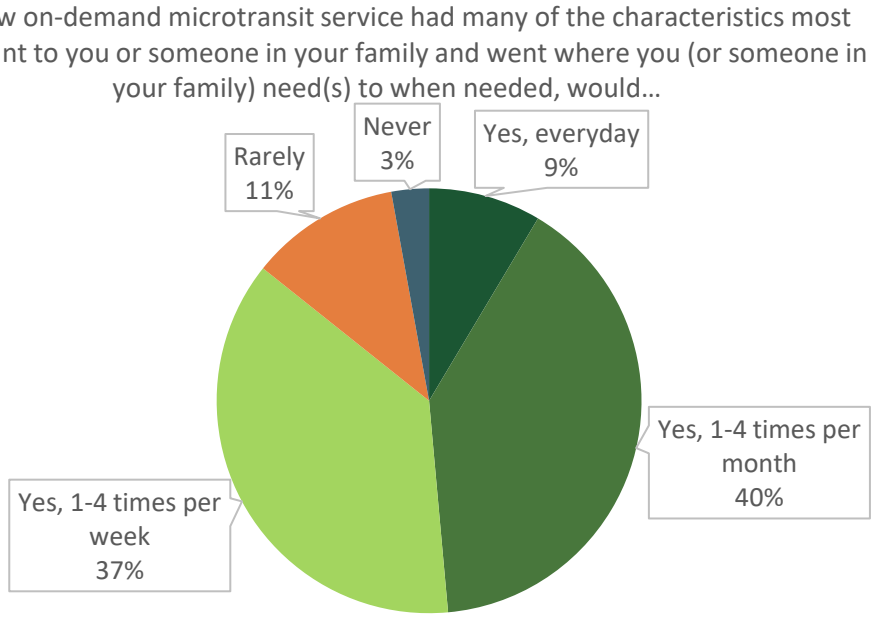
In the survey, respondents were asked to provide the most important characteristics they are considering when riding a new on-demand microtransit service (**Figure 28**). Out of six features proposed in the survey, the most desired one was the ability to make trip requests using a smartphone, computer, or tablet at the time it is needed. Most respondents also showed interest in weekday service during the day and sought consistent, professional drivers.

Figure 28: Most Important Service Characteristics Identified by Survey Respondents



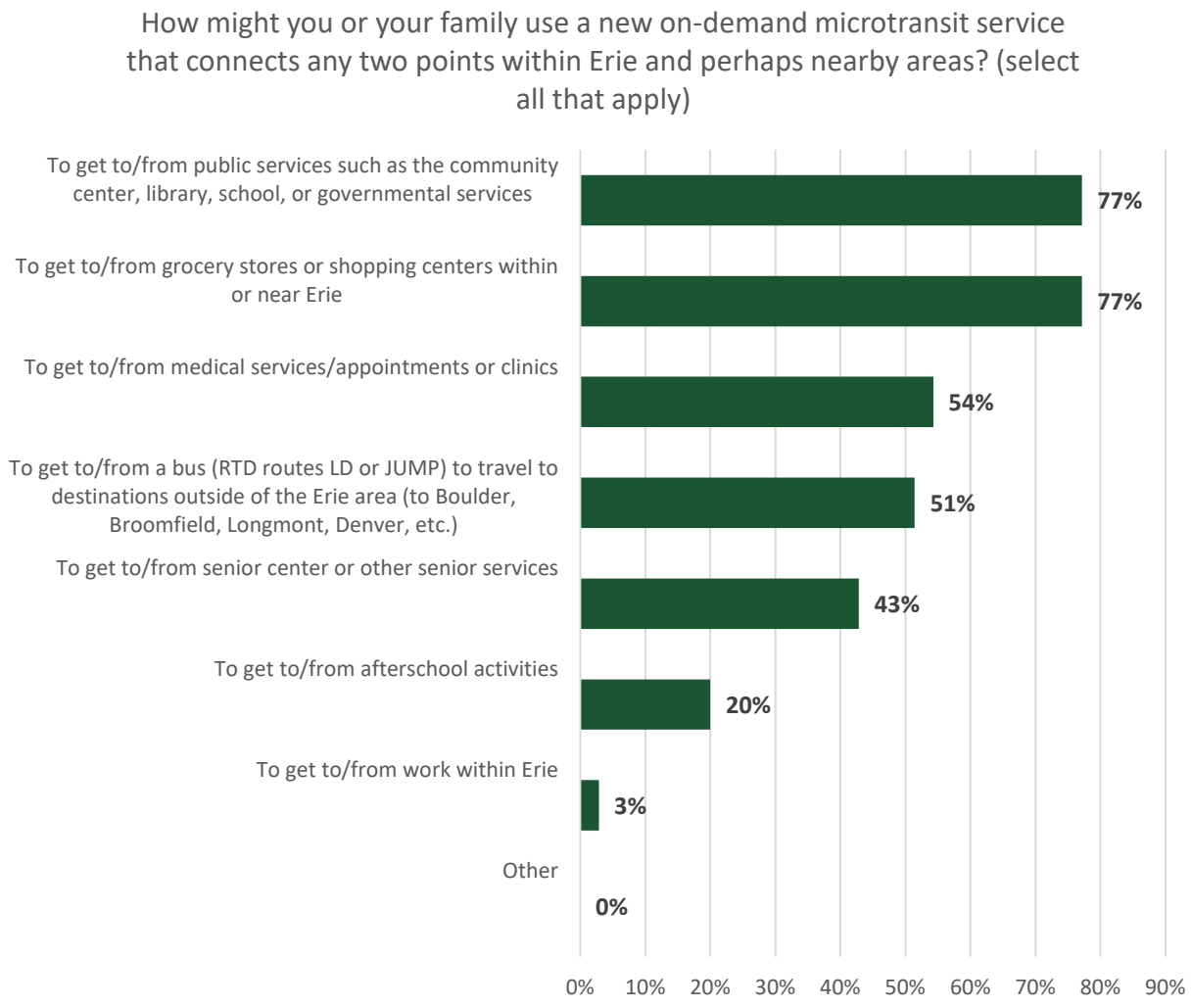
When asked whether and how often they would use a microtransit service, 9% indicated they would use it every day, 37% indicated 1-4 times a week, and 40% indicated 1-4 times a month (**Figure 29**).

Figure 29: Potential Frequency of New Microtransit Service Usage



Survey respondents were also asked to indicate their trip purposes when using the proposed service (**Figure 30**). Both public service facilities such as Erie Community Center and the grocery stores near Erie are the most popular destinations with 77% votes. There is also a high interest in going to medical services (54%) and connecting to the RTD bus (51%).

Figure 30: Trip Purposes Identified by Survey Respondents



Intercept Events

Three intercept events were held to promote the study in Erie Community Center during the week of November 13, 2023:

- Active Adults Coffee, Erie Community Center, November 14, 8 AM - 10 AM
- Erie Community Center, Front Lobby, November 15, 4 PM – 6PM
- Active Adults Weekly Lunch, Erie Community Center, November 16, 11 AM – 1 PM

Two of the events focused on older adults, and one was intended to solicit input from younger residents of Erie after school.

Common themes gathered from these intercept events include:

- Most participants own at least one car in their household and indicated they prefer to drive to where they need to go.
- Some participants indicated they know someone in their community who needs mobility options.
- Many participants were interested in service to Denver International Airport.

Additionally, the participants at the intercept event were also asked to provide input on where they live and where they regularly travel to, within or near Erie boundaries. These comments were then combined with the survey results to generate maps of desired pick-up locations (**Figure 31**) and drop-off locations (**Figure 32**).

Figure 31 shows that pick-up locations are scattered across most of the Town with only the southeast portion of Erie showing a lower concentration than most of the rest of the Town. **Figure 32** shows a higher concentration of drop-off demand at handful of locations in and near Erie, including the Erie Community Center area, the commercial area around Safeway, Old Town, and Vista Ridge commercial area/King Soopers. **Table 9** shows the top six most desired destinations.

Table 9: Top Destinations Identified by Survey Respondents

Location	Respondents
Erie Community Center, Park, & Library	49
Safeway/ Nine Mile Commercial/ UC Health	25
Old Town	18
Vista Ridge Commercial & King Soopers	15
Walmart	6
Boulder Medical Center - Erie	6

Figure 31: Desired Pick-up Locations by Survey Respondents and Intercept Event Participants

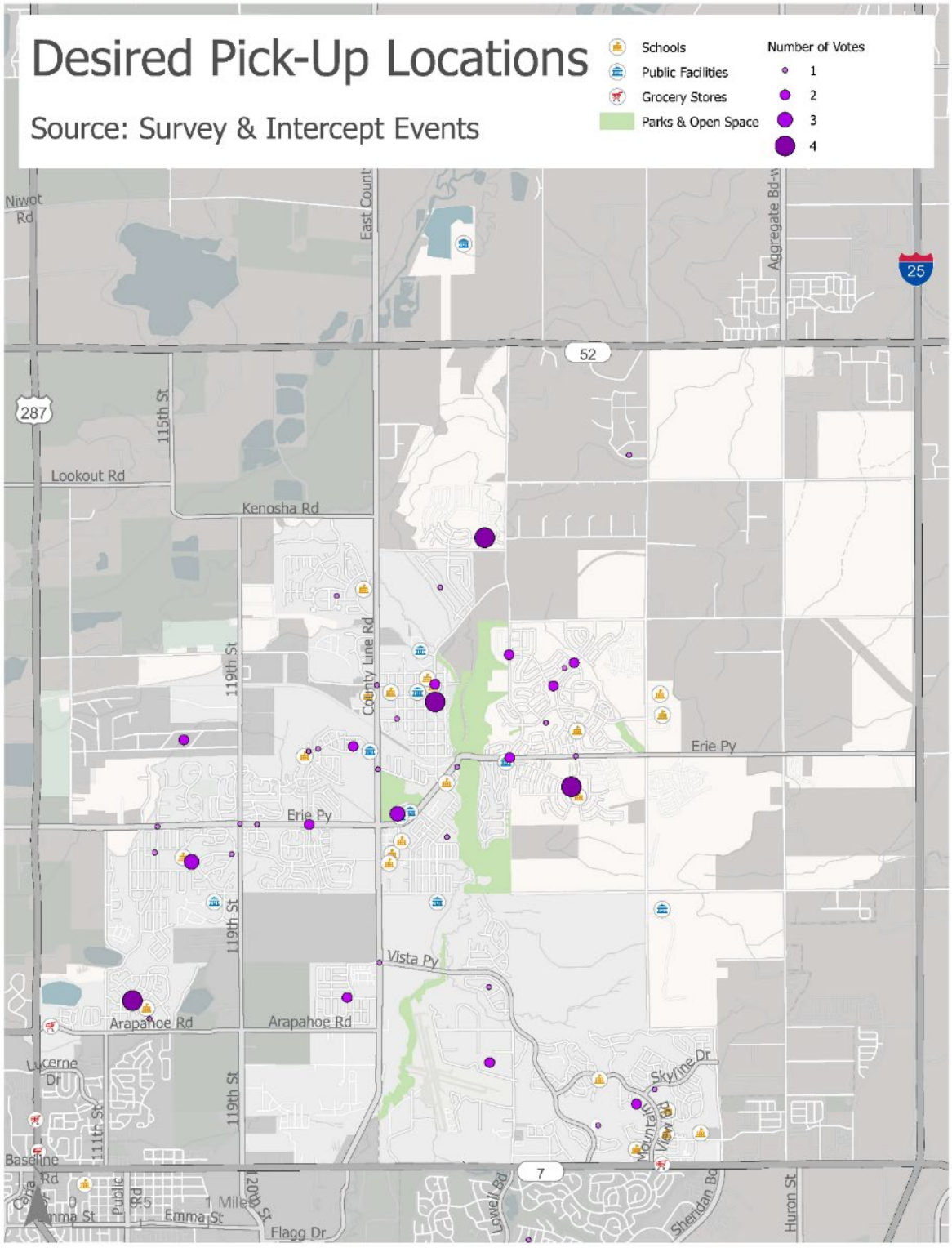
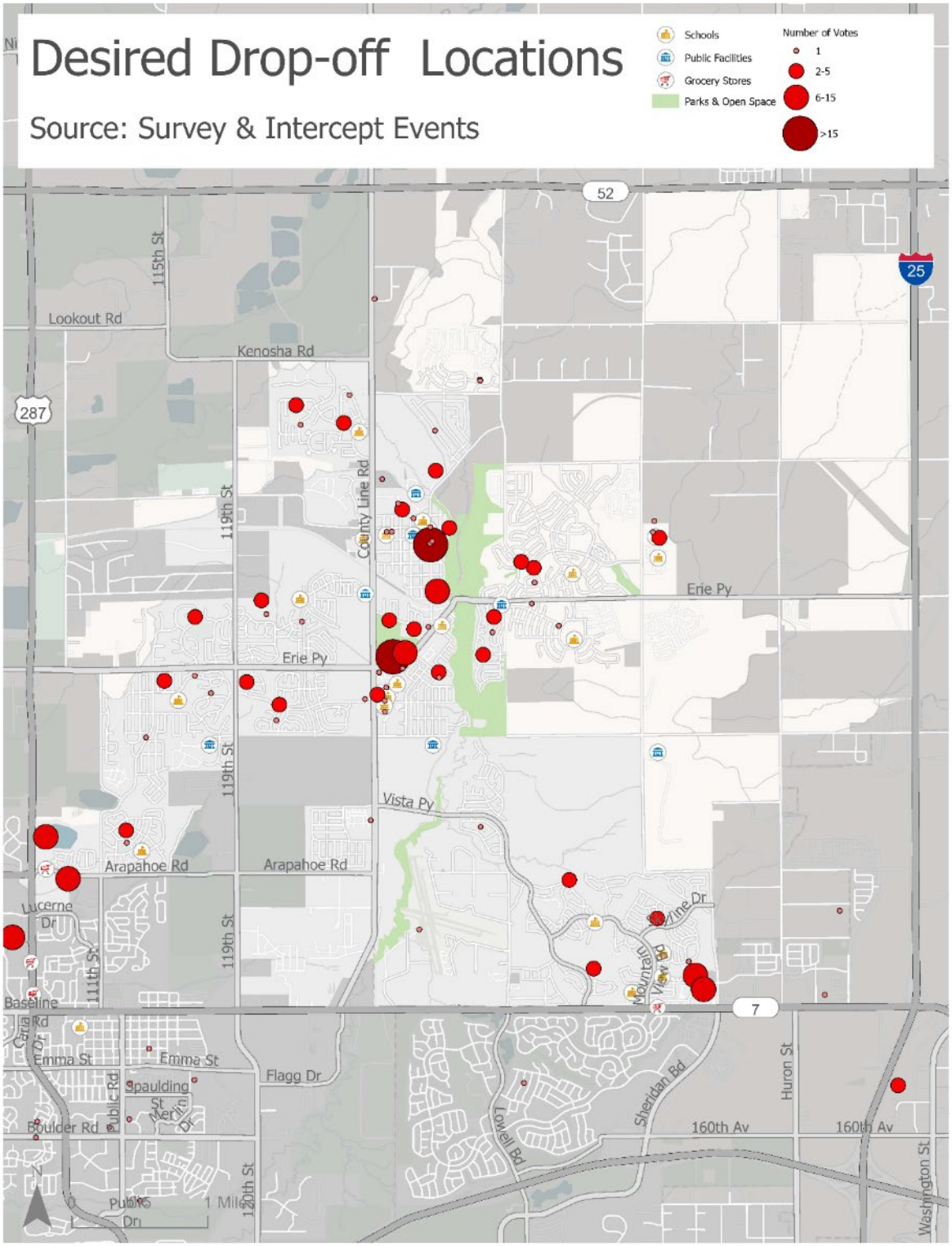


Figure 32: Desired Drop-off Locations by Survey Respondents and Intercept Event Participants



Focus Group

A focus group was held on January 8, 2024, attended by four Erie residents to solicit input on transportation needs and opportunities within or near Erie. The survey results and the initial maps of desired pick-up and drop-off locations were presented to the group. Comments received through the focus group meeting included:

- Connecting proposed service with RTD routes, especially route JUMP.
- Potentially expand the service further to RTD Park-n-Rides for those who need to travel regionally.
- Service to medical center outside of Erie for families with kids and senior adults.
- There is a need to identify safe drop-off locations for commercial areas around US 287. The road has a high-speed limit while lacking pedestrian facilities.
- It is crucial to make the service very accessible and convenient to use, but most importantly to reach those who need it.

7. Transit Needs & Travel Market Identification

The existing conditions analysis demonstrated that most of Erie for most of the day does not have convenient access to public transit service. The travel pattern analysis, demographic analysis, and input received from the community all showed demand for better transit service in Erie, particularly among demographic groups that have limited access to a private vehicle. This chapter of the report identifies the top transit travel markets within Erie and trip purposes that are important to consider when designing a new on-demand service.

Identification of Potential Traveler Markets

Primary traveler markets (groups with common demographic characteristics) are important to identify to inform the service alternatives, final service plan, and associated marketing strategies. Through our analysis, community survey, and focus group we have identified the following traveler markets.

Individuals and Families with Lower Incomes

Census data showed that about 2% of households in Erie are below the poverty line and about 10% of Erie residents have low incomes as defined by the U.S. Department of Housing and Urban Development. A low-cost, reliable on-demand service that connects low-income families and individuals with shopping options, local services, and jobs could be an important mobility option for these riders.

People with Limited Access to a Vehicle

About 19% percent of households in Erie have one or fewer vehicles, including 2% with no vehicle. In households with one vehicle there are often members of the household that have limited mobility options if one person in the household needs the vehicle. By expanding transit options and connections, a new on-demand shuttle could improve mobility for those who would otherwise have a difficult time accessing the places that they need to go.

Older Adults

People aged 65 and over make up 11% of the Erie's population. Older adults may be more interested in a new service that picks and drops off closer to where they need to go, but they may also be hesitant to change their travel behavior as this service will require education and public outreach.

Young Users and After School Trips

About 14% of Erie residents are between 10 and 17 years old. Many of these riders do not have a driver's license or access to a vehicle and may be a market for increased ridership, but often need transportation from school to a job or afterschool activity and then home. These young users may be more open to app-based on-demand services than other user groups. Erie High School, Erie Middle School, Aspen Ridge Prep School, and Erie Community Center are likely to be common origins and destinations for this user group. Based on peer communities and the demographic make-up of Erie this is likely to be a high user group of an on-demand transit service within the Town.

People with Limited Mobility or Mobility Assistant Devices

About 3% of Erie residents have a disability, and those community members often have mobility needs. Over 20% of survey respondents indicated a personal mobility challenge. There is an opportunity to provide a more convenient option using an on-demand solution, especially for those residents who do not meet eligibility requirements for paratransit but may not be able to use existing bus services easily.

Transit Commuters

95% of employed Erie residents work outside of Erie, many in Boulder and Denver. Additionally, over 80% of employees who work in Erie commute from outside of the city. Given most Erie residents do not have convenient access to an RTD route and many people travel to Boulder, a potential travel market will be connecting residents (and visitors) to one of RTD's fixed-route services, in particular the JUMP, LD, and 225.

Top Target Trip Purposes

Of the potential likely travel markets identified, the top target markets for a new community transit solution are:

1. People who need to travel to grocery stores, especially for populations with limited or no access to personal vehicles. 77% of survey respondents said they would use the service for this purpose. Desired destinations include the Safeway, Walmart, King Soopers, and Sister Carmen Food Bank on US 287 as well as King Soopers on CO 7 & Sheridan Parkway.
2. People who need to travel within Erie, particularly to the Community Center and Old Town, but currently experience challenges doing so because of mobility challenges or limited access to a personal vehicle. 77% of survey respondents said they would use the service for this purpose and the Community Center was listed by far as the top destination by the community.
3. People who want to get to medical appointments. 51% of survey respondents said they would use the service for this purpose. There are several medical clinics or dentist offices near the Community Center, in the Nine Mile commercial area at Arapahoe Road and US 287, and adjacent the Vista Ridge commercial development along CO 7..

4. Youth to/from between school and after-school activities or jobs. This is one of the top travel markets in the afternoon for the current Denver Connector service and given the high percentage of the youth population in Erie it is also likely to be a high-demand travel purpose in Erie. A highly anticipated destination is between the high school or middle school and the Community Center.
5. People connecting to RTD. While likely a smaller travel market than the top four, given that most of Erie is not well connected to RTD a new community transit service should be planned to allow folks in Erie to more conveniently connect into the RTD network bridging the first/final mile gap for longer regional trips to Boulder, Denver, Lafayette, and other communities.

8. Alternatives Analysis

Identification of Key Service Characteristics

Potential service alternatives were informed by community input, destinations, travel patterns, and travel markets. The community identified the following desirable attributes of a community transit service:

- Ability to make a trip request exactly when I need it using a smartphone, computer, or tablet.
- Weekday service during the day (6 AM-8 PM).
- Consistent, professional drivers.
- Weekend service during the day.
- There is a need to travel outside of Erie to access commercial and medical services.

Key Destinations Identified by the Community

- Public facilities:
    - Erie Community Center
    - Erie Community Library
    - Old Town / Erie Downtown
- Middle and high schools:
    - Erie Middle School
    - Erie High School
    - Vista Ridge Academy
- Grocery stores or shopping centers near Erie:
    - Nine Mile Commercial Center
    - Groceries Stores around US-287 (King Soopers, Safeway, and Walmart)
    - King Soopers on CO-7
- Medical services/appointments or clinics
    - Boulder Medical Center - Erie
    - UC Health – Erie
    - Children's Hospital Colorado North Campus
    - Good Samaritans Medical Center
- Connection to RTD bus:
    - Bus routes on Baseline Rd and Arapahoe Road
    - Lafayette PnR

Service Alternatives Description

Three service areas were analyzed as potential alternatives for a started on-demand microtransit service in Erie.

1. **Alternative I: Erie and US 287 Commercial Area** - **Figure 33** displays the map of Service Alternative I. This alternative provides for an on-demand microtransit service from any pick-up point to any drop-off point within the zone that covers most of the developed portion of the town, commercial nodes along US 287 in Lafayette, and Children's Hospital Colorado North Campus on CO 7 in Broomfield. Connections to RTD bus stops on Arapahoe Road, Baseline Road, and US-287 would also be provided.
2. **Alternatives II: Alternative I + Lafayette Park-n-Ride** - **Figure 34** displays the map of Alternative II that provides on-demand microtransit service within the same area at Alternative I plus the Lafayette Park-n-Ride to provide connections to regional transit service.
3. **Alternatives III: Alternative II + Good Samaritan Medical Center** - **Figure 35** displays the map of Alternative III that provides on-demand microtransit service within the same area at Alternative II, plus the Good Samaritan Medical Center in south Lafayette which would provide a convenient connection to an important regional hospital.

Alternatives Analysis

Service Characteristics

Table 10 summarizes the differences between the three alternatives in several different metrics, including zone area, average trip distance, average trip time, and estimated vehicles required to serve the area meeting the trip response time goals. Average trip distance and time were based on a sampling of potential trips with each zone. Estimated vehicles are based on fulfilling those trips given with the 30-minute response time desired.

Table 10: Service Characteristics of Alternatives

Service Characteristic	Alternative I	Alternative II	Alternative III
Zone Size (sq. mi.)	16.9	16.9	17
Average Trip Mileage	4.3	4.5	4.7
Average Trip Duration (mins.)	9.5	9.9	10.3
Estimated Starter Vehicles Required	2	2-3	3 (or more)

Table 10 shows that while the zone area is similar across all three alternatives, the average trip time and duration increase with each alternative with the introduction of outlying zones in Lafayette to serve the Lafayette Park-n-Ride in Alternative II and both the Lafayette Park-n-Ride and Good Samaritan Hospital in Alternative III. These locations would have average trip times of 13.3 minutes and 16.1 minutes respectively from common locations within Erie which would necessitate the need for additional vehicles largely dedicated to serving these external zones.

Figure 33: Service Alternative I Map

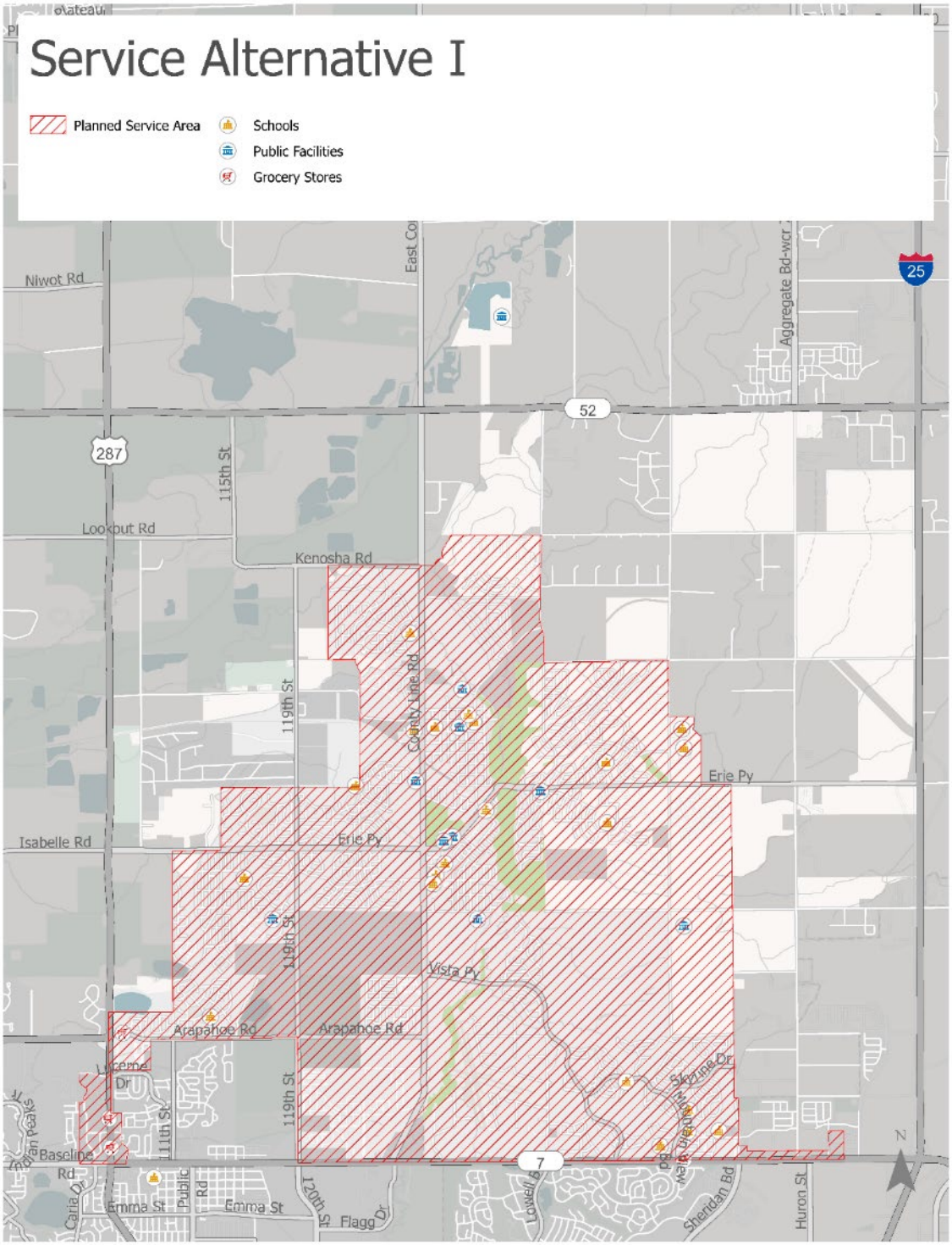


Figure 34: Service Alternative II Map

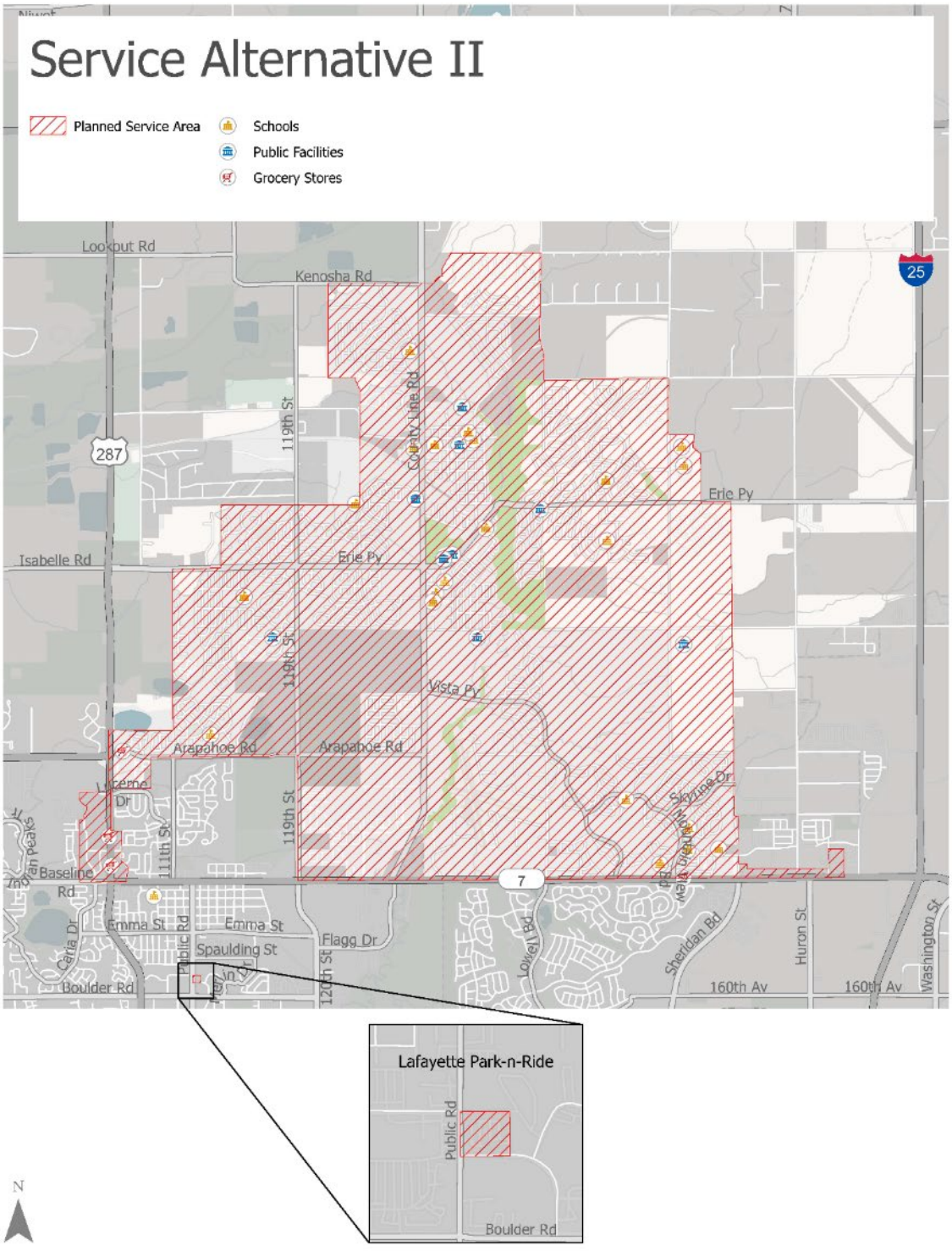
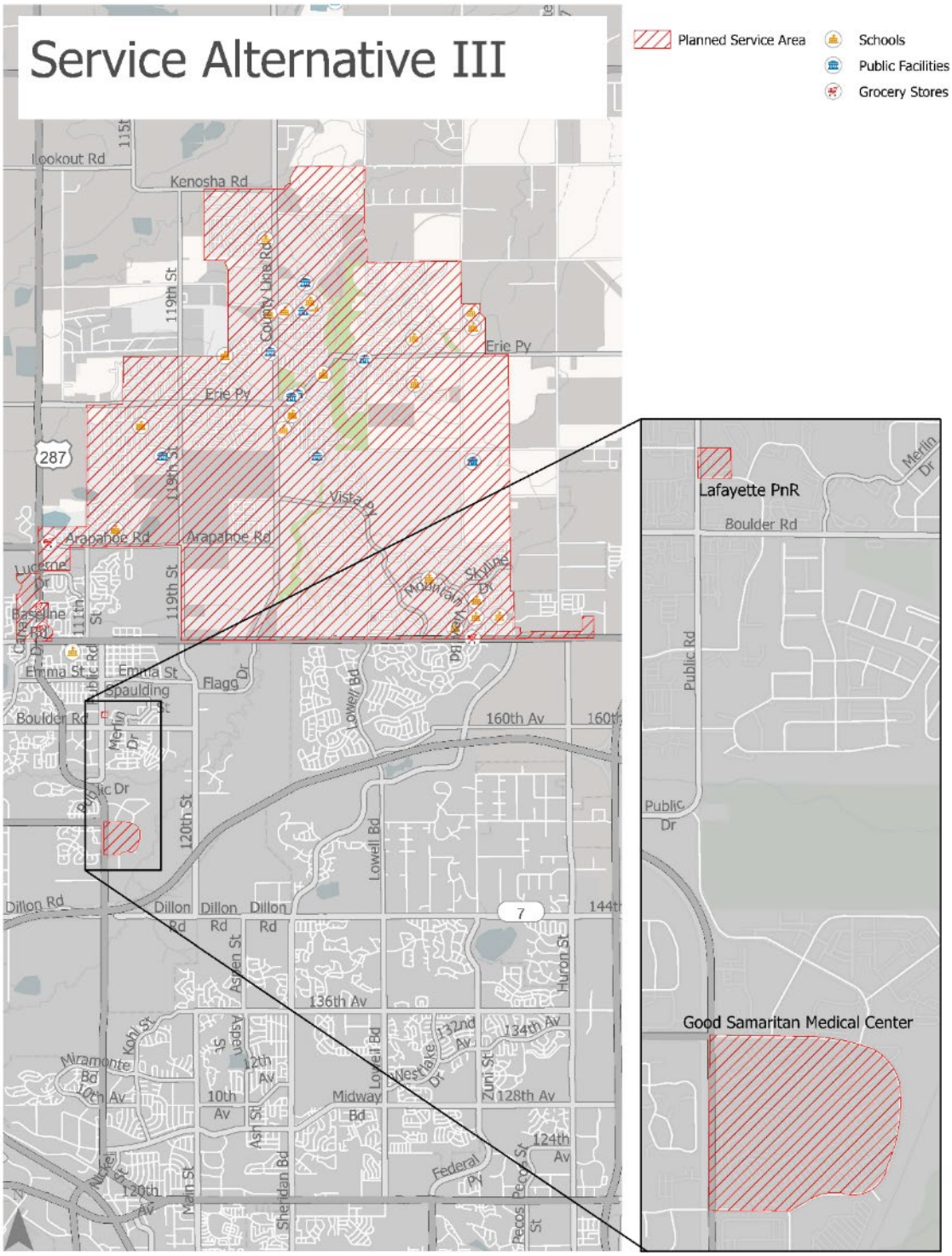


Figure 35: Service Alternative III Map



Cost Estimates

Costs were estimated based on the estimated number of vehicles needed to provide 30-minute response times for each alternative and the number of hours per week that service would be provided. Costs were estimated for each geographic alternative under four different service model scenarios as described in **Table 11**. The cost estimates assumed an average operating cost of $80 per service hour.

Table 11: Potential Service Models & Vehicles Needed

Service Model	Days/ Week	Hours/ Day	Vehicles		
			Alternative I	Alternative II	Alternative III
Daily Service 6 AM to 6 PM	7	12	2	2.5	3
Weekday 8 AM to 6 PM	5	10	2	2.5	3
Weekday 6 AM to 8 PM	5	14	2	2.5	3
Weekday 6 AM to 6 PM	5	12	2	2.5	3
+ Weekend 8 AM to 6 PM	2	10	1	1.25	1.5

Given the hours per day and days per week assumed in each service model plus the number of vehicles needed for each alternative and assuming an operating cost of $80 per service hour, **Table 12** summarizes the estimated annual operating cost for each alternative under each service model.

Table 12: Cost Estimates by Alternative

Service Model	Alternative I	Alternative II	Alternative III
Daily Service 6 AM to 6 PM	$700,000	$900,000	$1,050,000
Weekday 8 AM to 6 PM	$450,000	$550,000	$650,000
Weekday 6 AM to 8 PM	$600,000	$750,000	$900,000
Weekday 6 AM to 6 PM + Weekend 8 AM to 6 PM	$600,000	$750,000	$900,000

Table 12 show that Alternative II and III would have successively higher costs than Alternative I due to the need for additional vehicles to service the longer trips to the Lafayette Park-n-Ride and/or Good Samaritan Hospital. The analysis also shows the relative scale of costs increases depending on the hours in a day or days of the week that service is provided. Alternative I is estimated to cost between $450,000 annually if operated 10 hours a day, five days a week to $700,000 annually if operated 12 hours a day seven days a week. Alternative II ranges from $550,000 to $900,000 annually and Alternative III is estimated to cost $650,000 to $1,050,000 annually depending on the service model.

9. Recommended Service Alternative with Financial Plan

Recommended Alternative

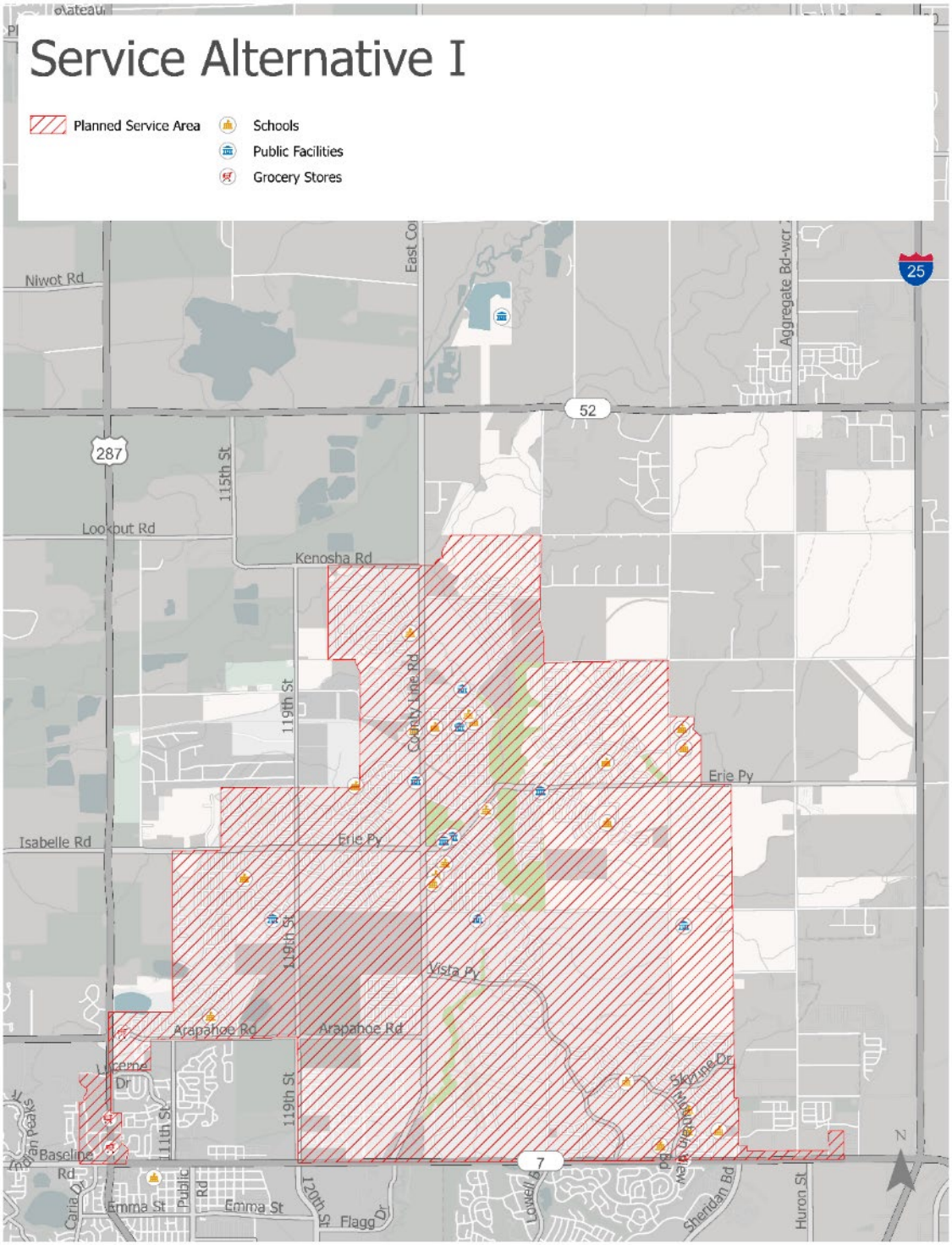
The recommended service alternative is based on analysis and input received from the community on the priorities, analysis of existing travel demand within Erie, the goals of the Town for this program, and the resources available for funding the service.

Service Area

The recommended alternative would include the locations mapped in **Figure 36** and described below:

- All of the developed area with the Town boundaries of Erie, excluding some rural portions farther from the core, and generally include areas:
    - South of Kenosha Road/CR 12 and north of Baseline Road
    - Between east of 119th Street and CR 3 north of CR 10
    - Between east of 119th Street and Sheridan Parkway alignment from CR 10 to Erie Parkway
    - Between 111th Street and Sheridan Parkway from Baseline Road/Arapahoe Road to Erie Parkway
    - Commercial area around US 287 and Arapahoe Road
- The commercial area in Lafayette around US 287 between Baseline Road and Lucerne Drive
- The commercial/medical area along Baseline Road in Broomfield between Sheridan Parkway and Huron Street

Figure 36: Recommended Service Area Map



Service Characteristics

Table 13 shows the basic characteristics of the recommended alternative's zone and service. The service would cover 16.9 square miles. Two vehicles are initially recommended during peak times to maintain a response time of less than 30 minutes. Other characteristics include:

- Fare-free service open to the public.
- Monday through Friday operations from 6 AM to 8 PM to cover a variety of trip purposes.
- Trip requests via a smartphone application or using a call-in number, both available in Spanish and English.
- Up to two branded vehicles will operate during peak demand, including a wheelchair-accessible van, with professionally trained drivers.

Table 13: Erie Microtransit Service Characteristics of the Recommended Alternative

Characteristic	Description
Zone Size	16.9 square miles
Vehicles Required	Two vehicles estimated during most of the day to provide an adequate level of service, including at least one wheelchair-accessible vehicle.
Response Time	Less than 30 minutes
Trip Types Served	Ability to connect any two points within the zone.
Fare	Free
Hours/Days of Service	Monday – Friday, 6 AM to 8 PM
How to Request a Ride	Using a smartphone application or by calling in, available in both Spanish and English

Cost Estimates

The recommended alternative is estimated to have an operations cost of about $600,000 per year. The cost estimates are based on the following assumptions:

- Turnkey operations, whereby Erie would contract with a third-party provider to operate the service (including drivers), supply and maintain vehicles, and manage the booking platform and performance metrics.
- An average hourly cost per vehicle of $80.
- Two vehicles operating 14 hours a day, five days a week.
- One vehicle is wheelchair accessible.

In addition to the annual operating cost, it is estimated that the service will require a quarter to a half of the full-time equivalent (FTE) of a Town staff employee to manage the contract with the vendor, collect

and respond to customer inquiries, promote the service, review monthly performance metrics, plan for adjustments in service parameters based on performance, and regularly coordinate with the vendor.

Target Markets

The top travel markets that will be served under the Erie Microtransit Service Plan include:

- People traveling internally in the Town (which is not served well by transit service today), particularly people with limited access to a vehicle and/or with lower incomes.
- People wanting to travel to grocery stores within and outside Erie (including Walmart, the two King Soopers, Safeway, and Sister Carmen Food Bank) and other retail establishments.
- People from Erie traveling to medical appointments at the clinics near the Community Center, or at the commercial centers on the southwest corner and southeast corner of Erie.
- People from Erie traveling to access regional jobs, schools, and services along RTD's bus and rail network, particularly in Boulder, Longmont, Broomfield, and Downtown Denver.
- Youth users for school trips, particularly accessing after-school activities and jobs, most notably between Erie High School or Erie Middle School, and the Erie Recreation Center.
- Commuters who work in Erie or visitors connecting via RTD.

Performance Estimates

System performance is assessed based on metrics such as the number of passenger trips completed per day and the amount of time passengers have to wait between when a trip is requested and when the vehicle arrives (the response time). **Table 14** shows the preliminary performance estimates and goals for Erie Microtransit. Each factor is described in more detail below.

Table 14: Performance Goals/Estimates

Passenger Trips per Day	Passengers per Service Hour	Average Response Time (goal)	Average Trip Distance	Typical Trip Time
75-90	2.5 to 3.5	Less than 30 minutes and 90% of trips fulfilled in 30 minutes or less	4.3 miles	10 minutes

Average Trip Time and Distance

The estimated number of trips per day is derived from the estimated average trip time, the estimated amount of time vehicles will spend traveling between passenger trips, and the number of vehicles available and based on the performance observed in similar microtransit programs. The average trip time of 10 minutes is based on a sampling of potential trips within the proposed service area zone.

It is assumed that when the system first launches there will be instances where vehicles are traveling between passenger trips without any passengers onboard. To factor in time spent without passengers (deadhead time to get between trips and downtime during slower periods), the average trip time was increased by 60% to create a conservative estimate. With two vehicles in operation, the system would have the capacity to fulfill 96 average length vehicle trips per day.

Passengers Per Hour

Given the demographics and density of development patterns within the proposed service area and based on examples from other similar programs it is estimated that the service would average about three passengers per service hour in the first 6-12 months and likely will grow over time. Assuming two vehicles operating 14 hours a day, five days a week, this equates to about 75-90 passenger trips per day.

Average Response Time

The initial average response time is estimated to be between 15 and 30 minutes. As demand increases the response time will increase. If response time increases to the point that more than 10% of trips are exceeding the 30-minute response time that may warrant adding a third vehicle during peak demand times.

Adjusting Performance Estimates

Initial performance estimates and goals have been established based on the characteristics of the service area, peer system performance, and service delivery estimates from potential vendors. However, each microtransit system has unique operating patterns. The service monitoring plan profiled later in this report offers a performance tracking plan that can be used to adjust service goals as needed.

10. Implementation Plan

Service Delivery

The Town of Erie plans to utilize a turn-key contract model for the community's microtransit service. The Town will solicit bids from qualified vendors to launch, manage, and operate the microtransit including providing and maintaining a vehicle fleet, qualified drivers, a trip booking platform, and performance monitoring program.

Service Adjustments and Monitoring Plan

While this service plan presented in this report may prove to be effective for the life of the program, it is anticipated that the service will need to be adjusted periodically to better serve local needs. The following section describes elements of a monitoring plan that should be implemented early in the life of the program and used to determine whether and when service changes are needed.

Tracking Ridership

The vendor should be able to provide to the Town with monthly ridership reports (**Figure 37** shows sample metrics from the Montbello Connector in Denver). Ridership can be reported both as the total number of passenger trips per day and the average number of passengers per vehicle service hour. As discussed in the performance estimates, the service is projected to have 75 to 90 passenger trips per day once the service has gained initial community awareness. Initially, the ridership may be on the lower end of the range while the Town markets the service and community understanding of this new transportation resource grows. It is recommended that the goal for the first three months of service should be approximately 50 to 65 trips per day, growing to 75 to 90 by the end of the first year.

If the service is not meeting this ridership target after the first three months, then additional analysis may be needed to pinpoint whether there are particular times of day when the service is utilized at a higher rate and when service is utilized at a lower rate or if additional adjacent destinations should be considered or additional marketing is needed to promote the service. If issues can be identified, a determination can be made on whether service span or area needs adjustment. While ridership is a key metric, it should not be the single metric for measuring whether the microtransit pilot is performing successfully. When the Town is determining whether to extend the service, metrics like response time, rider satisfaction, types of trips provided, and the rate at which the service completes the trip types it was intended for should be among the factors considered.

Figure 37: Example Ridership Report from the Denver Connector: Montbello

MONTBELLO
connector

Ridership Report

August 2022

Dates: August 1 - 31, 2022

Rides : 3,113 / 25,995
Passengers (unlinked passenger trips): 4,235 / 36,220
Vehicle revenue hours: 638 / 6,255
Total vehicle hours: 762 / 7,500
Vehicle revenue miles: 9,373 / 79,646
Total vehicle miles: 11,373 / 97,141
Passenger miles: 8,143 / 64,270
Unique rider accounts (month to date / all time): 363 / 1,455
Passengers per revenue hour: 6.6 / 5.8
Percent of rides shared: 34% / 26%
Average wait time: 25 minutes / 20 minutes
Average ride time: 8 minutes / 7 minutes
Average experience rating: 4.75 out of 5 / 4.79 out of 5
Wheelchair rides: 18 / 63
Spanish speaking rides: 100 / 670
No shows: 309 / 1,950
Percent of rides more than 5 min late to pickup: 6% / 8%
Dispatch created rides: 6% / 7%

Tracking Ride Times

The number of passengers that can be served within a daily service span is dictated, in part, by the amount of time vehicles spend completing trips and the amount of time vehicles spend responding to trip requests. It is assumed that single passenger trips will typically take 9-10 minutes from origin to destination. However, one of the goals of the microtransit program is to combine trips as much as possible (passengers may share the vehicle with someone making a similar trip, which will likely extend the ride time for both individuals). Factoring in the time of potential shared rides, it is assumed each passenger will experience a 15-minute average trip time. If, after the first three months, the actual per passenger trip time exceeds 15 minutes, the service plan should be adjusted to better reflect local travel conditions.

It is also projected that the average response time (or the time between when a passenger reserves a ride and when the vehicle arrives) will be less than 30 minutes. The service vendor will be able to provide a response time by passenger trip. If it is found that the average response time is 30 minutes or more or more than 10% of trips have a response time over 30 minutes, then changes to the service area size may be needed in order to improve response times or promotional materials may need to be changed to set more accurate rider expectations for typical response times.

Tracking User Experience

While metrics like ridership can convey system productivity, more qualitative indicators are also important. The experiences of early riders should be captured in order to learn about any unanticipated issues with service provision. Rider feedback can be captured through customer service star ratings provided through the smartphone app after each ride is completed (this is automatic after each ride) and by logging customer feedback received via email or through call-ins. More comprehensive post-trip surveys regarding more detailed service or trip characteristics could be distributed either electronically or using paper copies by the service vendor. In order to ensure the highest response rate possible, it is recommended the survey be brief and focus primarily on multiple choice responses with just one open-ended response.

Since the service vendor will track the quantitative aspects of each trip, like response time and time in vehicle, the survey can be used to assess ease of use of the reservation system, whether riders find the vehicles comfortable, whether riders have positive interactions with vehicle operators, and whether the rider travel experience has improved when comparing to their pre-microtransit travel.

The surveys should be offered to each rider during the first six months of service in English and Spanish. Following a survey response evaluation period, surveying should then be conducted at regular intervals to be determined by Town staff and for passenger samples instead of all riders.

Tracking Rider Demographics

To fulfill grant funding obligations and ensure the service is serving the transportation needs of vulnerable populations, the Town is interested in tracking demographic characteristics of riders, such as age, race, and/or income status. This information will need to be provided voluntarily. One way to do that would be to conduct an annual rider survey linked from the app to an external survey site.

Evaluating Service Area Scope

The initial service zone has been drawn based on the travel market assessment and stakeholder input. It is possible that some portions of the service area may be disproportionately heavy trip generators or popular destinations. Monitoring the origin and destinations patterns by trip will allow the Town to understand whether the service area needs to be modified or if there are particular origin-destination pairs and routes that are utilized at a high rate. The selected vendor should be able to provide visualizations of trip patterns like the example shown in **Figure 38** to help Town staff evaluate service utilization and potentially adjust, such as narrowing the service area or establishing fixed pick-up/drop-off locations that serve popular destinations.

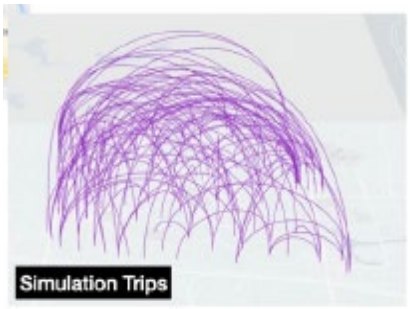


Figure 38: Simulation of Origin-Destination Patterns (source: Downtowner)

Track "Un-serviceable" Trip Requests

Initially, transit users can request trips within the microtransit zone, and people who attempt to request a trip originating or terminating outside of the zone will not be serviced. These trip requests need to be tracked in order to understand if there are patterns in "un-serviceable" areas, as they can reveal where service changes need to be made based on user demand.

Determining Service Changes

While this service plan seeks to meet the needs of the Town of Erie travel market, it is possible that in practice the performance outcomes may differ from goals outlined here. The Town should be prepared to collaborate with the selected operating vendor on making service adjustments on an as-needed basis to ensure the microtransit service is providing efficient service and filling a mobility need. It is recommended that Town staff complete a thorough review of the performance metrics described in this service monitoring plan along with initial responses to rider surveys after the first three months of service. If any goals are unmet or if initial rider satisfaction is low, then targeted service adjustments may be required.

Implementation Timeline

Figure 39 illustrates the timeline for pre-launch and post launch actions for the three months prior and 12 months following launch of the service. A turn-key operator should be identified at least three months prior to launch. Other pre-launch actions include identifying a name, logo, and brand, marketing and promotion of the service, vinyl wrapping of vehicles, and testing. Post-launch the focus will be on advertising service, monitoring service over the first year, and planning for minor adjustments to the service operating characteristics as needed.

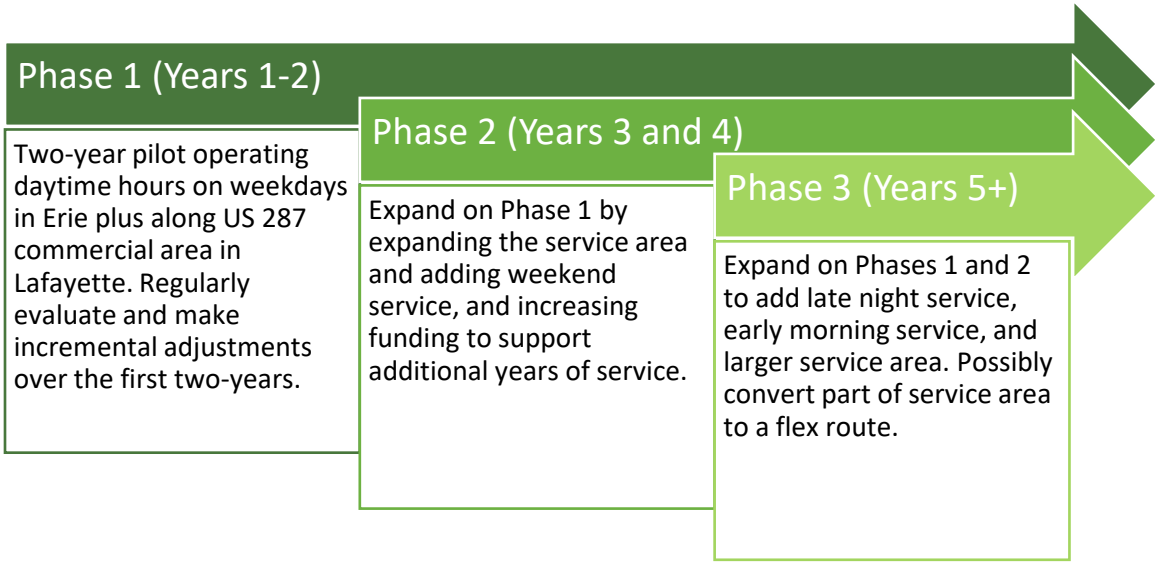
Figure 39: Erie Microtransit Implementation Timeline

3 months before launch	Finalize program management and oversight Select turn-key service operator and associated vehicle fleet Finalize budget and associated operating hours Select program name, logo, and brand
2 months before launch	Develop marketing materials and advertising plan Formalize promotional partnerships with community groups Work with microtransit vendor on service plan adjustments Install electric vehicle charging stations
1 month before launch	Install vehicle brand graphics (vinyl wraps) Begin intensive advertising and promotion of program launch Coordinate with program partners and electeds about launch Test microtransit technology and dry-run service
Launch of operations	Final planning, promotion, and coordination for launch event Determine performance monitoring program Launch event Intensive advertising and promotion of service
Month 1	Daily service quality monitoring Responsiveness to passenger complaints or input Weekly evaulation of performance metrics Intensive advertising and promotion of service
Month 2	Review lessons learned in first month with vendor Intensive advertising and promotion of service Ongoing evaluation/monitoring/customer responsiveness
Months 3-6	Implementation of possible service adjustments Ongoing advertising and promotion of service Ongoing evaluation/monitoring/customer responsiveness Report to electeds and community partners on early results
Months 7+	Plan for Year 2 of service and develop necessary resources Ongoing advertising and promotion of service Ongoing evaluation/monitoring/customer responsiveness Review and report on final pilot results

Phasing

Figure 40 describes a phased approach over a multi-year period that would allow for the program to grow over time as ridership increases and financial resources expand. This would include increasing the overall service level and service area as demand and funding warrant.

Figure 40: Erie Microtransit Implementation Phasing



Priorities for Future Improvement

Based on input received from the community, and analysis of travel patterns, potential future recommended improvements are shown in **Figure 41** and ranked with the highest priority shown first. Implementation of these priorities will be based on when funding becomes available and may shift depending on how the service performs and feedback from rider surveys and the community once the service is underway. There are two basic service characteristics that could be considered for expansion over time: expanding the service area and expanding the service to weekends and earlier/later service hours. Initial guidance on each is provided below. Additionally, the Town may also need to fund additional vehicles in order to maintain adequate response time as the service becomes more popular. At some point microtransit's popularity could increase to the point that conversion of part of the service area to a flex route may be warranted (more is discussed on this below).

Figure 41: Prioritized Future Improvements for Erie Microtransit Service

Considerations for Expanding the Span of Service:

Feedback from the community survey revealed demand for the service on weekends and later in the evening. Therefore, it is recommended that the Town consider expanding the service to Saturday as the first priority. If successful, the service could be expanded to Sunday and eventually by an additional hour or two in the evening.

Considerations for Expanding the Service Area:

Several key destinations outside of Erie were identified through the analysis but were not included in the initial service plan based on available resources. These locations should be considered first as part of any service area expansion:

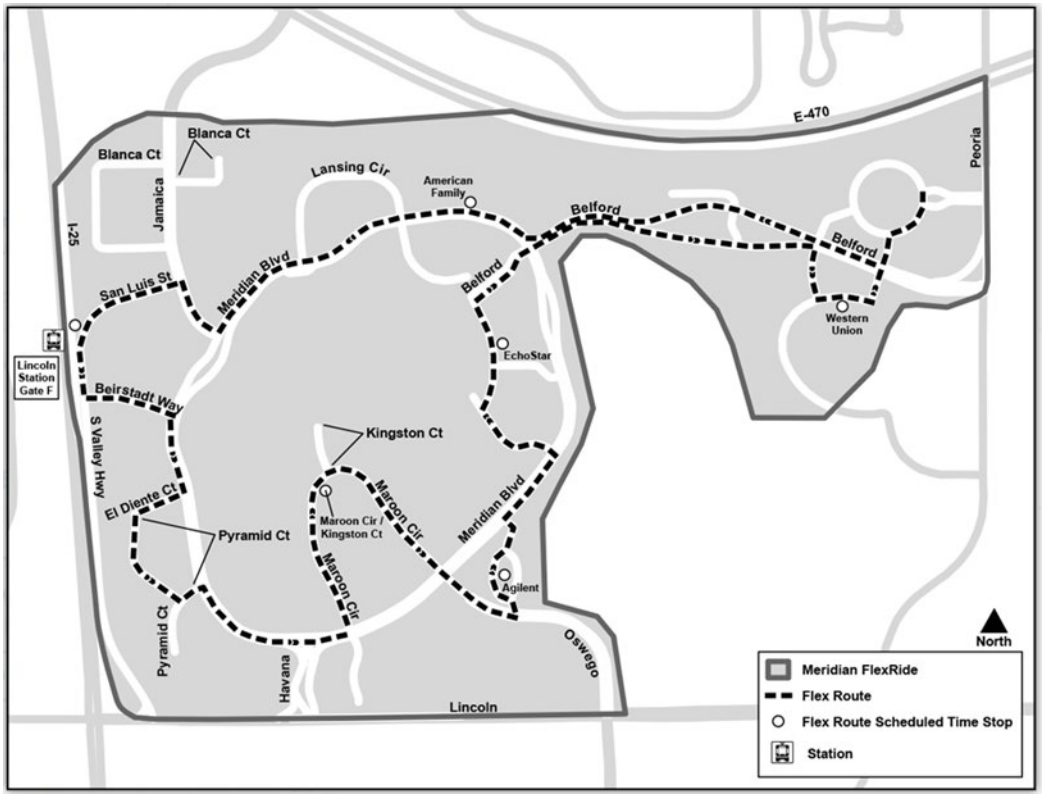
- **Downtown Lafayette:** This would provide a connection to additional shops and services offered in Lafayette. A connection could also be made to the Lafayette Park-n-Ride providing a formal connection to RTD regional services.
- **Good Samaritan Hospital:** Access to medical services was indicated as one of the top uses for the microtransit service by the community and Good Samaritan Hospital is the primary major hospital used by Erie residents.
- **Planned I-25 & CO 7 Mobility Hub:** The Larkridge area and associated commercial/retail services near I-25 and CO 7 was one of the top destinations outside of Erie that the community indicated a desire to have transit connections. Additionally, a mobility hub is planned at this location which will included connections to the Bustang North Line, the planned CO 7 BRT service and potentially future expanded RTD service to Thornton and Denver. This would be a logical location to connect the Erie microtransit service into the regional transit system.

Flex Route Potential

The final service plan for the initial pilot project recommendation is a microtransit zonal system, where trips are fulfilled and grouped in real-time without any defined route. This recommendation is based on the finding that there is a lack of consistent, identified origin-destination points for trips within Erie and due to the dispersed nature of development patterns within Erie.

However, following the first two-years of operation, there may be a clear pattern of trips that lend themselves to a flexible route, where the vehicle travels along a route with defined stops and scheduled time points but can also deviate in between stops to make requested pickups and drop-offs in real-time anywhere within the zone. An example of this model is shown in **Figure 42**, which is one of the RTD FlexRide microtransit examples that operate with a flex route model. The Wagon Road FlexRide operates a similar model to north Thornton and Westminster, with several designated stops at key employment destinations during shift changes at the St. Anthony North Hospital and Amazon distribution center.

Figure 42: RTD FlexRide Routing Example



Long-term Vision

The initial service defined herein is a step towards enhanced services within Erie and surrounding communities and should be considered as the start to longer-term enhancements. Current budget

constraints limit the service operations, but additional funding might be identified over time. Ideally, a long-term vision for Erie microtransit service might include:

- Service seven days a week; weekday hours of 5 AM to 9 PM and weekend hours of 7AM to 7 PM.
- An on-demand microtransit zone that incorporates downtown Lafayette, Good Samaritan Hospital, and the planned I-25 & CO 7 Mobility Hub.
- Average trip fulfillment time of 15 minutes or less with a mixed fleet of five or more vans and battery-electric cars.
- A defined flex route (circulator) for a portion of Erie that operates on a defined route and schedule in addition to the microtransit zonal service.
- A close partnership with RTD to coordinate expanding fixed-route transit services with increased frequency to existing routes, and increased connections to and through the Erie.

Marketing, Branding, and Outreach

At the present time most Erie community members likely have limited knowledge of microtransit. An awareness building campaign should be paired with the service rollout to ensure community members learn of the new service, understand how to request trips, and are aware of the service area. While traditional avenues, like visually compelling advertisements, will be important, additional community-specific outreach strategies should also be pursued. These can include engaging local stakeholders who have existing community ties to serve as ambassadors for the new service and establishing educational messaging that the microtransit service is a public service that is open to all Erie community members and visitors highlighting the benefits of using the service (e.g., low cost and shorter travel times relative to existing fixed route bus service).

Overall Marketing Strategy

In order for the Erie microtransit service to be successful, the Town should place an emphasis on maintaining as broad an outreach approach as possible in order to reach existing and potential transit riders. The Town can partner with local businesses, schools, houses of worship, employers, medical providers, social services, and other key destinations to post information about the new service. Beyond physical advertisements, the social media networks of these community partners can also be leveraged to broaden awareness. All marketing efforts should focus on educating community members about the service itself and also on conveying three key messages:

1. Erie microtransit is a new service that has been designed by the community to help address the mobility challenges residents are facing today.
2. Microtransit service will be free and offer a comparable travel time to driving for certain trips.
3. The Town will continuously seek rider feedback to learn how the new service can be optimized to best meet local travel needs.

Branding

Brand awareness is critical to developing a community understanding that the microtransit service is distinctive from existing RTD service and that it is a new mobility resource.

The Town desires a brand that is catchy, inviting, and easily recognizable across town. Erie's priority of community, dedication, and town support led to the name the Erie Bee. Bees symbolize community, friendship, and teamwork which is at the heart of the Erie community.

The logo was designed with a "pinpoint" bee which will be used in marketing material for a symbol of place and location. The vehicles will be bright yellow and have a bumble-bee theme with catchy phrases such as, "Bee-line to your next destination". The logo and potential vehicle branding mockup are shown in **Figure 43**.

Figure 43: The Erie Bee Brand Logo and Potential Vehicle Mockups

Signage

Signage describing the new service and featuring the branding should be posted in all locations where it is likely community members will start or end rides. These signs can serve to designate common pick-up and drop-off locations, which would make the system easier to use. Early locations for signs can include

the Erie Community Center, library, middle and high schools, grocery stores, Walmart, Old Town, medical facilities, and the designated location along Arapahoe Road where riders can connect to/from the JUMP. High quality, visually compelling signs can be targeted to key market groups and can be offered in a variety of languages.

Advertising

Signage can also be adapted into flyers that are posted in popular locations or inserted into utility bills or any other materials that are mailed to each address in the service area. In addition, the Town can partner with local print media along with radio and tv stations to promote the service. While traditional media platforms have a wide reach, social media promotion is also a useful avenue to explore. Social media is particularly effective at reaching younger audiences, which should be a key consideration in Erie given the high share of residents under the age of 18 and the lessons learned about how popular the service is in other similar markets with youth. The Town can use its existing social media presence and also partner with RTD and other stakeholders who may be willing to cross promote the service.

Outreach

The Town should leverage the existing network of community groups to raise awareness and promote the new service. Partnering with organizations will allow the Town to tap into an existing network of community members who are working to improve quality of life in Erie. The Town can invite key stakeholders to serve as ambassadors for the new service. This role can be as simple as committing to including the new microtransit service as a discussion topic in community events or promoting the service on an organization's website and social media pages. The Town can also collaborate with ambassadors to periodically visit popular destinations throughout Erie and informally discuss the new service with residents.

Employer Partnerships

Partnerships with local employers are another tool the Town can utilize. Local employers in Erie can begin informing their employees about the opportunity to travel from one of the nearby RTD bus routes using microtransit or to use the microtransit service to reduce the length of their transit commute. Erie will consider partnering with local employers and businesses to market service to this ridership demographic.

School Partnerships

Local schools, such as Erie High School and Erie Middle School, can also advertise the new service. While some parents may not be comfortable allowing their child to walk, bike, or ride the bus to school or after school activities, microtransit could be perceived as a safer travel option.

Business Partnerships

The Town should work with local businesses to promote the service, in particular partnering with local medical providers so they can effectively communicate the new service to clientele. Having tabletop displays on the counters of local retail establishments, restaurants, and medical service providers that announce the new service and how to use it could be an effective way to gain awareness of the service. Businesses and medical providers could also distribute information to employees and allow local ambassadors from the Town to present at staff meetings.

Special Events

The Town should consider having a presence at local events marketing the service such as Arbor Day, the Town Fair, Senior Lunch, Erie Air Fair, the Sustainability Event, Boo on Briggs, etc. Setting a table with brochures and a friendly community ambassador is a relatively low-cost way to build awareness of the new service.

RTD

Although the microtransit service is a Town program, it is important to collaborate with RTD, specifically with its customer service staff. It is likely that residents will not realize who is providing the service and may reach out to RTD with questions about the Town's microtransit service. The RTD customer service staff must be well equipped to answer questions about how the service works and how a user can request a ride. Providing marketing materials and training for RTD customer service staff will allow for seamless customer service, even if a potential rider is confused about whether the new microtransit service is an Erie or RTD service.

Real Time Customer Information and Trip Planning

Being able to integrate trip planning and vehicle location information from the planned micortransit service into currently utilized rider trip planning apps is important in building confidence in the user experience. As a long-term goal, the Town should work to take the service data and build it into apps such as Google Maps, RTD's Next Ride app, and the Transit App. Real time vehicle location information and trip planning can be done with Application Programming Interfaces (APIs), which help integrate the vehicular data with the mobile application and give realistic estimated time of vehicle arrivals and coordinated trip planning. Ideally, users could plan trips and see real-time travel time estimates across various modes and transportation providers. This integration is known as Mobility-as-a-Service (MaaS).

Appendix F: Roadway, Bicycle, and Intersection Project Maps and Tables

Appendix F: Project Maps and Lists Table Of Contents

Figure 1: Intersection and Crossing Projects Map

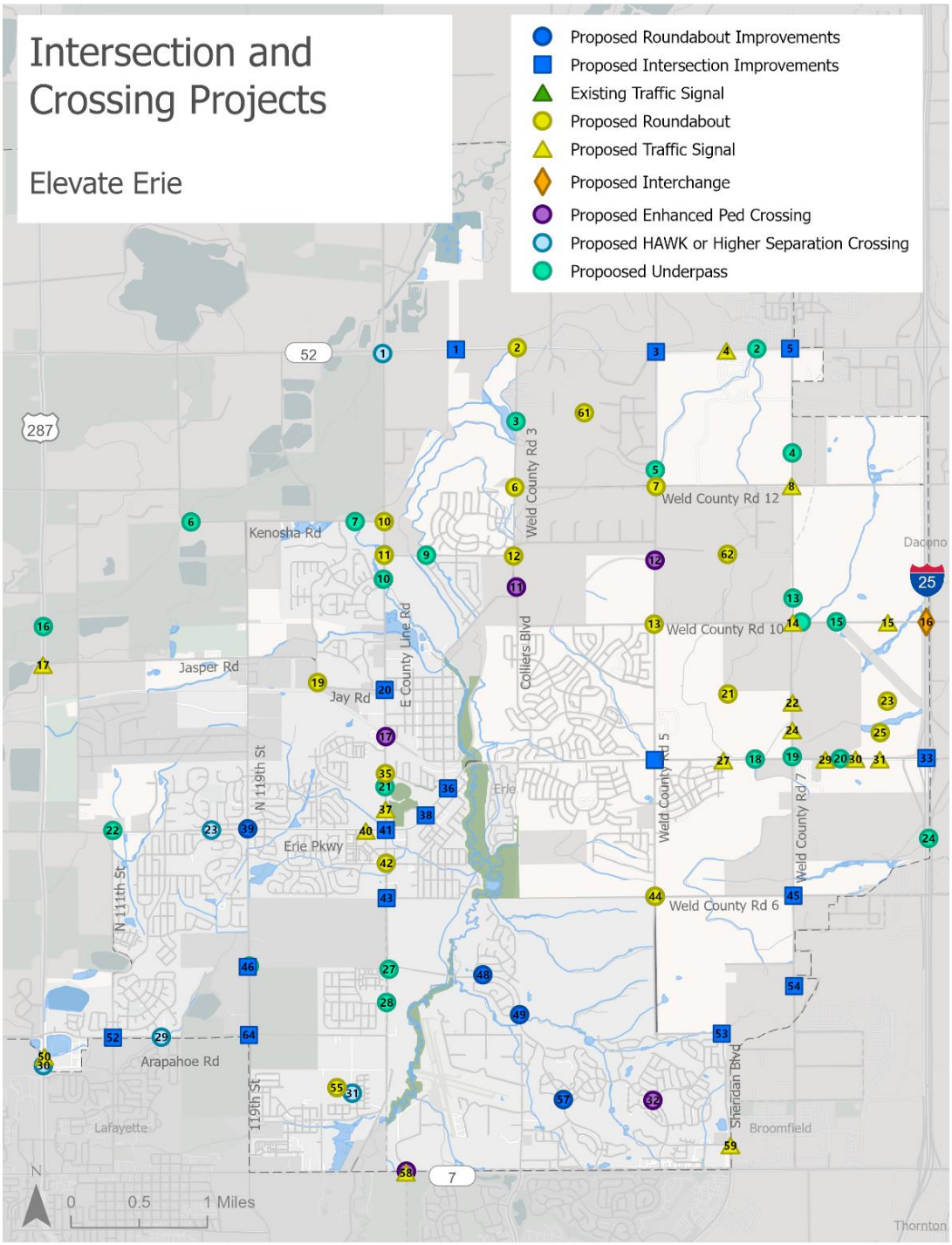


Table 1: Intersection and Crossing Projects Table

Project ID	Category	Roadway	Intersection	Description
17	Enhanced Crossing	WCR 3	WCR 3 & WCR 1 1/2	Enhanced Ped Crossing
29	Enhanced Crossing	WCR 5	WCR 5 & WCR 6	Grade Separated Crossing
32	Enhanced Crossing	N 107th St	N 107th St & new roadway	Grade Separated Crossing
41	Intersection Project	Erie Pkwy	Erie Pkwy & County Line Rd	Safety Improvements
33	Enhanced Crossing	SH 7	SH 7 & Airport Dr	Enhanced Ped Crossing
42	Intersection Project	E County Line Rd	E County Line Rd & Austin Ave	Roundabout
52	Intersection Project	Arapahoe Rd	Arapahoe Rd & N 111th St	Intersection Improvements
11	Enhanced Crossing	WCR 5	WCR 5 & new roadway	Enhanced Ped Crossing
12	Enhanced Crossing	Erie Pkwy	Erie Pkwy & new roadway	Underpass
20	Intersection Project	E County Line Rd	E County Line Rd & Jay Rd	Intersection Improvements
36	Intersection Project	Erie Pkwy	Erie Pkwy & Briggs St	Safety Improvements
38	Intersection Project	Erie Pkwy	Erie Pkwy & Powers St	Intersection Improvements
39	Intersection Project	Erie Pkwy	Erie Pkwy & N 119th St	Roundabout Improvements
1	Enhanced Crossing	new roadway	new roadway & new roadway	Grade Separated Crossing
6	Enhanced Crossing	Kenosha Rd	Kenosha Rd & new roadway	Underpass
10	Enhanced Crossing	County Line Rd	County Line Rd & new roadway	Underpass
21	Enhanced Crossing	County Line Rd	County Line Rd & new roadway	Underpass
23	Enhanced Crossing	County Line Rd	County Line Rd & Union Pacific Railroad	Enhanced Ped Crossing
25	Enhanced Crossing	Erie Pkwy	Erie Pkwy & Meadow View Pkwy	HAWK or Higher Separation Crossing
30	Enhanced Crossing	County Line Rd	County Line Rd & Mineral Rd	Grade Separated Crossing

Project ID	Category	Roadway	Intersection	Description
31	Enhanced Crossing	Arapahoe Rd	Arapahoe Rd & S Boulder Canyon Ditch	Grade Separated Crossing
57	Intersection Project	Vista Pkwy	Mtn View Blvd to Parkdale S Cir	Roundabout Improvements
64	Intersection Project	Arapahoe Rd	Arapahoe Rd & 119th St	Intersection Improvements
7	Enhanced Crossing	Kenosha Rd	Kenosha Rd & new roadway	Underpass
8	Enhanced Crossing	County Line Rd	County Line Rd & WCR 10 1/2	Underpass
16	Enhanced Crossing	N 107th St	N 107th St & new roadway	Underpass
3	Intersection Project	CO 52 & WCR 5	Highway 52 and County Road 5	Intersection Improvements
12	Intersection Project	County Road 3	County Road 3 & County Road 10 1/2	Roundabout
35	Intersection Project	County Line Rd & Maxwell Ave	County Line Rd & Maxwell Ave	Roundabout (single lane)
43	Intersection Project	E County Line Rd	E County Line Rd & Bonnell Ave	Intersection Improvements
44	Intersection Project	County Road 5	County Road 5 & County Road 6	Roundabout
49	Intersection Project	Vista pkwy	Mtn View Blvd to Parkdale S Cir	Roundabout Improvements
55	Intersection Project	new roadway	new roadway & new roadway	Roundabout
59	Intersection Project	Sheridan Pkwy	Sheridan Pkwy & Ridgeview Dr	Signalization (full movement intersection)
60	Intersection Project	Sheridan Pkwy	Sheridan Pkwy & Ridgeview Dr	Traffic Signal
63	Intersection Project	Erie Pkwy	Erie Pkwy & County Road 5	Intersection Improvements
2	Enhanced Crossing	SH 52	SH 52 & new roadway	Underpass
3	Enhanced Crossing	WCR 3	WCR 3 & new roadway	Underpass
4	Enhanced Crossing	WCR 7	WCR 7 & new roadway	Underpass
5	Enhanced Crossing	WCR 5	WCR 5 & new roadway	Underpass
9	Enhanced Crossing	WCR 10 1/2	WCR 10 1/2 & new roadway	Underpass

Project ID	Category	Roadway	Intersection	Description
13	Enhanced Crossing	WCR 7	WCR 7 & new roadway	Underpass
14	Enhanced Crossing	WCR 10	WCR 10 & new roadway	Underpass
15	Enhanced Crossing	WCR 10	WCR 10 & new roadway	Underpass
18	Enhanced Crossing	Erie Pkwy	Erie Pkwy & Community Ditch	Underpass
19	Enhanced Crossing	WCR 7	WCR 7 & Erie Pkwy	Underpass
20	Enhanced Crossing	Mountain View Blvd	Mountain View Blvd & Skyline Dr	Enhanced Ped Crossing
22	Enhanced Crossing	Isabelle Rd	Isabelle Rd & N 111th St	Underpass
24	Enhanced Crossing	I-25	I-25 & new roadway	Underpass
26	Enhanced Crossing	N 119th St	N 119th St & new roadway	Underpass
27	Enhanced Crossing	County Line Rd	County Line Rd & Vista Pkwy	Underpass
28	Enhanced Crossing	County Line Rd	County Line Rd & Compass Pkwy	Underpass
2	Intersection Project	CO 52 & WCR 3	Highway 52 & County Road 3	Roundabout
5	Intersection Project	CO 52 & WCR 7	Highway 52 & County Road 7	Intersection Improvements
6	Intersection Project	County Road 3	County Road 3 & County Road 12	Roundabout
7	Intersection Project	County Road 5	County Road 5 & County Road 12	Roundabout
10	Intersection Project	E County Line Rd	E County Line Rd & Kenosha Rd	Roundabout
11	Intersection Project	E County Line Rd	E County Line Rd & County Road 10 1/2	Roundabout
13	Intersection Project	County Road 10	County Road 10 & County Road 5	Roundabout
19	Intersection Project	Jasper Rd	Jasper Rd & Jay Rd	Roundabout
37	Intersection Project	E County Line Rd	E County Line Rd & new roadway	Traffic Signal
45	Intersection Project	County Road 6	County Road 6 & County Road 7	Intersection Improvements
48	Intersection Project	Vista Pkwy	Vista Pkwy & Eaton St	Roundabout Improvements

Project ID	Category	Roadway	Intersection	Description
53	Intersection Project	County Road 4	County Road 4 & Sheridan Pkwy	Intersection Improvements
1	Intersection Project	Highway 52	Highway 52 & new roadway	Intersection Improvements
8	Intersection Project	WCR 7 & WCR 12	County Road 7 & County Road 12	Signalization (full movement intersection)
14	Intersection Project	WCR 7 & WCR 10	County Road 10 & County Road 7	Signalization (full movement intersection)
17	Intersection Project	N 107th St	N 107th St & Jasper Rd	Traffic Signal
21	Intersection Project	new roadway	new roadway & new roadway	Roundabout
23	Intersection Project	new roadway	new roadway & new roadway	Roundabout
25	Intersection Project	new roadway	new roadway & new roadway	Roundabout
27	Intersection Project	Erie Pkwy	Erie Pkwy & new roadway	Traffic Signal
29	Intersection Project	Erie Pkwy	Erie Pkwy & new roadway	Signalization (full movement intersection)
33	Intersection Project	I-25 Interchange	Gateway Intersection Improvements	Intersection Enhancements, Landscaping
40	Intersection Project	Erie Pkwy	Erie Pkwy & new roadway	Traffic Signal
46	Intersection Project	N 119th St	N 119th St & new roadway	Intersection Improvements
50	Intersection Project	N 107th St	N 107th St & new roadway	Traffic Signal
54	Intersection Project	County Road 7	County Road 7 & new roadway	Intersection Improvements
58	Intersection Project	State Highway 7	State Highway 7 & Airport Dr	Signalization (full movement intersection)
61	Intersection Project	New Roadway	new roadway & new roadway	Roundabout
62	Intersection Project	new roadway	new roadway & new roadway	Roundabout

Project ID	Category	Roadway	Intersection	Description
4	Intersection Project	Highway 52	Highway 52 & Antelope Way	Signalization (full movement intersection)
15	Intersection Project	County Road 10	County Road 10 & new roadway	Signalization (full movement intersection)
16	Intersection Project	County Road 10	County Road 10 & I-25	Proposed Interchange
22	Intersection Project	County Road 7	County Road 7 & new roadway	Signalization (full movement intersection)
24	Intersection Project	County Road 7	County Road 7 & new roadway	Signalization (full movement intersection)
30	Intersection Project	Erie Pkwy	Erie Pkwy & new roadway	Signalization (full movement intersection)
31	Intersection Project	Erie Pkwy	Ere Pkwy & new roadway	Traffic Signal

Figure 2: Bicycle Projects Map

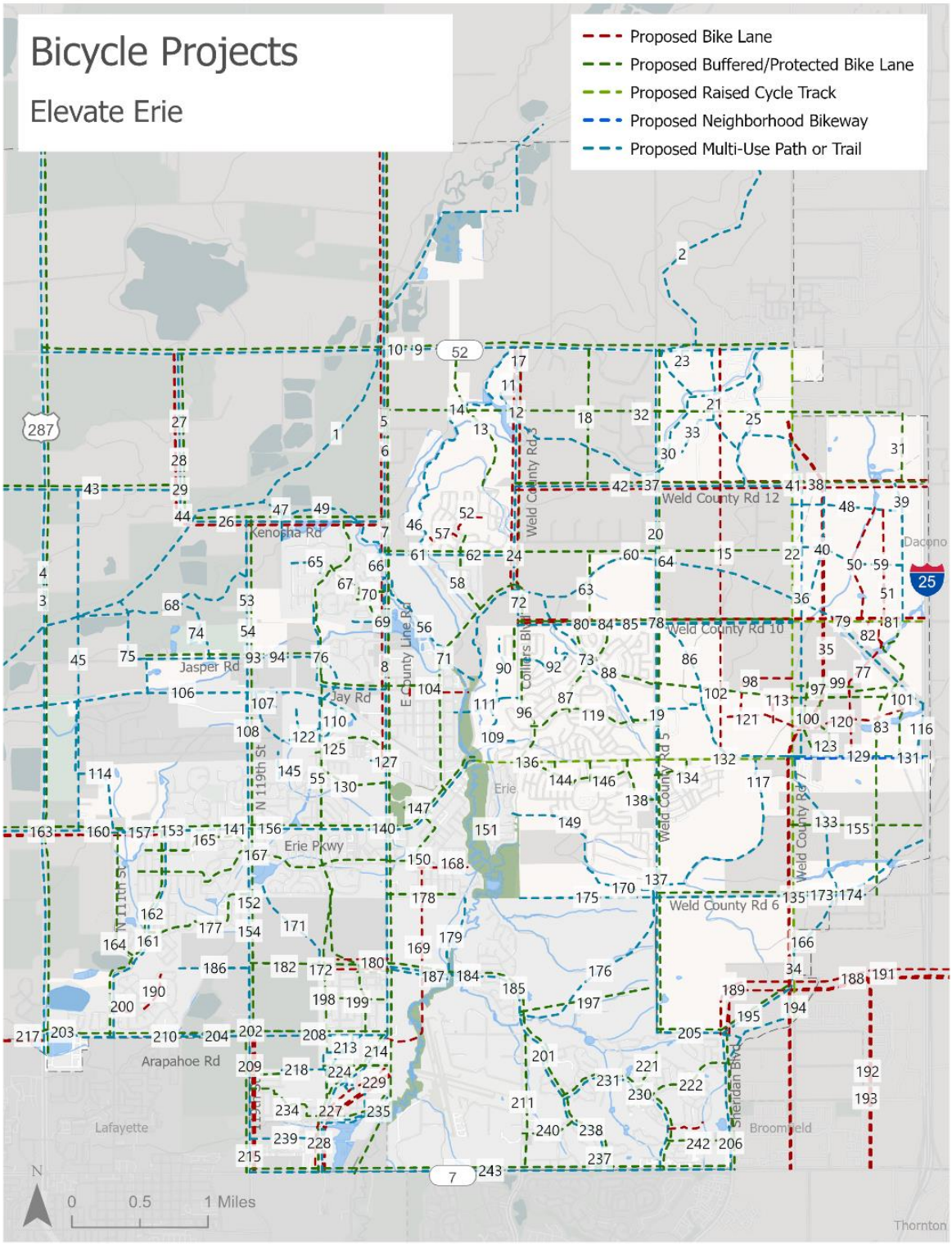


Table 2: Bicycle Projects Table

Project ID	Facility Name	From Street	To Street	Facility Type
8	E County Line Rd	N/O SH 52	E Baseline Rd	Buffered Bike Lane
7	County Line Rd	SH 52	Arapahoe Rd	Multi-use Path
3	US 287	N/O SH 52	Arapahoe Rd	Buffered Bike Lane
5	Unnamed	County Road 16 1/2	Telleen Ave	Bike Lane
71	Unnamed	Erie Pkwy	County Road 3	Buffered Bike Lane
210	Arapahoe Rd	Beasley Dr	119th St	Buffered Bike Lane
6	Unnamed	County Road 16 1/2	Telleen Ave	Bike Lane
9	SH 52	US 287	WCR 7	Buffered Bike Lane
20	WCR 5	SH 52	Erie Pkwy	Buffered Bike Lane
54	119th St	Kenosha Rd	Erie Pkwy	Buffered Bike Lane
93	Jasper Rd/Jay Rd	Proposed Trail	E County Line Rd	Buffered Bike Lane
104	Unnamed	E County Line Rd	Briggs St	Buffered Bike Lane
140	Erie Pkwy	Meller St	Coal Creek Trail	Buffered Bike Lane
161	Flatiron Meadows Blvd	Erie Pkwy	Arapahoe Rd	Buffered Bike Lane
231	Mountain View Blvd	Vista Pkwy	E Baseline Rd	Buffered Bike Lane
242	Rdge View Dr	Mountain View Blvd	Sheridan Blvd	Buffered Bike Lane
26	N 115th St/Kenosha Blvd	SH 52/N 115th St	E County Line Rd	Buffered Bike Lane
55	Meller St	Kenosha Rd	Arapahoe Rd	Buffered Bike Lane
70	Unnamed	E County Line Rd	E County Line Rd	Buffered Bike Lane
119	Unnamed	County Road 3	County Road 5	Buffered Bike Lane
136	Erie Pkwy	Coal Creek Trail	WCR 5	Raised Cycle Track
141	Erie Pkwy	W/O US 287	Coal Creek Trail	Multi-use Path
144	Unnamed	Erie Pkwy	Highlands Cir	Buffered Bike Lane

Project ID	Facility Name	From Street	To Street	Facility Type
146	Unnamed	Longs Peak Dr	Glacier Dr	Buffered Bike Lane
153	Erie Pkwy	N 109th St	Brennan St	Buffered Bike Lane
167	Meadow Sweet Ln, Austin Ave	Carbonare Ln	E County Line Rd	Buffered Bike Lane
203	Arapahoe Rd	US 287	Beasley Dr	Buffered Bike Lane
204	Arapahoe Rd	US 287	E County Line Rd	Multi-use Path
207	Sheridan Blvd	WCR 4	E Baseline Rd	Buffered Bike Lane
222	Skyline Dr	Mountain View Blvd	Sheridan Blvd	Buffered Bike Lane
4	US 287	N/O SH 52	Arapahoe Rd	Multi-use Path
10	SH 52	US 287	WCR 7	Multi-use Path
28	Unnamed	Mineral Rd	E County Line Rd	Bike Lane
29	Unnamed	Mineral Rd	E County Line Rd	Bike Lane
43	Lookout Rd	W/O US 287	N 115th St	Buffered Bike Lane
67	Unnamed	Lombardiy St	CW Bixler Blvd	Buffered Bike Lane
96	Colliers Blvd	Pinecliff Dr	Erie Pkwy	Buffered Bike Lane
103	Unnamed	Briggs St	Coal Creek	Bike Lane
125	Telleen Ave	Meller St	E County Line Rd	Buffered Bike Lane
130	Jasper Rd	Meller St	E County Line Rd	Buffered Bike Lane
137	WCR 5	Erie Pkwy	WCR 4	Buffered Bike Lane
143	Unnamed	Erie Pkwy	Highlands Cir	Buffered Bike Lane
154	119th St	Erie Pkwy	Arapahoe Rd	Buffered Bike Lane
162	Flatiron Meadows Blvd	Erie Pkwy	Arapahoe Rd	Multi-use Path
165	Meadow Sweet Ln	Carbonate Ln	119th St	Buffered Bike Lane
178	Unnamed	E County Line Rd	Lasnik St	Buffered Bike Lane
208	Arapahoe Rd	119th St	E County Line Rd	Buffered Bike Lane

Project ID	Facility Name	From Street	To Street	Facility Type
209	N 119th St	Arapahoe Rd	E Baseline Rd	Buffered Bike Lane
211	Unnamed	Commander Dr	State Highway 7	Buffered Bike Lane
221	Unnamed	Pinon Dr	Mountain View Blvd	Buffered Bike Lane
238	Vista Pkwy	Mountain View Blvd	E Baseline Rd	Buffered Bike Lane
240	Sunset Dr	Bonanza Dr	Vista Pkwy	Buffered Bike Lane
243	E Baseline Rd	119th ST	Sheridan Blvd	Multi-use Path
244	E Baseline Rd	119th St	Sheridan Blvd	Buffered Bike Lane
12	WCR 3	SH 52	CR 1 1/2	Buffered Bike Lane
13	Unnamed	Mineral Road	Maddox Ln	Buffered Bike Lane
32	Unnamed	E County Line Rd	Puritan Way	Buffered Bike Lane
44	Lookout Rd/Kenosha Rd	W/O US 287	E County Line Rd	Multi-use Path
58	Unnamed	Morgan Cir N	County Road 1 1/2	Buffered Bike Lane
60	Unnamed	County Road 3	County Road 7	Buffered Bike Lane
62	County Road 10 1/2	E County Line Rd	WCR 3	Buffered Bike Lane
94	Jasper Rd/Jay Rd	Proposed Trail	E County Line Rd	Multi-use Path
105	Unnamed	Cheeseman St	Wells St	Bike Lane
132	Erie Pkwy	WCR 5	WCR 7	Raised Cycle Track
138	Unnamed	Erie Pkwy	County Road 5	Buffered Bike Lane
142	Unnamed	Erie Pkwy	Longs Peak Dr	Buffered Bike Lane
150	Powers St/Mason St/Austin Ave	Erie Pkwy	Austin Ave	Buffered Bike Lane
152	N 119th St	Erie Pkwy	E Baseline Rd	Multi-use Path
156	Erie Pkwy	Brennan St	Meller St	Buffered Bike Lane
159	Erie Pkwy	W/O US 287	US 287	Buffered Bike Lane
163	Unnamed	W/O US 287	N 109th St	Bike Lane

Project ID	Facility Name	From Street	To Street	Facility Type
169	New Mason St Connection	Austin Ave	Arapahoe Rd	Bike Lane
172	Unnamed	new roadway	new roadway	Buffered Bike Lane
173	WCR 6	WCR 5	E/O WCR 7	Buffered Bike Lane
177	Unnamed	Flatiron Meadows Blvd	N 119th St	Buffered Bike Lane
190	Unnamed	Powell St	Betts Cir	Bike Lane
201	Vista Pkwy	WCR 4	Mountain View Blvd	Buffered Bike Lane
215	Unnamed	Arapahoe Rd	E Baseline Rd	Bike Lane
216	Unnamed	Arapahoe Rd	E Baseline Rd	Bike Lane
217	Unnamed	new roadway	US 287	Bike Lane
219	Unnamed	new roadway	E County Line Rd	Buffered Bike Lane
223	Unnamed	new roadway	E County Line Rd	Buffered Bike Lane
225	Unnamed	new roadway	new roadway	Buffered Bike Lane
226	Unnamed	N 119th St	new roadway	Buffered Bike Lane
230	Mountain View Blvd	Vista Pkwy	E Baseline Rd	Multi-use Path
234	Unnamed	N 119th St	new roadway	Buffered Bike Lane
236	Monroe St/Coal Creek Blvd	E Baseline Rd/Coal Creek Blvd	S Main St	Buffered Bike Lane
241	Forsythia Dr/Dogwood Dr	Mountain View Blvd	Lilac Cir	Bike Lane
16	Unnamed	Mineral Road	County Road 1 1/2	Bike Lane
19	WCR 5	SH 52	WCR/Sheridan Blvd	Multi-use Path
34	Unnamed	new roadway	W 168th Ave	Bike Lane
41	WCR 12	WCR 3	I-25	Buffered Bike Lane
53	119th St	Kenosha Rd	Erie Pkwy	Multi-use Path
84	WCR 10	WCR 3	WCR 7	Buffered Bike Lane
87	Unnamed	County Road 10	Colliers Pkwy	Buffered Bike Lane

Project ID	Facility Name	From Street	To Street	Facility Type
88	Unnamed	County Road 10	County Road 5	Buffered Bike Lane
89	Unnamed	County Road 10	Pinecliff Dr	Buffered Bike Lane
102	Unnamed	County Road 5	new roadway	Buffered Bike Lane
127	County Line Rd	Telleen Ave	Maxwell Ave	Bike Lane
147	Unnamed	unnamed	Erie Pkwy	Buffered Bike Lane
157	Unnamed	N 111th St	Walters Dr	Bike Lane
158	Erie Pkwy	US 287	N 109th St	Buffered Bike Lane
160	Unnamed	W/O US 287	N 111th St	Bike Lane
164	N 11th St	Erie Pkwy	Flatiron Meadows Blvd	Buffered Bike Lane
168	Unnamed	Mason St	Jarvis Dr	Bike Lane
182	Unnamed	N 119th St	Quest Dr	Buffered Bike Lane
183	Vista Pkwy	Quest Dr	E County Line Rd	Buffered Bike Lane
184	Vista Pkwy	E County Line Rd	Parkdale Cir	Buffered Bike Lane
195	Unnamed	County Road 4	County Road 7	Buffered Bike Lane
199	Unnamed	Grenville Cir	E County Line Rd	Buffered Bike Lane
200	Unnamed	N 111th St	Hauck St	Bike Lane
205	WCR 4	WCR 5	Sheridan Blvd	Buffered Bike Lane
206	Sheridan Blvd	WCR 4	E Baseline Rd	Multi-use Path
220	Unnamed	new roadway	US 287	Bike Lane
227	County Line Rd	E County Line Road	E Basline Rd	Bike Lane
228	Unnamed	E County Line Road	E Basline Rd	Bike Lane
229	Unnamed	E County Line Road	E Basline Rd	Bike Lane
15	New WCR 5 1/2	SH 52	Erie Pkwy	Bike Lane
17	Unnamed	Mineral Road	County Road 1 1/2	Bike Lane

Project ID	Facility Name	From Street	To Street	Facility Type
18	Unnamed	Higway 52	County Road 12	Buffered Bike Lane
22	WCR 7	SH 52	Erie Pkwy	Raised Cycle Track
27	N 115th St	SH 52	Lookout Rd	Multi-use Path
31	Unnamed	unnamed	County Road 12	Buffered Bike Lane
35	Unnamed	new roadway	W 168th Ave	Bike Lane
37	Unnamed	County Road 3	I-25	Bike Lane
38	Unnamed	County Road 3	I-25	Bike Lane
45	N 109th St	Kenosha Rd	Erie Pkwy	Multi-use Path
49	East Boulder Creek	Kenosha Rd	Kenosha Rd	Multi-use Path
52	Unnamed	Morgan Cir N	Meagan Way	Bike Lane
57	Unnamed	Marlowe Cir W	Morgan Cir N	Bike Lane
63	Unnamed	County Road 10 1/2	County Road 10	Buffered Bike Lane
72	WCR 3	CR 1 1/2	WCR 10	Buffered Bike Lane
78	Unnamed	County Road 3	I-25	Bike Lane
81	Unnamed	County Road 3	I-25	Bike Lane
83	Unnamed	County Road 10	County Road 6	Buffered Bike Lane
97	Unnamed	new roadway	new roadway	Buffered Bike Lane
99	Unnamed	County Road 7	new roadway	Buffered Bike Lane
100	Unnamed	new roadway	new roadway	Buffered Bike Lane
101	Unnamed	new roadway	County Road 8	Buffered Bike Lane
112	Unnamed	County Road 7	new roadway	Buffered Bike Lane
123	Unnamed	new roadway	Erie Pkwy	Buffered Bike Lane
126	Unnamed	new roadway	new roadway	Buffered Bike Lane
134	Unnamed	County Road 5	Erika Pkwy	Buffered Bike Lane

Project ID	Facility Name	From Street	To Street	Facility Type
135	WCR 7	Erie Pkwy	WCR 4	Raised Cycle Track
155	Unnamed	County Road 7	W I-25 Frontage Rd	Buffered Bike Lane
188	Sheridan Blvd Extension	Sheridan Blvd	E/O ECR 7	Bike Lane
189	Unnamed	County Road 4	new roadway	Bike Lane
191	Unnamed	County Road 4	new roadway	Bike Lane
194	WCR 7	New Roadway	S/O New Roadway	Raised Cycle Track
197	Unnamed	Vista Pkwy	County Road 5	Buffered Bike Lane
213	Unnamed	Arapahoe Rd	new roadway	Multi-use Path
214	Unnamed	new roadway	E County Line Rd	Multi-use Path
237	Vista Pkwy	Mountain View Blvd	E Baseline Rd	Multi-use Path
24	WCR 3	SH 52	WCR 10	Multi-use Path
50	Unnamed	new roadway	County Road 10	Bike Lane
51	Unnamed	new roadway	County Road 10	Bike Lane
61	CR 10 1/2	E County Line Rd	WCR 3	Multi-use Path
77	Unnamed	County Road 10	County Road 8	Bike Lane
79	Unnamed	County Road 7	I-25	Raised Cycle Track
82	Unnamed	County Road 10	new roadway	Bike Lane
98	Unnamed	new roadway	County Road 7	Bike Lane
110	Unnamed	new roadway	new roadway	Multi-use Path
113	Unnamed	new roadway	County Road 7	Bike Lane
120	Unnamed	County Road 7	new roadway	Bike Lane
121	Unnamed	new roadway	County Road 7	Bike Lane
122	Unnamed	new roadway	new roadway	Multi-use Path
131	Erie Pkwy	WCR 7	I-25	Neighborhood Bikeway

Project ID	Facility Name	From Street	To Street	Facility Type
145	Unnamed	new roadway	new roadway	Multi-use Path
151	Unnamed	Montgomery Dr	new roadway	Bike Lane
174	WCR 6	WCR 5	E/O WCR 7	Multi-use Path
175	Unnamed	new roadway	County Road 5	Multi-use Path
180	Unnamed	new roadway	E County Line Rd	Bike Lane
181	Unnamed	new roadway	E County Line Rd	Bike Lane
185	Vista Pkwy	E County Line Rd	Mountain View Blvd	Multi-use Path
192	Unnamed	new roadway	State Highway 7	Bike Lane
193	Unnamed	new roadway	State Highway 7	Bike Lane
218	Unnamed	new roadway	Arapahoe Rd	Multi-use Path
224	Unnamed	new roadway	new roadway	Multi-use Path
232	Unnamed	new roadway	new roadway	Multi-use Path
233	Unnamed	new roadway	new roadway	Multi-use Path
235	Monroe St/Coal Creek Blvd	E Baseline Rd/Coal Creek Blvd	S Main St	Multi-use Path
21	Unnamed	Highway 52	Community Ditch	Multi-use Path
23	Unnamed	Highway 52	new roadway	Multi-use Path
42	WCR 12	WCR 3	WCR 7	Multi-use Path
65	East Boulder Creek	Banner Cir	Lombardi St	Multi-use Path
80	WCR 10	WCR 3	WCR 7	Multi-use Path
85	WCR 10	WCR 3	WCR 7	Multi-use Path
86	Unnamed	County Road 10	Community Ditch	Multi-use Path
90	Unnamed	new roadway	new roadway	Multi-use Path
92	Unnamed	Bear Peak Rd	Green Mountain Dr	Multi-use Path
115	Unnamed	new roadway	new roadway	Multi-use Path

Project ID	Facility Name	From Street	To Street	Facility Type
118	Unnamed	new roadway	new roadway	Multi-use Path
124	Unnamed	new roadway	new roadway	Multi-use Path
128	Unnamed	new roadway	new roadway	Multi-use Path
139	Unnamed	new roadway	new roadway	Multi-use Path
196	Unnamed	County Road 4	County Road 7	Multi-use Path
33	Unnamed	new roadway	new roadway	Multi-use Path
39	Unnamed	County Road 12	County Road 10	Multi-use Path
40	Unnamed	County Road 12	County Road 7	Multi-use Path
48	Unnamed	County Road 7	new roadway	Multi-use Path
59	Unnamed	County Road 7	new roadway	Multi-use Path
68	East Boulder Creek	N 109th St	N 119th St	Multi-use Path
74	East Boulder Creek	new roadway	Jasper Rd	Multi-use Path
91	Unnamed	new roadway	new roadway	Multi-use Path
95	Unnamed	County Road 3	Bear Peak Rd	Multi-use Path
107	Unnamed	new roadway	new roadway	Multi-use Path
198	Unnamed	new roadway	Compass Pkwy	Multi-use Path

Figure 3: Roadway Projects Map

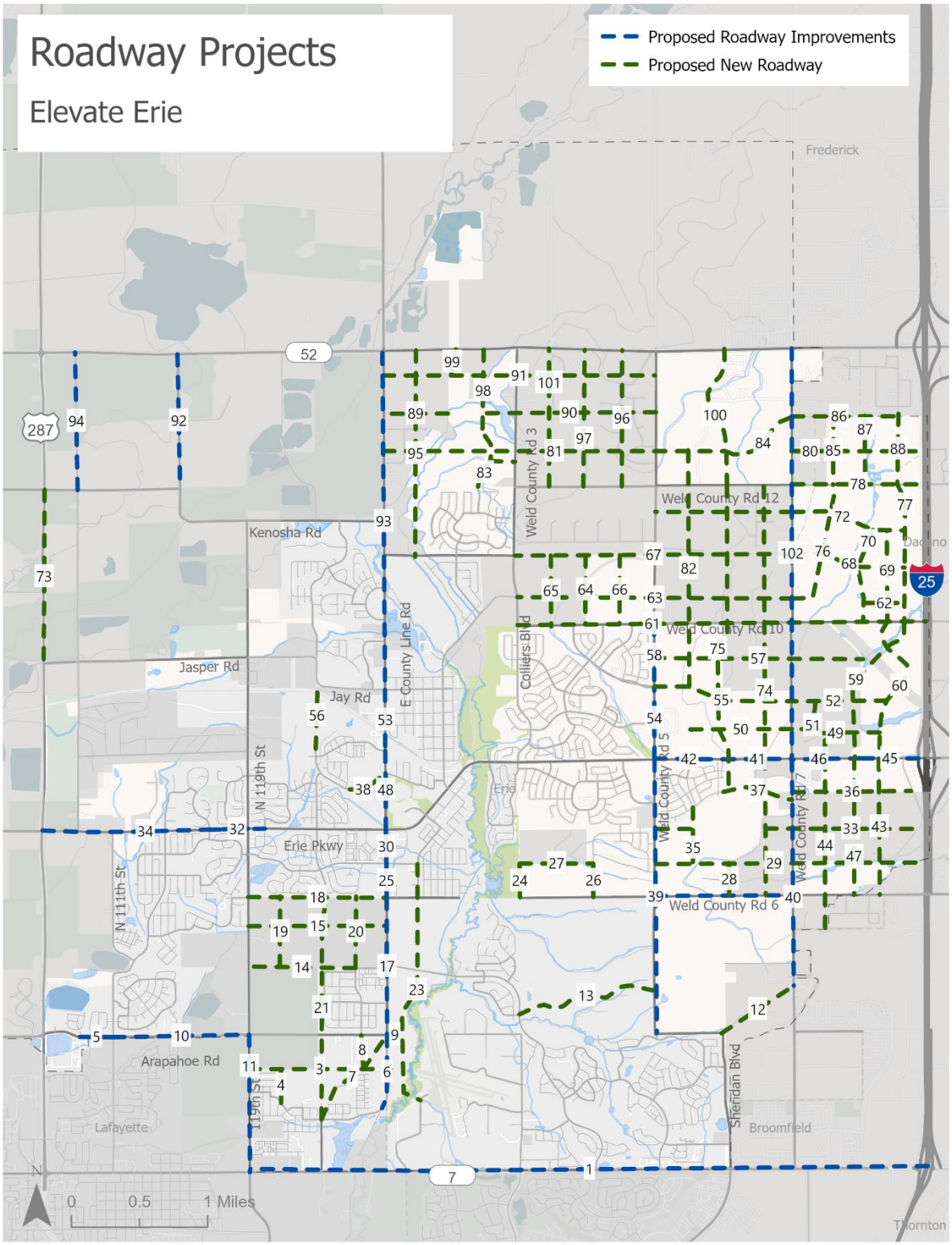


Table 3: Roadway Projects Table

Project ID	Roadway	Segment	Project Type
93	E County Line Road	Mineral Rd to Jay Rd	Widening
1	State Highway 7	N 119th St to I-25	Reconstruction
10	Arapahoe Rd	111th St to 119th St	Reconstruction
48	County Line Rd	Erie Pkwy to Telleen Ave	Roadway Improvements
53	County Line Rd	Telleen Ave North to Cheesman St	Roadway Improvements
5	Arapahoe Rd	Beasley Dr to 111th St	Widening
30	County Line Rd	Austin to Erie Pkwy	Widening
34	Erie Pkwy	US 287 to 111th St	Widening
94	N 109th St	Mineral Rd to Lookout Rd	Roadway Improvements
22	WCR 6	WCR 5 to WCR 7	Roadway Improvements
32	Erie Pkwy	Meadowview Pkwy to Brennan St	Reconstruction
92	115th St	SH52 to Lookout Rd	Roadway Improvements
6	E County Line Rd	Arapahoe Rd to Monroe St	Widening
11	N 119th St	Arapahoe Rd to Baseline Rd	Reconstruction
25	County Line Rd	Bonnell Ave to Austin Ave	Widening
39	WCR 5	WCR 10 to WCR 4	Widening
54	County Road 5	new roadway to Erie Pkwy	Widening
56	Jasper Rd Extension	Telleen Ave to Jay Rd	New Roadway
7	new roadway	Coal Creek Blvd to E County Line Rd	New Roadway
17	County Line Rd	Erie Pkwy to Bonnell Ave to Arapahoe Rd	Widening
23	Mason St	Bonnell Ave to County Line Rd & Arapahoe Rd Intersection	New Roadway
41	Erie Pkwy	WCR 5 1/2 to WCR 7	Reconstruction
58	County Road 5	County Road 10 to new roadway	Widening

73	109th St	Lookout Rd to Jasper	New Roadway
102	WCR 7	SH 52 to Erie Pkwy	Widening
3	new roadway	N 119th St to E County Line Rd	New Roadway
4	new roadway	new roadway to Nathan Pl	New Roadway
8	new roadway	Arapahoe Rd to unnamed	New Roadway
18	new roadway	N 119th St to E County Line Rd	New Roadway
21	new roadway	Westin Dr to Monroe St	New Roadway
38	Jasper Rd	Stewart Way to County Line Rd	New Roadway
40	WCR 7	Erie Pkwy to Sheridan Blvd	Widening
42	Erie Pkwy	WCR 5 to WCR 5 1/2	Reconstruction
45	Erie Pkwy	WCR 7 1/2 to I-25 SB ramps	Reconstruction
46	Erie Pkwy	WCR 7 to (new) WCR 7 1/2	Reconstruction
81	new roadway	E County Line Rd to new roadway	New Roadway
89	new roadway	E County Line Rd to new roadway	New Roadway
91	new roadway	E County Line Rd to County Road 5	New Roadway
9	new roadway	E County Line Rd to new roadway	New Roadway
15	new roadway	N 119th St to E County Line Rd	New Roadway
19	new roadway	new roadway to new roadway	New Roadway
44	new roadway	Erie Pkwy to new roadway	New Roadway
50	new roadway	new roadway to County Road 7	New Roadway
55	new roadway	County Road 5 to County Road 7	New Roadway
61	WCR 10	Colliers Blvd to I-25	New Roadway
82	new roadway	new roadway to new roadway	New Roadway
83	new roadway	new roadway to Miranda Rd	New Roadway
96	new roadway	Highway 52 to County Road 12	New Roadway

12	WCR 4	Sheridan Blvd to WCR 7	New Roadway
13	WCR 4	Vista Pkwy to WCR 5	New Roadway
14	new roadway	N 119th St to Quest Dr	New Roadway
20	new roadway	new roadway to Vista Pkwy	New Roadway
24	new roadway	new roadway to County Road 6	New Roadway
26	new roadway	new roadway to County Road 6	New Roadway
27	new roadway	new roadway to Sunrise St	New Roadway
28	new roadway	new roadway to County Road 6	New Roadway
29	new roadway	County Road 5 to I-25	New Roadway
31	new roadway	County Road 5 to new roadway	New Roadway
33	new roadway	new roadway to I-25	New Roadway
35	new roadway	Hickory Ave to new roadway	New Roadway
36	new roadway	County Road 7 to W I-25 Frontage Rd	New Roadway
37	new roadway	new roadway to County Road 7	New Roadway
43	new roadway	Erie Pkwy to County Road 6	New Roadway
47	new roadway	Erie Pkwy to County Road 6	New Roadway
49	new roadway	County Road 7 to new roadway	New Roadway
51	new roadway	new roadway to Erie Pkwy	New Roadway
52	new roadway	County Road 7 to new roadway	New Roadway
57	new roadway	County Road 5 to new roadway	New Roadway
59	new roadway	County Road 10 to Erie Pkwy	New Roadway
60	new roadway	County Road 10 to Erie Pkwy	New Roadway
62	new roadway	new roadway to new roadway	New Roadway
63	new roadway	County Road 3 to County Road 7	New Roadway
64	new roadway	County Road 10 1/2 to County Road 10	New Roadway

65	new roadway	County Road 10 1/2 to County Road 10	New Roadway
66	new roadway	County Road 10 1/2 to County Road 10	New Roadway
67	new roadway	County Road 3 to County Road 7	New Roadway
68	new roadway	County Road 7 to new roadway	New Roadway
69	new roadway	new roadway to County Road 10	New Roadway
70	new roadway	new roadway to County Road 10	New Roadway
71	new roadway	County Road 5 to County Road 7	New Roadway
72	new roadway	County Road 7 to new roadway	New Roadway
74	new roadway	County Road 12 to County Road 6	New Roadway
75	new roadway	County Road 12 to new roadway	New Roadway
76	new roadway	County Road 12 to County Road 7	New Roadway
77	new roadway	County Road 12 to County Road 10	New Roadway
78	WCR 12	WCR 7 to I-25	New Roadway
79	new roadway	new roadway to County Road 3	New Roadway
80	new roadway	County Road 7 to I-25	New Roadway
84	new roadway	new roadway to County Road 7	New Roadway
85	new roadway	unnamed to County Road 12	New Roadway
86	new roadway	County 7 to Puritan Way	New Roadway
87	new roadway	unnamed to County Road 12	New Roadway
88	new roadway	unnamed to County Road 12	New Roadway
90	new roadway	new roadway to County Road 5	New Roadway
95	new roadway	State Highway 52 to County Road 10 1/2	New Roadway
97	new roadway	Highway 52 to County Road 12	New Roadway
98	new roadway	Highway 52 to new roadway	New Roadway
99	new roadway	Highway 52 to new roadway	New Roadway

100	new roadway	Highway 52 to County Road 12	New Roadway
101	new roadway	Highway 52 to County Road 12	New Roadway

Figure 4: Projects Added After Prioritization Map

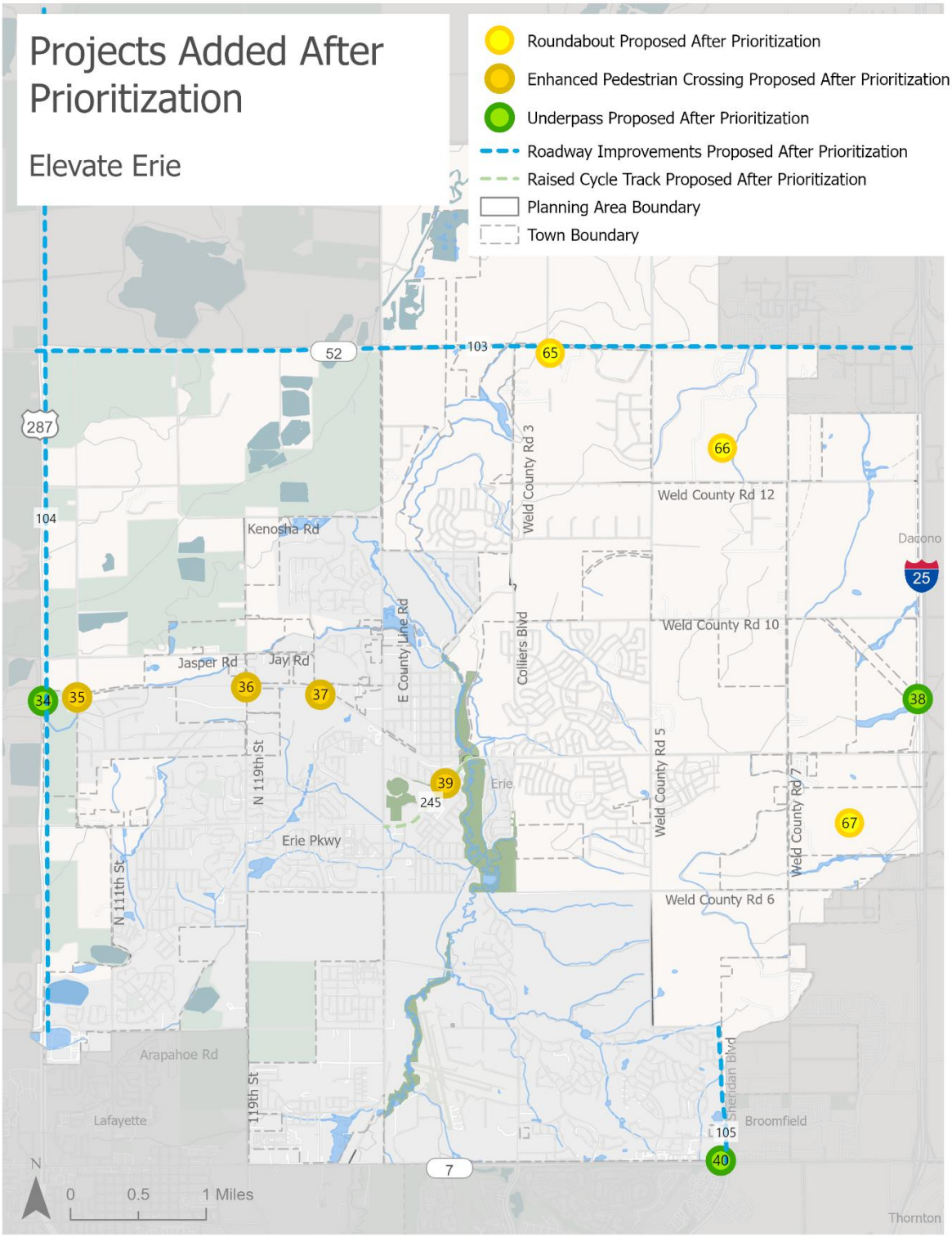


Table 4: Bicycle Projects Added After Prioritization

Project ID	Corridor	From	To	Facility Type
245	Erie Parkway	County Line Road	Coal Creek Trail	Raised Cycle Track

Table 5: Roadway Projects Added After Prioritization

Project ID	Roadway	Segment	Project Type
103	State Highway 52	County Line Road to I-25	Roadway Improvements
104	US-287	Arapahoe Road to N/O State Highway 52	Roadway Improvements
105	Sheridan Parkway	WCR 4 to CO-7	Roadway Improvements

Table 6: Intersection and Crossing Projects Added After Prioritization

Project ID	Category	Intersection	Description
34	Enhanced Crossing	US-287 and BERT Trail	Underpass
35	Enhanced Crossing	N 109th Street and Trail	Enhanced Pedestrian Crossing
36	Enhanced Crossing	N 119th Street and Trail	Enhanced Pedestrian Crossing
37	Enhanced Crossing	New Roadway and S/O Jay Road	Enhanced Pedestrian Crossing
38	Enhanced Crossing	I-25 and New Roadway	Underpass
39	Enhanced Crossing	Erie Parkway and S Briggs Street	Enhanced Pedestrian Crossing
40	Enhanced Crossing	CO-7 and E/O Sheridan Boulevard	Underpass
65	Intersection Project	Highland Place	Roundabout
66	Intersection Project	New Roadway and New Roadway	Roundabout
67	Intersection Project	New Roadway and New Roadway	Roundabout

Appendix G: Unfunded Projects

FEHR PEERS

Unfunded Bicycle Projects

Project ID	Facility Name	From Street	To Street	Facility Type	Length (Miles)	Cost Per Mile	Total Cost	Priority	Additional Notes
193	Unnamed	new roadway	State Highway 7	Bike Lane	1.406	$ 100,000	$ 140,639	Low Priority	
218	Unnamed	new roadway	Arapahoe Rd	Multi-use Path	0.758	$ 2,100,000	$ 1,591,723	Low Priority	
224	Unnamed	new roadway	new roadway	Multi-use Path	0.278	$ 2,100,000	$ 584,788	Low Priority	
232	Unnamed	new roadway	new roadway	Multi-use Path	0.100	$ 2,100,000	$ 210,318	Low Priority	
233	Unnamed	new roadway	new roadway	Multi-use Path	0.185	$ 2,100,000	$ 388,491	Low Priority	
235	Monroe St/Coal Creek Blvd	E Baseline Rd/Coal Creek Blvd	S Main St	Multi-use Path	0.928	$ 2,100,000	$ 1,949,654	Low Priority	
21	Unnamed	Highway 52	Community Ditch	Multi-use Path	0.799	$ 2,100,000	$ 1,677,300	Low Priority	
23	Unnamed	Highway 52	new roadway	Multi-use Path	0.152	$ 2,100,000	$ 320,000	Low Priority	
42	WCR 12	WCR 3	WCR 7	Multi-use Path	2.029	$ 2,100,000	$ 4,261,734	Low Priority	
65	East Boulder Creek	Banner Cir	Lombardi St	Multi-use Path	0.352	$ 2,100,000	$ 738,399	Low Priority	
80	WCR 10	WCR 3	WCR 7	Multi-use Path	2.017	$ 2,100,000	$ 4,236,007	Low Priority	Planned w/ Gateway development;
85	WCR 10	WCR 3	WCR 7	Multi-use Path	2.013	$ 2,100,000	$ 4,226,864	Low Priority	
86	Unnamed	County Road 10	Community Ditch	Multi-use Path	0.684	$ 2,100,000	$ 1,435,986	Low Priority	
90	Unnamed	new roadway	new roadway	Multi-use Path	0.455	$ 2,100,000	$ 956,547	Low Priority	
92	Unnamed	Bear Peak Rd	Green Mountain Dr	Multi-use Path	0.257	$ 2,100,000	$ 540,743	Low Priority	
115	Unnamed	new roadway	new roadway	Multi-use Path	0.347	$ 2,100,000	$ 728,757	Low Priority	
118	Unnamed	new roadway	new roadway	Multi-use Path	0.263	$ 2,100,000	$ 552,957	Low Priority	
128	Unnamed	new roadway	new roadway	Multi-use Path	0.197	$ 2,100,000	$ 414,655	Low Priority	
139	Unnamed	new roadway	new roadway	Multi-use Path	0.168	$ 2,100,000	$ 352,716	Low Priority	

Project ID	Facility Name	From Street	To Street	Facility Type	Length (Miles)	Cost Per Mile	Total Cost	Priority	Additional Notes
196	Unnamed	County Road 4	County Road 7	Multi-use Path	0.597	$ 2,100,000	$ 1,253,236	Low Priority	
33	Unnamed	new roadway	new roadway	Multi-use Path	0.369	$ 2,100,000	$ 775,806	Low Priority	
39	Unnamed	County Road 12	County Road 10	Multi-use Path	1.011	$ 2,100,000	$ 2,123,780	Low Priority	North Station Development
40	Unnamed	County Road 12	County Road 7	Multi-use Path	0.954	$ 2,100,000	$ 2,003,511	Low Priority	North Station Development
48	Unnamed	County Road 7	new roadway	Multi-use Path	0.816	$ 2,100,000	$ 1,714,258	Low Priority	North Station Development
59	Unnamed	County Road 7	new roadway	Multi-use Path	0.836	$ 2,100,000	$ 1,755,666	Low Priority	North Station Development
68	East Boulder Creek	N 109th St	N 119th St	Multi-use Path	1.421	$ 2,100,000	$ 2,983,743	Low Priority	
74	East Boulder Creek	new roadway	Jasper Rd	Multi-use Path	0.687	$ 2,100,000	$ 1,441,898	Low Priority	
91	Unnamed	new roadway	new roadway	Multi-use Path	0.130	$ 2,100,000	$ 273,222	Low Priority	
95	Unnamed	County Road 3	Bear Peak Rd	Multi-use Path	0.170	$ 2,100,000	$ 357,920	Low Priority	
107	Unnamed	new roadway	new roadway	Multi-use Path	0.204	$ 2,100,000	$ 428,320	Low Priority	
198	Unnamed	new roadway	Compass Pkwy	Multi-use Path	0.065	$ 2,100,000	$ 136,477	Low Priority	
						Total Cost	$40,556,117		

Unfunded Multimodal Intersection Projects

Project ID	Category	Roadway	Intersection	Description	Cost Estimate	Priority
2	Enhanced Crossing	SH 52	SH 52 & new roadway	Underpass	$8,000,000	Low Priority
4	Enhanced Crossing	WCR 7	WCR 7 & new roadway	Underpass	$8,000,000	Low Priority
5	Enhanced Crossing	WCR 5	WCR 5 & new roadway	Underpass	$8,000,000	Low Priority
9	Enhanced Crossing	WCR 10 1/2	WCR 10 1/2 & new roadway	Underpass	$8,000,000	Low Priority
13	Enhanced Crossing	WCR 7	WCR 7 & new roadway	Underpass	$8,000,000	Low Priority
14	Enhanced Crossing	WCR 10	WCR 10 & new roadway	Underpass	$8,000,000	Low Priority
15	Enhanced Crossing	WCR 10	WCR 10 & new roadway	Underpass	$8,000,000	Low Priority
18	Enhanced Crossing	Erie Pkwy	Erie Pkwy & Community Ditch	Underpass	$8,000,000	Low Priority
19	Enhanced Crossing	WCR 7	WCR 7 & Erie Pkwy	Underpass	$8,000,000	Low Priority
22	Enhanced Crossing	Isabelle Rd	Isabelle Rd & N 111th St	Underpass	$8,000,000	Low Priority
24	Enhanced Crossing	I-25	I-25 & new roadway	Underpass	$8,000,000	Low Priority
26	Enhanced Crossing	N 119th St	N 119th St & new roadway	Underpass	$8,000,000	Low Priority
27	Enhanced Crossing	County Line Rd	County Line Rd & Vista Pkwy	Underpass	$8,000,000	Low Priority
28	Enhanced Crossing	County Line Rd	County Line Rd & Compass Pkwy	Underpass	$8,000,000	Low Priority
37	Intersection Project	E County Line Rd	E County Line Rd & new roadway	Traffic Signal	$750,000	Medium Priority
53	Intersection Project	County Road 4	County Road 4 & Sheridan Pkwy	Intersection Improvements	$195,000	Medium Priority
1	Intersection Project	Highway 52	Highway 52 & new roadway	Intersection Improvements	$195,000	Low Priority
8	Intersection Project	WCR 7 & WCR 12	County Road 7 & County Road 12	Signalization (full movement intersection)	$750,000	Low Priority
14	Intersection Project	WCR 7 & WCR 10	County Road 10 & County Road 7	Signalization (full movement intersection)	$750,000	Low Priority
17	Intersection Project	N 107th St	N 107th St & Jasper Rd	Traffic Signal	$750,000	Low Priority
21	Intersection Project	new roadway	new roadway & new roadway	Roundabout	$1,000,000	Low Priority

Project ID	Category	Roadway	Intersection	Description	Cost Estimate	Priority
23	Intersection Project	new roadway	new roadway & new roadway	Roundabout	$1,000,000	Low Priority
25	Intersection Project	new roadway	new roadway & new roadway	Roundabout	$1,000,000	Low Priority
27	Intersection Project	Erie Pkwy	Erie Pkwy & new roadway	Traffic Signal	$750,000	Low Priority
29	Intersection Project	Erie Pkwy	Erie Pkwy & new roadway	Signalization (full movement intersection)	$750,000	Low Priority
33	Intersection Project	I-25 Interchange	Gateway Intersection Improvements	Intersection Enhancements, Landscaping	$1,300,000	Low Priority
40	Intersection Project	Erie Pkwy	Erie Pkwy & new roadway	Traffic Signal	$750,000	Low Priority
46	Intersection Project	N 119th St	N 119th St & new roadway	Intersection Improvements	$195,000	Low Priority
50	Intersection Project	N 107th St	N 107th St & new roadway	Traffic Signal	$750,000	Low Priority
54	Intersection Project	County Road 7	County Road 7 & new roadway	Intersection Improvements	$195,000	Low Priority
58	Intersection Project	State Highway 7	State Highway 7 & Airport Dr	Signalization (full movement intersection)	$750,000	Low Priority
61	Intersection Project	New Roadway	new roadway & new roadway	Roundabout	$1,000,000	Low Priority
62	Intersection Project	new roadway	new roadway & new roadway	Roundabout	$1,000,000	Low Priority
4	Intersection Project	Highway 52	Highway 52 & Antelope Way	Signalization (full movement intersection)	$750,000	Low Priority
15	Intersection Project	County Road 10	County Road 10 & new roadway	Signalization (full movement intersection)	$750,000	Low Priority
22	Intersection Project	County Road 7	County Road 7 & new roadway	Signalization (full movement intersection)	$750,000	Low Priority
24	Intersection Project	County Road 7	County Road 7 & new roadway	Signalization (full movement intersection)	$750,000	Low Priority
30	Intersection Project	Erie Pkwy	Erie Pkwy & new roadway	Signalization (full movement intersection)	$750,000	Low Priority
31	Intersection Project	Erie Pkwy	Erie Pkwy & new roadway	Traffic Signal	$750,000	Low Priority
				Total Cost	$130,330,000	