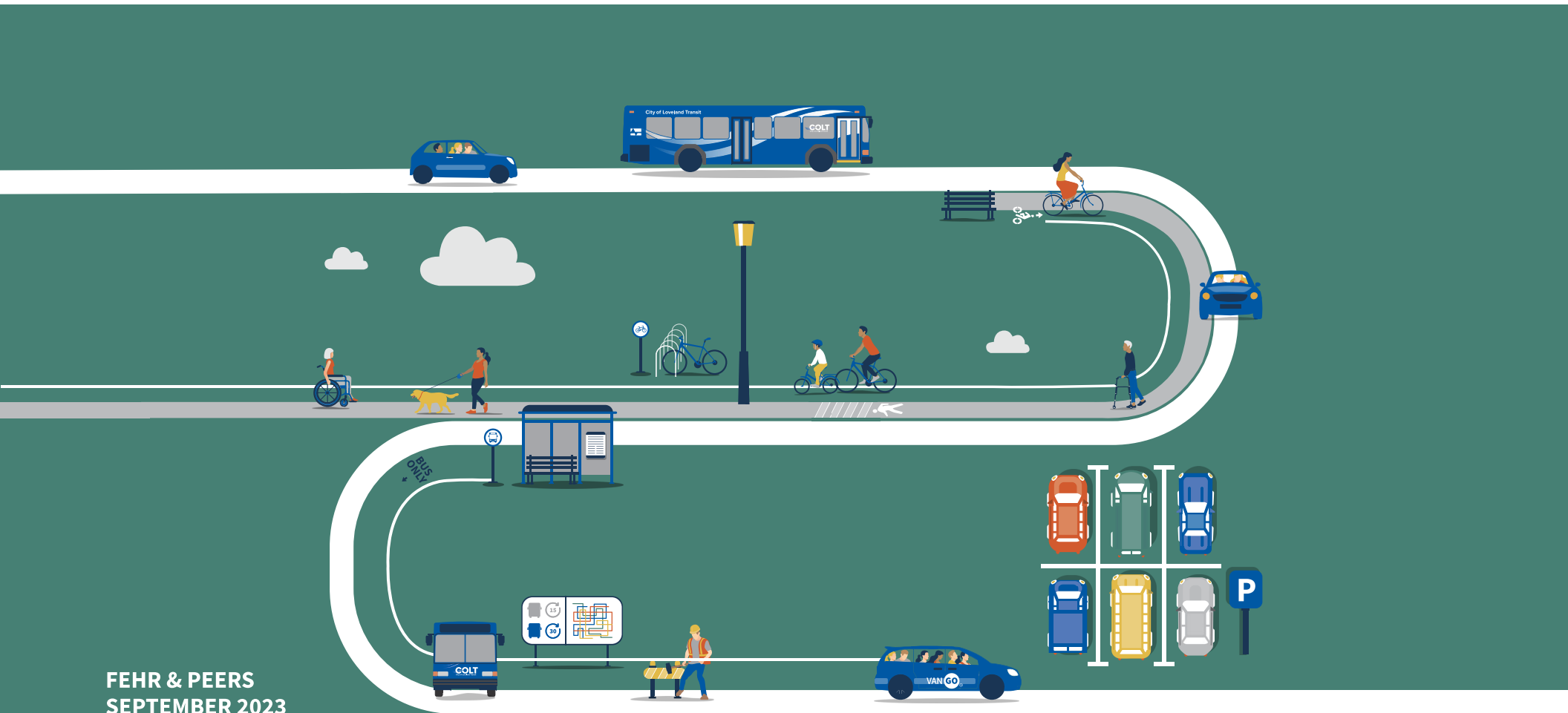
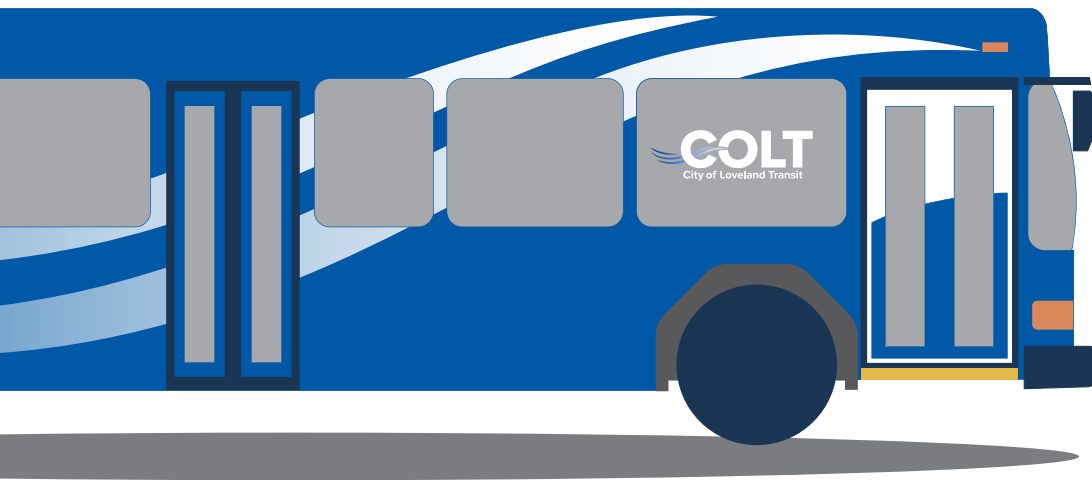
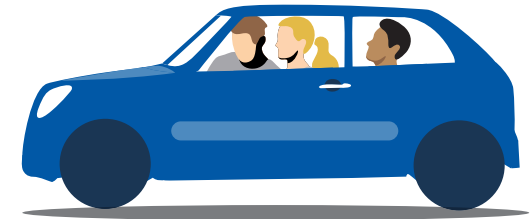
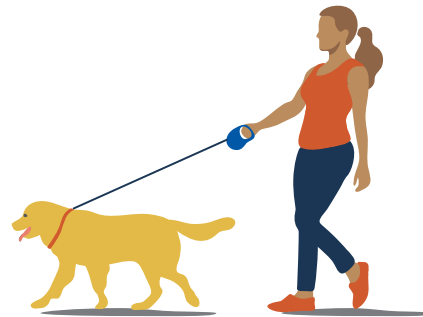




TRANSPORTATION MASTER PLAN



FEHR & PEERS
SEPTEMBER 2023



CONNECT LOVELAND, A MULTIFACETED EFFORT TO UPDATE THE CITY'S STREET NETWORK, TRANSIT SYSTEM, AND BICYCLE AND PEDESTRIAN FACILITIES, MUST BE SUPPORTED BY A THOROUGH UNDERSTANDING OF THE CURRENT TRANSPORTATION NETWORK AND HOW IT SERVES BOTH LOVELAND AND CONNECTS TO THE SURROUNDING REGION.

Table of Contents

01	Chapter 01. Introduction	79	Chapter 09. Roadway Plan
05	Chapter 02. Existing Conditions	93	Chapter 10. Bicycle Plan
17	Chapter 03. Future Loveland	115	Chapter 11. Pedestrian Plan
27	Chapter 04. Public Engagement	123	Chapter 12. Transit Plan
43	Chapter 05. Vision, Goals, and Objectives	139	Chapter 13. Program and Policies
59	Chapter 06. Scenario Framing	151	Chapter 14. Innovation
71	Chapter 07. Preferred Scenario	161	Chapter 15. Performance Measures
73	Chapter 08. Layered Network	165	Chapter 16. Implementation

01. Introduction



The City of Loveland completed its last transportation plan update in 2012 with the 2035 Transportation Plan. In the intervening years, Loveland and neighboring communities along the Colorado Front Range have experienced growth in both population and economic activity. Both people and businesses are attracted to the opportunities available in a diverse, interconnected regional economy with access to a wide range of outdoor recreational opportunities and a high quality of life. Beyond changes in the local landscape, transportation has also changed since the 2035 Transportation Plan was developed.

New trends like app-based transportation services, increased prevalence of e-commerce, and changes to commute patterns brought on by technology infrastructure that allows more people to work from home have spurred a need to reconsider the role transportation plays in Loveland and the surrounding area. Connect Loveland, the name for the City's 2040 transportation master plan, builds upon the foundation provided in the 2035 Transportation Plan. As a critical document that supports the City's comprehensive plan, Create Loveland, Connect Loveland strives to consider all the transportation-related implications of growth and trends that have emerged since 2012.

This document (Plan) reflects the desired future state of transportation in Loveland as expressed by a wide-range of community voices. Connect Loveland details the current conditions of community mobility and provides a roadmap for reaching the Connect Loveland vision:

**LOVELAND'S MULTIMODAL
TRANSPORTATION
NETWORK WILL BE SAFE,
ACCESSIBLE, REGIONALLY
CONNECTED, AND USER-
FRIENDLY, PROVIDING
RELIABLE AND CONVENIENT
ACCESS TO EVERYDAY
DESTINATIONS FOR ALL
AGES AND ABILITIES.**



Plan Goals

The following topic areas were determined as the organizing framework for *Connect Loveland*:

1



MULTIMODAL
CONNECTIVITY

2



ALIGNING
TRANSPORTATION
AND LAND USE AND
DEVELOPMENT

3



TRAILS
AND
RECREATION

4



ENVIRONMENT

5



HEALTH
AND
SAFETY

6



POLICIES
AND
PROGRAMS

7



IMPLEMENTATION
AND
FUNDING

8



EQUITABLE
ACCESS

9



REGIONAL
COORDINATION

10



INNOVATION



Connect Loveland is not only focused on transportation but on how an effective and efficient transportation system can enhance quality of life by providing people travel choices. The Plan works to ensure Loveland is a safe, healthy, and connected community. Chapter 5 contains the full set of goals along with corresponding objectives that support each goal.

Planning Scenarios and Modal Networks

Since transportation planning involves difficult decisions, trade-offs, and fiscal constraints, the *Connect Loveland* planning team developed three potential

scenarios to model prospective transportation networks that may emerge from the Plan. Each scenario – described in Chapter 6 – envisions ranging levels of investment and diverse approaches to providing a multimodal transportation network.

Connect Loveland features a plan for each individual travel mode – Roadway, Bicycle, Pedestrian, and Transit – and also links them together. Each modal network is designed to build upon the existing foundational elements of the City’s roadway system, on-street bicycle facilities, sidewalks, and transit routes while expanding opportunities for safe travel by any mode. *Connect Loveland* was formed on the idea that travel, whether

for commuting, shopping, recreation, or any other trip purpose, should be easy, safe, and accessible to all community members and destinations can be reached on a variety of modes. The combination of the four modal plans yields a layered transportation network that provides connectivity to community members, regardless of the travel mode.

Implementation

Implementation of *Connect Loveland* will be supported by policies and programs that support the Plan vision and goals, and will be guided by the anticipated revenues over the next 20 years. While the combined modal networks show

the ideal transportation system of 2040, the fiscally constrained plan represents the projects that will create the most meaningful impact using the transportation funding that Loveland can reasonably expect to receive during the Plan’s lifetime.

Connect Loveland is the culmination of City staff and community members working together to reach consensus on the community’s future transportation network. The City of Loveland will look to *Connect Loveland* as a guidepost for ensuring future decisions about the transportation system reflect the community’s vision and further the mobility goals described in this Plan.

02. Existing Conditions

Founded along the Colorado Central Railroad in 1877 and named for the Railroad president, William A. H. Loveland, the City of Loveland has deep roots as a transportation hub for northern Colorado. Nearly 150 years later, the City's transportation network has evolved to include a hierarchy of roadways, bike lanes, sidewalks and transit service that serve the mobility and commerce needs of the region. The original railroad line is still in use today transporting goods. Loveland has enjoyed decades of growth, and as a result, the City boundaries have expanded to form a community that blends historic character with new development.

Connect Loveland, a multifaceted effort to update the City's street network, transit system, and bicycle and pedestrian facilities, must be supported by a thorough understanding of the current transportation network and how it serves both Loveland and connects to the surrounding region. *Connect Loveland* addresses all modes



of travel within the City—driving, biking, walking and riding transit. This Existing Conditions Chapter details all aspects of the transportation network, including recent shifts in traffic volumes, safety concerns, the existing bicycle and pedestrian network, and transit service as well as demographic indicators, land use trends, and economic data.

This Chapter highlights where Loveland’s transportation system is today, including the existing networks and potential opportunities to improve mobility and access for community members and visitors alike. This chapter includes a review of recent local and regional plans that *Connect Loveland* will update and support. In addition to analyzing existing data and historical trends of the transportation system, this chapter includes information on demographics, employment, land use, bicycle and pedestrian facilities, crashes, transit services, and vehicle performance.



THE EXISTING CONDITIONS INFORMATION SERVES AS AN IMPORTANT FOUNDATION FOR PROVIDING A CURRENT SNAPSHOT IN TIME, IDENTIFYING KEY GAPS OR INEFFICIENCIES, AND SUMMARIZING PREVIOUS PLANNING EFFORTS TO BUILD OFF.

Connect Loveland analyzes existing conditions to offer a complete vision for what mobility and accessibility in the City will look like in 2040. A roadmap for achieving the planned networks and prioritizing projects is included in *Connect Loveland*.

Appendix A, the complete Existing Conditions Report, provides a summary of each of the plans below, including applications to *Connect Loveland*, major goals, along with recommendations, and proposed performance measures.

- 2035 Transportation Plan
- 2012 Bicycle and Pedestrian Plan
- 2009 Transit Plan Update
- 2015 Create Loveland Comprehensive Plan
- 2014 Parks and Recreation Master Plan
- 2009 Transfort Strategic Plan
- 2016 Non-Motorized Plan (NFRMPO)
- 2040 Regional Transportation Plan (NFRMPO)
- 2040 Regional Transit Element (NFRMPO)

Demographic and Employment Trends

The City of Loveland population, today at 76,700, grew significantly over the past 40 years, increasing by an average of 1,260 residents per year since 1980. While population growth in the past 10 years has been steady, it has not matched the rate of new residents per year as experienced in the 1990s and early 2000s (**Figure 2.1**).

The average household income in the City of Loveland is \$73,834, higher than the countywide average of \$71,091.

The composition of the City's population and households has shifted since 2000. The City's residents are now much older on average and are also older than the countywide population average. The number of family households and households with children have decreased significantly over this time.

The composition of the City's housing stock has not changed as much as the household and family composition. The mix of housing types has only changed slightly,

with an increase in attached and multifamily housing units. While the mix of new residential construction has become more evenly split between single family and multifamily since 2010, there has been a concurrent decrease in multifamily housing development.

The Larimer County economy is growing at a strong rate. Larimer County has added nearly 5,000 jobs per year since 2010. The amount of annual job growth is greater than that experienced in the 1990s.

Loveland is a major retail and health care hub serving northern Colorado. Employment in these industries is growing at greater rates than other industries. Loveland also has a large concentration of manufacturing jobs.

The North I-25 Corridor has become the center of economic activity within the Larimer and Weld County region. The portions of Loveland along I-25 have become a major economic

center. The intersection of I-25 and US-34 is rapidly developing and becoming a major attractor of retail and industrial space. The region has experienced an increase in logistics and distribution-oriented uses. The I-25 corridor provides the major link between communities and has attracted more development activity. Northern Loveland has also attracted additional industrial and retail development serving the Loveland, Fort Collins and Windsor communities.

FIGURE 2.1 LOVELAND POPULATION

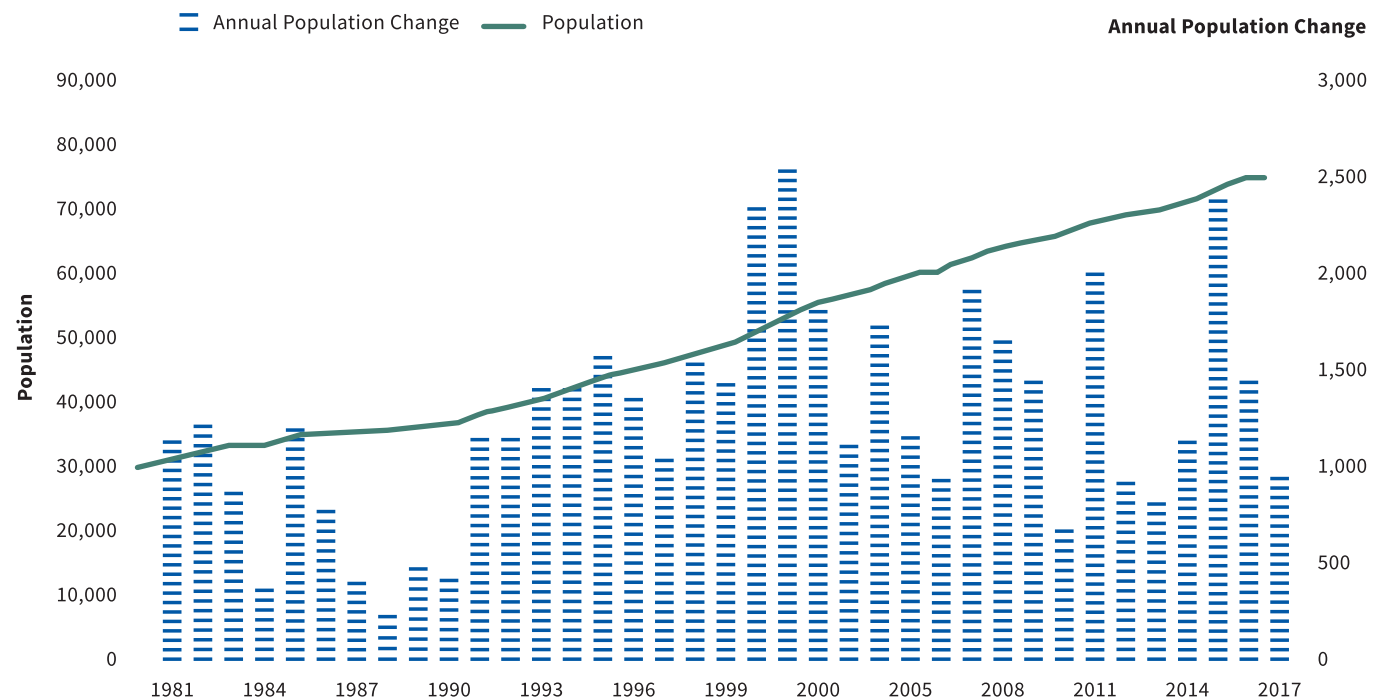
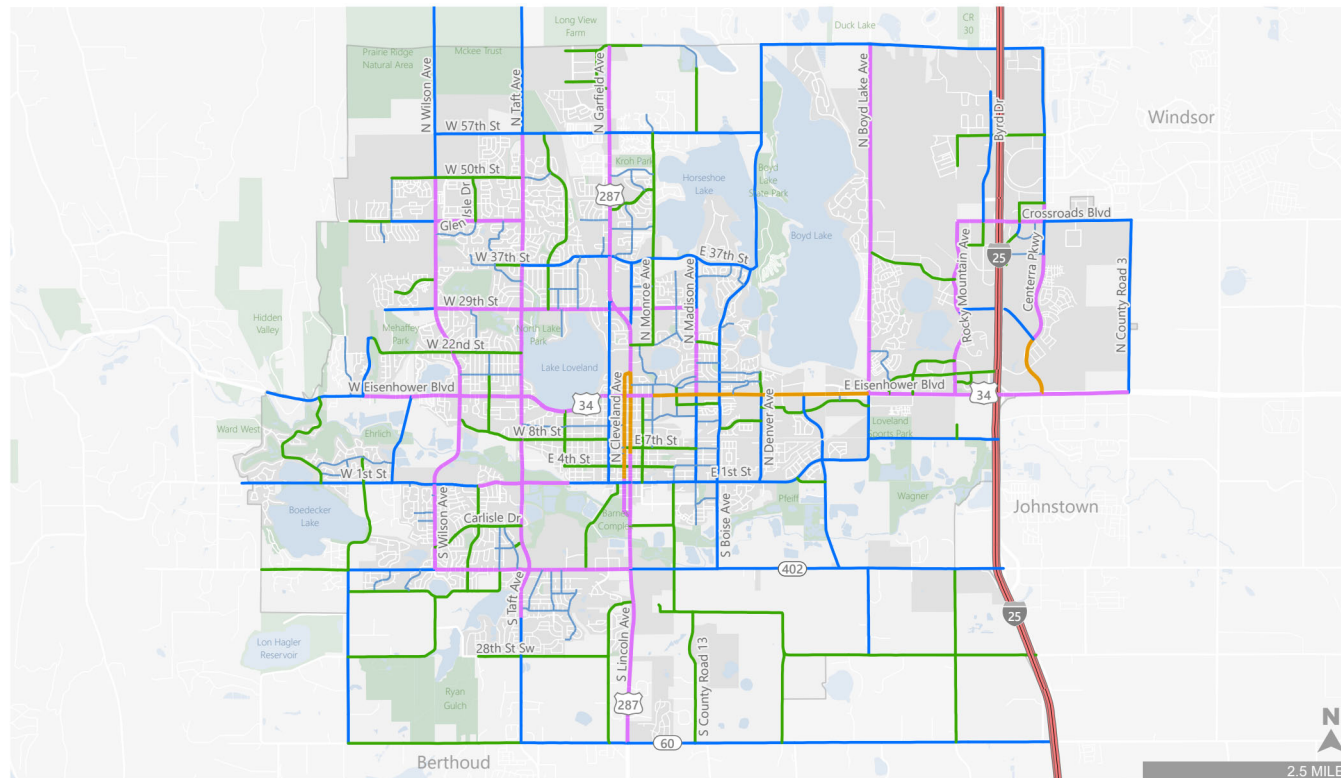


FIGURE 2.2 EXISTING ROADWAY CLASSIFICATIONS



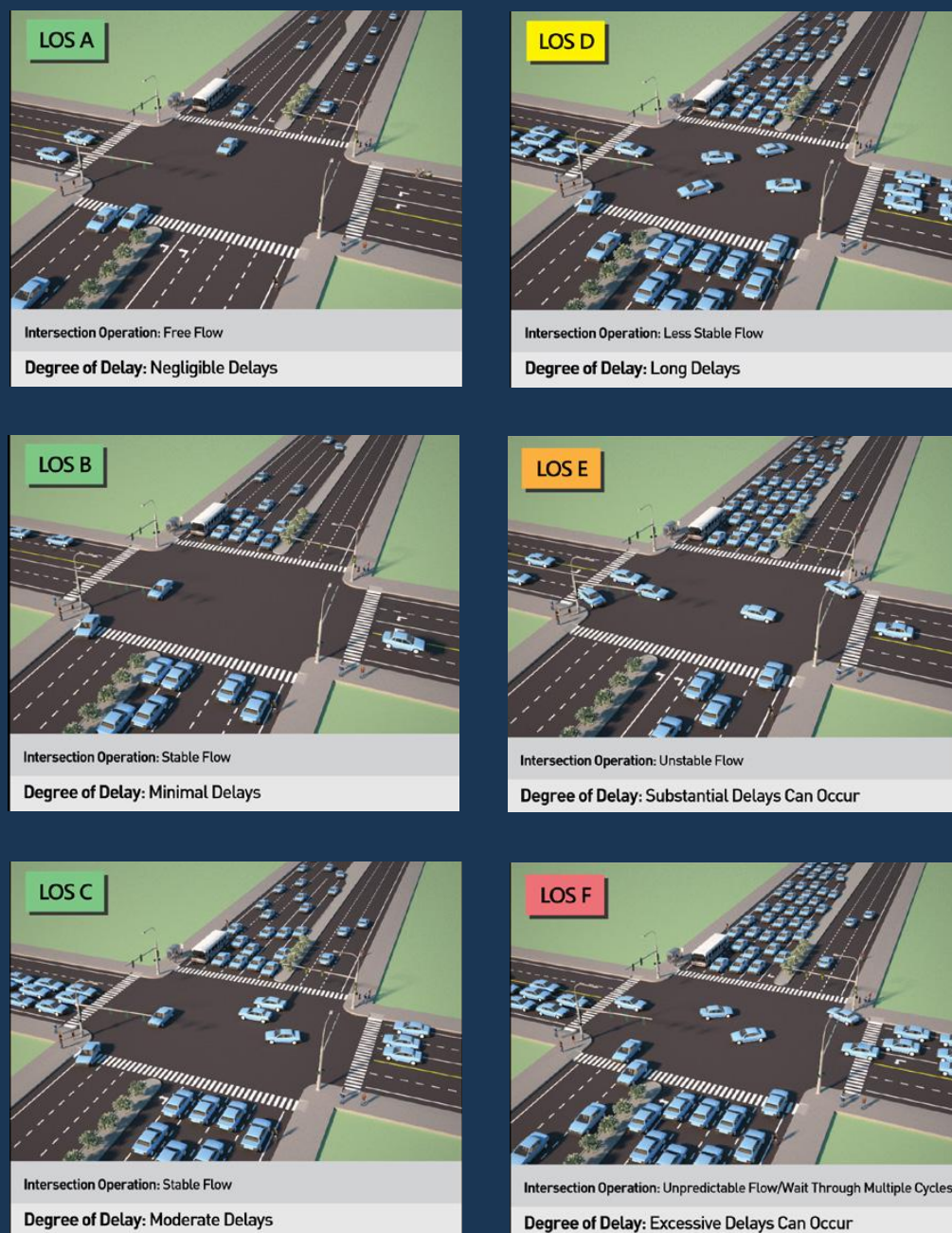
- | | |
|-------------------------|---------------------------------|
| Freeway | Park/Open Space/Open Land |
| Major Arterial (6-lane) | Body of Water |
| Major Arterial (4-lane) | City of Loveland Boundary |
| Minor Arterial (2-lane) | Loveland Growth Management Area |
| Major Collector | |
| Minor Collector | |

Roadway Network

Loveland has over 393 miles of roadway. I-25, US-34, and US-287 provide regional connections to nearby communities while a network of arterials and collector streets serve local mobility needs. **Figure 2.2** shows the City's roadway classifications. Traffic volumes in Loveland have shifted in the last few years. Traffic count data shows that traffic volumes grew by an average of 13% between 2012 and 2017. Employment growth in Loveland and nearby cities can help explain, in part, the increase in traffic volumes.



FIGURE 2.3 LEVEL OF SERVICE GRAPHIC



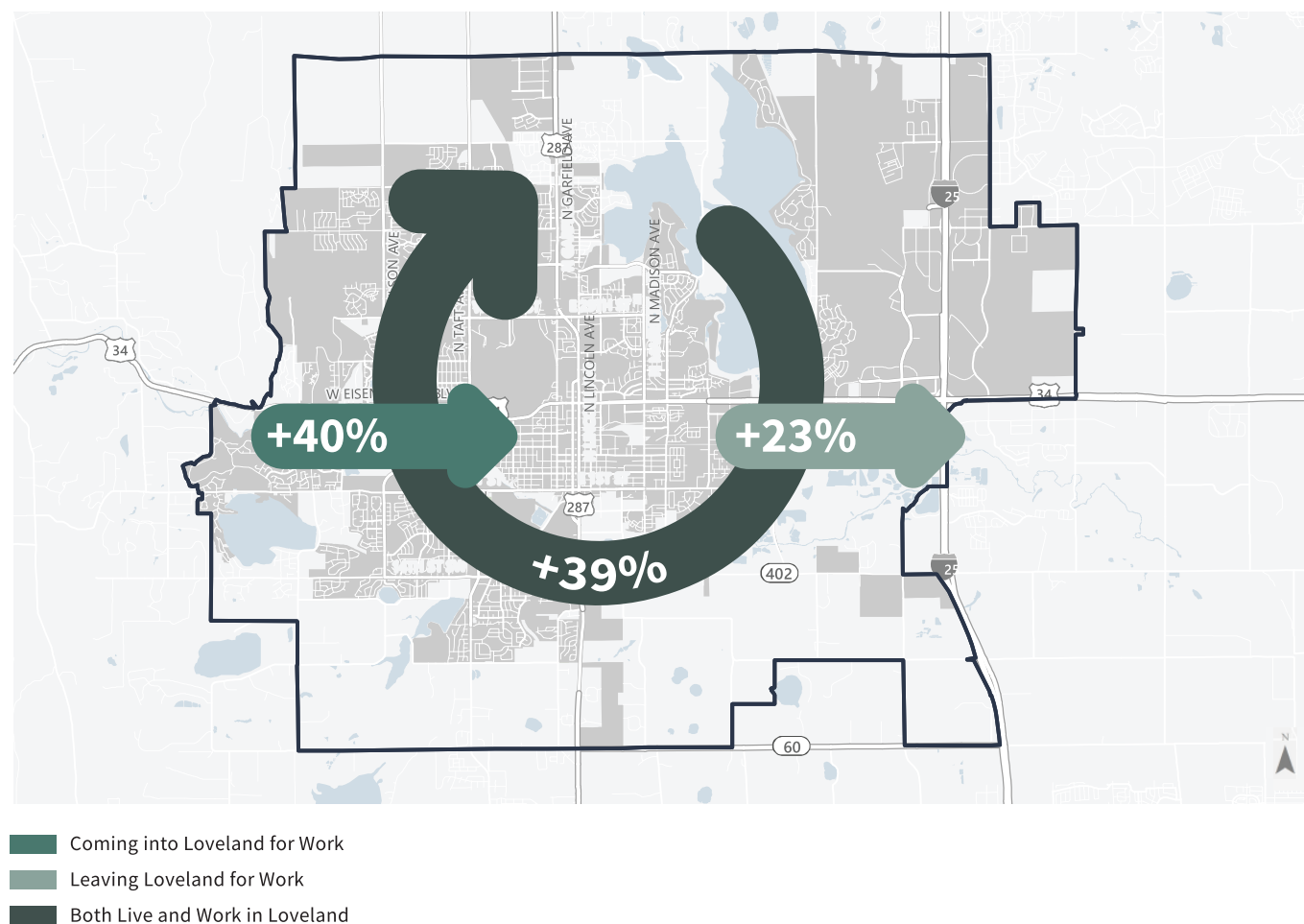
Each intersection in the City of Loveland is monitored for its ability to efficiently move vehicles through the City. Intersections are assigned an A through F Level of Service (LOS) designation with A being an intersection that moves all vehicles at free flow speeds when traffic volumes are at their daily maximum; LOS F is an intersection that experiences congestion and queues that fail to clear. The City has a minimum LOS standard of C for local intersections and Level of Service D for intersections on CDOT's system. Some intersections perform just below City standards during portions of the day, but still permit vehicles to move through the corridors relatively well. None of the major intersections in Loveland fall below a LOS D.

Vehicle travel times are tracked on US-34, US-287, and Taft Avenue. These roadways tend to provide stable travel times throughout the day, with a 20% maximum difference between peak and off-peak travel times. Everyday there are approximately 1.6 million vehicle miles traveled (VMT) on Loveland roadways. This figure excludes I-25, where many vehicle trips pass through the City. On average, every Loveland residents drives approximately 21 miles per day.

Half of daily VMT occurs during the AM and PM peak periods, with the afternoon peak accounting for 35% of daily VMT. Loveland has slightly lower per capita VMT than the Denver region (25.5 daily VMT) and significantly higher VMT than the Northern Colorado region average (approximately 10 daily VMT).

Both Loveland and the surrounding region have witnessed substantial employment growth since the Great Recession in 2008 (**Figure 2.4**). Loveland saw a 40% increase in people commuting into the City for work from 2010 to 2015. During the same time period there was a 23% increase in Loveland residents commuting outside the city for work. The increased employment base has also led to a 39% increase in the number of people both living and working in Loveland.

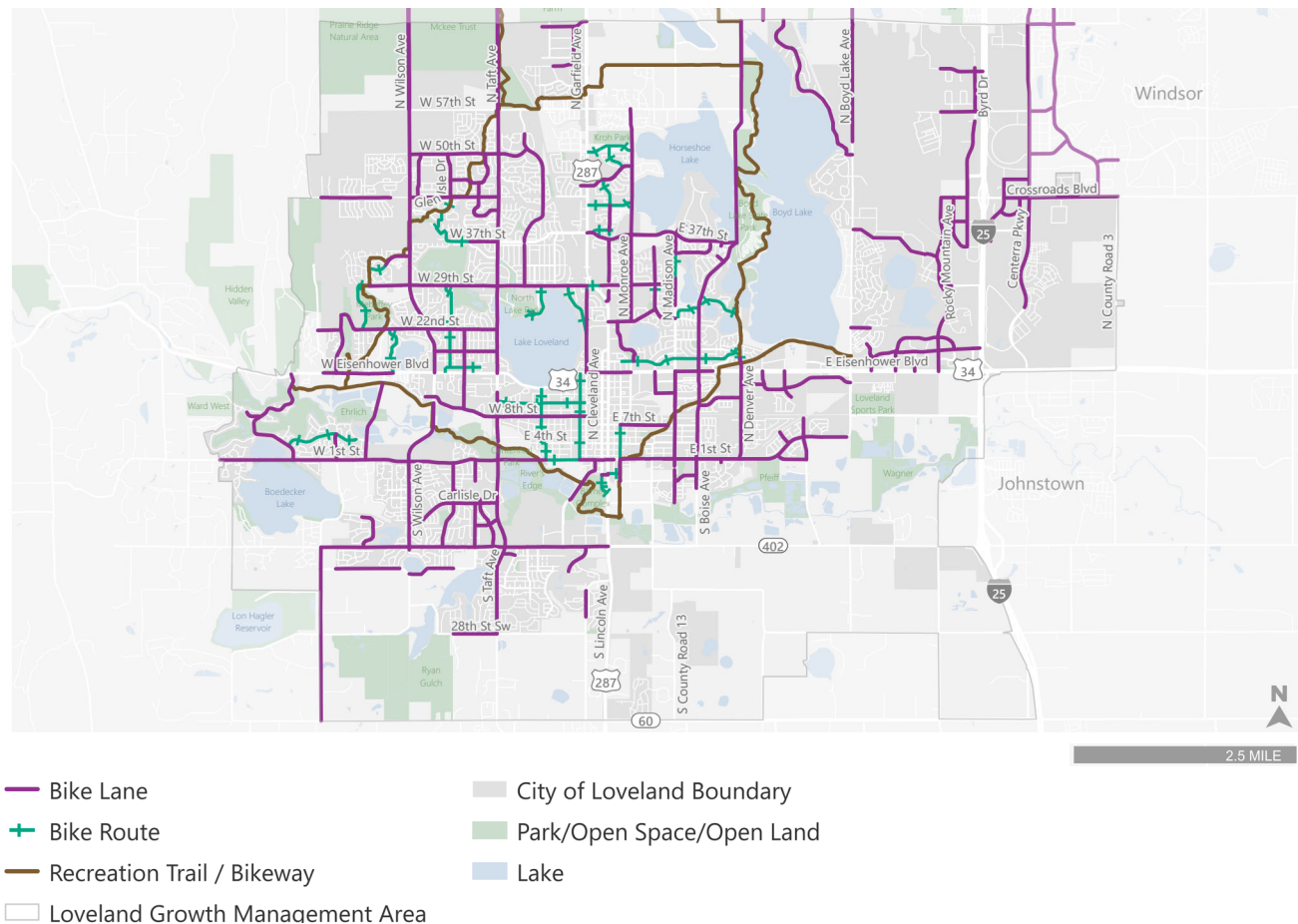
FIGURE 2.4 JOB GROWTH (2010-2015)



**FROM 2010 TO 2015
LOVELAND SAW A
40% INCREASE
IN PEOPLE
COMMUTING INTO
THE CITY**



FIGURE 2.5 EXISTING BICYCLE FACILITIES



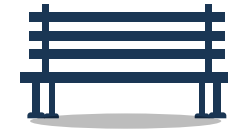
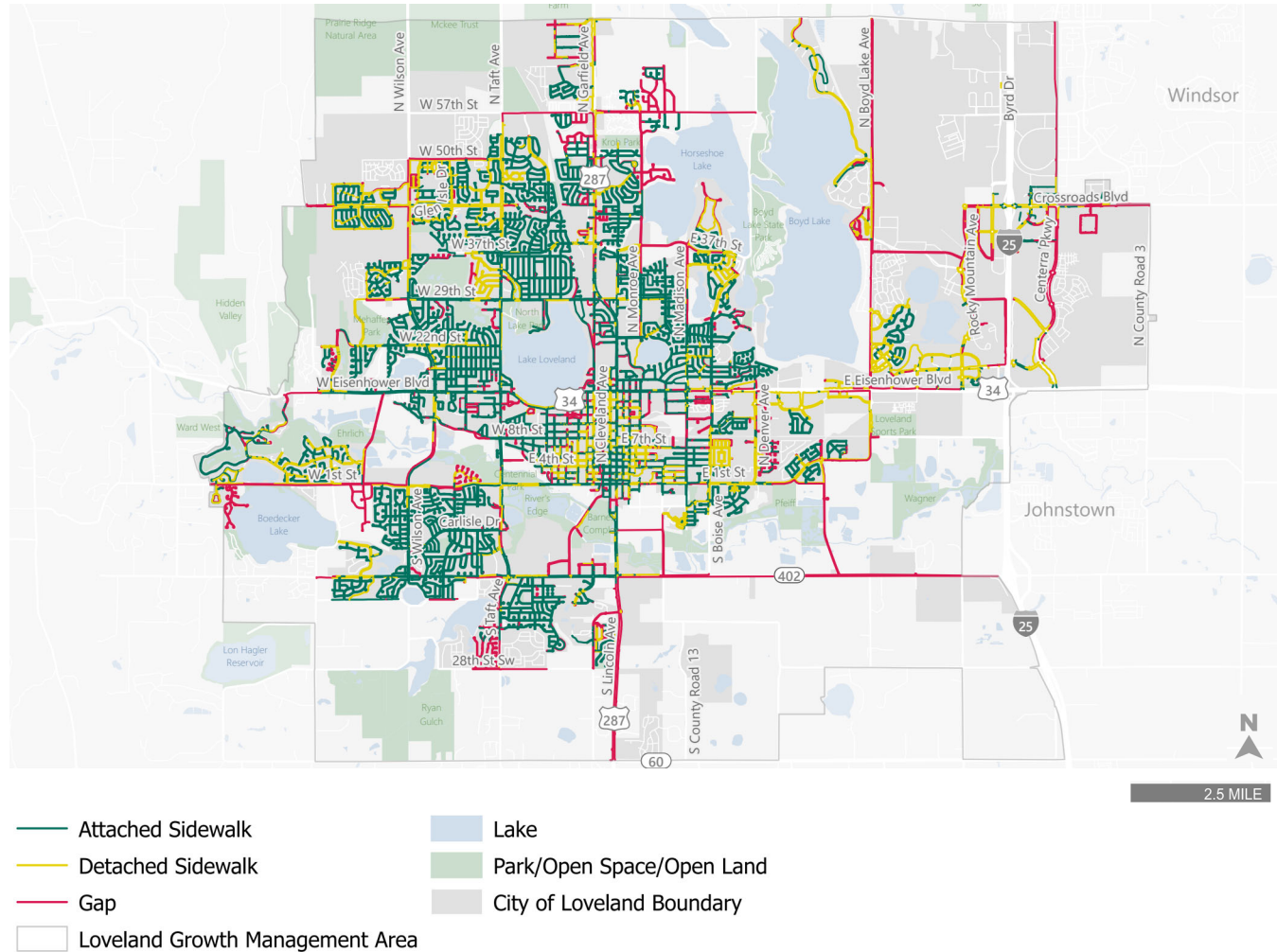
Bicycle and Pedestrian Network

Existing Bicycle Facilities

Bicycling and walking, often referred to as active transportation, can provide connections to the community without the use of a vehicle. This section profiles Loveland's existing active transportation facilities.

Loveland has on-street bicycle facilities, consisting of bicycle lanes and routes, on 90 miles of roadways (**Figure 2.5**). In addition, there are about 23 miles of the City's paved Recreation Trail.

FIGURE 2.6 EXISTING PEDESTRIAN FACILITIES



Existing Pedestrian Facilities

The City has 563 total miles of sidewalks. 142 miles of sidewalk gaps have been identified (**Figure 2.6**). Often, sidewalk gaps exist along roadways with high traffic volumes and high traffic speeds. Sidewalk gaps can also be found in older parts of the City and in neighborhoods that developed under Larimer County standards and have now been annexed in undeveloped areas. These gaps present a barrier to pedestrian activity, especially for community members with disabilities who rely on an accessible sidewalk network to reach transit stops and other destinations.

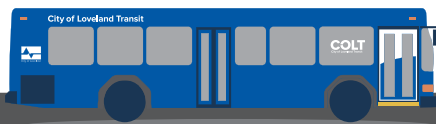
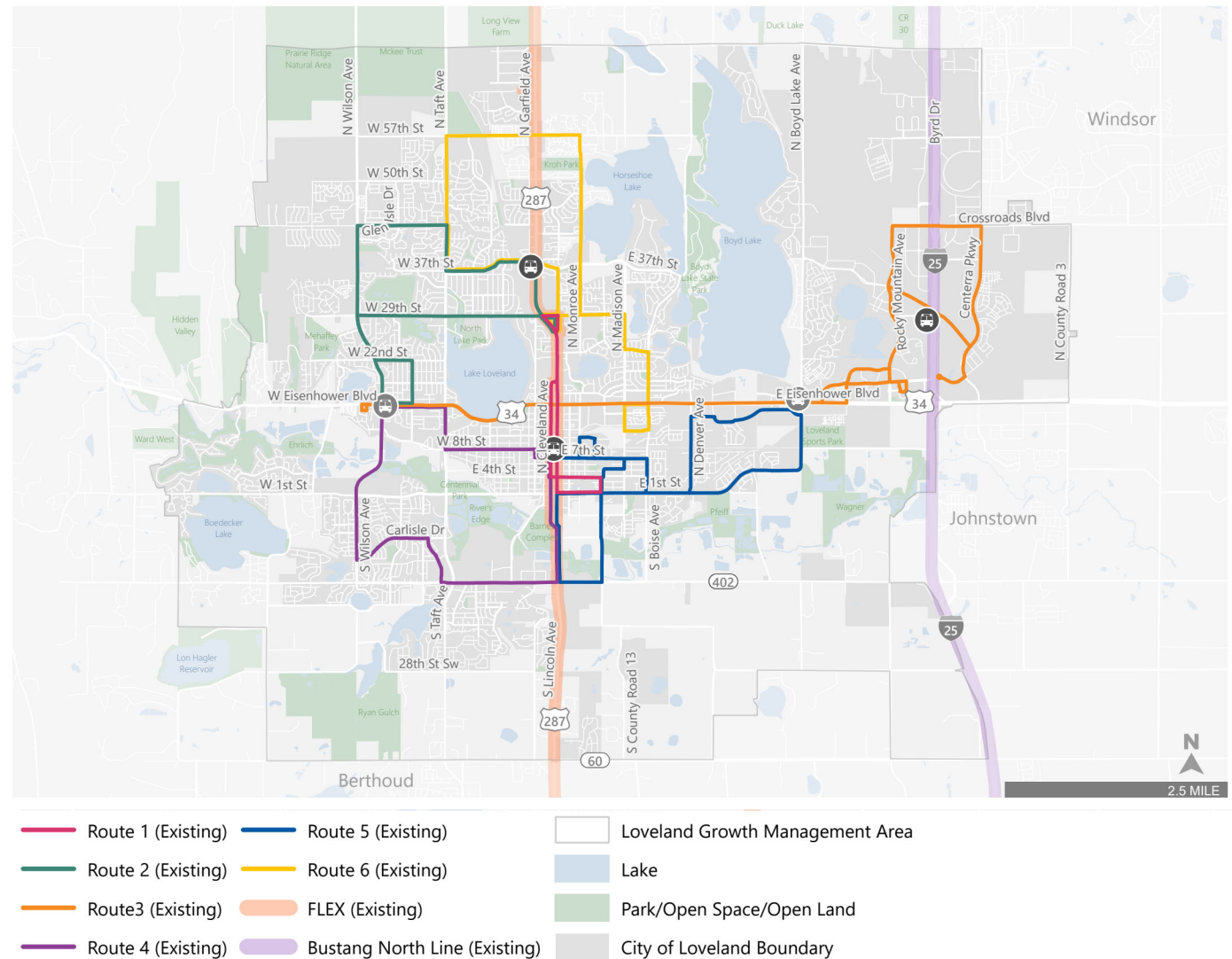


Transit Network

COLT

City of Loveland Transit (COLT) is Loveland's transit provider. COLT began operation in 1993 and fixed-route service began in 1997. In 2008, COLT expanded from two to three routes. In November 2018 the system was restructured to increase frequency and improve rider convenience. In August 2022 an additional route was added, and adjustments were made to several other routes. COLT now operates three routes at 30-minute frequencies and three routes at 60-minute frequencies using five buses. No late night or Sunday fixed-route service is provided. Figure 2.7 shows the existing transit routes and transfer stations.

FIGURE 2.7 EXISTING TRANSIT SERVICE



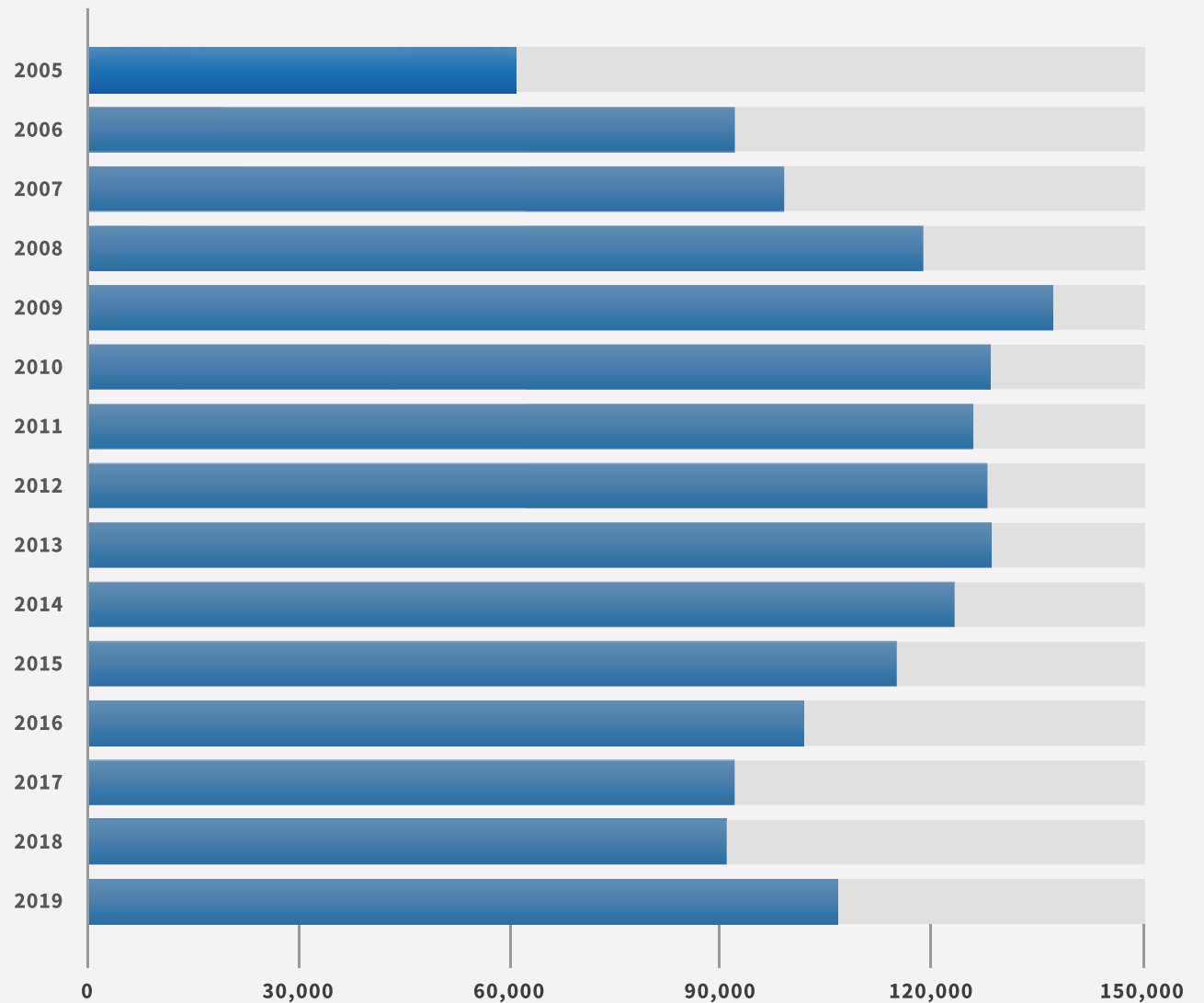
RIDERSHIP

Ridership on COLT more than doubled between 2005 and 2009. However, similar to national trends, citywide transit ridership on COLT declined 29 percent from 135,000 annual riders in 2013 to 95,000 annual riders in 2018, as shown in **Figure 2.8**. The decline in Loveland transit ridership over the last five years is generally steeper than the decline nationally.

In late 2018, COLT restructured the transit network to increase frequency and directness of service. In the summer of 2019 COLT implemented free service for all youth under 18 and additional frequency was added in the morning to better serve students who do not have access to school district busing. These changes resulted in 16% growth in fixed-route ridership in 2019. COVID arrived in 2020 resulting in a 37% decline in ridership that has been increasing annually since, ending 2022 up 30% over 2020.

FIGURE 2.8: COLT ANNUAL FIXED-ROUTE RIDERSHIP

Source: National Transit Database



Other Transportation Services

Transfort, Fort Collins' transit provider, operates the FLEX regional route (with funding from Fort Collins, Loveland, Berthoud, Longmont, and Boulder County) connecting Loveland with Fort Collins, Berthoud, Longmont, and Boulder. Nearly a quarter of COLT users transfer to or from the FLEX. FLEX operates on US-287 through Loveland with stops at both the North and South Transfer Centers in addition to several other stops along US-287. CDOT operates Bustang, which provides mostly peak period, peak direction service (at 30 minute frequencies) to Denver via I-25 from the Loveland-Greeley Park & Ride at US-34 and I-25. Several other mobility services are also offered in Loveland; these include VanGo, SAINT, and Groome Transportation.

Safety

The number of total crashes and severity of crashes has increased steadily over the last five years, as shown in **Figure 2.9**. From 2016 to 2018, there were 14 total fatalities. Most injuries and fatalities occurred on arterials, with US-

287 having a majority of the fatalities.

Figure 2.10 shows the areas with the highest density of crashes, weighted by severity (i.e. fatalities get more weight than injuries, which get more

weight than Property Damage Only (PDO)). This map shows that the majority and most severe crashes are along roads with the highest speeds and traffic volumes.

FIGURE 2.9 TRAFFIC CRASH SUMMARY (2013-2018)

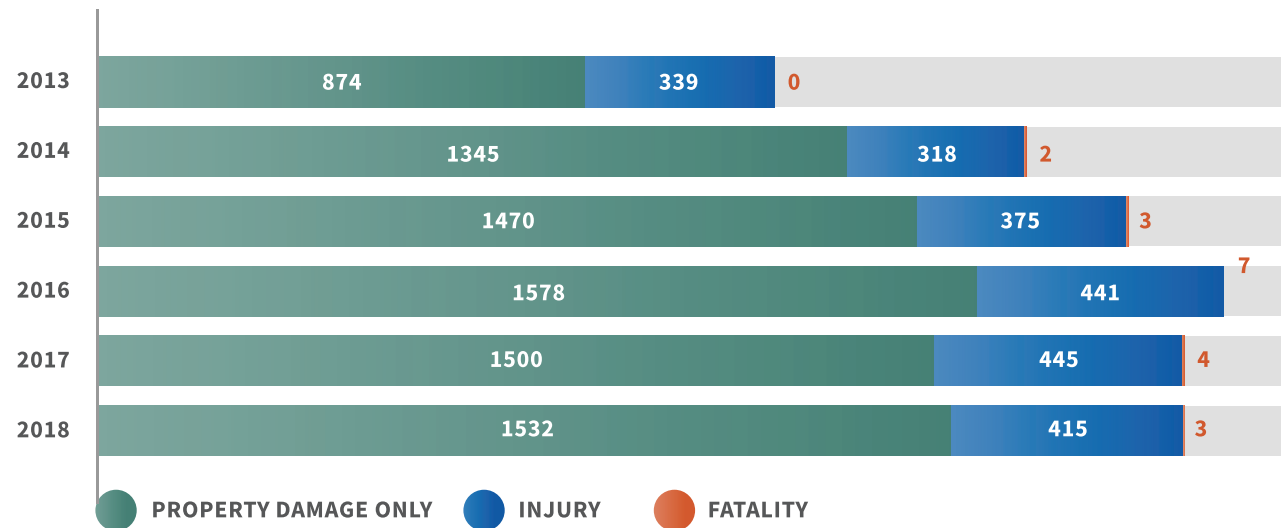
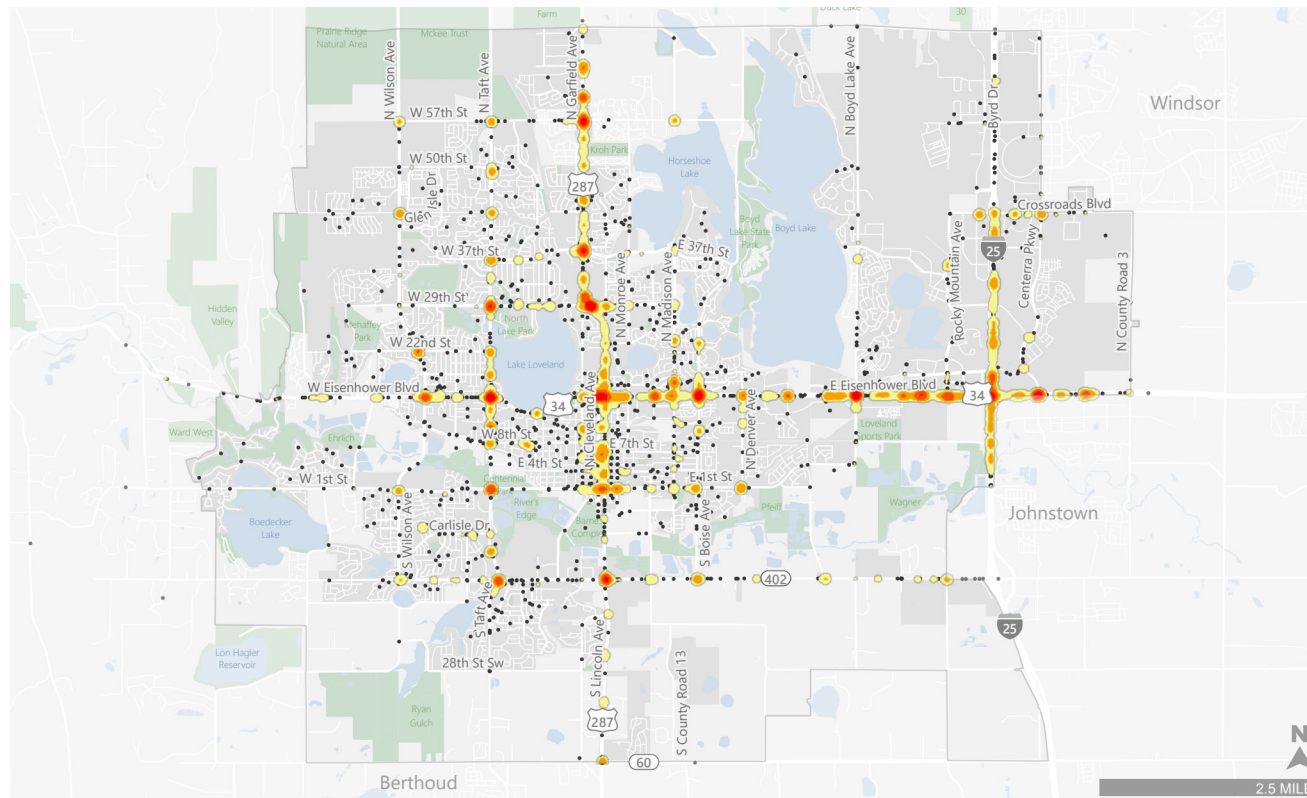


FIGURE 2.10 TRAFFIC CRASHES IN LOVELAND (2013-2017)

Crashes resulting in injuries or fatalities

- Low crash rate
- Medium crash rate
- Higher crash rate
- Highest crash rate

• Property Damage Only Crashes

- Park/Open Space/Open Land
- Lake
- City of Loveland Boundary
- Loveland Growth Management Area

Looking Ahead

With an understanding of Loveland's currently mobility network and the community it serves, the next chapter considers the future for the City. Looking ahead to 2040, changes in the population, local economy, and transportation network are inevitable. The next chapter offers a picture of what Loveland will look like in *Connect Loveland's* horizon year of 2040 and illustrates local transportation needs moving forward.

03. Future Loveland

CONNECT LOVELAND PROVIDES GUIDANCE FOR MEETING THE FUTURE TRAVEL NEEDS OF RESIDENTS AND VISITORS. IT HAS ITS ORIGINS IN EXISTING LOCAL AND REGIONAL PLANS BUT EXPANDS ON THOSE EFFORTS TO CONSIDER NEW TRENDS, TECHNOLOGIES, AND TRAVEL.



This Chapter outlines expected changes for Loveland by 2040 in the areas of land use, demographics, housing, employment, and travel trends. The report summarizes the currently planned projects and describes how they align with land use, demographic, economic, and travel trends.

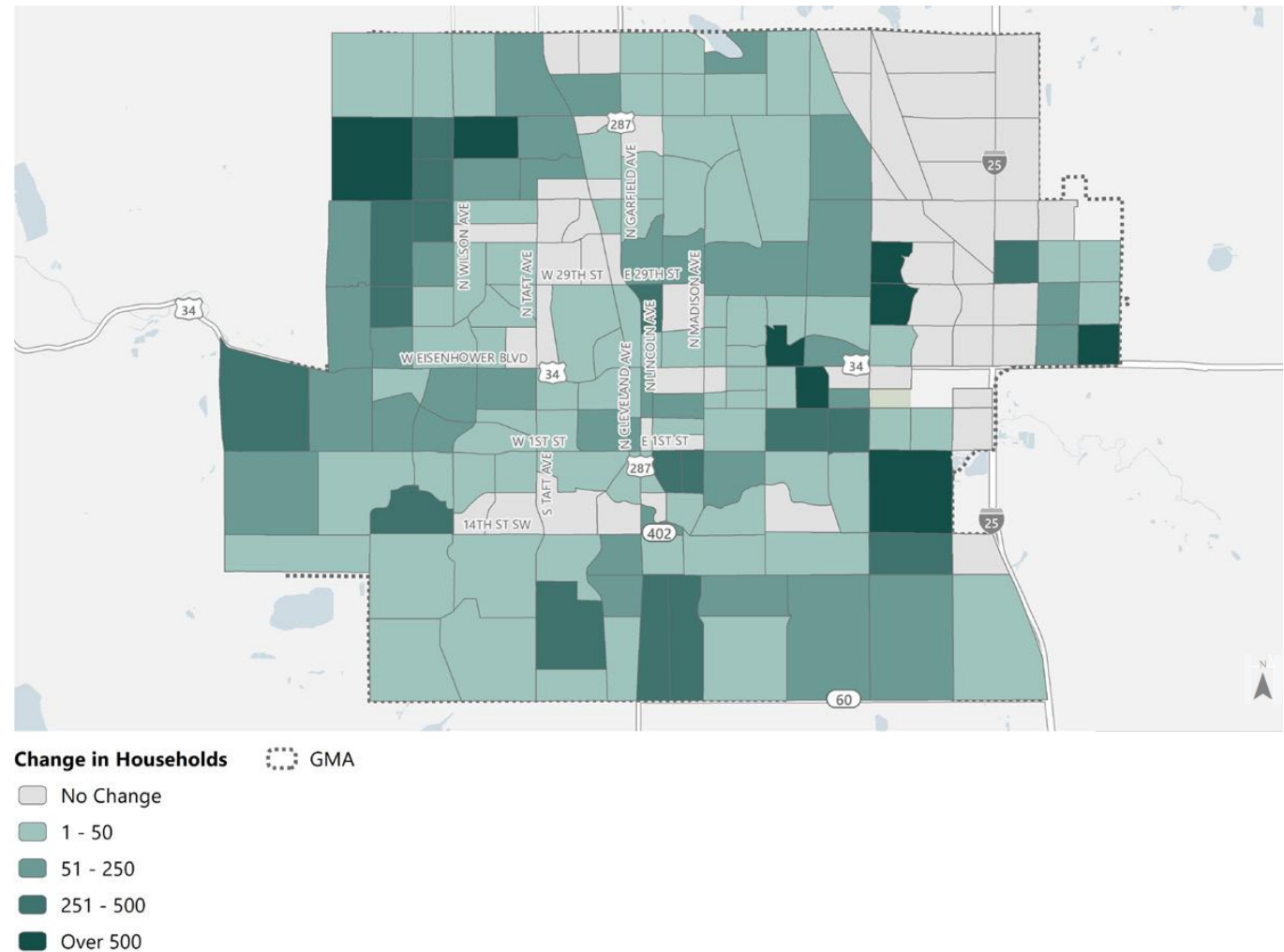
Loveland 2040 Demographics

The North Front Range Metropolitan Planning Organization (NFRMPO) produces demographic forecasts for the region. These forecasts are developed for transportation planning purposes and help estimate the impacts of forecast growth on roadway capacity and travel needs. The NFRMPO's 2012 forecasts were used as a base year forecast for the City and total growth control totals for the City and its Growth Management Area (GMA). Adjustments to the traffic analysis zone (TAZ) level estimates were made for the transportation plan to reflect development trends and conditions that have changed since the forecasts were developed. Adjustments to TAZ level estimates were utilized to help test scenarios for potential transportation options analyzed during the planning process.

Population and Households

The population of the City of Loveland is expected to grow significantly over the next two decades. The City's population of 76,700 residents is forecast to grow to 108,000 residents by 2040 (**Figure 3.1**). It is estimated that the City's GMA will grow by 16,000 households to 49,400 by 2040, an average of 700 new households per year. The forecasted rate of household growth for the GMA is a slight decrease in the annual amount of growth for the community, as the City of Loveland grew by an average of 800 households per year from 2000 to 2017.

FIGURE 3.1 FORECASTED HOUSEHOLD GROWTH BY 2040



EMPLOYMENT

The City of Loveland has an estimated employment base of nearly 42,000 jobs. The City's GMA is estimated to grow to a total of 105,000 jobs in the GMA by 2040 (**Figure 3.2**). The NFRMPO forecasts job growth of 1,300 new jobs per year from 2012 to 2040 within the GMA. Employment growth in the City of Loveland has been over 1,500 new jobs per year from 2010 to 2015 according to the US Census Longitudinal Employer-Household Dynamics (LEHD) data.

FUTURE TRENDS IMPACTING LOVELAND

There are a number of national trends that are likely to impact future land development in Loveland. Land development and growth patterns influence travel choices, traffic patterns, transit ridership, and bicycle and pedestrian activity. These changing trends require a fresh look at planned transportation projects and new ideas to accommodate future travel demands.

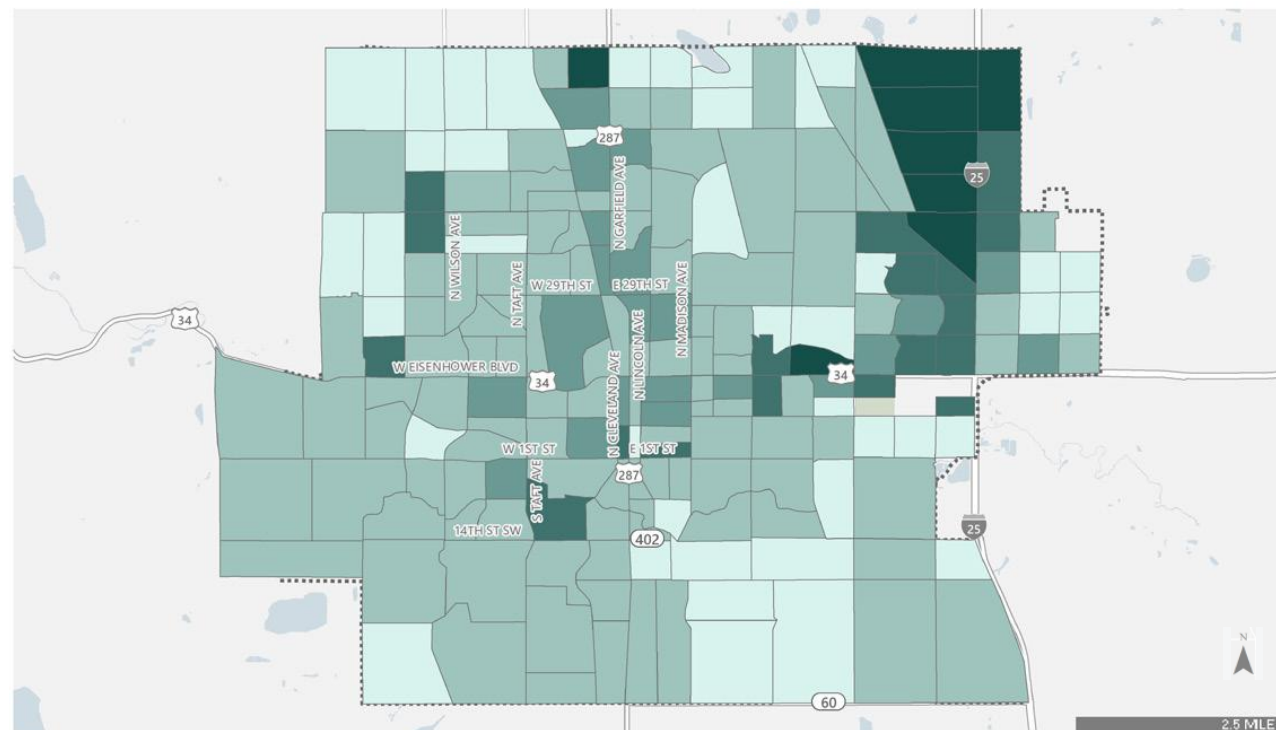
Housing costs, driven by increases in the cost of land, materials, and labor, have grown by 63% since

2000, while the median household income has only grown by 35%, which is slower than the rate of inflation. This affordability trend is most pronounced in rapidly growing areas, such as the Colorado Front Range. As Baby Boomers reach retirement age their housing preferences and transportation needs are shifting. A notable trend nationally for Baby Boomers is aging in place rather

than relocating to a residential facility for older adults. This is especially true in Loveland, as the City's residents are older on average compared to the state and countywide population average. As Baby Boomers continue to age in place, their ability to operate a car will decrease over time. Aging and retiring Baby Boomers will tend to reduce AM and PM peak hour commute trips as they

remain in their homes and are not replaced at the same rate by younger working-age households. Midday travel could increase with this age group. Overall, seniors tend to have lower VMT per capita than younger households. A greater diversity of housing types will likely be desired by older residents who want to remain in the community and from new, younger residents moving

FIGURE 3.2 FORECASTED EMPLOYMENT GROWTH BY 2040



Change in Employment

1 - 200

201 - 500

501 - 1,000

501 - 1,000

Reduction in Employment



to Loveland for work or for the quality of life.

At least two national housing surveys indicate a likely shift in demand toward denser single-family attached housing types, such as townhomes and row houses, in walkable, bikeable, or transit-accessible locations. This change in demand is a shift away from lower density single-family neighborhoods. A major finding was that 18% of buyers would pay more per square foot to live in neighborhoods built in a style defined as compact walkable development than before the Great Recession.

The regionalization of the Northern Colorado economy has led to more residents living in one community and working in another community in the Larimer and Weld County area. In Loveland, as employment opportunities grow faster than population, and housing costs continue to increase, there will be

increasing demand for people to commute into Loveland as well as to major job centers to the north, east and south. This will increase travel on the major roadways as well as other travel modes in and around Loveland.

Nationally, office development is moving away from the single use, suburban office park or corporate campus to more mixed use, centrally located, and often transit-accessible locations in the core cities of major urban areas. As offices add more workers per square foot, they will tend to generate more vehicle trips and parking demand per building than in the past. This trend could be offset by an increasing tendency for younger workers to commute by transit, bike, or walking, but these modes are only viable where adequate infrastructure and service exists. Transportation demand management policies and parking management policies can also help offset increasing

vehicle trips and increasing demands for parking.

The COVID-19 pandemic led to a significant increase in telecommuting, as many companies implemented policies that allowed employees to work from home. This has altered the typical expectation of being in the office five days a week. As workplaces began to reopen, most companies left a telecommuting policy in place or required workers to come in only on some days. The rise of telecommuting has led to more people working from home by choice, reducing the number of trips people make to the office. This trend has the potential to impact traffic congestion in cities, particularly if a majority of jobs in the city could be performed at home. However, the top job sectors in Loveland are health care, manufacturing, and retail, which have a high rate of requiring employees to be on-site

to perform their job duties.

In addition, as the Baby Boomer generation ages, the demand for medical office space is expected to increase, and medical facilities tend to cluster together around major transportation facilities. This is magnified by the regional approach to service delivery that the major medical providers have introduced in Northern Colorado.

Between 2001 and 2015, total online retail purchases (excluding auto related) grew from approximately \$29 billion to \$310 billion, a staggering 18.4% annual growth rate. As e-commerce has driven down demand for retail space, it has at the same time driven up demand for industrial development supporting its growth. Logistics and distribution-oriented employment sectors (transportation and warehousing, wholesale trade) and industrial development are the largest drivers of new industrial development.

Future of Transportation in Loveland

FUTURE OF VEHICLE TRAVEL

TRAFFIC GROWTH

The North Front Range Metropolitan Planning Organization (NFRMPO), in consultation with member communities, maintains the Regional Travel Demand Model (RTDM) for the region. Based on land use growth forecasts (including assumptions about where new jobs, housing, and commercial development will occur) as well as planned

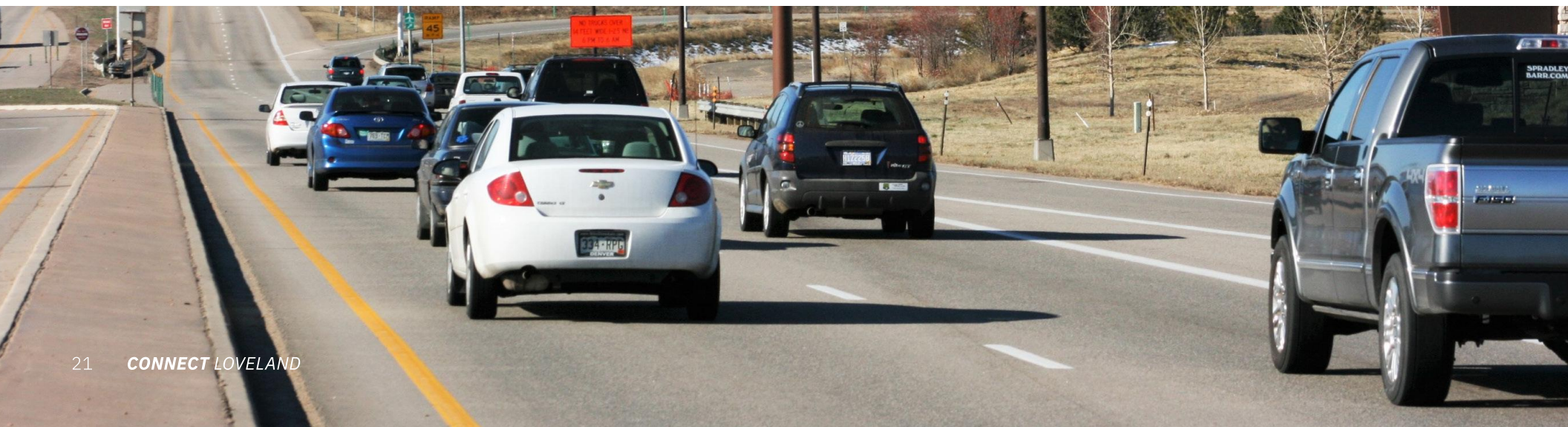
transportation investments, the RTDM forecasts total vehicle miles traveled (VMT) in Loveland to increase by 70% between 2012 and 2040. Not all traffic growth can be attributed to population growth alone. VMT per capita is expected to increase by 16% over the same time in response to more spread-out land uses and longer trips. This assumption is consistent with the land use and demographic trends described earlier in this Chapter. Without interventions in land use and transportation planning, this growth will increase congestion on the City's street network. It should be noted that the model assumes mode share (the share of travel by vehicles, bicycles, pedestrians, and

transit) will remain about the same in the future. The RTDM does not consider emerging technologies like autonomous vehicles or other trends affecting travel behavior like increased usage of ridesharing services. Recent plans and policies developed by the City that may have a significant impact on mode choice and future VMT. These factors were explored with stakeholders as part of a workshop in July 2019 to better understand how they will impact future VMT in Loveland, as discussed in the TrendLab+ section of this Chapter.

REGIONAL TRAVEL PATTERNS

Land use growth, transit investments, demographic

changes, and the regionalization of the area economy (as discussed earlier) also impact regional travel patterns. Overall growth will contribute to an increase in regional trips into and out of Loveland, with traffic volumes increasing in some locations more than others. The NFRMPO RTDM projects that between 2012 and 2040 there will be a 60% increase in trips between Loveland and Fort Collins, trips between Loveland and Greeley will more than double, and a three-fold increase in trips between Loveland and the Central I-25 sub-region (defined as east of I-25 and west of Greeley between Mead and SH-14).



FUTURE OF BIKING AND WALKING

TRENDS

Nationally, the amount of biking and walking has generally stayed level as a share of overall travel for the past five years. However, communities that are investing in biking and walking infrastructure are seeing increases in these types of activities while areas making lower investments are seeing decreased levels of biking and walking and growing VMT.

While biking and walking mode shares have not changed substantially over the past several years, the number of crashes involving people who bike and walk resulting in serious injury or fatality has increased. While further study is needed, distracted driving and distracted walking are often cited as potential reasons for the increase in the crash rates.

REGIONAL MULTIMODAL TRAVEL

Of the 12 corridors featured in NFRMPO *Non-Motorized Plan* shown in **Figure 3.3**, six will enhance regional access for Loveland's active transportation

FIGURE 3.3: NFRMPO REGIONAL NON-MOTORIZED CORRIDORS



users. Of the six, two have been completed through Loveland – the North Loveland/Windsor Trail (Corridor 5) and the Front Range Trail (Corridor 7). Chapter 10 details how the future

corridors should be prioritized to best complement multimodal improvements that will be implemented as a result of *Connect Loveland*.

PROPOSED POLICIES AND PROGRAMS

In addition to infrastructure improvements, previous plans recommend a number of policies and programs to promote biking and walking.

and walking, provide education on safe travel behavior, and provide low-cost supplements to improve infrastructure. These policies and programs range from increased code enforcement for sidewalk maintenance to educational programs. During the *Connect Loveland* process, existing policies were reviewed and streamlined. The Plan provides a compact set of policies and programs designed to support Loveland's active transportation goals. The new policies include performance measures to monitor how the new policies are meeting City goals. In addition, an updated set of programs are included in *Connect Loveland*. These programs will reflect current best practices for achieving higher mode shares for active transportation while also

improving multimodal safety outcomes.

POTENTIAL BARRIERS OR CONFLICTS

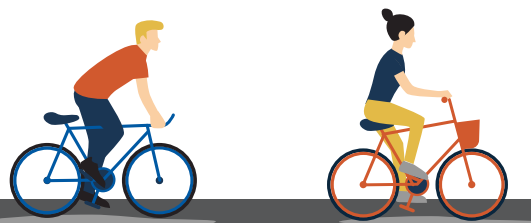
Given the traditionally auto-centric nature of Loveland, gaining community input and support for implementing active transportation (biking and walking) projects will be critical to evolving the current transportation system. In addition, thoughtful parking management policies are also important in shifting the number of people to use active transportation rather than driving. Although infrastructure for biking and walking is less expensive than vehicular improvements, there is limited funding for transportation overall, so active

transportation infrastructure will require prioritization in order to be realized. The cost to build and improve on-street bicycle facilities may only be the combined costs of materials and personnel. However, in some locations, other solutions may require narrowing vehicle travel lanes, reducing on-street parking or even purchasing additional right-of-way. With the multitude of benefits that biking and walking offer—economic, environmental, and health—it is important for the City to prioritize these investments in infrastructure, policies, and programs in order to expand the transportation options for the community. Active transportation facilities are particularly important in low-income and minority communities, or communities

with high percentages of new immigrants where people tend to have the fewest affordable transportation options. *Connect Loveland* presents the benefits, costs, and potential trade-offs of connected bicycle and pedestrian networks so that the public and decision makers can be informed about a potential shift in how the City prioritizes transportation investments.

Future of Transit: Changing Mobility

In the coming decade, a wider array of mobility choices will affect ridership on public transit. Increased use of ride-hailing (services like Uber/Lyft) is having an impact on transit ridership in addition to driving. Upcoming technologies, such as autonomous vehicles, may



also reduce ridership on public transit while increasing traffic congestion. Without adaptation by the City, new technologies or disruptive events may further cut into the transit market, which will make it less cost-effective and therefore more challenging to provide public transit to those who cannot access these newer transportation technologies or choose not to drive a vehicle. On the other hand, leveraging autonomous vehicle technology in buses may also reduce the cost to provide transit by eliminating the need for drivers – as can leveraging ride-hailing services to provide transportation to low density neighborhoods or during non-peak hours. By supporting a variety of shared mobility options and innovations in transportation, and strategically integrating new technologies

with traditional transit, the City can continue to provide public transportation while increasing mobility options, particularly for those who do not have the financial or physical means to drive a vehicle. The bottom line is that changing transportation technology will impact public transit, and cities must adapt to leverage these changes in the most positive ways. Public transit will continue to be the most energy and space efficient way to move large numbers of people, even with autonomous vehicles. The Transit Plan in Chapter 12 identifies where the primary public transit corridors should be located and identifies where other technologies can be integrated to enhance mobility for Loveland residents, visitors, and employees.

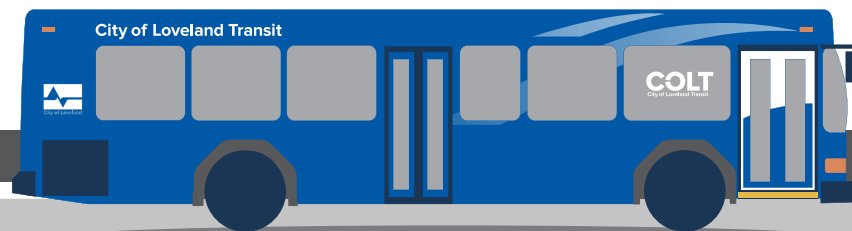
Emerging Mobility

Chapter 14 on Innovation profiles different emerging technologies and discusses how Loveland can both prepare for the impacts of these developments while also taking advantage of the new opportunities they bring for enhancing mobility. Technologies discussed in the innovation chapter include autonomous vehicles, shared mobility, new approaches to managing curb space, and Intelligent Transportation Systems (ITS).

TrendLab+ Workshop

Understanding current transportation trends and forecasting how these trends may influence future travel choices is a critical part of

developing a future land use-transportation vision and identifying future transportation projects and policies. To understand how people in Loveland will travel in 2040, in July 2019 Fehr & Peers facilitated a TrendLab+ workshop with members of the Project Management Team, *Connect Loveland* Stakeholder Committee (CLSC), and members of a focus group representing City employees. The group considered how changing trends may affect future travel patterns and needs both within the city and regionally. TrendLab+ was specifically designed to provide additional insight about future transportation trends that could be strongly influenced by demographic, social, and economic forces that are not typically included in a



transportation analysis.

The workshop allowed the Project Management Team and other stakeholders to explore in detail the various issues (known and unknown) that may influence travel in the future; and the TrendLab+ tool exercise provides team members the ability to consider the degree to which these various factors may interact or influence one another. TrendLab+ was specifically designed to provide additional insight about future transportation trends that could be strongly influenced by demographic, social, and economic forces that are not typically included in a transportation analysis.

The workshop enabled discussion about a range of possible future scenarios and alternatives. Appendix B details the trends that were discussed during the workshop and shows the full voting results. **Table 3.1** summarizes the trends and anticipated changes in Loveland.

TABLE 3.1: ANTICIPATED TRENDS (JULY 2019 TRENDLAB+ WORKSHOP)

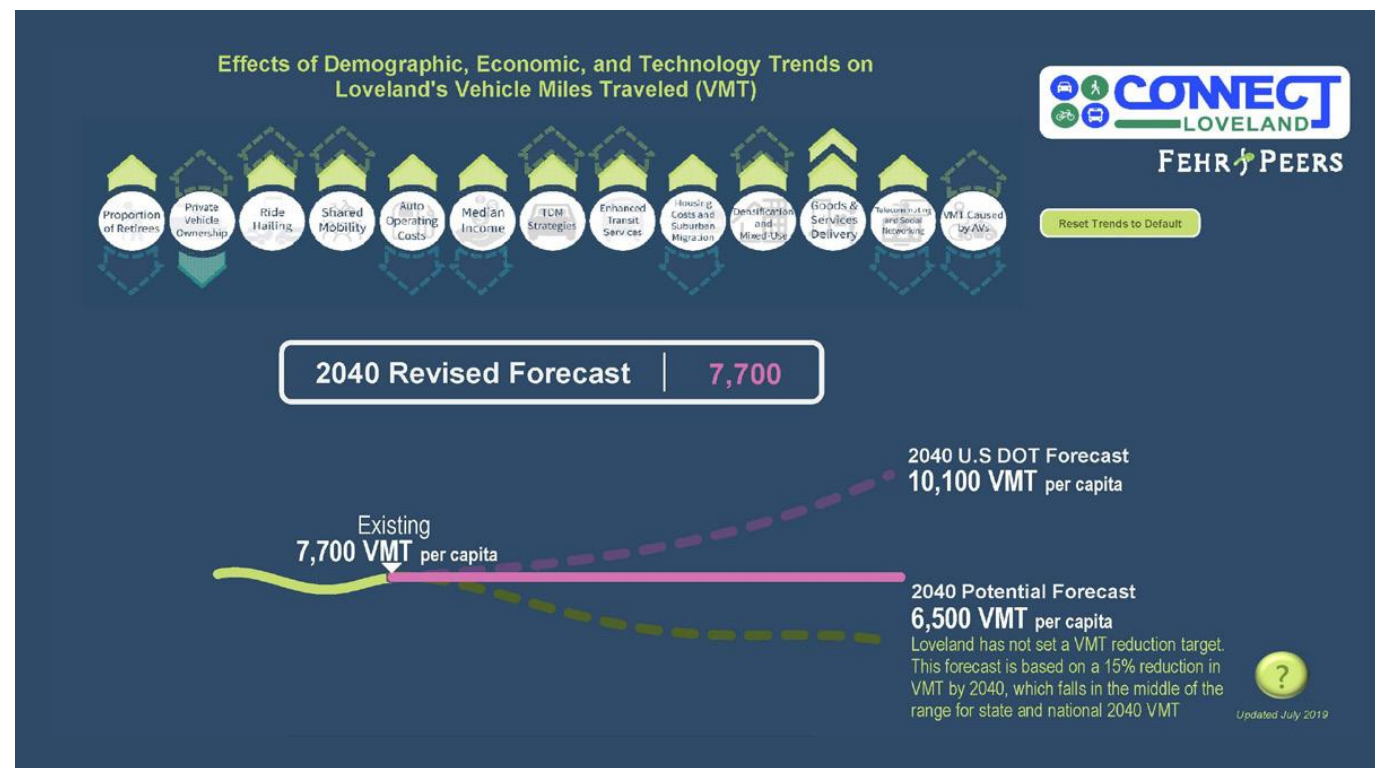
Trend	Voting Result
Proportion of Retirees	Will go up
Private vehicle ownership	Will go down
Ride hailing	Will go up moderately
Shared mobility	Will go up moderately
Auto operating costs	Will go up
Median income	Will stay the same
TDM strategies	Will go up moderately
Enhanced transit service	Will go up moderately
Housing costs and suburban migration	Will go up
Densification/Mixed-Use Development	Will go up moderately
Goods and service delivery	Will go up substantially
Telecommuting and social networking	Will go up
Autonomous vehicles	Hybrid: shared and privately owned (vs. all privately owned or all shared vehicles)

Workshop Results

In using the tool, the effects on VMT per capita were immediately projected when participants voted on different outcomes for each trend.

Figure 3.4 reveals the cumulative results from voting as a group on each of the individual factors. This reveals a forecast of 7,700 annual VMT per capita, which would be level with today. There was meaningful discussion over the various factors, resulting in new insight for planning for the future of transportation in Loveland. Some of the main conversation topics and the connection to VMT during this particular workshop included the implications of retirement on travel behavior and how the recent increase in small parcel delivery from Amazon and other online retailers will impact transportation infrastructure and VMT in Loveland.

FIGURE 3.4: JULY 2019 TRENDLAB+ WORKSHOP RESULTS



How *Connect Loveland* will “Look Ahead”

The projections for how many people will live and work in Loveland in 2040, shifts in the regional economy, changes in future travel demand, emerging transportation technologies, and the trends that current residents anticipate illustrate the future that *Connect Loveland* must anticipate. These findings help inform plan recommendations ranging from specific locations needing transportation capacity increases to the types of technologies and facilities that should be considered for meeting future travel demand.

04. Public Engagement

Outreach Mediums and Process

Connect Loveland was guided through a multi-phased planning process that obtained community input throughout the project from a variety of community members in various ways. The community members included residents, City staff, and other leaders dedicated to guiding the development of Loveland's multimodal system. To reach a variety of people – including those who are often left out of, or uninterested in the transportation planning processes – inclusive engagement was distributed across different methods. The methods used throughout the process included public events, intercept events, surveys and polls, media posts, targeted outreach, stakeholder engagement and, boards and commissions. As a result, the engagement process retrieved robust, targeted and data-driven feedback on Loveland's transportation system. The input sought



FIGURE 4.1: SUMMER 2019 TRANSPORTATION FAIR

from the public was transparent, quantifiable, and meaningful. By meeting these characteristics, input that represents community members' priorities could be incorporated into the Plan.

Due to the COVID-19 pandemic community outreach was put on pause starting in March of 2020 and additional engagement was conducted in 2023.

Public Events

TRANSPORTATION FAIR

On July 31, 2019, approximately 150 individuals participated in the *Connect Loveland* Transportation Fair at the Foundry Plaza (**Figure 4.1 and 4.2**). The event occurred in tandem with the Loveland Downtown District's summer concert series, which brought live music and food trucks to the Foundry Plaza. The Transportation Fair educated and generated feedback on Loveland's

“I THINK TRANSPORTATION CAN AND SHOULD HAVE A STRONG FUTURE IN LOVELAND. I LOVE LIVING HERE AND WANT IT TO KEEP GETTING BETTER AND BETTER, AND IMPROVING TRANSPORTATION IS A BIG PART OF IMPROVING LOVELAND.”

-LOVELAND RESIDENT



FIGURE 4.2: SUMMER 2019 TRANSPORTATION FAIR

transportation system. As a result of the event, Loveland staff and consultants gained an understanding of important community transportation needs for today and in the future.

Participants were encouraged to visit and complete activities at five different transportation-themed stations. Passports with project information, station checklists and general comments were handed out and upon completing each activity, participants' passports were stamped. The series of stations took individuals about 10 minutes and groups/families about 20 minutes to complete. After all stations were visited, participants exchanged their passport for a \$5 food truck voucher. Additional giveaways and kids face painting were also provided at the event.

COMMUNITY EVENT

On January 22, 2020, 30 community members attended an event at the Public Works Administration Building (**Figure 4.3 and Figure 4.4**). The meeting was designed to provide thorough details about each scenario and offer ample time to discuss the project. First, an overview presentation provided community members and stakeholders with a project update and activity instructions. Next, participants explored and interacted with activity boards set up at various stations around the room. There were stations dedicated to general project information and the Plan's vision, goals and objectives, yet, the primary stations were focused on scenario feedback.

Three scenarios were depicted by highly graphic and descriptive information boards and explained by Loveland staff and project consultants. After digesting the scenario information, participants engaged in activities designed to test how well each scenario fulfilled project goals and which scenario would be the best investment of community resources. Passports with a checklist were provided to participants to ensure all three scenario stations were visited. If participants completed all activity stations, they were entered into a random drawing for one of two prizes.

FIGURE 4.3: JANUARY 2020 COMMUNITY EVENT



FIGURE 4.4: JANUARY 2020 COMMUNITY EVENT

TRANSPORTATION SCENARIOS #1



Transportation projects (vehicular, bicycle, pedestrian and transit), operations and maintenance are funded at current levels with adjustments for inflation. Transportation projects include widening existing roadways and building new roadways, including bike lanes and sidewalks, focused on offsetting the impacts of growth and new development. The "pay as you go" approach uses funding collected from existing sales tax revenue and impact fees for new development, coupled with state and federal grant funding, to construct improvements without borrowing.

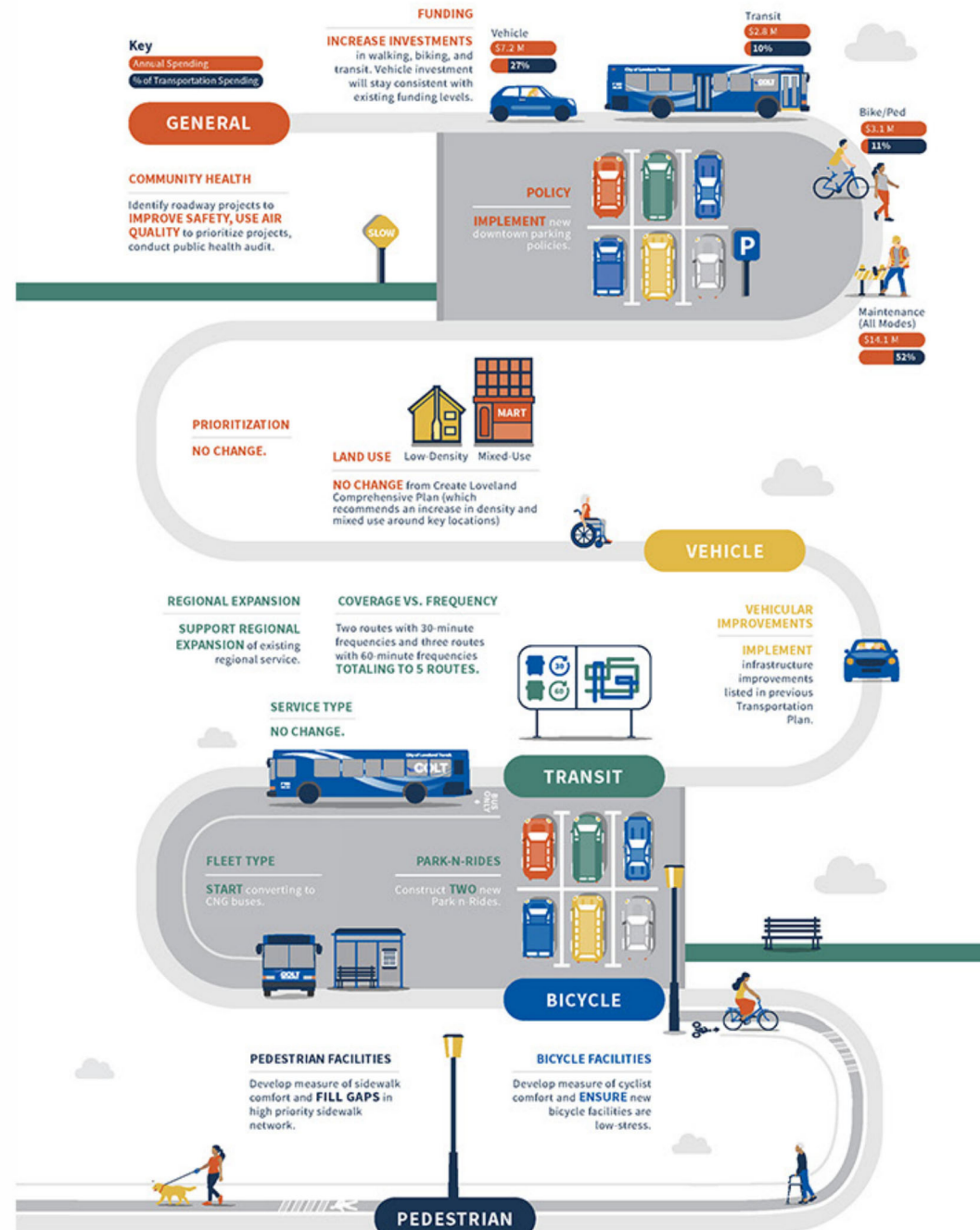


FIGURE 4.5: SCENARIO ONE ILLUSTRATED

TRANSPORTATION SCENARIOS #2



Increase funding for all transportation modes, with a higher percent increase in investment for transit (100% increase), and walking and biking (25% increase). Add more mixed-use development to support the additional investment in non-auto modes. Transportation projects include vehicular construction focused at new development, considering road diets, on-street bike facilities, and sidewalk completion in Pedestrian Priority Areas and priority corridors.

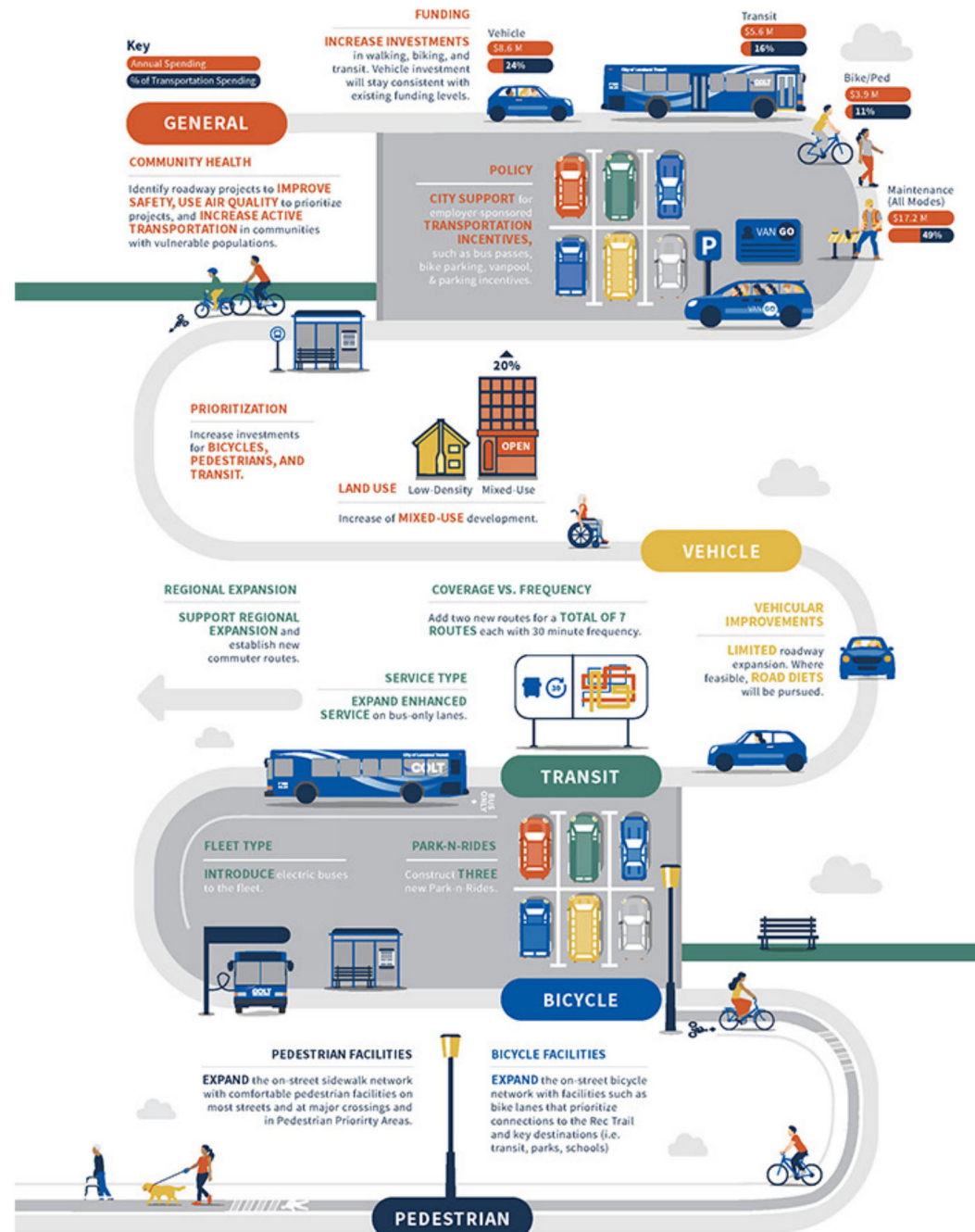


FIGURE 4.6: SCENARIO TWO ILLUSTRATED

TRANSPORTATION SCENARIOS #3



Maintain current vehicle funding while tripling current investment in transit, and increasing investment in walking and biking by 50%. Vehicular funding will be limited to maintenance and new development. Active transportation projects include completion of comfortable pedestrian facilities on all streets and full implementation of a Low Stress Bicycle Network.

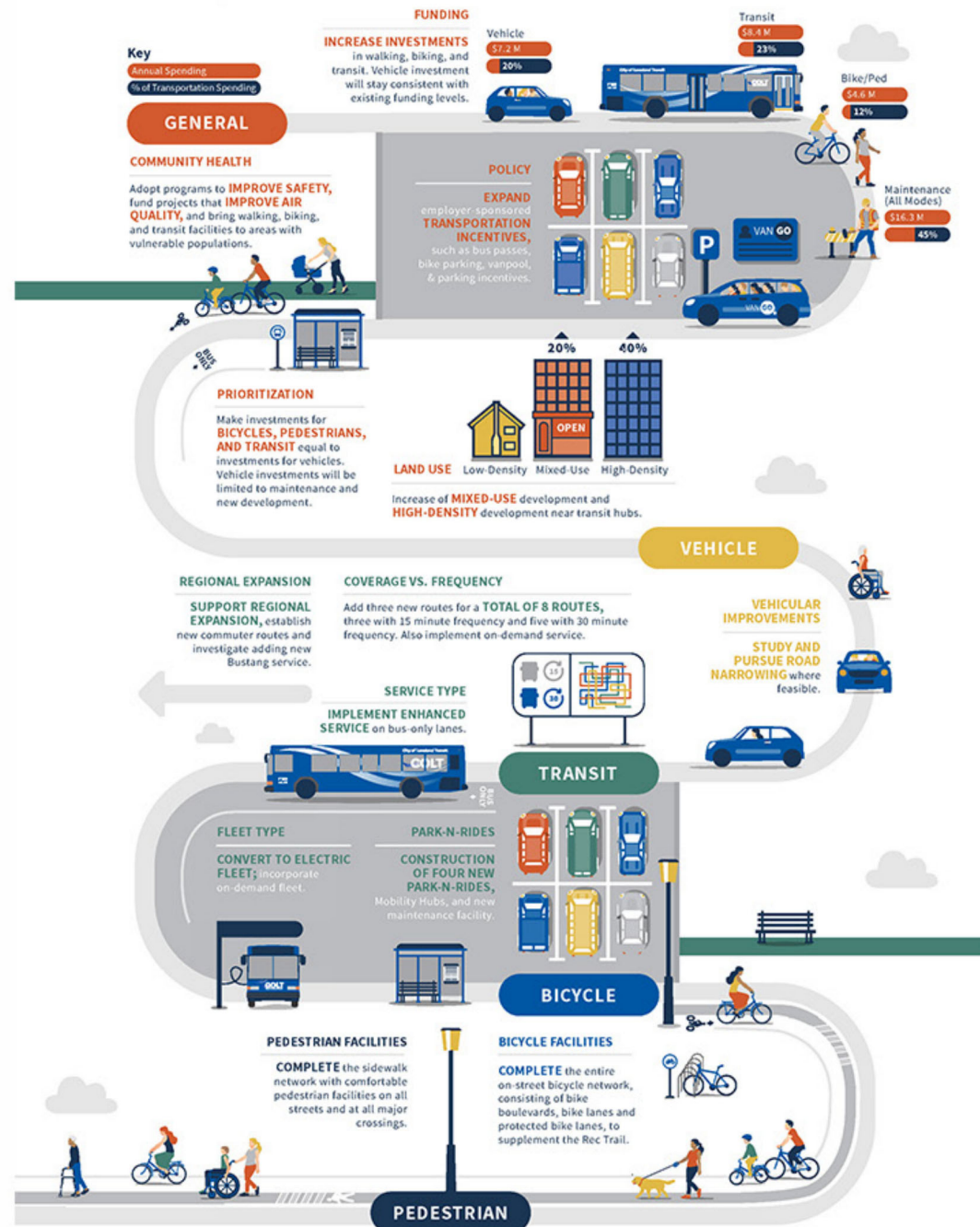


FIGURE 4.7: SCENARIO THREE ILLUSTRATED

Intercept Events

From June 2019 through early March 2020, community members engaged in various activities at 11 intercept events. Due to the COVID-19 pandemic community outreach was put on pause starting in March of 2020. Engagement resumed in 2023 and included meetings with the transportation advisory board (TAB) and an intercept event at Everybody Bike Day. All intercept events were designed to gain feedback from community members by “intercepting” individuals unexpectedly in a high-traffic areas. The engagements and results helped understand deficiencies and prioritize goals for roadways, transit, bicycling, and walking. Activities were adapted throughout each project phase and ranged from providing transportation education to testing preferred scenario outcomes. By taking the planning process out into the community, intercept events captured important feedback from community members who would not normally participate in the traditional open house. The events included:

- **Nine Pop-Up/Table Events** at the Senior Center, Chilson Recreation Center, Library and City Hall: Approximately 40 participants provided feedback during the events from early January through early March 2020. Topics discussed included basic information on a transportation master plan and how they can get involved. The pros and cons of roundabouts were also discussed.
- **Thompson School District Family and Community Event:** Approximately 40 participants provided feedback during the event at Fairgrounds Park in September 2019. Topics discussed included: how to use the transit system, options for paratransit, notifying community members that youth can now ride free on COLT, ideas for the master plan update, how to get involved with *Connect Loveland*, why it is important for the community to be a part of the master plan update process, and barriers to active transportation (walking, biking, taking the bus). Key infrastructure barriers to active transportation mentioned at the event included: the lack of connectivity for the bike route around the City of Loveland, snow and flooding affecting the current bike and pedestrian infrastructure, lack of safe bike and pedestrian infrastructure along Eisenhower Blvd, to local schools (no schools were mentioned in particular), and to local parks (Fairgrounds park was mentioned).
- **City of Loveland Boards and Commissions Event:** Approximately 25 participants provided feedback during the event in September 2019. Topics discussed included the link between transportation and quality of life, and why transportation planning has an extended timeframe. Upcoming learning and engagement opportunities were also discussed.
- **Everybody Bike Day:** In June 2023 City of Loveland staff attended Everybody Bike Day and spoke with community members about

Connect Loveland and the vision it sets forth for the future of transportation in Loveland.

Online Surveys and Poll

Community members were encouraged to take two online surveys and one poll. The engagement was deployed during three different project phases to retrieve specific feedback at key milestones. The surveys and polls are summarized below:

- **Key Messages Online Survey:** 307 participants shared their thoughts, ideas, and inspiration for transportation in Loveland. This survey occurred in the early stages of the planning process to gauge residents’ general perception of transportation and determine topics of interest.
- **Vision, Goals and Objectives Online Survey:** 128 participants shared their thoughts about the vision statement, determined transportation goals and responded to funding objectives. Although the

survey asked specific questions, there were opportunities for open-ended responses.

- **Confirmation Poll:** 400 participants engaged in a confirmation poll that was both implemented online and in-person. This poll was deployed as the final public engagement component of the planning process to confirm what has been said by residents and stakeholders to date.

Targeted Outreach

The targeted outreach was specifically focused towards individuals who are not normally part of planning processes. As such, each method of engagement required a distinct approach. Outreach was extended to underrepresented groups as described below:

- **Seniors:** Older adults in Loveland were engaged at the Senior Center and through the Senior Advisory Board
- **Youth:** The Youth Advisory Committee (YAC) received

regular project updates and was given information to use for engagement and education with their peers about transportation in Loveland. As transportation ambassadors, their outreach efforts achieved a high level of youth engagement in Loveland.

- **Lago Vista Mobile Home Park:** In tandem with a transportation advocacy effort, the Residents Unidos Team's Community Coordinator shared information with the Lago Vista Resident Team throughout the engagement process.

Stakeholder Engagement

CONNECT LOVELAND STAKEHOLDER COMMITTEE (CLSC)

The *Connect Loveland* Stakeholder Committee (CLSC) tasked key stakeholders and partners with providing direction for the planning process. In five meetings, CLSC members identified the strengths, weaknesses, opportunities and

FIGURE 4.8: CLSC MEETING, LAYERED NETWORK ACTIVITY



FIGURE 4.9: CLSC MEETING, LAYERED NETWORK ACTIVITY



challenges for the transportation system, defined community needs and strategic moves, and prioritized future projects (**Figure 4.8 and 4.9**).

PROJECT MANAGEMENT TEAM (PMT)

The Project Management Team included staff representatives from the City and consultants to ensure the technical accuracy of the plan. This included representatives from Traffic Operations, Communications, Administration, COLT (Transit), Transportation Engineering, and Transportation Development. This group met about twice a month throughout the planning process.

City Council, Boards, and Commissions

City Council and various boards and commissions received updates about the planning process and were instrumental in reviewing components at key milestones throughout the planning process. Each of the following groups received two to three updates during the fall and winter of 2019. Transportation advisory board was also engaged in 2023 once public engagement resumed. At each meeting, feedback was solicited, and questions were answered after a Power Point presentation.

- City Council
- Transportation Advisory Board (TAB)
- Senior Advisory Board (SAB)
- Youth Advisory Commission (YAC)
- Visual Arts Commission (VAC)
- Open Lands Advisory Board
- Parks and Recreation Commission
- Police Citizen Advisory Board
- Disability Advisory Commission
- Northern Colorado Regional Airport Commission
- Planning Commission

As the main citizen board interested in transportation, the Transportation Advisory Board (TAB) received monthly updates from the very beginning of the *Connect Loveland* process. To date, TAB has been engaged and inquisitive and has provided valuable guidance and feedback for the process and the document.

Like TAB, the Youth Advisory Commissioners (YAC) have received monthly updates and have been very active in supporting *Connect Loveland*. At their annual retreat in August 2019, YAC set new goals for

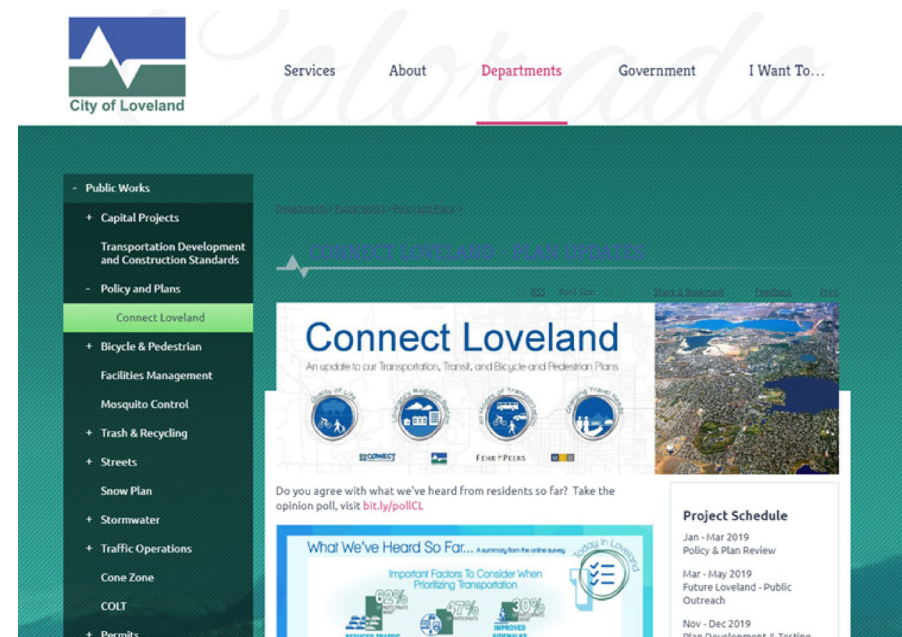
transportation advocacy. The goals lead to the development of ambassador training on transportation planning and *Connect Loveland*, in particular. As ambassadors, the Commissioners informed friends, family members and other students about Loveland's transportation system and how *Connect Loveland* is a plan for future opportunities.

Media Posts

The outreach process included a comprehensive approach

to communicating with City community members. Between May 2019 and February 2020, and again in 2023 after engagement had been paused due to the COVID-19 pandemic, City staff sent out media announcements to promote the *Connect Loveland*, describe the planning process and solicit opportunities for involvement. A website, press releases, flyers, posters, eblasts and social media posts on Facebook, NextDoor, and Twitter announced and encouraged participation in online surveys

FIGURE 4.10: CONNECT LOVELAND WEBSITE

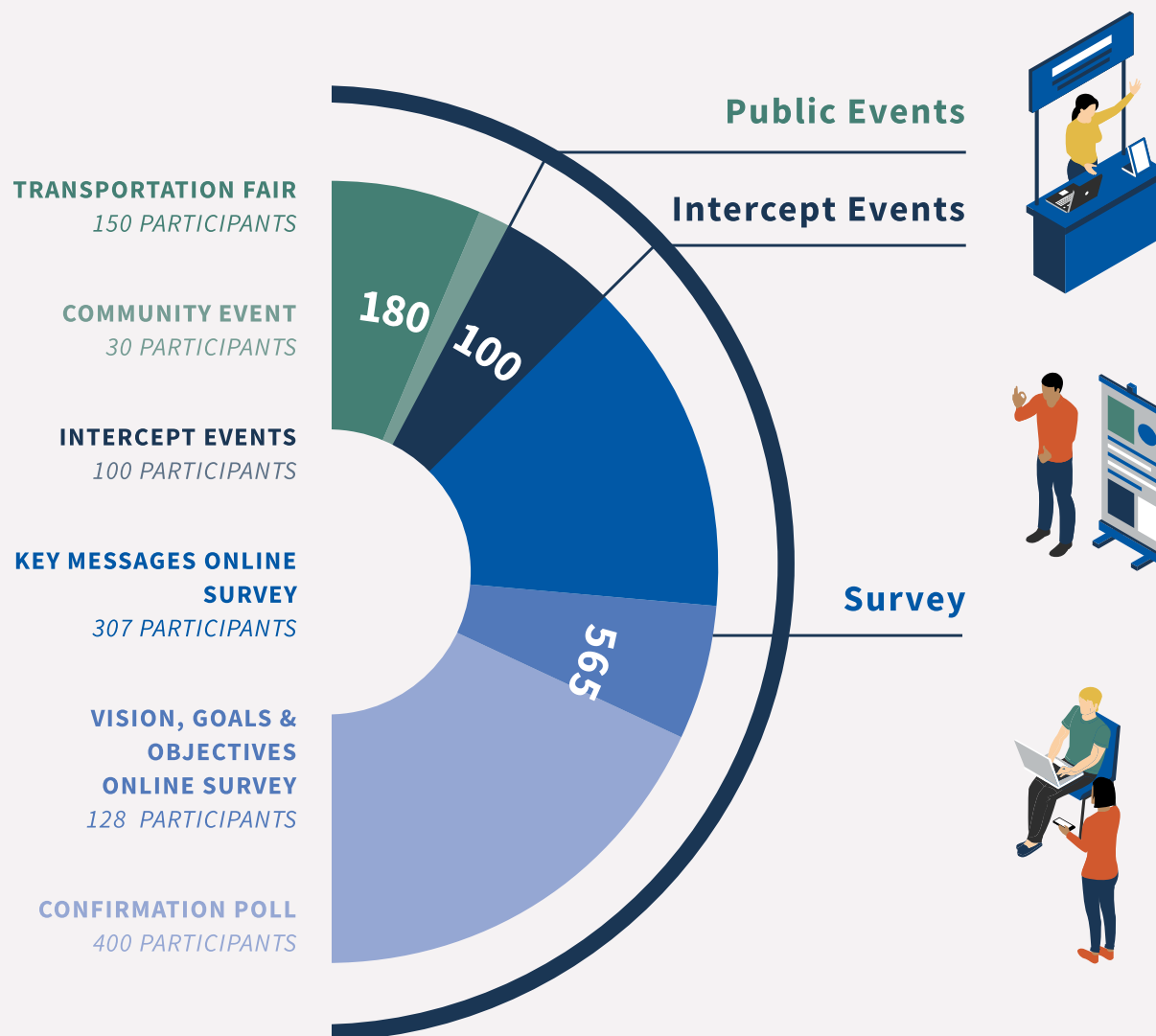


and poll, the Transportation Fair and the Community Event (**Figure 4.10**). This approach reached thousands of people to keep them apprised of the planning process.

Summary of Input Received

To summarize the input received, an information graphic and a list of key takeaways was created and distributed at each meeting, event, or engagement. **Figure 4.11** and the groups on page 36 summarize the breadth of public input received during the master planning process. They provide counts of participants who attended an event or meeting, who participated in an online or in-person activity, or who visited a media page with project-specific information. Key takeaways from each meeting, event or engagement are listed following the information graphic.

FIGURE 4.11: OUTREACH AND ENGAGEMENT, WHO WE HEARD FROM



Stakeholder Engagement

- Project Management Team (PMT): 12 leaders
- *Connect Loveland* Stakeholder Committee (CLSC): 20 members

Council, Boards and Commissions

- City Council: 9 Members
- Senior Advisory Board (SAB): 9 members
- Youth Advisory Commission (YAC): 12 members
- Visual Arts Commission (VAC): 9 members
- Transportation Advisory Board (TAB): 7 members
- Open Lands Advisory Board: 9 members
- Parks and Recreation Commission: 9 members
- Police Citizen Advisory Board: 9 members
- Disability Advisory Commission: 12 members
- Northern Colorado Regional Airport Commission: 7 members
- Planning Commission: 9 members

Media Posts

- Project webpage: 710 page views
- Twitter: 5,111 media views
- NextDoor: 7,613 media views
- Facebook: 10,402 media views

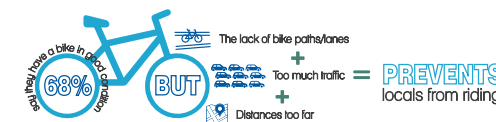
FIGURE 4.12: WHAT WE'VE HEARD GRAPHICS USED AS AN UPDATE TOOL

WHAT WE'VE HEARD

Survey 1: Thoughts On Transportation

DETAILS:

- Open from June 17th to July 23rd, 2019
- 307 responses
- 20 survey questions about transportation choices in Loveland



People feel safer in a personal vehicle when...



KEY FINDINGS:

Walking: A better-connected and improved pedestrian network is desired
- 33% of respondents requested that current sidewalks are improved with gaps filled

Driving: Cars are overwhelmingly used compared to other modes
- 96% of respondents primarily use their car

Biking: The current bike network is incomplete and perceived as unsafe
- 32% of respondents say that heavy traffic and the lack of dedicated bike facilities prevents them from biking more

Transit: Local transit is considered inconvenient and regional connections are desired
- 82% of respondents have never ridden Loveland's public transit

Transportation Fair



DETAILS:

- July 31st, 2019
- 115 people completed six station activities
- Community members gave input on Loveland's current and future transportation decisions

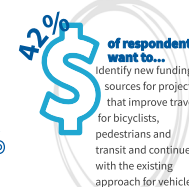
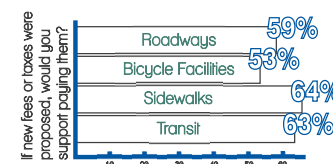
KEY FINDINGS:

- 1 Various modes of transportation with infrastructure/facility improvements
- 2 Regional transit emphasis
- 3 A bike network separated from pedestrians and vehicles
- 4 Improved roadway facilities on major roads
- 5 A better-connected and improved pedestrian network
- 6 A future shift in transportation functionality

Survey 2: Vision, Goals & Objectives

DETAILS:

- Open from December 16th, 2019 to January 17, 2020
- 128 responses
- 14 survey questions about what Loveland residents want for transportation



KEY FINDINGS:

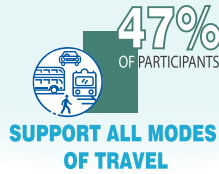
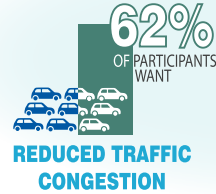
Funding: Generally, respondents would support higher taxes or fees to pay for new transit facilities

Utilization: If new facilities were constructed for roadways, bicycle facilities, sidewalks or transit, more than half of respondents would use them

Values: Respondents stated that multimodal connectivity, implementation/funding, and aligning transportation, land use and development were the three topic areas most important to them.



Important Factors To Consider When Prioritizing Transportation



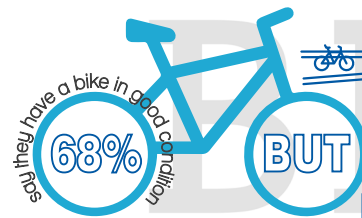
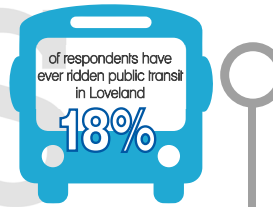
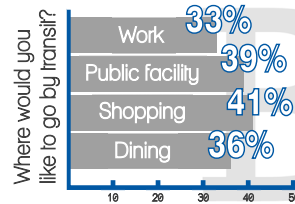
People feel safer in a personal vehicle when...



bikes are separated from traffic



speed limits are enforced



The lack of bike paths/lanes



Too much traffic



Distances too far

+

+

PREVENTS
locals from riding



Key Takeaways

Below is a summary of the key takeaways from various engagement methods. The full results are in **Appendix C**.

Transportation Fair

1. The event allowed individuals to consider current and future infrastructure and facility improvements for various modes of transportation.
2. Transit was a key topic discussed with the attention focused on improving regional connections.
3. Most individuals in favor of biking in Loveland supported a bike network separated from pedestrians and vehicles.
4. Major roadways were identified as those that need the greatest infrastructure and facility improvements.
5. A better-connected pedestrian network was desired by improving sidewalk conditions and filling missing gaps.
6. Participants envisioned future transportation modes and functionality to shift towards a system that embraces major technological advances such as, flying cars and a hyperloop train.

Community Event

1. Scenario 3 was preferred over Scenarios 1 and 2 as the best for community members to get around Loveland by riding a bike, driving a car, riding the bus, or walking.
2. Scenario 3 was preferred over scenarios 1 and 2 as the best way to prioritize transportation infrastructure to meet the needs of people with limited transportation options and areas with limited travel options.
3. Scenario 3 was preferred over scenarios 1 and 2 as the best way to explore and invest in proven technologies for the future of transportation in Loveland.
4. Scenario 3 was preferred over scenarios 1 and 2 as the best investment for all modes of travel and for Loveland's future transportation network.
5. New and improved infrastructure and facilities were encouraged for all modes of travel.

Intercept Events

1. There is a limited understanding of the difference between transportation and transit, but a willingness to learn about the breadth and depth of transportation planning.
2. There are strong opinions about travel independence and the evolution of one's driving skills.
3. There is a desire to understand how a transportation master plan fits into City operations and impacts quality of life.

Key Takeaways

FIGURE 4.9: KEY MESSAGES FROM THE ONLINE SURVEY

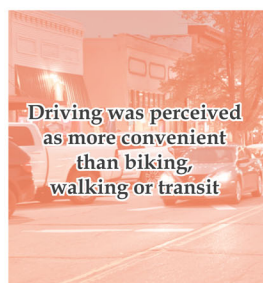


What We've Heard So Far...

DRIVE

Key Finding:

Cars are overwhelmingly used compared to other modes



Driving was perceived as more convenient than biking, walking or transit

96% of survey respondents primarily use their vehicle to travel

BUS

Key Finding:

Local transit is considered inconvenient and regional connections are desired



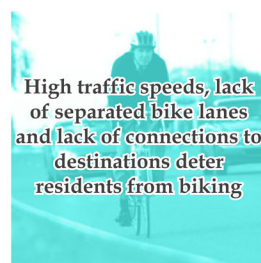
The most popular local transit destinations are retail stores, places of work and public facilities

82% of survey respondents have never ridden transit

BIKE

Key Finding:

The current bike network is incomplete and perceived as unsafe



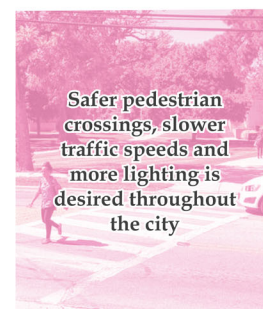
High traffic speeds, lack of separated bike lanes and lack of connections to destinations deter residents from biking

32% of survey respondents say heavy traffic and lack of bike lanes prevents them from biking

WALK

Key Finding:

A better-connected and improved pedestrian network is needed



Safer pedestrian crossings, slower traffic speeds and more lighting is desired throughout the city

33% of survey respondents requested that current sidewalks be improved and sidewalk gaps be filled

Key Messages Online Survey

1. 96% of survey respondents primarily use their vehicle to travel.
2. 82% of survey respondents have never ridden transit.
3. 32% of survey respondents say heavy traffic and lack of bike lanes prevents them from biking.
4. 33% of survey respondents requested that current sidewalks be filled improved, and sidewalk gaps be filled.

Vision, Goals and Objectives Online Survey

1. **Funding:** Respondents support higher taxes or fees to pay for new transportation facilities:
 - a. Roadways: 59% of respondents in favor
 - b. Bicycle Facilities: 53% of respondents in favor
 - c. Sidewalks: 64% of respondents in favor
 - d. Transit: 63% of respondents in favor

Key Takeaways

2. **Utilization:** If new facilities were constructed for roadways, bicycle facilities, sidewalks or transit, more than half of respondents would use the new infrastructure.
3. **Community Values:** Three topic areas most important to respondents were multimodal connectivity, implementation/funding, and aligning transportation, land use and development. Confirmation Poll

The results from the poll was largely supported by the public input to date. The following categories were **most supported** in the poll:

1. Facility and service improvements should be made to all primary transportation modes: **84% in support**
2. Complete the sidewalk network with safe, comfortable sidewalks: **83% in support**
3. Increasing investments in biking, walking and transit,

while maintaining consistent vehicle investments: **80% in support**

City's major roadways have the highest need for improvements: **55% in support**

4. Transit improvements should emphasize regional connections and destinations over local connections and destinations: **57% in support**
5. Implement service on bus-only lanes, convert to electric buses and construct 4 new Park-N-Rides across the city: **60% in support**

Targeted Outreach to underrepresented populations, including senior and youth

1. A transportation system has to meet the needs of the whole community with special attention given to the travel patterns of community members at either end of the age spectrum.
2. As our community continues to grow, the voice of underrepresented

community members is critical to determining future transportation priorities.

3. Underrepresented community members have valid travel needs and can offer creative solutions.

Stakeholder Engagement

1. The CLSC members maintained a focus throughout the process on ensuring the future transportation system of Loveland is designed to serve all community members.
2. Better non-driving connections are needed to regional destinations. The CLSC members supported better regional bus service and connections to the upcoming improvements being through the North I-25 Express Lanes project.
3. While many opportunities exist for more multimodal travel, many of the community members represented by the CLSC rely on vehicles and need a dependable roadway network.

Council, Boards and Commissions

1. Opportunities for knowledge exchange about City processes, policies and plans related to the transportation system was welcomed.
2. Presentations with time for questions and answers was a way to invest in our citizen volunteers and benefit from their areas of focus.
3. Presentations included discussion and updates on:
 - a. Existing Conditions in Loveland and a discussion of where we are today.
 - b. Future Loveland: How growth in employment opportunities and households will shape transportation demand.
 - c. Vision, Goals and Objectives: Shared what had been developed and learned; checked in for concurrence with other plans.

- d. Alternatives Development and Testing: Future scenarios based on different levels of investment in the transportation network. The different options were reviewed as well as the resulting impacts in 2040.
- e. Public Involvement and Outreach Summaries, including “Key Items Heard to Date.”
- f. Expected Outcomes: Review and Check-in on what will be included in *Connect Loveland*.
- g. Next Steps: What was ahead and what was needed going forward.



05. Visions, Goals, & Objectives

The following Chapter outlines a vision statement for the future of transportation along with a set of proposed goals and objectives for *Connect Loveland*. Goals and corresponding objectives have been divided into components that represent different topic areas of *Connect Loveland*.

Many elements in this Chapter are adopted from previous planning efforts in Loveland and some pieces have been drafted specifically for *Connect Loveland*, based on more recent changes in the rapidly evolving transportation landscape and Loveland's growing population. Input from the *Connect Loveland* Stakeholder Committee (CLSC) and other Loveland stakeholders were critical to the development of the vision, goals and objectives (**Figure 5.1**).

Vision, goals, and objectives guided the development of *Connect Loveland* including policies, programs, and recommendations. The goals create an important foundation for project prioritization and implementation; the goals also create quantifiable performance measures through which projects are ranked.

IN ADDITION TO INFORMING THIS PLANNING PROCESS, THIS CHAPTER WILL SERVE AS AN IMPORTANT GUIDE FOR THE CITY OF LOVELAND MOVING FORWARD TO HELP IDENTIFY PRIORITIES, BALANCE TRADEOFFS, AND SET ACTION ITEMS.

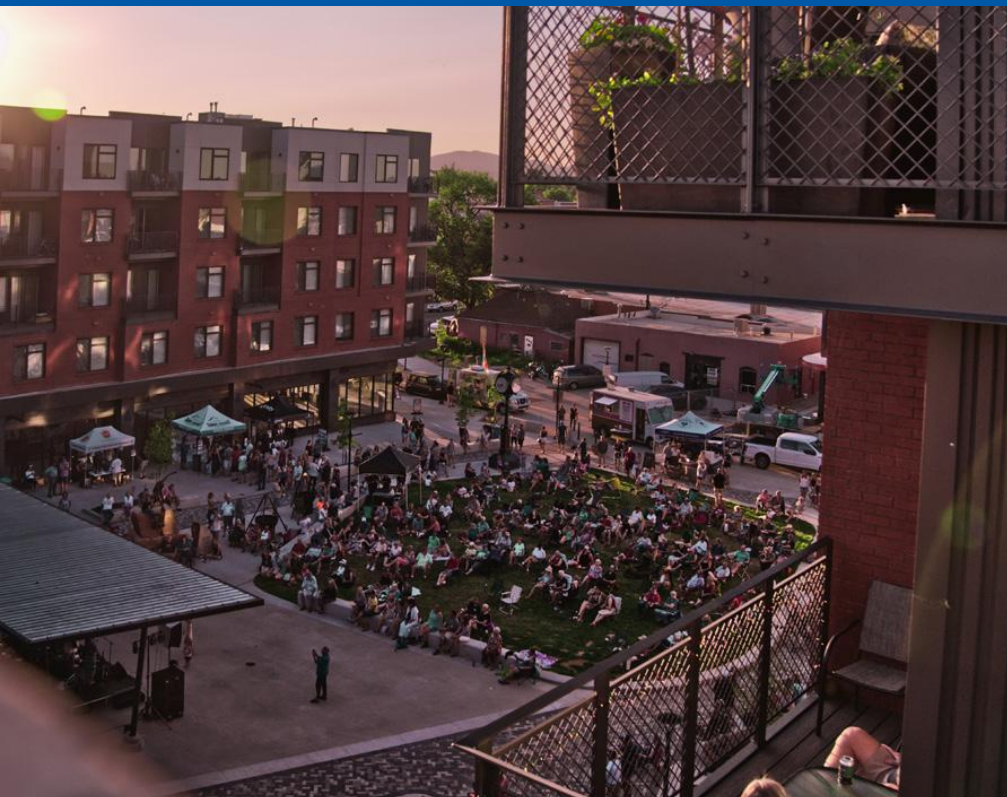


FIGURE 5.1 VISION, GOALS, AND OBJECTIVES DEVELOPMENT



Vision

The following general definitions provide the basis for how *Connect Loveland's* Vision, Goals, and Objectives were developed:

Thinking about the future with wisdom and/or imagination. Something to be pursued, **the end result.**



Goals

The desired end result of any number of efforts. A goal **defines the direction and destination**, changes the direction of the City toward the end result.



Objectives

All about the tactics. Objectives are **action items** to get from where we are to where we want to be. A goal defines the direction and destination, but the road to get there is accomplished by a series of objectives.



Connect Loveland Vision

LOVELAND'S MULTIMODAL TRANSPORTATION NETWORK WILL BE SAFE, ACCESSIBLE, REGIONALLY CONNECTED, AND USER-FRIENDLY, PROVIDING RELIABLE AND CONVENIENT ACCESS TO EVERYDAY DESTINATIONS FOR ALL AGES AND ABILITIES.

1



MULTIMODAL CONNECTIVITY



BICYCLE GOAL

Create a safe and connected bicycle network that is reliable and accessible for community members across a range of bicycling interests, skills, and abilities.



BICYCLE OBJECTIVES

CONNECT LOVELAND NEW OBJECTIVES

- Create a layered network of bicycle facilities that adheres to local, state, and national design standards.
- Create bicycle level of service guidelines to evaluate facilities based on their directness, continuity, intersection crossings, visual interest, amenities, and safety.
- Provide safe intersection crossings for people on bicycles.
- Provide bicycle connectivity to everyday destinations (i.e., work, school, transit, retail, parks, activity centers, and public activities)

CONNECT LOVELAND OBJECTIVES ADOPTED FROM PREVIOUS PLANNING EFFORTS

- Prioritize the completion of missing segments of the low stress bicycle network.
- Coordinate the provision of bicycle facilities among various City departments, local governments, state and federal agencies, and special districts, as appropriate.
- Coordinate with the school district to prioritize safe biking routes to schools.
- Provide infrastructure to make bicycling convenient and viable for all types of trips and for all ages, abilities, and income levels, with an emphasis on bridging minor gaps that currently prevent people from bicycling.



PEDESTRIAN GOAL

Create a safe, low stress network of pedestrian facilities that are accessible and efficient for community members of all ages and abilities.



PEDESTRIAN OBJECTIVES

CONNECT LOVELAND NEW OBJECTIVES

- Create a layered network of pedestrian facilities that adheres to local, state and national design standards to ensure access for all abilities.
- Create pedestrian level of service guidelines to evaluate facilities based on their directness, continuity, street crossings visual interest, amenities, and security.
- Provide safe intersection crossings for all users.
- Provide pedestrian connectivity to everyday destinations (i.e., work, school, transit, retail, parks, activity centers and public activities) so that people have travel options.

FROM PREVIOUS PLANNING EFFORTS

- Evaluate the established street levels of service standards to ensure that they meet the needs of the community and do not hamper walkability and quality neighborhood design.
- Create a walkable environment in commercial (retail) and office locations by designing pedestrian access that is safe, direct, and comfortable.
- Prioritize the completion of missing segments of the low stress pedestrian network.
- Coordinate the provision of pedestrian facilities among various City departments, local governments, state and federal agencies, and special districts as appropriate.
- Work with the school district to prioritize safe walking routes to schools.
- Provide infrastructure to make walking convenient and viable for all types of trips and for all ages, abilities, and income levels, with an emphasis on bridging minor gaps that currently prevent people from walking.

CONNECT LOVELAND OBJECTIVES ADOPTED



TRANSIT GOAL:

Enhance the transit system to provide an equitable, reliable, convenient, and user-friendly travel option.



TRANSIT OBJECTIVES

CONNECT LOVELAND NEW OBJECTIVES

- Improve transit stops and transfer centers to enhance customer safety, access, and experience.
- Pilot innovative mobility options like on-demand transportation or micro-transit, for connecting communities where wider transit coverage is difficult to achieve.
- Implement an integrated fare payment and trip planning application to connect COLT, the regional transit system, and first/last mile solutions.

CONNECT LOVELAND OBJECTIVES ADOPTED FROM PREVIOUS PLANNING EFFORTS

- Expand the City's public transit system will be expanded in phases to provide integrated, high-frequency, transit service along major transportation corridors, feeding regional transit service and connecting major district destinations, consistent with adopted transit plans.
- Provide adequate funding to expand transit into a more convenient and attractive travel option.
- Encourage higher density development in strategic locations along corridors that are or could be served by frequent transit.



DRIVING GOAL:

Ensure driving is a reliable option.



DRIVING OBJECTIVES

CONNECT LOVELAND NEW OBJECTIVES

- Where possible, create separate travel facilities for bicyclists, pedestrians, and vehicle/truck routes. Where modes need to share corridors, ensure treatment types proven to enhance safety are selected for each user.
- Ensure travel time reliability and roadway optimization through improvements like traffic signal retiming and implementing Intelligent Transportation System (ITS) technologies.

CONNECT LOVELAND OBJECTIVES ADOPTED FROM PREVIOUS PLANNING EFFORTS

- Maintain the overall ease of travel as the city grows.
- Provide a connected street network that meets the future needs of the community.
- Use the 2019 Congestion Management Process (CMP) to actively reduce congestion. CMP strategies include Transportation Demand Management and Incident Management programs.
- Close gaps on transportation corridors to help multimodal travelers overcome barriers like waterways, railroads, and I-25.

2



ALIGNING TRANSPORTATION AND LAND USE AND DEVELOPMENT



GOAL

Ensure transportation and land use decisions are mutually supportive in order to reduce per capita vehicle miles traveled.



OBJECTIVES

CONNECT LOVELAND NEW OBJECTIVES

- Coordinate with City of Loveland Development Services to ensure any land use plan revisions prioritize density where well connected, multimodal transportation options exist or are planned.
- When planning improvements and expansions of the transit network, ensure projects are prioritized in sections of Loveland that are planned for high-density residential or mixed-use development.
- Coordinate with City of Loveland Development Services to ensure development standards require that new commercial and residential developments to incorporate bicycle, pedestrian, transit, and off-site improvements that support completing the multimodal networks defined in *Connect Loveland*.

CONNECT LOVELAND OBJECTIVES ADOPTED FROM PREVIOUS PLANNING EFFORTS

- Coordinate bicycle and pedestrian planning and implementation with other infrastructure projects and land use decisions. Specifically, ensure coordination between land use decisions and the implementation of *Connect Loveland*.
- Require well-connected streets, pedestrian-friendly block sizes, sidewalks, bike facilities, and connections to existing neighborhoods in new developments and redevelopment areas.

3



TRAILS AND RECREATION



GOAL

Improve connectivity to the City's Recreation Trail system, which serves as both a recreation amenity and a core component of the larger mobility network for people of all ages and abilities.



OBJECTIVES

CONNECT LOVELAND NEW OBJECTIVES

- Participate in the update to the 2014 Parks and Recreation Master Plan to ensure the trail network is integrated with the on-street bicycle and pedestrian networks.
- Collaborate with City of Loveland Parks and Recreation Department to seek opportunities for providing additional trail right of way near new developments.
- Improve on-street connections to the Recreation Trail.

CONNECT LOVELAND OBJECTIVES ADOPTED FROM PREVIOUS PLANNING EFFORTS

- Close key gaps in the local and regional trail system, prioritizing access to the Recreation Trail from key destinations, like schools, shopping, parks, recreation centers, and open spaces.
- Emphasize trail access for users inside the City's Growth Management Area. Future connections to regional or statewide trail systems will be done in cooperation with public and private entities.
- Trails will be designed and developed to reflect the character of surrounding corridors, parks, or open lands. The Recreation Trail system will be designed as an off-street, non-motorized, urban recreation trail system that offers bicycle and pedestrian separation where possible.
- Trailheads will be developed where feasible, with priority for locations that are more easily accessible by transit, walking, or biking. New community parks or open lands will include trailheads where these sites connect to the trail system.
- Acquire parkways or greenways for trail development.

4



ENVIRONMENT



GOAL

Develop a multimodal transportation system that protects the City's natural and built environments.



OBJECTIVES

CONNECT LOVELAND NEW OBJECTIVES

- Prioritize transportation policies and projects that have positive outcomes for environmental resiliency and sustainability, and that support the well-being of future generations.
- Play a key role in meeting and exceeding the NFRMPO region's air quality goals by reducing vehicle-miles traveled (VMT).
- Ensure new transportation projects complement the management of open lands, minimize wildlife disturbances and provide multimodal access to recreation areas.
- Design a transportation system that conserves energy and resources by creating reliable walking, biking, and transit networks, while reducing the share of trips taken in single-occupancy vehicles.
- Add infrastructure to support active transportation modes that are energy efficient and/or environmentally sensitive.

5



HEALTH AND SAFETY



GOAL

Support the physical, social, and mental health of Loveland's community members by developing a safe and connected multimodal transportation network.



OBJECTIVES

CONNECT LOVELAND NEW OBJECTIVES

- Encourage active modes of transportation by implementing national best practices and safety standards for bicycle and pedestrian infrastructure improvements.
- Advance transportation equity by improving access and mobility for under-served populations.
- Improve the connectivity of Loveland's active transportation networks through expansion and infill.
- Increase comfort levels of people who walk and bicycle by providing more active transportation amenities such as wayfinding/ signage, lighting, benches, and shade structures.
- Create safe and comfortable multimodal connections to the City's Recreation Trail, as well as civic buildings and community services.

CONNECT LOVELAND OBJECTIVES ADOPTED FROM PREVIOUS PLANNING EFFORTS

- Implement educational and outreach programs to promote active living and increase bike and pedestrian safety.
- Enforce existing codes and ordinances that require property owners to maintain their sidewalks in good condition.
- Work towards eliminating all traffic-related fatalities and severe injuries by adopting a Vision Zero policy.
- Prioritize pedestrian and cyclist safety when making land use and capital improvement decisions.
- Site new community facilities (such as schools, health services, libraries, and recreational sites) in a way that maximizes mobility options for accessing those amenities.
- Promote traffic calming on local streets through elements such as street trees, detached sidewalks, and other features that reduce traffic speeds while increasing pedestrians' and cyclists' comfort and safety.
- In collaboration with City of Loveland Development Services, promote land use decisions that locate stores offering healthy foods alongside easy-to-access destinations for all community members.
- Ensure the transit, bicycle, and pedestrian network offers connections to health care service providers.

6



POLICIES AND PROGRAMS



GOAL

Policies and programs will be developed to improve safety, reduce vehicle-miles traveled, active transportation and reduce single-occupancy vehicle trips.



OBJECTIVES

CONNECT LOVELAND NEW OBJECTIVES

- Engage a Transportation Demand Management (TDM) coordinator to help institutionalize TDM programs citywide by educating area employers on the benefits of TDM.
- Evaluate the feasibility of mandating TDM programs in the future.
- Support motor vehicle, transit, bicycle and pedestrian safety, awareness, and encouragement through education programs for all levels and abilities for bicyclists, pedestrians and motorists.
- Promote the appropriate use of traffic and code enforcement.
- Encourage participation in active modes of transportation through a variety of programs including community events, partnering with schools and employers, and educational materials.
- Research, develop, adopt and implement a Local Road Safety Plan in conjunction with other City divisions and departments.
- Implement parking policies outlined in the Downtown Parking Study. This study is made up of three distinct phases; Phase I (2018), Phase II (2019), Phase III (2023).

CONNECT LOVELAND OBJECTIVES ADOPTED FROM PREVIOUS PLANNING EFFORTS

- Encourage and support voluntary employer-based TDM programs in the short term.

7



IMPLEMENTATION AND FUNDING



GOAL

Implement *Connect Loveland* through a strategy that recognizes current funding realities and limitations while prioritizing projects based on relevant criteria, such as equity, cost-effectiveness, available funding, community values, and health outcomes.



OBJECTIVES

CONNECT LOVELAND NEW OBJECTIVES

- Establish viable and reliable sources of funding to fully implement *Connect Loveland*.
- Create trackable performance metrics for all modes.
- Demonstrate accountability by monitoring performance metrics for each mode and reporting performance to the community annually.
- Integrate multimodal infrastructure improvements and maintenance with ongoing capital improvement projects such as pavement rehabilitation projects.

CONNECT LOVELAND OBJECTIVES ADOPTED FROM PREVIOUS PLANNING EFFORTS

- Balance constructing new infrastructure with maintenance, operations activities, cost, and investment in other modes.
- Maintain transportation infrastructure and facilities to minimize the need for replacement or rehabilitation.
- Consider a range of different funding sources and leveraging opportunities including proactively pursuing grants and state and federal funding available through the NFRMPO, Colorado Department of Transportation (CDOT), Federal Highway Administration (FHWA), and Federal Transit Administration (FTA), and by exploring collaborations like Public-Private Partnerships.

8



**EQUITABLE
ACCESS**



GOAL

Prioritize transportation infrastructure and networks to meet the needs of populations who are transit dependent with limited transportation options and focus on areas that are currently underserved with transportation modes.



OBJECTIVES

CONNECT LOVELAND NEW OBJECTIVES

- Ensure recommended projects are informed by comprehensive, neighborhood-level outreach efforts that include meaningful engagement of populations underserved by the current multimodal transportation network.
- Identify dedicated funding for paratransit and non-emergency medical transportation that increase mobility options for older adults and people with disabilities.
- Prioritize transportation projects that bring transit, bicycle, and pedestrian infrastructure into neighborhoods that currently lack mode choice.
- Prior to construction/during planning for the Capital Improvement Program planning, develop criteria that will be used to evaluate the benefits and impacts of transportation projects to assess whether vulnerable communities are disproportionately affected or excluded from the project's benefits.

9



REGIONAL COORDINATION



GOAL

Continue to support and collaborate with regional partners to develop a seamless regional multimodal transportation system.



OBJECTIVES

CONNECT LOVELAND NEW OBJECTIVES

- Partner with county, regional, and state-wide agencies on transit, active transportation corridors, and roadway projects, policies, and programs.
- Designate a City of Loveland representative to support and engage with the NoCo Bike and Pedestrian Collaborative.

CONNECT LOVELAND OBJECTIVES ADOPTED FROM PREVIOUS PLANNING EFFORTS

- Anticipate the revenues available to the area through the FHWA, FTA and CDOT requirements and seek partnerships for pursuing those funds.
- Participate in the NFRMPO's and CDOT's plans to implement regional transportation projects on major corridors like I-25, US-34, US-287, and SH-402.
- Recommend mitigation measures on congested corridors as required in the NFRMPO Congestion Management Process (CMP).
- Work cooperatively with regional partners to identify opportunities to provide interregional transit connectivity along the Front Range.

10



INNOVATION



GOAL

Build tomorrow's transportation network by constantly exploring and investing in proven technologies that facilitate improved mobility.



OBJECTIVES

CONNECT LOVELAND NEW OBJECTIVES

- Ensure City design standards and local policies are flexible and compatible with emerging technologies.
- Ensure Loveland's transportation data is featured on applications that improve access to non-driving modes through features such as transit fare payment or on-demand transportation.
- Plan for infrastructure that will support connected and autonomous vehicles.
- Leverage City resources to facilitate shared mobility options.
- Establish a role within the Public Works Department that tracks innovation initiatives and ensures new technologies, like autonomous vehicles, are incorporated into transportation planning.
- Adopt policies that manage anticipated travel behavior changes due to autonomous vehicles. These could include coordinating with service providers to create first/last-mile connections to transit, prioritizing vehicles shared or operated as a fleet, and by disincentivizing zero-occupancy vehicles.

06. Scenario Framing

Scenario Development

Decisions on transportation plans and investments are informed by a shared community vision for mobility. While the *Connect Loveland* Vision and Goals discussed in the previous chapter establish the desired state of the Loveland transportation network in 2040, an additional planning framework is needed to help translate the vision into a plan.



Three potential planning scenarios were developed for *Connect Loveland*, each with a unique approach to realizing the Plan vision:

- **Scenario 1:** Base Case – What transportation will look like in 2040 if existing funding levels are maintained.
- **Scenario 2:** Enhanced Funding – A transportation future where the City of Loveland increases spending on transportation across all modes.
- **Scenario 3:** Investing in Multimodal Travel – Envisioning the results of heavier investment in walking, biking, and transit.

AN EFFECTIVE TRANSPORTATION PLAN SCENARIO CONSIDERS OVERALL MOBILITY. INFRASTRUCTURE CHANGES ARE NOT SOLELY RESPONSIBLE FOR MOBILITY ENHANCEMENTS; COMPLEMENTARY POLICIES, LAND USE DECISIONS, AND AN UNDERSTANDING OF COMMUNITY NEEDS BEYOND MOBILITY ARE ALL KEY COMPONENTS OF A SUCCESSFUL PLANNING FRAMEWORK.








This chapter details the elements that were considered in crafting each scenario, highlights the key differences between the proposed scenarios, and also details the results of analysis on the likely impacts of each scenario.

Defining a Framework

The *Connect Loveland* project team built each scenario from a common set of elements (**Table 6.1**).

TABLE 6.1: CONNECT LOVELAND SCENARIO ELEMENTS

Element		Description
 General	Funding	How much does the community want to invest in transportation?
	Policies	What types of policies can support mobility outcomes that will meet <i>Connect Loveland's</i> goals? What can Loveland do to anticipate emerging mobility trends like autonomous vehicles?
	Transportation Demand Management (TDM)	What strategies can be used to meet demand for travel through modes other than driving? Should the City make a TDM program voluntary or mandatory?
	Community Health	How can mobility investments help achieve safer streets, cleaner air, and improved public health outcomes?
	Land Use	Where people live and work influences travel choices. Are land use changes needed to achieve <i>Connect Loveland</i> goals?
 Vehicle	Improvements	How much should the City invest in expanding or upgrading roadways to meet future travel demand vs. investing in active transportation?
	Prioritization	Are roadway projects that enhance driving the top priority? Or should dedicating space to other modes be prioritized over vehicular capacity projects?
 Transit	Coverage vs. Frequency	Should COLT serve more of the City or should bus frequency increase on the main routes?
	Service Type	What types of enhancements would make bus service better in Loveland? Examples could include dedicated bus lanes or traffic signals that provide extra green time for transit vehicles.
	Regional Expansion	Should Loveland invest in expanding transit service to neighboring communities like Greeley and Windsor?
	Fleet	Should COLT operate natural gas or electric buses?
	Park-n-Rides	Can Loveland support better access to transit for commuters by constructing parking lots at key transit stations?

Element	Description
 Bicycle	What types of bicycle facilities are needed to make bicycling a more viable travel option? How connected should bicycle infrastructure be throughout the City?
 Pedestrian	How comprehensive should the City's sidewalk network become?

Determining Scenario Themes

Three distinct scenarios were developed to help the Loveland community understand the range of potential outcomes in a long-range transportation plan and to use the scenarios for selecting their desired outcome.

Scenario 1: Base Case

Building upon the City of Loveland's previous transportation planning efforts, the Base Case Scenario includes implementation of recommendations from

previous plans. In addition, this scenario does not account for future increases in funding for transportation; spending on infrastructure and operations will be adjusted for inflation but will otherwise remain at the same levels as today. In addition, transportation funding sources will mirror the "pay as you go" method that the City of Loveland uses today. This approach uses funding collected from existing sales tax revenue and impact fees for new development to fund most infrastructure, with additional needs filled by state and federal grants. "Pay as you go" allows the City to construct transportation infrastructure

improvements without borrowing funds.

Scenario 2: Enhanced Funding

This Scenario predicts meeting future transportation demand by increasing the resources dedicated to transportation infrastructure and programming across all modes. Under the Enhanced Funding Scenario, investments in the vehicular network would increase 20% over current spending, funding for bicycle and pedestrian infrastructure would increase 25%, and funding for COLT would double from \$2.8 million per

year to \$5.6 million. Resulting improvements may include road diets that reconfigure travel lanes to achieve traffic speed reduction while also creating more space for multimodal travel, and accelerated efforts to fill sidewalk gaps in key areas.

Scenario 3: Enhancing Multimodal Travel


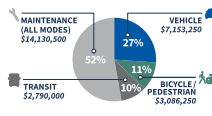
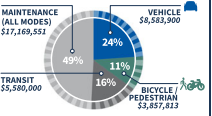
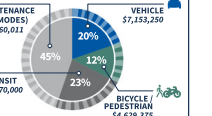



















Recognizing that investments in new roadways can be costly and that increasing access to non-driving modes can have other community benefits, Scenario 3 centered on enhancing opportunities for multimodal travel in order to grow the number of Loveland residents and visitors who walk, bike, or take transit. Roadway project funding would be held at current levels while tripling the amount currently spent on transit to \$8.4 million per year and increasing investments in walking and biking by 50% to create a full low-stress bicycle and pedestrian network across the City.

Scenario Descriptions

Each Scenario included unique elements that represent different approaches to developing a 2040 transportation network for Loveland. **Table 6.2** shows the breakdown used during public outreach to illustrate the differences between each Scenario. Funding levels for different modes are one of the key differentiators between the Scenarios, but there are also qualitative differences that are outlined in **Table 6.2**.

TABLE 6.2: SUMMARY OF SCENARIOS

Attachment 2

	SCENARIO 1	SCENARIO 2	SCENARIO 3
	Maintain Existing Funding Levels	Enhanced Funding for All Users	Enhanced Funding for Transit, Bicycles and Pedestrians; Existing Funding for Vehicles
 FUNDING PER YEAR IN 2019 DOLLARS	 <p>TOTAL: \$27.2 Million</p>	 <p>TOTAL: \$33.2 Million</p>	 <p>TOTAL: \$36.4 Million</p>
 POLICY	Downtown PARKING MANAGEMENT Implementation	INITIATION of voluntary employer-sponsored TRANSPORTATION INCENTIVES , such as bus passes, carpooling, & bike parking	Potential EXPANSION of employer-sponsored TRANSPORTATION INCENTIVES , such as bus passes, bike parking, vanpool, & parking incentives
 COMMUNITY HEALTH	STUDY	PRIORITIZE	IMPLEMENT
 VEHICLE	ROADWAY IMPROVEMENTS: widening existing roadways and building new roadways  CURRENT LEVELS + INFLATION TOTAL: \$7.2 Million	ROADWAY IMPROVEMENTS: minimal roadway construction except where required by new developments; road diets  20% OVER CURRENT LEVELS FOR ROADWAYS TOTAL: \$8.6 Million	ROADWAY IMPROVEMENTS: minimal vehicular construction and expansion except where required by new developments, focusing vehicle investments on maintenance; road diets.  CURRENT LEVELS + INFLATION TOTAL: \$7.2 Million
 TRANSIT	 KEY  = One Route RIDERSHIP: 160,000 (65% MORE THAN TODAY) TOTAL: \$2.8 Million	 KEY  = One Route RIDERSHIP: 290,000 (200% MORE THAN TODAY) TOTAL: \$5.6 Million	 KEY  = One Route RIDERSHIP: 390,000 (300% MORE THAN TODAY) TOTAL: \$8.4 Million
 BICYCLE	Ensure the bicycle network is COMFORTABLE* for all ages and abilities	EXPAND the bicycle network with a focus on on-street bicycle projects	COMPLETE bicycle network
 PEDESTRIAN	FILL gaps in pedestrian priority areas	EXPAND sidewalks to transit stops & stations	COMPLETE sidewalk network
 HOW WILL PEOPLE TRAVEL?			

* DRIVE: SOV & Carpool ** OTHER: (ex. Working From Home)

SCENARIO SUMMARY TABLE BY 2040

CONNECT LOVELAND

Layered Network

All three scenarios would employ a layered network approach to mobility planning. The layered network concept is based on the acknowledgment that accommodating all modes (vehicles, bicycles, pedestrians and transit) on a single roadway is frequently not feasible. Instead, a layered network focuses on enhancing key corridors for vehicle travel while accommodating bicyclists and pedestrians on a connected network of low-stress travel facilities adjacent to vehicle corridors. Transit is accommodated through enhancements on the key corridors like dedicated lanes or enhanced bus stops. The layered network concept is explained in greater depth in Chapter 8.

Policy

While this Plan outlines a series of projects for enhancing the way people, goods and services are moved, policies are needed to ensure implementation is possible and that systems are put in place for monitoring plan outcomes and attaining plan

goals. Some policy frameworks would be common across all three Scenarios. For example, given the rapidly evolving developments in Autonomous Vehicle technologies, citywide policies are needed to ensure Loveland is prepared for significant shifts in the way people travel.

Transportation Demand Management (TDM) is one policy framework that does shift across Scenarios. TDM is a set of policies and programs that can be used for incentivizing people to travel by modes other than driving alone; Chapter 13 outlines potential TDM solutions for Loveland in detail.

In Scenario 2, a TDM program would be voluntary. A citywide voluntary TDM program would entail Loveland offering employers incentives, support, and technical assistance on initiatives like installing more bicycle parking or transit passes for COLT. In Scenario 3, TDM would be mandatory citywide. Mandatory TDM can mean requiring that large employers have a TDM coordinator on-site who is responsible for helping move commute trips onto transit or organizing carpools.

Community Health

It is important to acknowledge that the breadth and depth of Loveland's transportation networks influence the health and wellbeing of community members.

Active transportation improvements across the system can provide travel efficiency and improve mode choice that result in better mobility and improved health outcomes. People who live in communities with multimodal networks have more opportunities to be physically active on a regular basis and therefore, may experience lower rates of chronic disease. Efforts to replace some portion of vehicle travel with active transportation can improve traffic safety outcomes while also upgrading air quality. An integrated, multimodal transportation system that extends access to all community members, regardless of age, income, or zip code, provides the foundation for a healthy community.

Each Scenario has a slightly different approach to addressing community health. In Scenario 1,

Larimer County Department of Health and Environment's Multimodal Index (MMI) would be used to track availability of multimodal facilities in neighborhoods with poor public health indicators.

Traffic safety considerations would focus on corridors with the highest crash rates and identify improvements across all modes for those areas. Also, under Scenario 1, Loveland would set air quality targets. Scenario 2 would use the MMI, in tandem with available best practices to assess and prioritize bicycle, pedestrian and transit improvements. This Scenario would also identify opportunities for expanded traffic safety outcomes and would use the developed air quality targets as part of the criteria for prioritizing transportation projects. Scenario 3 would generate the largest investment in community health by focusing funding on multimodal infrastructure projects, including transit service expansion, in communities with the low health outcomes. In addition, the development and implementation of a "VisionZero" program that focuses on

eliminating traffic fatalities and reducing severe injuries would be combined with attainment of the City's air quality targets.

Land Use

Create Loveland, the City's 2015 Comprehensive Plan, shapes the City's built environments – those places where community members live, work, learn and play. *Create Loveland's* long-range policies, goals and objectives related to transportation promote connected networks and active lifestyles to support a high quality of life across Loveland's Growth Management Area. *Connect Loveland*, as a transportation planning document that supports *Create Loveland*, focuses on integrating, improving, and expanding the City's transportation networks, including sidewalks, bicycle facilities, transit service, and roadways.

Scenario 1 would not entail any changes to land use, as shown in *Create Loveland*. However, Scenarios 2 and 3 would be paired with land use changes that better support mobility options

and outcomes. Under Scenario 2, mixed-use development would increase by 20%, which would facilitate more residential development near retail and other businesses to provide more opportunities for walking and biking trips. Scenario 3 would increase mixed-use development by 20% and also enhance opportunities for density near transit hubs by increasing mixed-use development up to 40% along corridors with high-frequency transit. Transit service improves serving higher density areas with a mix of land uses where a variety of trip types are supported. Adding density to high-frequency transit corridors would enable the City to serve a concentration of residences and employment hubs and provide meaningful alternatives to driving, which would reduce vehicle miles traveled (VMT).

Vehicle

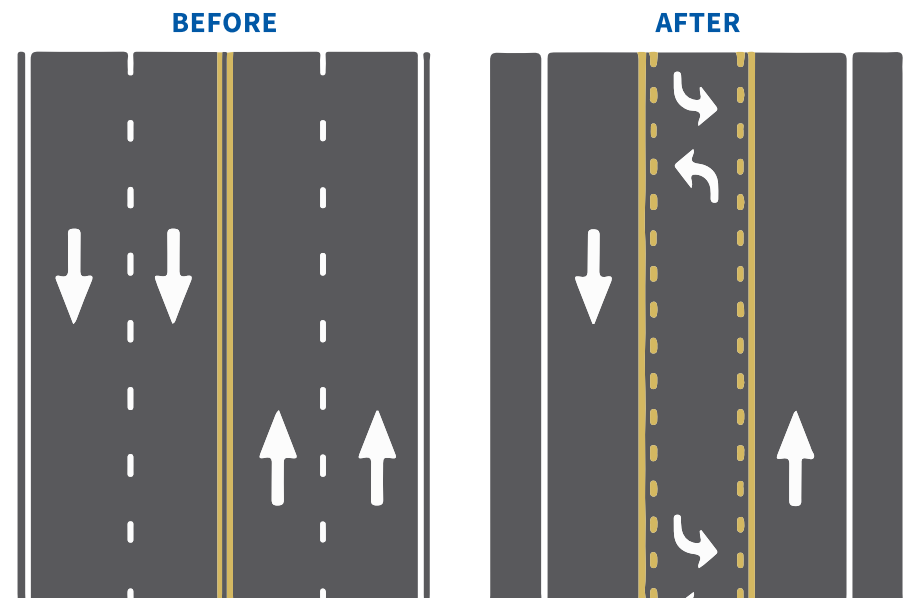
The Scenarios each recognize the importance of Loveland's roadway network and the core role it has in providing mobility for residents and visitors. In Scenario 1, investment in the roadway network would

continue. The projects listed in the 2035 Transportation Plan as well as improvements to traffic operations (i.e. signal timing adjustments) would be implemented at the current rate. The City adds or upgrades transportation infrastructure with the goal of not falling below the vehicle Level of Service (LOS) standards on streets or at intersections. Since projects focusing on vehicle capacity are most likely to help meet LOS standards and typically include multimodal elements, those projects currently are prioritized over single mode projects.

Scenario 1 would maintain this approach to prioritizing roadway improvements.

Scenario 2 includes increased investment across all transportation modes. Where feasible, road diets would be pursued to accommodate multimodal improvements like transit facilities, bike facilities and well as new and/or wider sidewalks. Scenario 2 calls for repurposing some vehicle travel lanes for multimodal facilities in order to provide more opportunities for walking, biking and riding transit in lieu of driving a car.

FIGURE 6.1: ROAD DIET GRAPHIC



In Scenario 3, construction of projects to facilitate vehicle operations would be limited to offset the impacts of new development similar to Scenario 1. Any projects that focus solely on improving vehicle travel would receive lower priority than projects that enhance opportunities for all modes. In addition to meeting LOS standards, the City would focus on meeting the goals of providing a fully connected and comfortable walking and biking network while expanding the transit system.

Transit

Changes to the COLT system vary between each Scenario. The following descriptions profile how different aspects of transit service would be considered by each Scenario.

COVERAGE VS. FREQUENCY

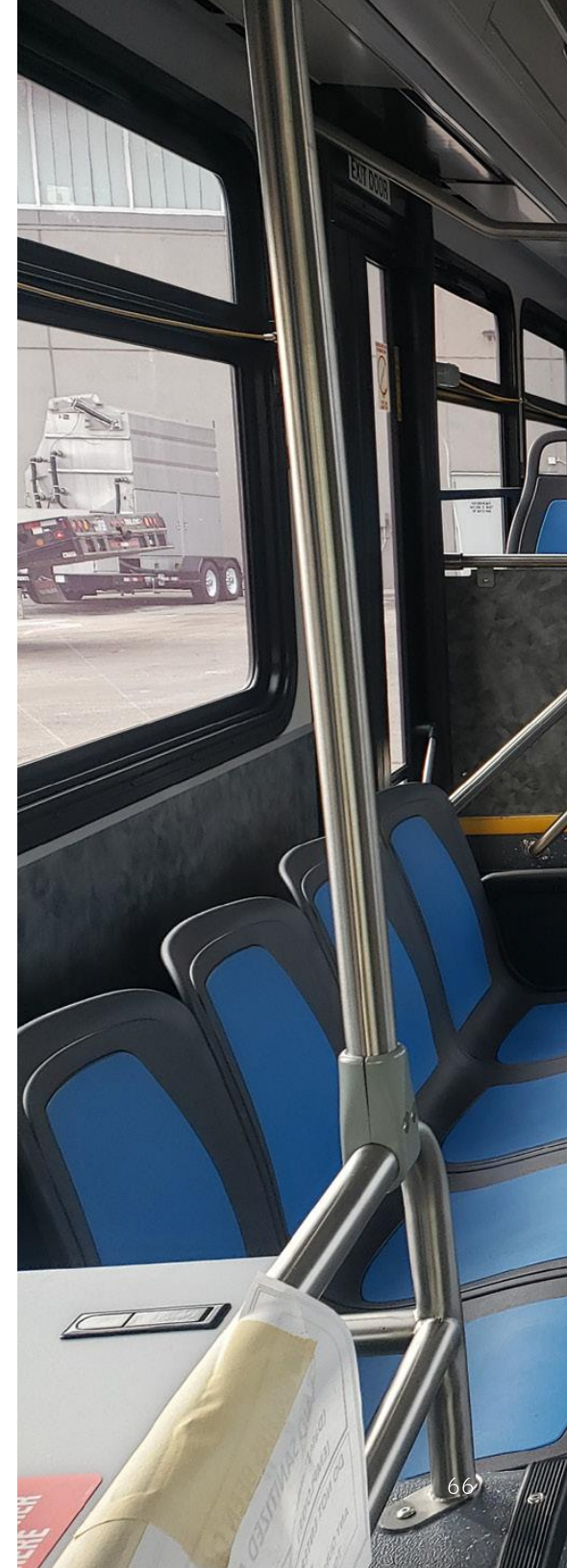
With limited budgets, vehicles, and operators, transit agencies often must choose between serving a large portion of their jurisdiction with buses that operate every 30-60 minutes or serving select routes with buses that arrive every 10-15

minutes. Scenario 1 would call for expansion of the COLT service area only to accommodate new development but otherwise to focus on increasing frequency and directness. Scenario 2 calls for capacity increases that would help bolster frequency. These include adding four new buses, which would serve as a new Centerra Circulator, enable COLT to offer 30-minute service on US-34 as well as Routes 4 and 5, and adding a northwest circulator. Scenario 3 identifies opportunities to both increase frequency and expand coverage. COLT would procure enough vehicles to provide 15-minute service on its core routes on US-34 and US-287 and also provide 30-minute service on all other routes. Coverage would be expanded with a new route on SH-402 and on-demand service would be introduced in portions of Loveland with lower population and employment density where demand for transit service is currently low. On-demand services would allow riders to request a vehicle that picks up at or near their origin and provides a ride to their destination. On-demand services do not operate on a fixed schedule and are not

restricted to serving designated stops.

SERVICE TYPE

Beyond acquiring additional buses, there are other improvements that can be made to enhance transit service. Scenario 1 would make no changes to current COLT operations. In Scenario 2, some targeted improvements would be implemented to improve service at certain congestion points. Queue jump lanes, which allow buses to go first at a green light and move ahead of vehicles to safely and quickly change lanes, would be added in. Buses would also receive Transit Signal Priority (TSP) on more heavily trafficked corridors. TSP is a technology that enables buses to communicate with traffic signals and receive additional green time when needed, which increases bus speeds over the length of the route and improves reliability. Scenario 3 would employ queue jump lanes and TSP on all frequent and regional routes while also adding bus-only lanes on high-frequency corridors.



REGIONAL EXPANSION

Growth projections for Loveland show that the City will add employment opportunities at a higher rate than new residents. This shift will bring an increase of commuters traveling into and out of Loveland from neighboring communities. Regional transit service can help accommodate these additional commute trips. In Scenario 1, COLT would collaborate with existing regional service providers for the FLEX and Bustang to increase frequency. In Scenario 2, Loveland would collaborate with more agencies to initiate commuter bus routes to Estes Park, Greeley, and Windsor while also contributing towards the efforts to bring a passenger rail connection along the Front Range. Scenario 3 would pursue the regional connection opportunities identified for Scenarios 1 and 2 while also adding new Bustang service that originates in downtown Loveland.

FLEET

COLT plays a meaningful role in reducing greenhouse gas emissions in Loveland by providing an alternative to

driving. To go further, COLT can change its vehicle fleet to operate on different, cleaner fuel types. In Scenario 1, the existing diesel bus fleet would be converted to natural gas. Scenario 2 would introduce some electric buses to the fleet. In Scenario 3, COLT would convert to a fully electric bus system and utilize electric vehicles for the on-demand service.

PARK-N-RIDES

Not all COLT riders will live near a bus stop, even with the higher investment called for in Scenario 3. Additional Park-n-Ride lots will help commuters and other users access bus service more easily. In Scenario 1, the new North Transit Center would be built to include a Park-n-Ride and COLT service would also be modified to connect with the planned Park-n-Ride at I-25 and Kendall Parkway. Scenario 2 would go beyond these improvements by constructing a new Park-n-Ride at the South Transfer Center. Scenario 3 would include all the aforementioned Park-n-Rides while also adding a fourth lot at I-25 and SH-402 and would add a new COLT maintenance facility.

Bicycle

Improvements to the City's on-street bicycle network will focus on creating facilities that are connected and low stress. While Chapter 10 details the Level of Traffic Stress (LTS) methodology, briefly, LTS assigns a score to a specific road segment. Score inputs include factors like roadway design, traffic volumes and traffic speeds. The output is a number from 1 (low stress) to 4 (high stress) that reflects individual perceptions of bicyclist comfort on a specific road segment. As an example, LTS 1 is a multi-use trail separated from vehicle traffic and appropriate for families, children and inexperienced adults. LTS 4 represents a roadway where a confident cyclist tolerates mixing with higher vehicle volumes and vehicle speeds. In Scenario 1, the City would develop measurable outcomes for bicyclists on existing facilities and use those to better understand LTS in Loveland. All facilities associated with new development would be designed as low stress. In Scenario 2, Loveland would design and implement a low stress bicycle network that focuses on

improving on-street facilities and first/last mile connections to transit as well as low stress connections to the Recreation Trail. Scenario 3 would identify and implement a fully connected, low stress bicycle network that would encourage active travel by supporting bicyclists of all ages and abilities going to everyday destinations.

Pedestrian

Changes to the pedestrian network will also be centered on achieving low LTS. Chapter 11 provides an overview of pedestrian LTS. In Scenario 1, Loveland would measure pedestrian LTS across the City and fill sidewalk gaps in the existing pedestrian network through a prioritization process detailed in Chapter 11. Scenario 2 would fill sidewalk gaps where needed while also establishing Pedestrian Priority Areas and Corridors for increased investment in pedestrian infrastructure. Scenario 3 would implement a fully connected pedestrian network, where

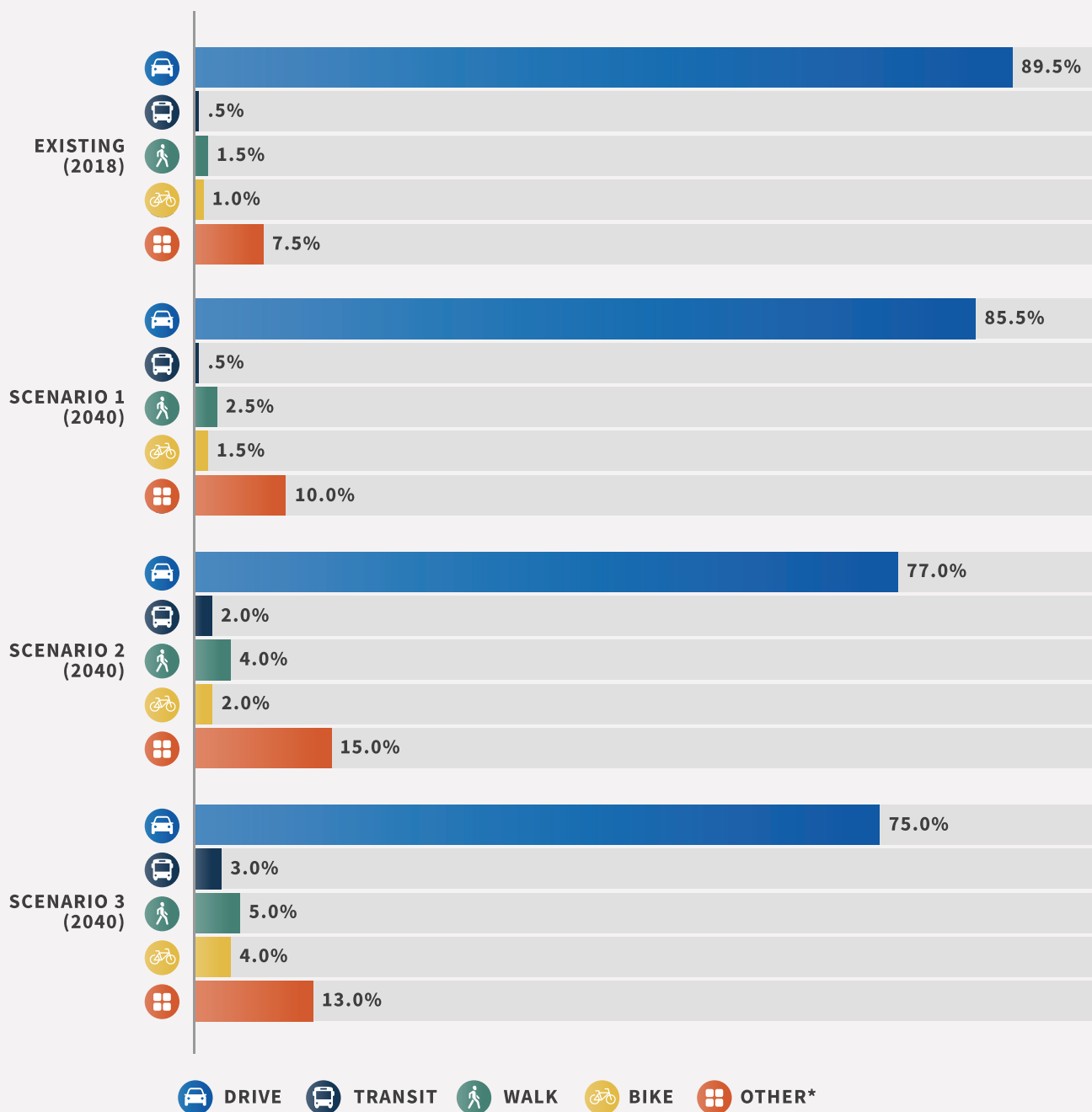
all prioritized streets have comfortable sidewalks, and safe crossings are available throughout Loveland.

Scenario Testing and Results

Each of the three Scenarios was analyzed to understand how vehicle travel, walking, biking, and transit service would shift based on the planned enhancements.

Figure 6.2 shows the anticipated mode split (“How Will We Travel?”) for each Scenario as compared to existing travel conditions. While nearly nine in 10 trips are currently taken by vehicle, each Scenario either would shift trips onto other modes or would encompass more individuals teleworking.

FIGURE 6.2: PROJECTED MODE SPLIT (“HOW WILL WE TRAVEL?”) FOR EACH SCENARIO



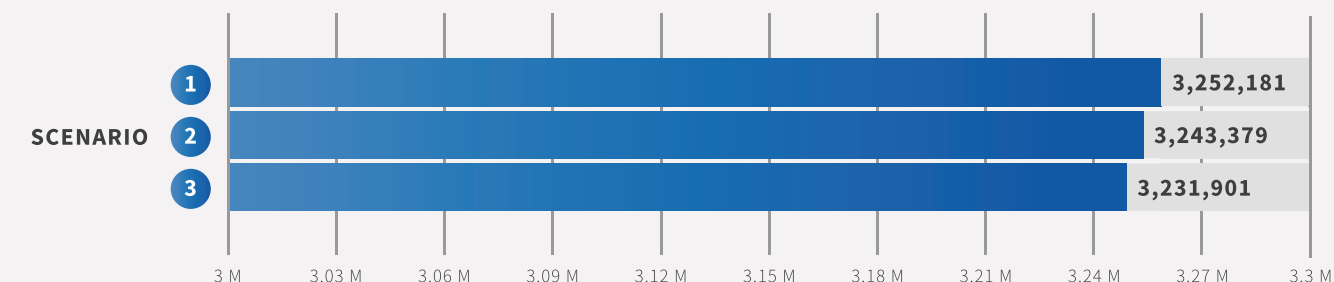
*Working Remotely and Foregoing Commute Trips

Each Scenario will have different impacts on the amount of miles traveled by vehicle, with higher investments in active transportation modes resulting in fewer vehicle miles (Figure 6.3). As discussed in Chapter 3, employment opportunities will outpace residential growth in Loveland by 2040. As a result, a large share of future VMT will come from commuters driving to Loveland. This shift in travel behavior will dictate that VMT will change only modestly in total, even though investments will be made to reduce VMT within City limits. Without intervention and investment, 2040 VMT would be substantially higher.

The three Scenarios consider transit very differently. Figure 6.4 and Figure 6.5 shows the outcomes of the different levels of investment in transit service across the three Scenarios. While costs rise with each one, ridership gains outpace costs with decreasing per capita operating and maintenance costs.

FIGURE 6.3: VEHICLE MILES TRAVELED (“HOW MUCH WILL WE DRIVE?”) PROJECTIONS

Total Vehicle Miles Traveled (VMT)



Per Capita VMT

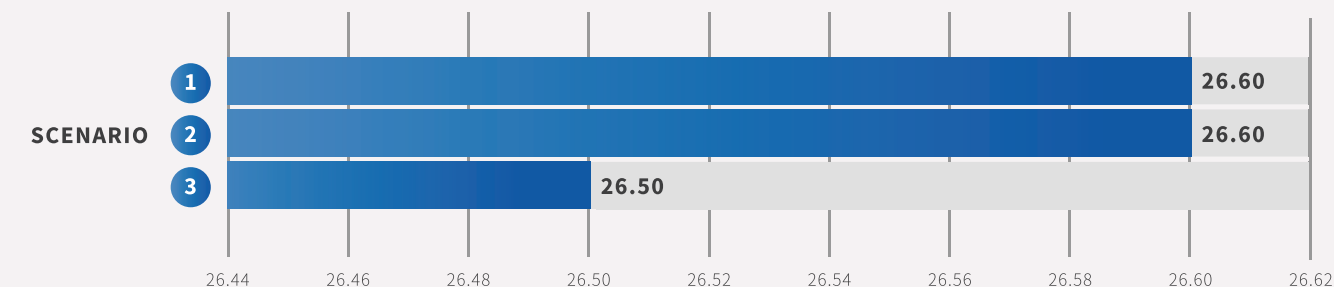


FIGURE 6.4: TRANSIT COSTS

Annual O&M Costs

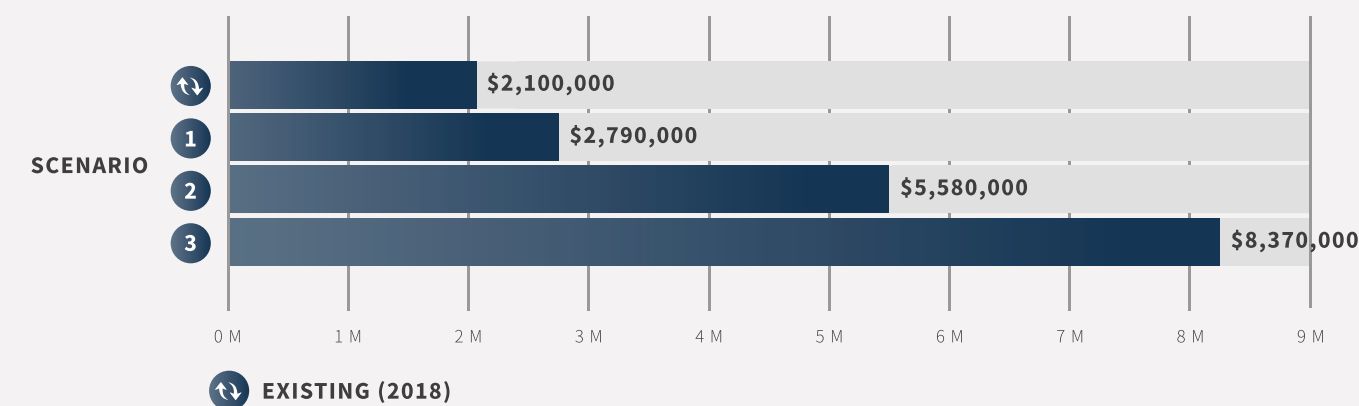


FIGURE 6.5: TRANSIT RIDERSHIP

Annual Ridership

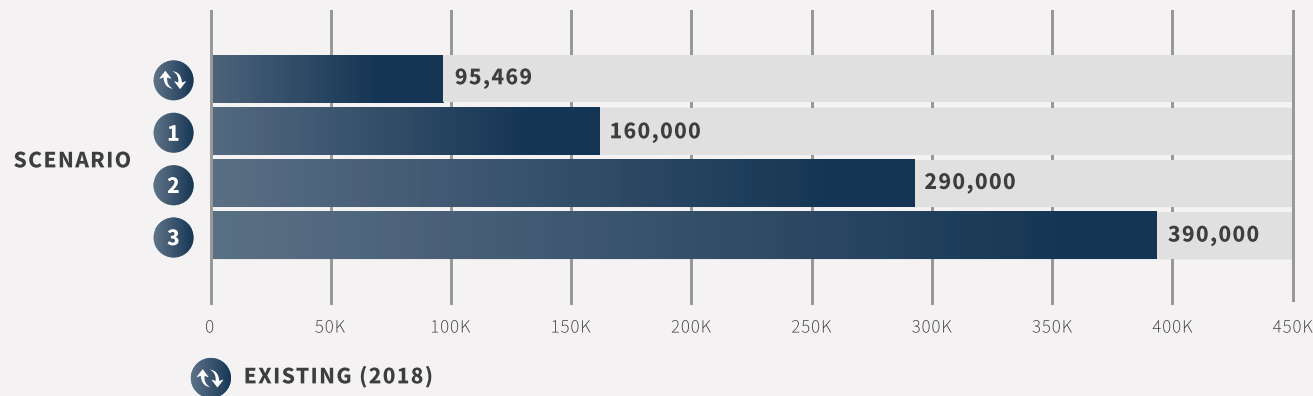


FIGURE 6.6: SERVICE AREA (“HOW WILL WE USE TRANSIT?”) BY SCENARIO

Within 1/4 Mile of Transit

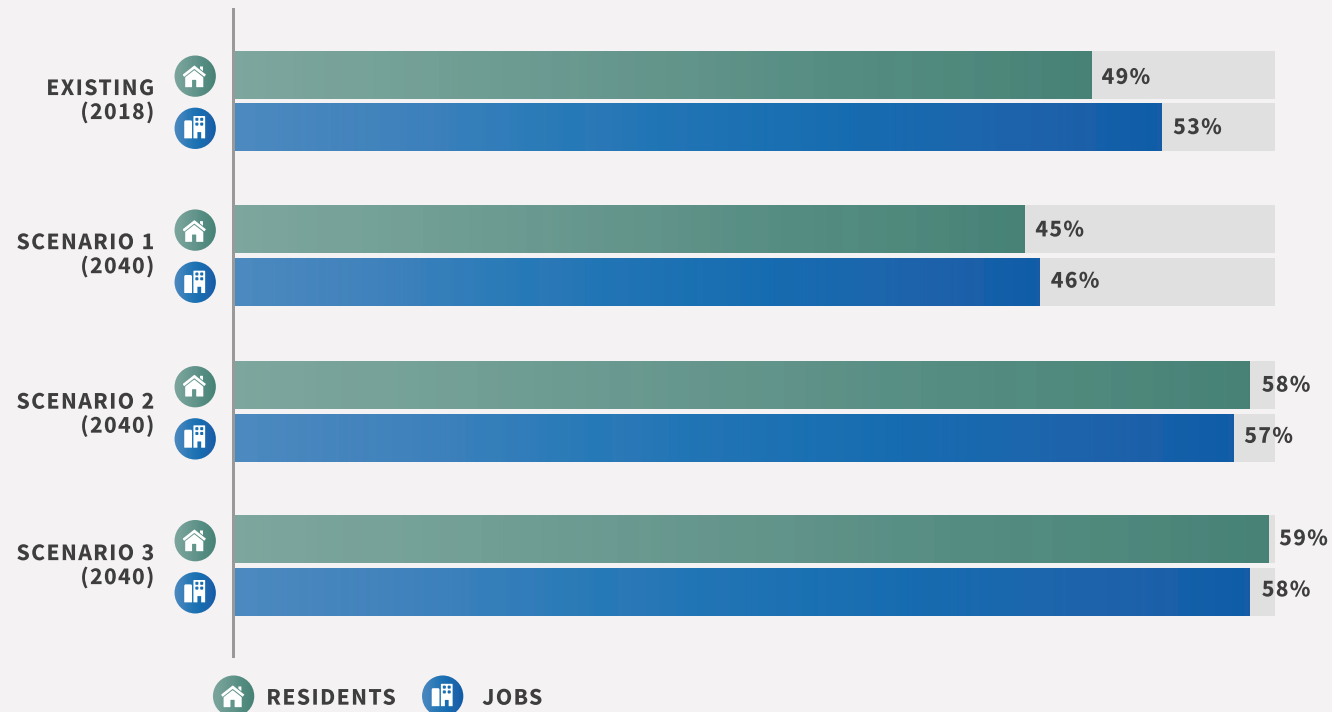
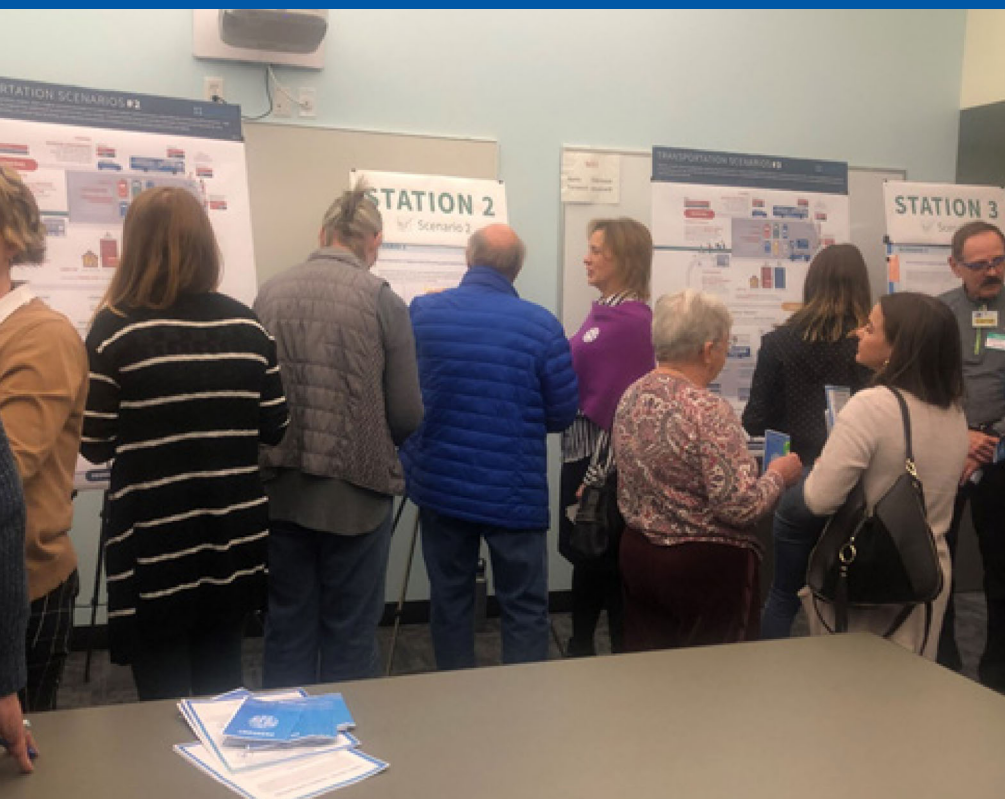


Figure 6.6 shows the amount of people residing within a quarter mile of transit is a significant metric as it represents the residents who are within the service area for ADA complementary paratransit service.

Scenario Selection

Each of the three proposed Scenarios considers a different approach to achieving the *Connect Loveland* vision, goals, and objectives and has different future impacts. The common thread between the three Scenarios is the recognition that optimal mobility outcomes can only be achieved by considering the intertwined nature of infrastructure planning, public policy, and land use. The next Chapter details the process of selecting the preferred Scenario for *Connect Loveland*.

07. Preferred Scenario



As described in **Chapter 6**, *Connect Loveland* identified and analyzed three scenarios for proposing future multimodal transportation networks that help the city realize the vision and goals for traveling thinking forward to the year 2040. The three potential scenarios that were considered are:

- **Scenario 1: Base Case** – What transportation will look like in 2040 if existing funding levels are maintained.
- **Scenario 2: Enhanced Funding** – A transportation future where the City of Loveland increases spending on transportation across all modes.
- **Scenario 3: Investing in Multimodal Travel** – Envisioning the results of heavier investment in walking, biking, and transit.

For each of the proposed scenarios, *Connect Loveland* analyzed the implications of that investment type in travel in Loveland in the future. This analysis considered how driving, walking, bicycling, and riding transit would change under each alternative. Some specific metrics that were forecasted include: travel by mode (or mode split), vehicle miles traveled, and residents/employees within proximate access to transit.

The *Connect Loveland* planning process selected one preferred scenario to provide a framework for identifying and prioritizing future investments. The process of selecting a future alternative was community-driven. As **Chapter 4** on Public Engagement describes, *Connect Loveland* employed a comprehensive engagement process, seeking input from City staff from multiple departments, a group of key stakeholders, and the broader public.

THE CONNECT LOVELAND ENGAGEMENT PROCESS RESULTED IN A GENERAL PREFERENCE FOR SCENARIO 3.

At the Community Event in January 2020, the majority of attendees voted in support of the investments stated in Scenario 3.

Figure 7.1 shows the votes from the Community Event on support for the various scenarios.

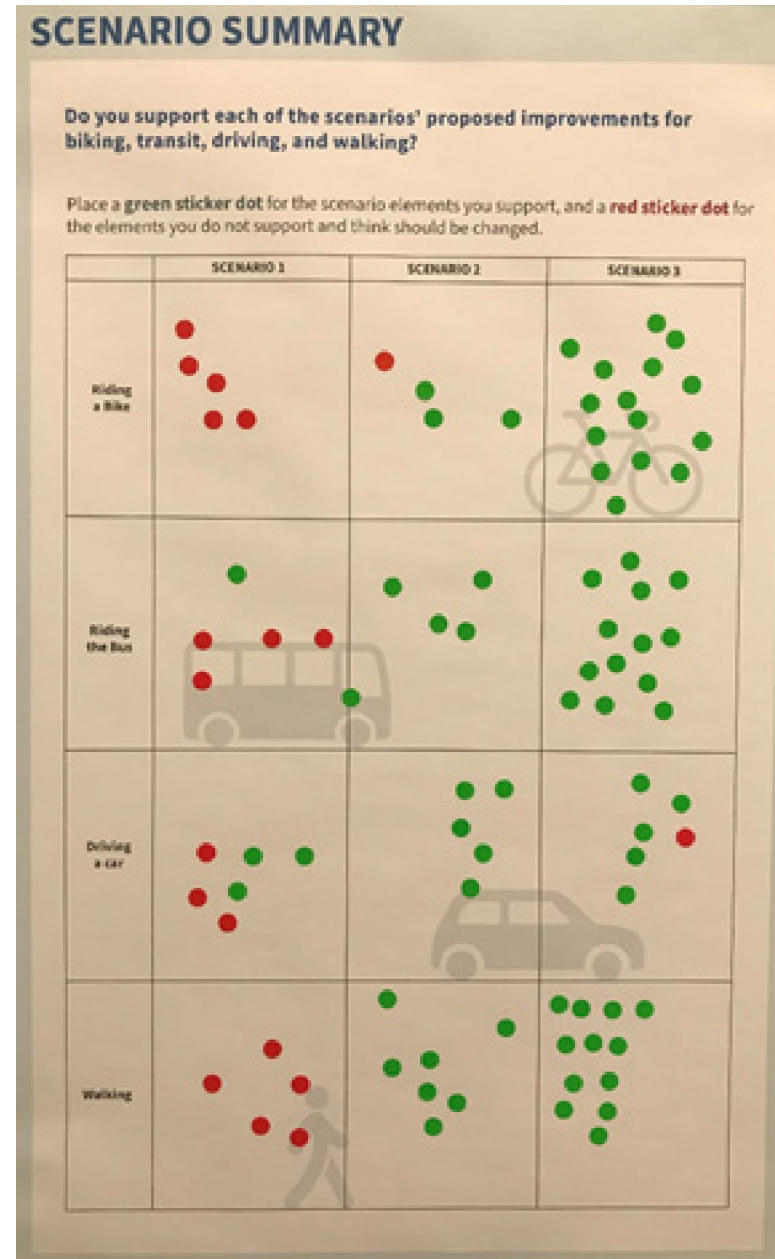
The input received from the Community Event was supplemented by support from a larger subset of the community through the Confirmation Poll, with 400 respondents. 83% of respondents supported completion the sidewalk network with safe, comfortable sidewalks. The poll also revealed that 80% of this sample supports increasing investments in bicycling, walking, and transit, while maintaining consistent vehicle investments. These preferences are in line with

the priorities and investments identified in Scenario 3.

The key takeaways and general themes from all of the public and stakeholder outreach completed is a desire for a greater level of investment in improving walking, bicycling, and transit within and to/from the City of Loveland. Community members want to have comfortable and convenient transportation options that can supplement or complement private vehicle trips. As new development and land use changes occur within the City, walking, bicycling, and transit are becoming increasingly desirable and viable transportation options. In addition, the Loveland community supports the equitable movement of people, including those that are unable or choose not to drive.

Based on this feedback, the framework established in Scenario 3 was applied to the identification and prioritization of projects, programs, and policies within *Connect Loveland*. This framework will result in a plan outcome that is both data-driven, and community-based.

FIGURE 7.1: VOTES ON THE PREFERRED SCENARIO FROM MEMBERS OF THE PUBLIC AT THE COMMUNITY EVENT



08. Layered Network

What is a Layered Network?

Connect Loveland was developed using a layered network framework, which focuses on how the City's transportation network can function, as a system, to meet the needs of all users. The layered network concept is recommended by the Institute of Transportation Engineers (ITE) and emphasizes safety for all modes of travel, while supporting key City principles and policies.



Accommodating a range of users on a single roadway is a common transportation planning goal. While achieving a fully multimodal street may be possible in some instances, a layered network approach is often a more feasible mechanism for accommodating all users. A layered transportation network is based on the idea that different roadway and travel facility types can work together to provide mobility. A multi-lane arterial can provide opportunities for efficient vehicle travel while a parallel local street can provide comfortable facilities for walking and biking. Layered networks are an extension of the Complete Streets philosophy, but clearly recognize that it can be inappropriate to accommodate all modes on all streets with a high level of service for all. The layered network concept serves as a strong planning framework for the City of Loveland. Under the layered network approach, the higher volume east-west and north-south arterial roadways like US-287 and US-34 will continue to serve movement through the City while offering regional connectivity, with some opportunities for enhanced transit facilities, and the grid of local streets can support a connected walking and biking network.

**CONNECT LOVELAND
ENVISIONS CITY STREETS
AS SYSTEMS, WITH EACH
STREET TYPE DESIGNED TO
CREATE A HIGH QUALITY
EXPERIENCE FOR THE
INTENDED USERS.**



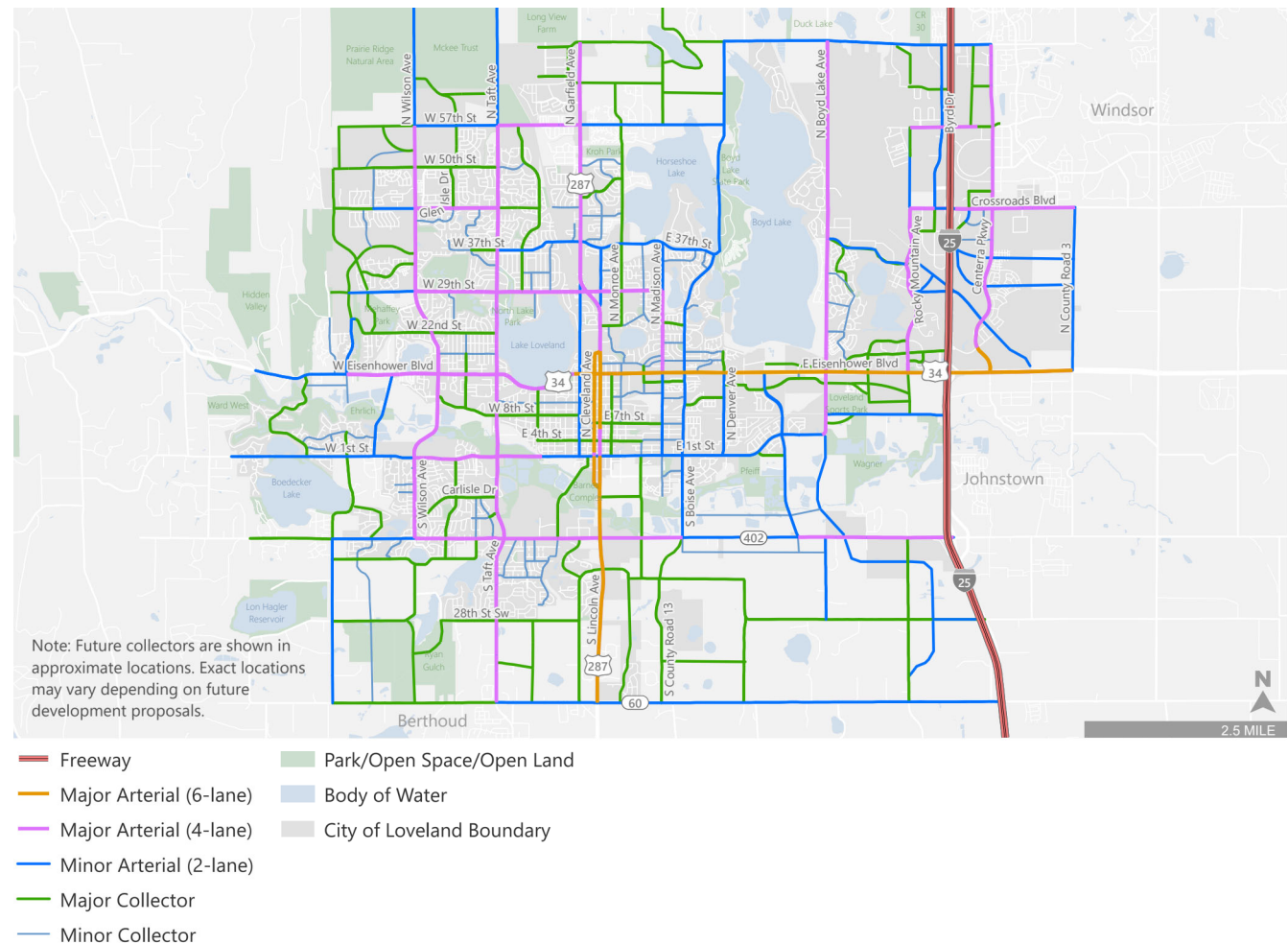
By designing streets for certain uses, incompatible uses are often discouraged. For example, a network of streets designated for freight can eliminate truck traffic cutting through residential neighborhoods or on low stress bicycle corridors. This chapter illustrates how *Connect Loveland* applies the layered network concept to offer a future of modal networks that will support all users.



Roadway/Truck Network Layer

Establishing reliable and comfortable alternatives for traveling without a vehicle and promoting alternatives to single occupancy vehicles to reduce VMT and congestion are essential components of *Connect Loveland*. However, vehicles currently make up most of the modal share. The City's future street network and classification (**Figure 8.1**) defines the existing and future street classification, which are also compatible with the transit, pedestrian, and bicycle network layers. This roadway network helps guide transportation investments and serves as the overarching framework for transportation. One of the key strategies of the vehicular component of the layered network is to balance the projected 2040 traffic flow with the need to accommodate other modes.

FIGURE 8.1: ROADWAY NETWORK MAP

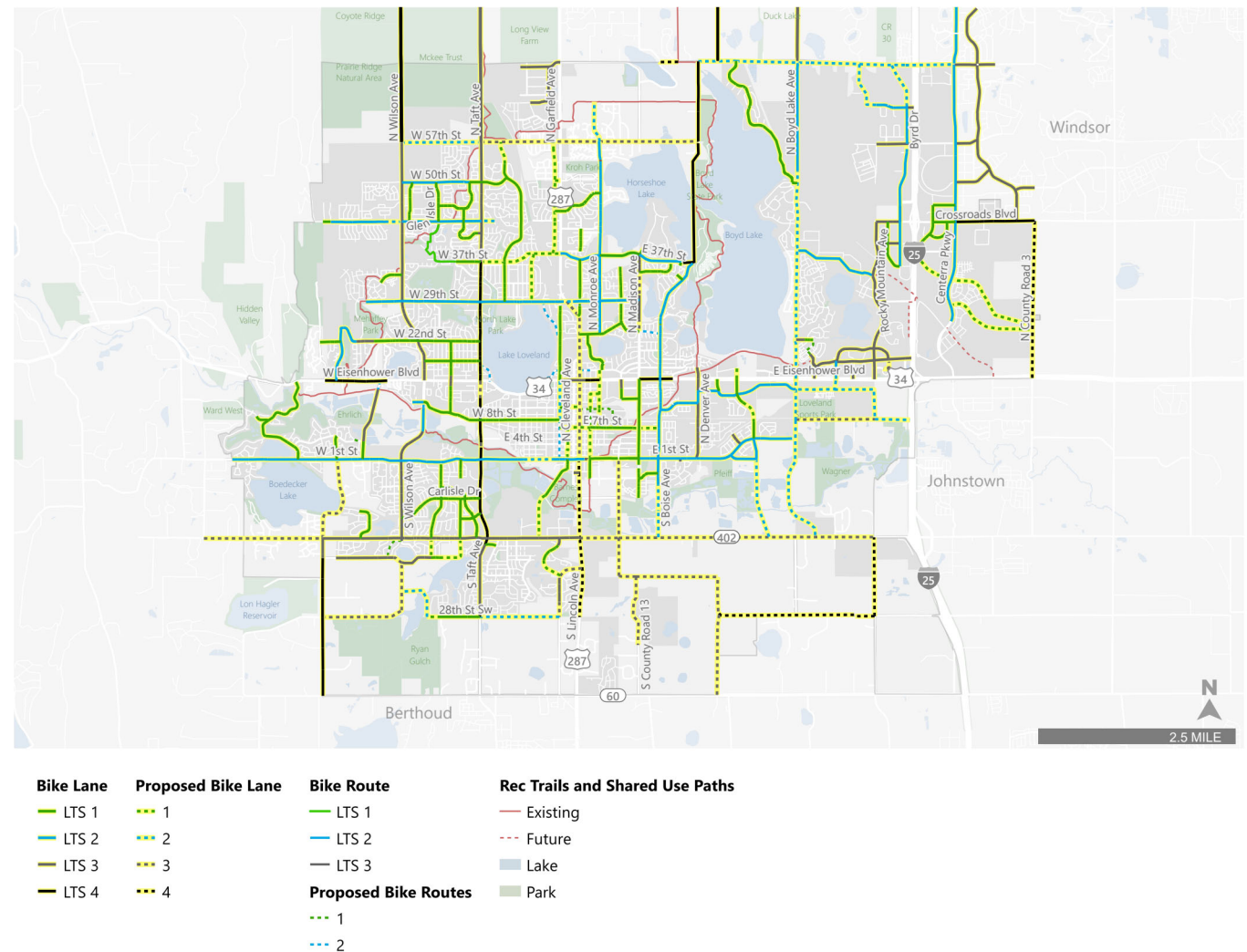


Bicycle Network Layer

Connect Loveland identifies corridors for new bicycle facilities by identifying a network of streets that supports low stress bicycling, either through leveraging local streets with low traffic volumes and low posted speed limits or by making minor modifications like narrowing travel lanes to accommodate on-street bicycle lanes on streets with higher speeds and volumes.

First, existing and future facilities from the 2012 *Bicycle and Pedestrian Plan* were analyzed and a Level of Traffic Stress (LTS), or comfort for people biking, was determined for every segment in the network. This level of comfort is based on the posted speeds limit, vehicular volumes, and type of bicycle facilities; these scores reinforce the layered network concept that roadways prioritized for moving cars are often uncomfortable for people bicycling. *Connect Loveland* identified missing links or modifications to the 2012 network in order to create a comprehensive bicycling network that prioritizes direct connections, access to trails and

FIGURE 8.2: BICYCLE NETWORK MAP



key destinations, and completion of The Recreation Trail. This planning effort acknowledges that not every bicycle facility is comfortable for every bicyclist, and therefore includes an alpine

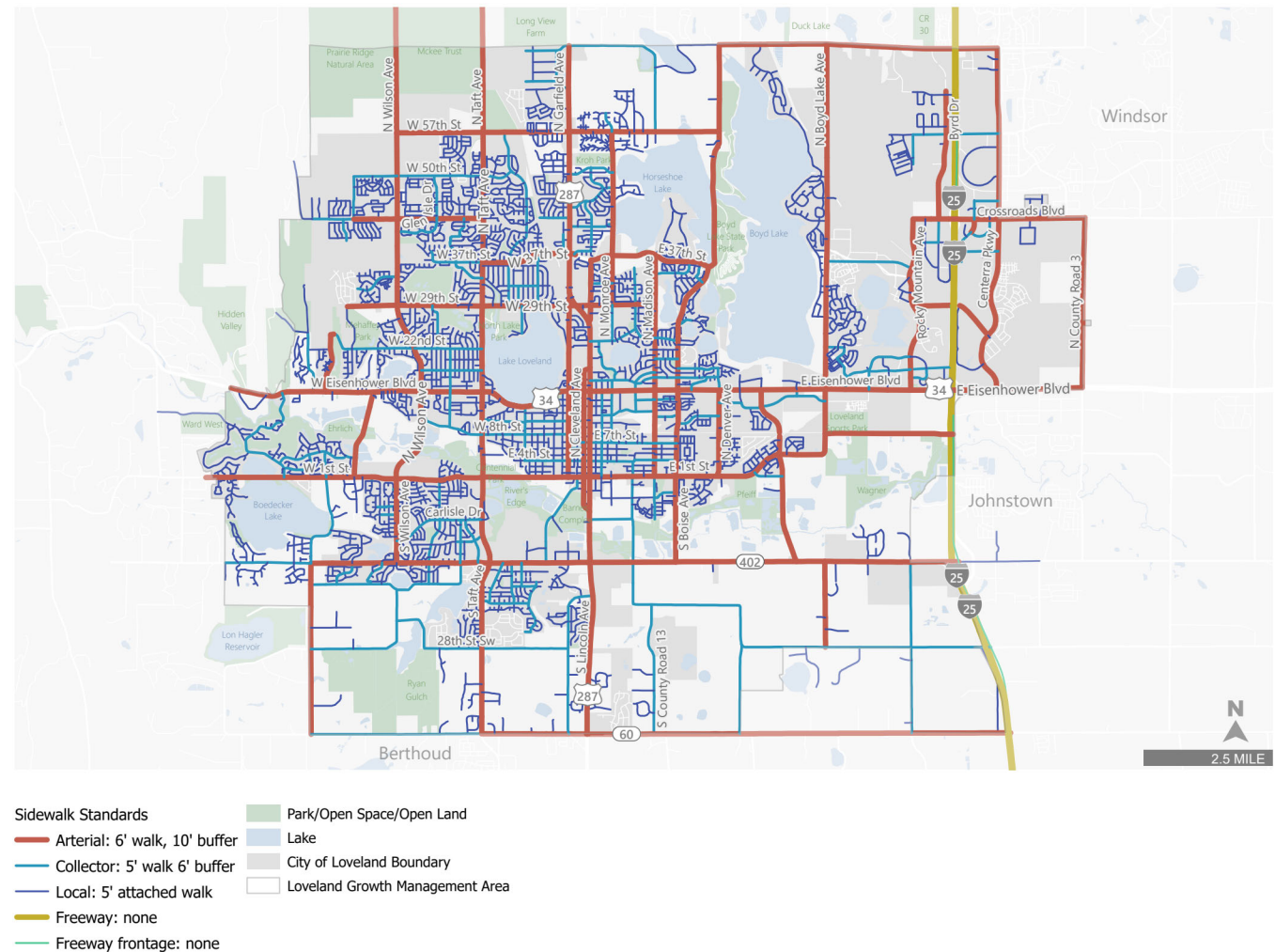
ski map-style color coding of the level of comfort for each existing and future facility. The resulting bicycle network for *Connect Loveland* is shown in **Figure 8.2**. **Chapter 10** details the process

that was undertaken to identify a low stress network of future bicycle facilities that serve as the future bicycle network for *Connect Loveland*.

Pedestrian Network Layer

Connect Loveland provides a revised and strategic set of pedestrian improvements that focus on providing comfortable infrastructure that connect areas of the City with high potential for increased walking trips. Pedestrian projects in *Connect Loveland* include upgrading existing but insufficient pedestrian facilities and completing gaps where there are no pedestrian facilities. **Figure 8.3** shows the minimum sidewalk and buffer width required based on street classification, as identified in the Larimer County Urban Area Streets Standards (LCUASS). *Connect Loveland* establishes a process for prioritizing sidewalk projects so the most critical gaps can be filled first. More detailed information on this process can be found in **Chapter 11**. Building out the pedestrian network in Loveland should continue being a City priority.

FIGURE 8.3: PEDESTRIAN NETWORK MAP



Transit

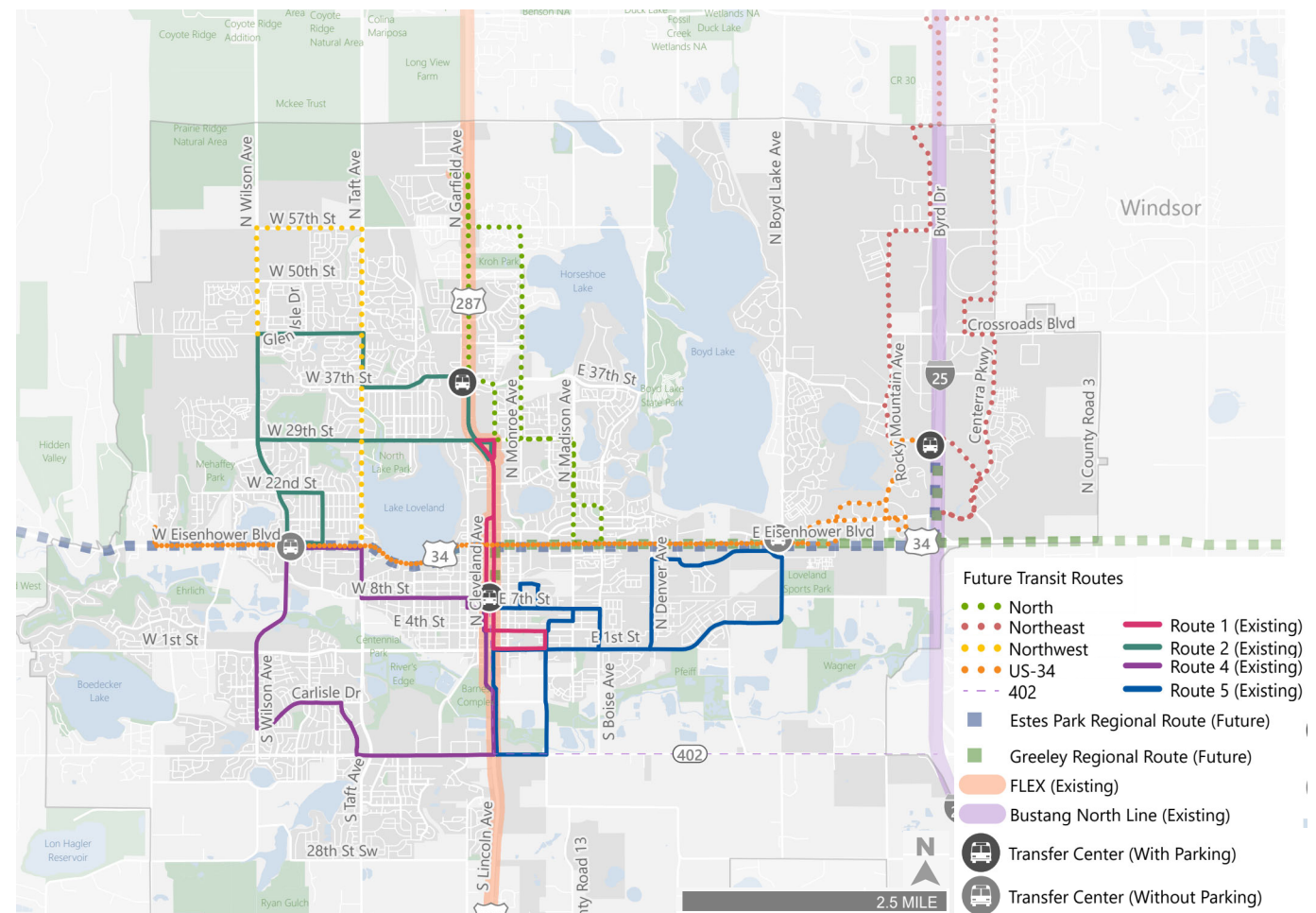
The Transit Plan identifies a future network of future transit service across Loveland. The transit network is planned to provide a balance between coverage (serving many areas of the City) and productivity (providing frequent service along high-ridership corridors). This will be achieved through an increase in the number of direct and frequent routes, including adding high-frequency service to the US-287 and US-34 corridors where land uses and a high concentration of destinations (such as mixed use urban centers and employment nodes) are most supportive of transit. The exact alignment of some routes in the Transit Plan will be determined during implementation based on land development, roadway operations, scheduling, and other factors. All transit corridors should be designed to accommodate transit operations. This includes accounting for lane widths, turn radii, bus stop locations, and first and last mile access to transit such as bicycle and pedestrian infrastructure (including safe crossings) as part of the design and operation

of the street. In addition, corridors identified as having high-frequency service should be planned and designed to prioritize the speed and reliability of transit. The specific design and operational components of these

corridors will be evaluated based on the context and need. They may include: queue jump lanes, business access and transit (BAT) lanes, transit signal priority, bus bulbs, and larger waiting areas at stations for passengers.

Each of the modal maps identified in this chapter is discussed in greater detail in the following four chapters. However, the holistic perspective gained through a layered network approach provides important context for the development and implementation of the networks.

FIGURE 8.2: TRANSIT NETWORK MAP



09. Roadway Plan



The *Connect Loveland* Roadway Plan represents an effort to build upon the 2035 plan while accounting for land use and growth forecasts that have changed since 2012. The previous plan forecasted approximately 53,000 households and almost 73,000 employment opportunities within in the growth management area by 2035. The NFRMPO predicts that in 2040 Loveland will have approximately 51,000 households – or slightly fewer than originally forecasted for 2035 – and 105,000 jobs, which is a much higher forecast than original estimates for 2035. The anticipated growth in employment opportunities has significant implications for mobility in Loveland. In particular, more employment opportunities than households suggests that demand for commute trips into Loveland will increase.

THE CONNECT LOVELAND ROADWAY PLAN WILL CONTINUE TO IMPLEMENT PLANNED PROJECTS WHILE ADDING PROJECTS THAT PROVIDE ADDITIONAL CAPACITY AND CONNECTIVITY NEEDED FOR ACCOMMODATING FUTURE TRAVEL DEMAND.

Figure 9.1 shows the existing roadway network in Loveland and **Figure 9.2** shows the implementation status of the 2035 Street Plan. The majority of projects in the 2035 Street Plan have not yet been implemented and are being carried forward into Connect Loveland.

FIGURE 9.1: EXISTING ROADWAY NETWORK

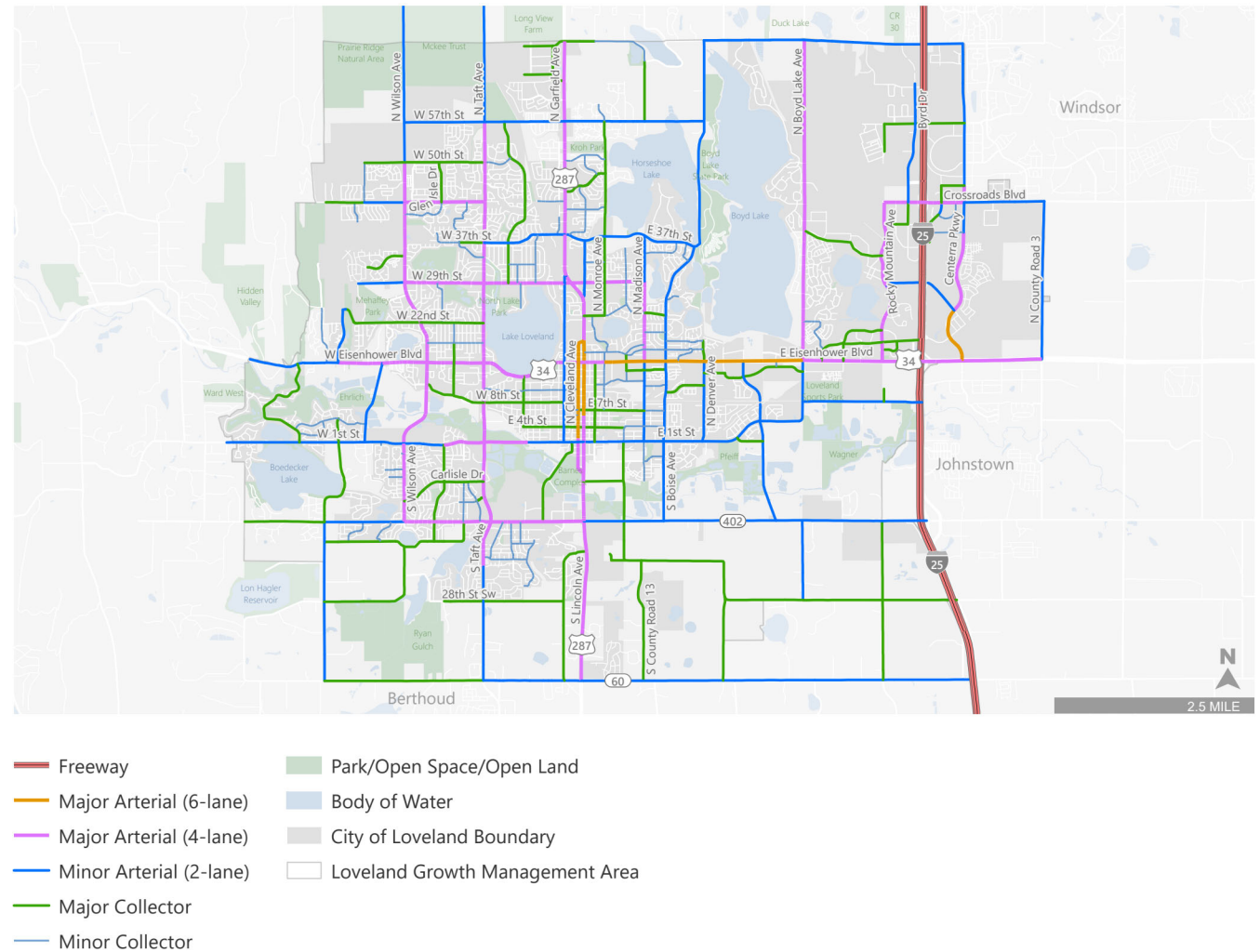
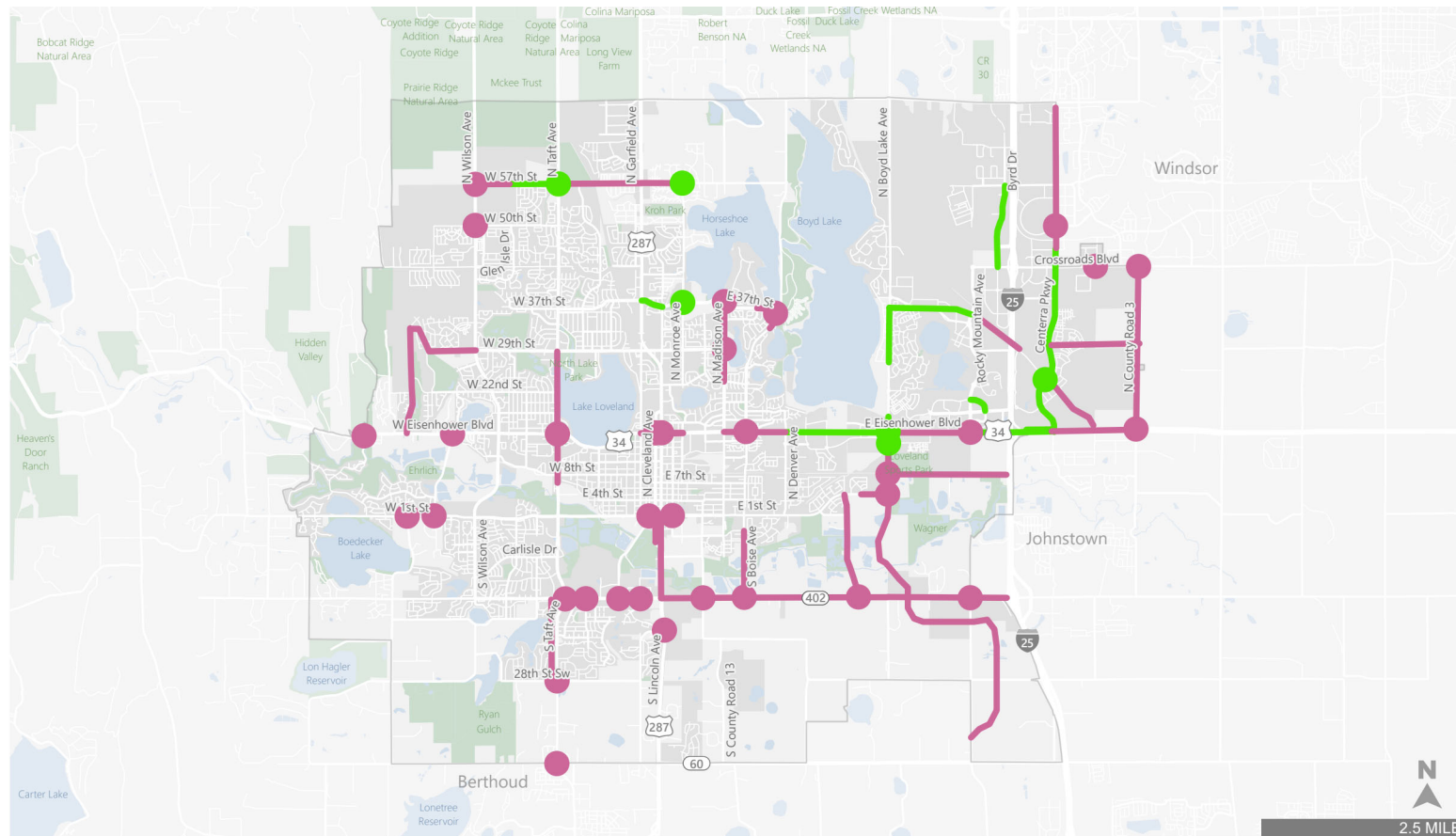


FIGURE 9.2: IMPLEMENTATION STATUS OF 2035 STREET PLAN

**Intersection Projects**

- Completed
- Not Completed

Corridor Projects

- Completed
- Not Completed

Loveland City Boundary

Lake

Park/Open Space



FIGURE 9.3: 2040 STREET PLAN

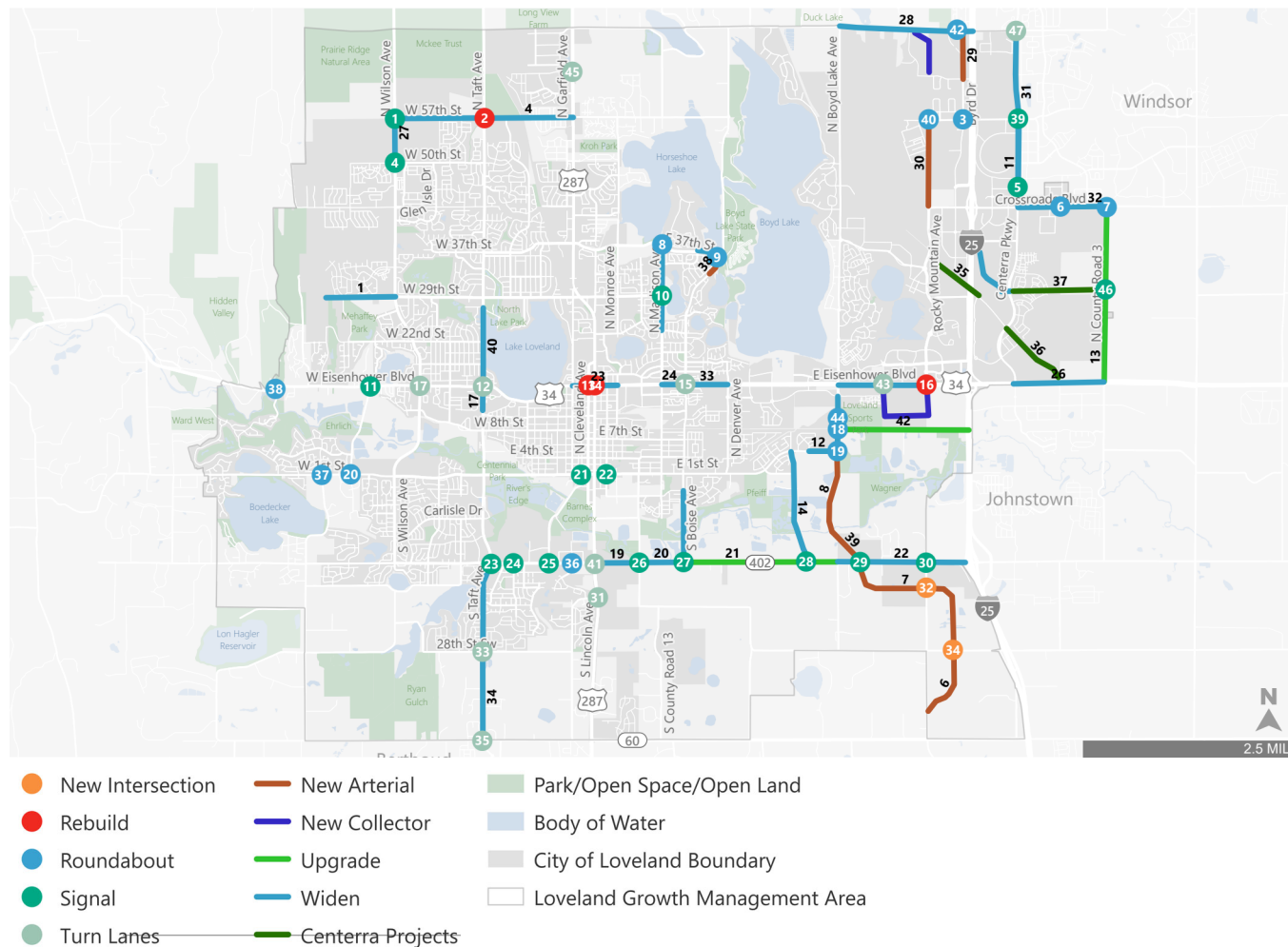


Figure 9.3 shows the 2040 Street Plan for *Connect Loveland*. **Table 9.1** displays the corridor project locations and types while **Table 9.2** displays intersection projects and types. This list of projects reflects the infrastructure needed to accommodate anticipated travel demand in 2040 while meeting the threshold of Level of Service C on City-managed roadways and Level of Service D on State Highways. (See **Chapter 2** for additional information on Level of Service.) Given Loveland's growing prominence as an employment center, travel demand may largely be determined by commuters traveling into the community from outside Loveland.

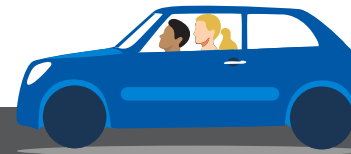


TABLE 9.1: 2040 STREET PLAN - CORRIDOR PROJECTS

Project Code	Location	Project Type	Description	Cost Estimate
1	29th Street from Cascade Avenue to Wilson Avenue	Widen	Widen to two-lane arterial	\$8,394,000
2	37th Street from Seven Lakes Drive to LCR 11C	Widen	From two-lane County Road to two-lane arterial	\$1,192,000
3	57th Street from Wilson Avenue to Taft Avenue	Widen	2 lane CR to 2 lane arterial	\$8,513,000
4	57th Street from Taft Avenue to US-287	Widen	2 lane CR to 4 lane arterial	\$15,699,000
5	Boise Avenue from SH-402 to 4th Street SE	Widen	2 lane CR to 2 lane arterial	\$12,258,000
6	Boyd Lake Avenue from Hwy 60 to E CR 16	New Arterial	New two-lane arterial	\$16,442,000
7	Boyd Lake Avenue from E CR 16 to SH-402	New Arterial	New two-lane arterial	\$26,033,000
8	Boyd Lake Avenue from Big Thompson River Bridge to LCR 20C	New Arterial	New two-lane arterial	\$6,671,000
9	Boyd Lake Avenue from LCR 20C to LCR 20E	Widen	Widen to four-lane arterial	\$2,899,000
10	Boyd Lake Avenue from LCR 20E to Mountain Lion Drive	Widen	Widen to four-lane arterial. Completed from Mountain Lion to US-34. Not completed from 20E to Mountain Lion.	\$4,061,000
11	Centerra Parkway from Crossroads Boulevard to 0.5 miles south	Widen	From two- to four-lane arterial	\$4,192,000
12	LCR 20C (5th Street) from Callisto Drive to Boyd Lake Avenue	Widen	From two-lane County Road to two-lane arterial	\$2,094,000
13	LCR 3 from US-34 to Crossroads Boulevard	Upgrade/ Widen	Paving existing gravel road into two-lane arterial	\$16,516,000
14	LCR 9E from SH-402 to Corvus Drive	Widen	From two-lane County Road to two-lane arterial	\$12,395,000
15	Madison Avenue from Silverleaf Drive to 29th Street	Widen	From three- to four-lane arterial	\$6,050,000

CONTINUED TABLE 9.1: 2040 STREET PLAN - CORRIDOR PROJECTS

Project Code	Location	Project Type	Description	Cost Estimate
16	Madison Avenue from 29th Street to 37th Street	Widen	From two-lane County Road to two-lane arterial	\$4,021,000
17	Taft Avenue from Big Barnes Ditch to US-34	Widen	From four-lane road with no center turn lane or bike lanes to four-lane arterial	\$10,671,000
18	Taft Avenue from US-34 to 29th Street	Widen	From four-lane road with no center turn lane or bike lanes to four-lane arterial	\$12,747,000
19	SH-402 from US-287 to St. Louis Avenue	Widen	From partially improved two-lane rural highway to four-lane arterial	\$6,194,000
20	SH 402 from St. Louis Avenue to Boise Avenue	Widen	From two-lane rural highway to four-lane arterial	\$7,761,000
21	SH-402 from Boise Avenue to Boyd Lake Avenue	Upgrade	Spot improvements and bike lanes	\$12,969,000
22	SH-402 from Boyd Lake Avenue to I-25 Ramps	Widen	From two-lane County Road to four-lane arterial	\$14,934,000
23	US-34 from Garfield Avenue to Monroe Avenue	Widen	From four- to six-lane arterial	\$5,261,000
24	US-34 from Madison Avenue to Boise Avenue	Widen	From four- to six-lane arterial	\$7,721,000
25	US-34 from Boyd Lake Avenue to Rocky Mountain Avenue	Widen	From four- to six-lane arterial	\$1,900,000
26	US-34 from Centerra Parkway to LCR 3	Widen	From four- to six-lane arterial	\$14,514,000
27	Wilson Avenue from 50th Street to 57th Street	Widen	From two- to four-lane arterial	\$6,329,000
28	71st Street from Boyd Lake Avenue to I-25 West Frontage Road	Widen	From two-lane County Road to two-lane arterial	\$12,872,000
29	Byrd Drive from Rockwell Avenue to 71st Street	New Arterial	Two-lane arterial	\$5,140,000
30	Rocky Mountain Avenue from Crossroads Boulevard to Earhart Road	New Arterial	Two-lane arterial	\$6,053,000

CONTINUED TABLE 9.1: 2040 STREET PLAN - CORRIDOR PROJECTS

Project Code	Location	Project Type	Description	Cost Estimate
31	Fairgrounds Avenue from Rodeo Drive to 71st Street (LCR 30)	Widen	From two- to four-lane arterial	\$15,574,000
32	Crossroads Boulevard from Centerra Parkway to LCR 3	Widen	From two- to four-lane arterial	\$11,456,000
33	US-34 from Boise Avenue to Denver Avenue	Widen	From six-lane arterial with narrow lane widths, no bike lanes/shoulder or sidewalks to standard six-lane arterial cross section	\$5,586,000
34	Taft Avenue from SW 42nd Street to SW 28th Street	Widen	From two- to four-lane arterial	\$9,716,000
35	Kendall Parkway from Rocky Mountain Avenue to I-25	New Arterial	Two-lane arterial	\$3,828,700
36	Kendall Parkway from Centerra Parkway to US-34	New Arterial	Two-lane arterial	\$6,617,800
37	New east-west arterial from 37th Street to LCR 3	New Arterial	Two-lane arterial	\$12,288,000
38	Boise Avenue from Mount Columbia Avenue to E 37th Street	New Arterial	Two-lane arterial	\$3,548,000
39	Boyd Lake Avenue from SH-402 to Big Thompson River Bridge	New Arterial	New two-lane arterial	\$8,925,000
40	Taft Avenue from SW 28th Street to SW 14th Street	Upgrade	Upgrade to urban four-lane arterial	\$12,509,000
41	57th Street from US 287 to Monroe Avenue	Widen	From two-lane County Road to four-lane arterial	\$7,519,000
42	LCR 20E from Boyd Lake Avenue to I-25	Upgrade	From two-lane County Road to two-lane arterial	\$12,359,000

TABLE 9.2: 2040 STREET PLAN - INTERSECTION PROJECTS

Project Code	Location	Description	Cost Estimate
1	Wilson Avenue & 57th Street	Add signal and extend turn lanes	\$1,400,000
2	Taft Avenue & 57th Street	Add permanent signal and turn lanes	\$2,400,000
3	Byrd Drive & Earhart Road	Future Roundabout	\$2,500,000
4	Wilson Avenue & 50th Street	Completing a partially improved signal. Turn lanes have been constructed but signal is fully installed.	\$100,000
5	Fairgrounds Avenue & Steeplechase Drive	Adding turn lanes and a signal. Turn lanes have been constructed but signal is not yet installed.	\$1,900,000
6	Crossroads Boulevard & Ward Avenue	Future Roundabout	\$3,400,000
7	Crossroads Boulevard & LCR 3 (High Plains Boulevard)	Future Roundabout	\$3,400,000
8	37th Street & Madison Avenue	Future Roundabout	\$2,500,000
9	37th Street & Boise Avenue	Future Roundabout with approach widening	\$3,500,000
10	29th Street & Madison Avenue	Future signal or roundabout with approach widening	\$3,800,000
11	US-34 & Namaqua Avenue	Future signal with approach widening	\$2,300,000
12	US-34 & Taft Avenue	Turn lane expansion/extension	\$2,500,000
13	US-34 & US-287 SB (Cleveland Avenue)	Future rebuild	\$4,500,000
14	US-34 & US-287 NB (Lincoln Avenue)	Future rebuild	\$4,500,000
15	US-34 & Boise Avenue	Turn lane expansion and approach widening	\$2,500,000
16	US-34 & Rocky Mountain Avenue	Add south leg to existing intersection, including necessary traffic signal improvements	\$1,000,000

CONTINUED TABLE 9.2 : 2040 STREET PLAN - INTERSECTION PROJECTS

Project Code	Location	Description	Cost Estimate
17	US-34 & Wilson Avenue	Additional Westbound Left Turn Lane and Approach Improvements	\$2,500,000
18	Boyd Lake Avenue & LCR 20E	Future Roundabout	\$3,400,000
19	Boyd Lake Avenue & LCR 20C (5th Street)	Future Roundabout	\$3,400,000
20	1st Street & Namaqua Avenue	Future Roundabout	\$2,200,000
21	1st Street & Railroad Avenue	Future Traffic Signal	\$2,300,000
22	1st Street & Washington Avenue	Future Traffic Signal	\$1,900,000
23	14th Street SW & Taft Avenue	Future Turn Lane Improvements	\$250,000
24	14th Street SW & Douglas Avenue	Future Traffic Signal	\$1,700,000
25	14th Street SW & Roosevelt Avenue	Future Traffic Signal with turn lanes and freight rail coordination	\$2,900,000
26	SH-402 (14th Street SE) & St Louis Avenue	Future traffic signal upgrade with turn lanes	\$2,500,000
27	SH-402 (14th Street SE) & Boise Avenue	Future traffic signal upgrade with turn lanes	\$2,500,000
28	SH-402 (14th Street SE) & LCR 9E	Future signal. Approach and turn lanes have been completed.	\$2,500,000
29	SH-402 (14th Street SE) & Boyd Lake Avenue	Future Traffic Signal with turn lanes	\$2,500,000
30	SH-402 (14th Street SE) & LCR 7	Future Traffic Signal with turn lanes	\$2,500,000
31	US-287 & 19th Street SE	Turn lanes and widened approaches on the west leg	\$1,000,000
32	Boyd Lake Avenue & LCR 7	Future Signal when Boyd Lake extension is completed	\$2,500,000

CONTINUED TABLE 9.2 : 2040 STREET PLAN - INTERSECTION PROJECTS

Project Code	Location	Description	Cost Estimate
33	Taft Avenue & 28th Street SW (LCR16)	Turn lane extension and partial signal rebuild	\$1,900,000
34	Boyd Lake Avenue & LCR 16	New intersection when Boyd Lake extension is done	\$1,900,000
35	Taft Avenue (LCR 17) & 42nd Street SW (LCR 14)	Approach lanes with turn lane expansion	\$1,900,000
36	SW 14th Street and Valency Drive	New Signal	\$1,500,000
37	W 1st Street and LCR 21	Future Roundabout	\$2,000,000
38	US-34 and Rossum Drive	Future Roundabout	\$3,500,000
39	N Fairgrounds Avenue and Earhart Road	Future Traffic Signal	\$1,400,000
40	Earhart Road and Rocky Mountain Avenue	Future Roundabout	\$2,000,000
41	US-287 and SH-402	Approach Lanes with turn lane expansion	\$3,500,000
42	Byrd Drive and 71st Street (LCR 30)	Future Roundabout	\$2,300,000
43	US-34 & Hahn's Peak Avenue	Future Upgrades to South Leg and East/West Turn Lanes	\$1,500,000
44	Boyd Lave Avenue & Sports Park	Future Roundabout	\$4,000,000
45	US-287 & N 65th Street	Add East Leg of Intersection	\$700,000
46	LCR 3 & Centerra Road to West	Future Traffic Signal	\$2,500,000
47	Fairgrounds Avenue & LCR 30	Add Turn Signal and Auxiliary Lanes	\$900,000
48	US-34 & Kendall Parkway	Add North Leg	\$700,000

Roadway Maintenance

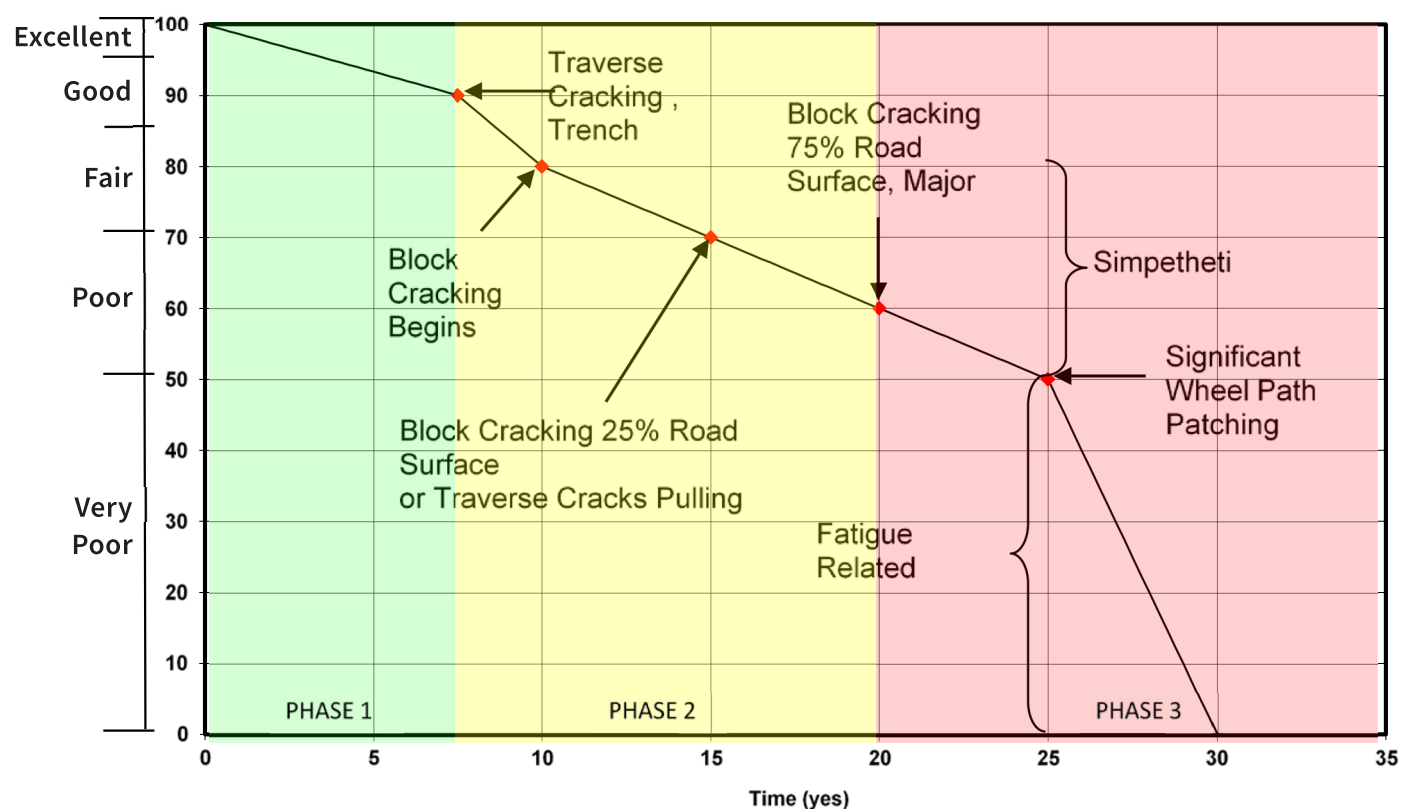
Roadway maintenance is a critical aspect of asset management. Currently, the City of Loveland monitors the need for roadway maintenance through the Pavement Management Program (PMP), which began in 1986. The PMP tracks the Pavement Condition Index (PCI) of each roadway over years, estimates future deterioration, and focuses on providing preventative maintenance in a timely manner to prevent pavement from deteriorating below a PCI of 50. If a street falls below a PCI of 50, repair costs can increase by four to 10 times the cost of routine maintenance. PCI is measured on a scale of 0 to 100, with 100 representing a brand new roadway and 0 being a completely impassable roadway (**Table 9.3**, shown on page 86, and **Figure 9.4**).

A new roadway can be in operation for approximately eight to nine years before PCI shifts into the fair range. At this point in time, the City typically

TABLE 9.3: PAVEMENT CONDITION INDEX

PCI	95-100	85-95	70-85	50-70	0-50
Condition	Excellent	Good	Fair	Poor	Very Poor

FIGURE 9.4: PAVEMENT CONDITION INDEX GUIDE



corrects any deficiencies with minor street leveling, minor patching and crack seal and placing a chip seal over the entire roadway surface. Crack sealing is completed in order to prevent additional moisture from intruding into the asphalt. Year 15 is when most roadways begin registering PCI ratings in the fair range. At this point the City may employ a second chip seal or provide enhanced maintenance measures, such as asphalt overlays or hot-in-place-recycling (HIP), to slow further deterioration.

Chip seal treatment is the most common way to reinforce crack sealing efforts; chip seals used in Loveland are polymer modified liquid asphalt with special rock added with an additional application of liquid asphalt over the top. This treatment re-seals the road surface and allows for an additional eight to ten years of service life without needing more expensive treatments. HIP involves heating existing asphalt to 300 degrees and then reworking the top layer in order to smooth out

deficiencies. Afterwards a fresh one-inch layer of asphalt is laid down; the resulting surface can last for approximately 10 years. Asphalt overlays typically add two inches to the existing pavement structure. Finally, reconstruction includes removing the existing asphalt down to the gravel material below, including stabilizing the underneath material with fly ash or other chemical means, and replacing the asphalt material completely, resulting in a cost of four to 10 times the preventative maintenance treatments.



Intelligent Transportation Systems

Meeting future travel demand, especially in growing communities like Loveland, can be accomplished through both infrastructure upgrades and

new technologies that enhance opportunities for efficient and safe roadway operations. Chapter 13, on potential policies and programs, and Chapter 14, on innovation, discuss opportunities to leverage existing Intelligent Transportation Systems (ITS) technologies and emerging connected vehicle technologies. These technologies can enable

activities like monitoring operations in real-time, adjusting signals to improve traffic flows, dispatching first-responders automatically when incidents are detected, helping avoid problems by ensuring safe following distances, and providing real-time traffic information to travelers so all users can be well informed.

FIGURE 9.5: GRAPHIC MOCK-UP OF AN INTELLIGENT TRANSPORTATION SYSTEM

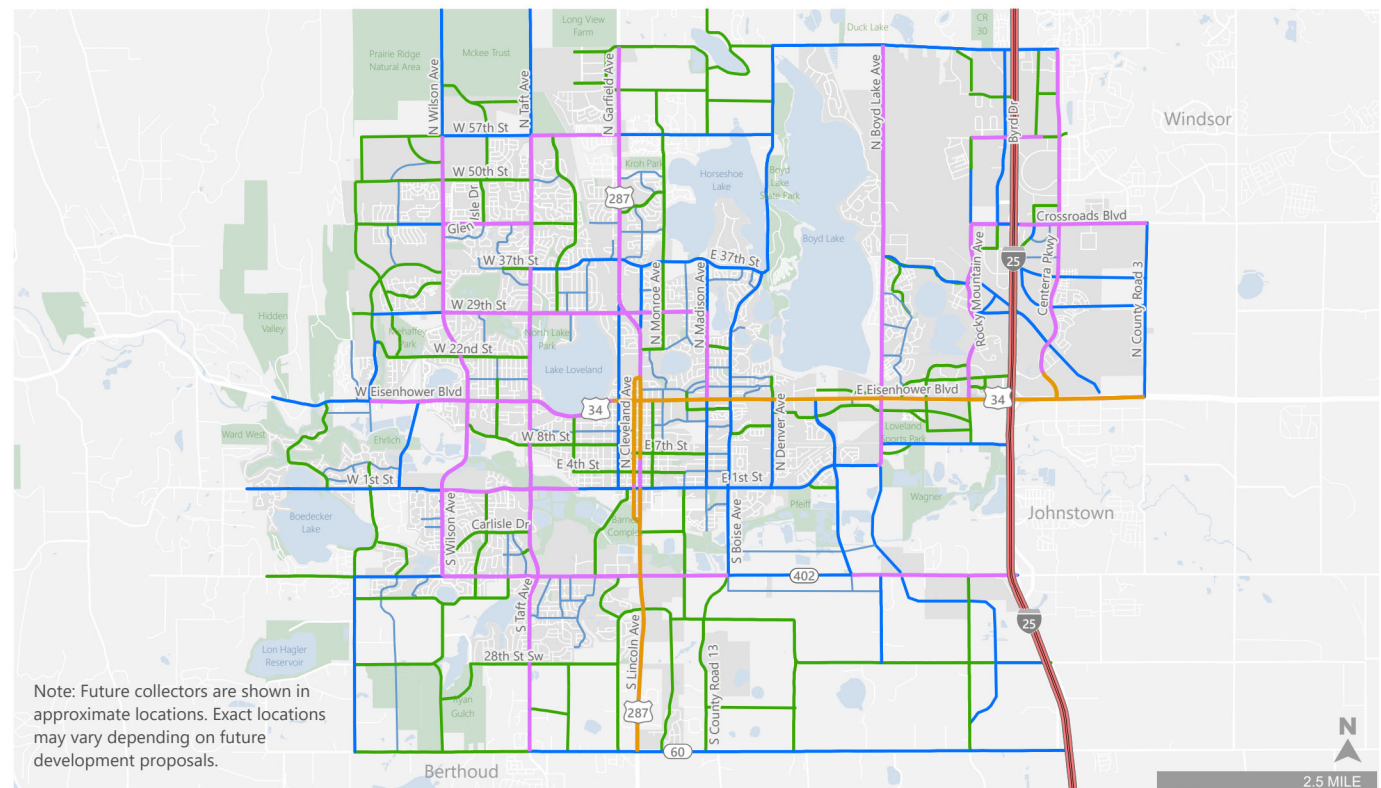


Summary and Next Steps

Community members who participated in public outreach for Connect Loveland voiced a reliance on the roadway system. While many community members expressed a desire to see increased availability of multimodal travel options, driving is will remain a key component of the Loveland transportation system. The 2040 Roadway Plan focuses on continuing the work of the 2035 Transportation Plan while also identifying opportunities to add bicycle infrastructure as part of roadway project improvements. These multimodal projects are denoted in the implementation section of this plan (Chapter 16). The improvements listed in the Roadway Plan are predominantly focused on expanding key minor arterials where future demand will generate higher traffic volumes while also upgrading rural roadways in areas where new development is anticipated. The Roadway Plan provides a path to ensuring that the more populated Loveland of tomorrow enjoys the same quality mobility as today.

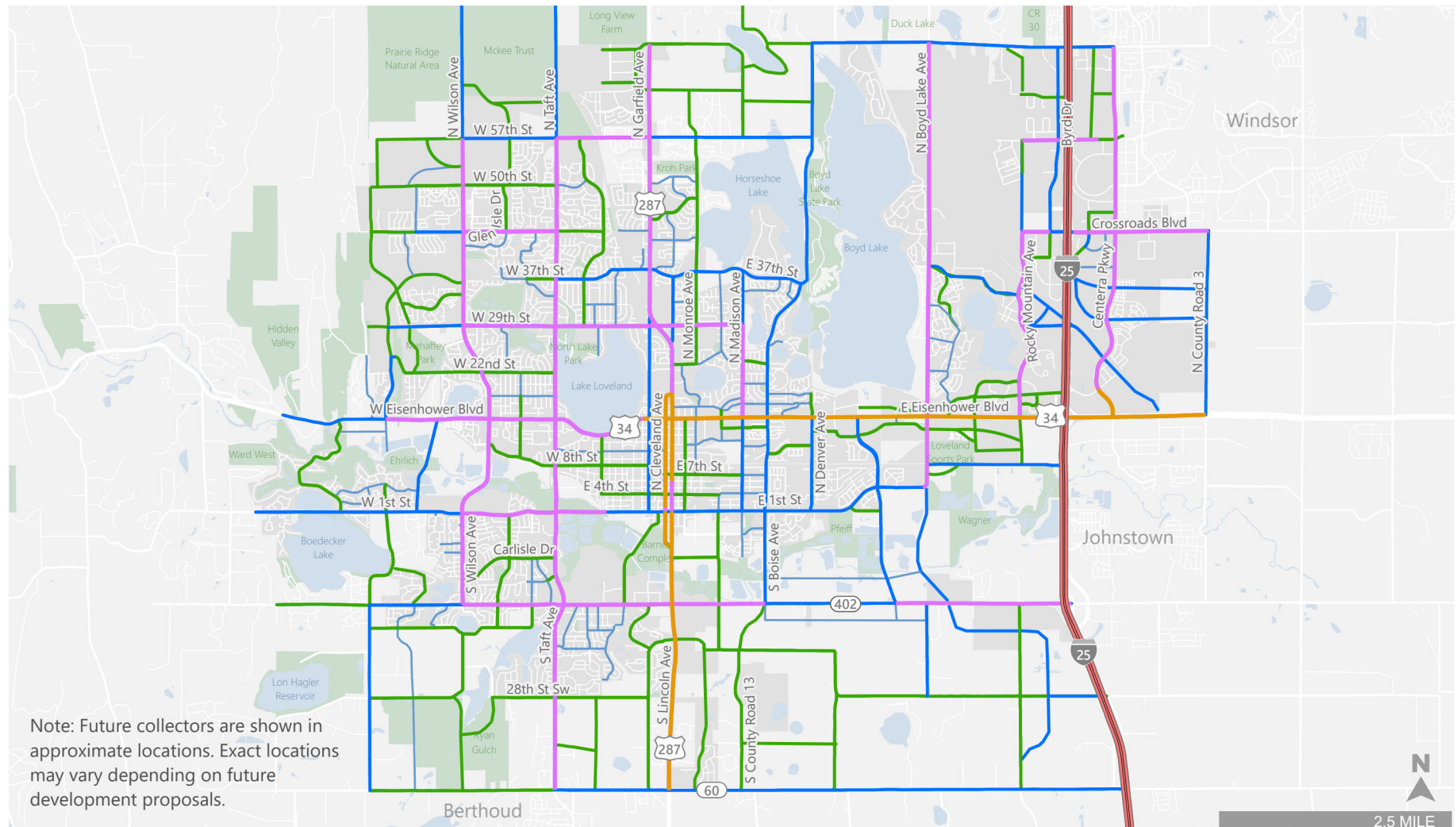
Figure 9.6 shows the 2040 roadway network and **Figure 9.7** shows the roadway network at full build-out, these enhancements will be incremental. Enhancements to the network will include collector roadways that will be added through new development and are not part of the Connect Loveland Roadway Plan, but will play an important role in the City's future transportation network. The City of Loveland will regularly revisit the projects list and make determinations on implementation phasing based on development patterns, community needs, and available funding.

FIGURE 9.6: 2040 ROADWAY NETWORK



- Freeway
- Major Arterial (6-lane)
- Major Arterial (4-lane)
- Minor Arterial (2-lane)
- Major Collector
- Minor Collector
- Park/Open Space/Open Land
- Body of Water
- City of Loveland Boundary

FIGURE 9.7: FULL BUILDOUT ROADWAY NETWORK



- Freeway
- Major Arterial (6-lane)
- Major Arterial (4-lane)
- Minor Arterial (2-lane)
- Major Collector
- Minor Collector
- Park/Open Space/Open L
- Body of Water
- City of Loveland Boundary

The goal for bicycling in Loveland, established through the *Connect Loveland* process and documented in **Chapter 5**, is to:

Create a safe and connected bicycle network that is reliable and accessible for community members across a range of bicycling interests, skills, and abilities.

Connect Loveland works to accomplish this goal by identifying a network of bicycle facilities, programs, and policies that increase the use, comfort, intuitiveness, and convenience of bicycling within the City of Loveland and regionally. Loveland and the region's active transportation visions are important to both improving quality of life through recreation and providing options that reduce the reliance on automobiles. There are a number of benefits to investing in a multimodal transportation system that have guided the vision and goals of this Plan; these were confirmed throughout the planning

10. Bicycle Plan



process by the public, stakeholders, and analysis of trends and best practice. The benefits of a multimodal transportation system, including a connected bicycle network, include:

- Improved community health outcomes, including physical and mental well being
- Increased equity for affordable and accessible transportation options
- Enhanced quality of life through the expansion of transportation choices
- Expanded safe access to transit facilities for those who cannot or choose not to drive
- Enriched social capital that includes more interactions with and connections to community
- Strengthened environmental sustainability through improved air quality and fewer vehicle miles traveled (VMTs)
- Improved economic benefits through spending at local businesses¹
- Increased safety across all modes and especially for vulnerable roadway users

**CONNECT LOVELAND
PROPOSES THE CITY
WORK TOWARDS THE
FULL IMPLEMENTATION
OF A COMPREHENSIVE
BICYCLE NETWORK THAT
PROVIDES FACILITIES FOR
PEOPLE WITH A RANGE OF
COMFORT LEVELS.**



The *Connect Loveland* bicycle network builds off the recommendations and priorities in the 2012 Loveland Bicycle and Pedestrian Plan, while considering changes in land use, the transit system, the roadway network, demographic shifts, and community values. The future network emphasizes expanding on-street facilities to increase access to destinations, upgrading the safety and comfort of existing on-street bicycle facilities, and adding new facilities to increase overall density of the network. High priority bicycling projects provide access to schools, parks, and local destinations while addressing safety and completing existing network gaps .

¹ Consumer Behavior and Travel Choices: A Focus on Cyclists and Pedestrians, Clifton et al

Level of Comfort Framework

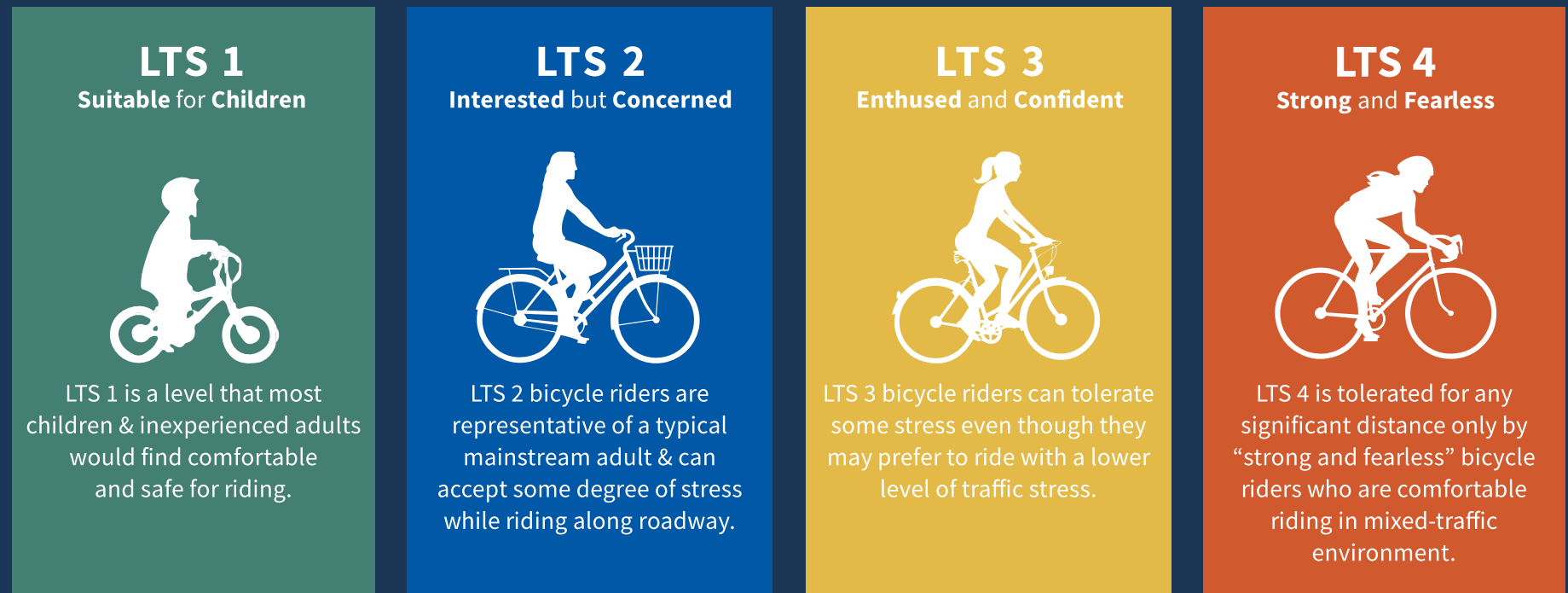
In 2012, Mekuria, Furth, and Nixon developed the original Level of Traffic Stress (LTS) framework with guidance from the National Association City of

Transportation Officials (NACTO) and the American Association of State Highway and Transportation Officials (AASHTO). As a national best practice, LTS is used to inform the appropriate bicycle facility type for a roadway that will be comfortable for all ages and abilities, based on street

characteristics, including speed limit, traffic volumes, and the number of travel lanes. Through careful evaluation of local conditions, this framework for LTS was modified to accommodate Loveland's context. Through a matrix of characteristics, the LTS framework scores specific

bicycle facilities' perceived level of comfort. Scores range from LTS 1 to LTS 4. LTS 1 and LTS 2 are considered low stress bicycle facilities, while LTS 3 and LTS 4 are considered high-stress. **Figure 10.1** displays and describes the four types of bicyclists considered within the LTS framework.

FIGURE 10.1: BICYCLE RIDER TYPES AND CORRESPONDING LEVELS OF TRAFFIC STRESS (LTS)



Bicycle Network

Figure 10.2 shows the map of existing (solid lines) and proposed (dashed lines) long-term bicycle facilities, based on community outreach, staff input, regional connectivity opportunities, and a Level of Traffic Stress (LTS) analysis. Facility types recommended as a part of this network consist of:

- **Bicycle routes-** streets with low motorized traffic volumes and speeds that use signs and pavement markings (sharrows) to create comfortable streets for bicyclists to share the road with people driving
- **Bicycle lanes-** a portion of the roadway that is designated exclusively for bicyclists, demarcated by striping, signage, and pavement markings
- **Buffered bicycle lanes-** a bicycle lane that includes a 2-foot minimum horizontal buffer between the vehicle lane and the bicycle lane to provide additional space between bicyclists and vehicles
- **Shared use paths-** two directional off-street facilities with exclusive right of way to support opportunities for recreation and

transportation including walking and bicycling.

These four facility types are defined further in the following section. **Figure 10.2** displays not just facility type, but also bicycle comfort, which are distinguished by color similar to that of a downhill ski map.

- **Green lines** represent LTS 1 and identify bicycle corridors that are comfortable for all abilities. All shared use paths are also considered Green/LTS 1 because they are physically separated from vehicular traffic.
- **Blue lines** represent LTS 2 and identify bicycle corridors that are comfortable for a mainstream adult who is an “interested but concerned” bicyclist.
- **Gray lines** represent LTS 3 and identify bicycle corridors that are comfortable for adults that are ‘enthused and confident’ and still prefer to have a dedicated space to ride in on higher volume roadways.
- **Black lines** represent LTS 4 and identify bicycle corridors that are appropriate for the ‘strong and the fearless’ bicyclist who can ride in mixed traffic.

The map in **Figure 10.2** is intended to help bicyclists of all ages and abilities navigate the City by indicating the type of bicycle facility available on different corridors. For example an “enthused but confident” bicyclist will plan their route by looking at the green, blue, and gray lines, while a family riding with children will typically only ride on bicycle corridors designated by a green line.

In order to achieve this future network, *Connect Loveland* has identified a number of future projects. These are shown as dashed lines on the map, as well as in **Table 10.2**, **Table 10.3**, and **Table 10.4** for bicycle routes, bicycle lanes (some buffered bike lanes), and shared use paths, respectively. These tables list

projects in alphabetical order and show details, including project extents, lengths, cost estimates, and other notes. Chapter 15 describes how these bicycle projects were prioritized and their steps to implementation.

The total number of miles of existing and future bicycle facilities by facility types is shown in **Table 10.1**. Values are shown for the length of facilities within the Growth Management Area (GMA). This table conveys the extent of the existing bicycle network that will be expanded when future facilities are constructed; the result is a more connected, comprehensive bicycle network. All facility types are defined immediately following the map and associated tables.

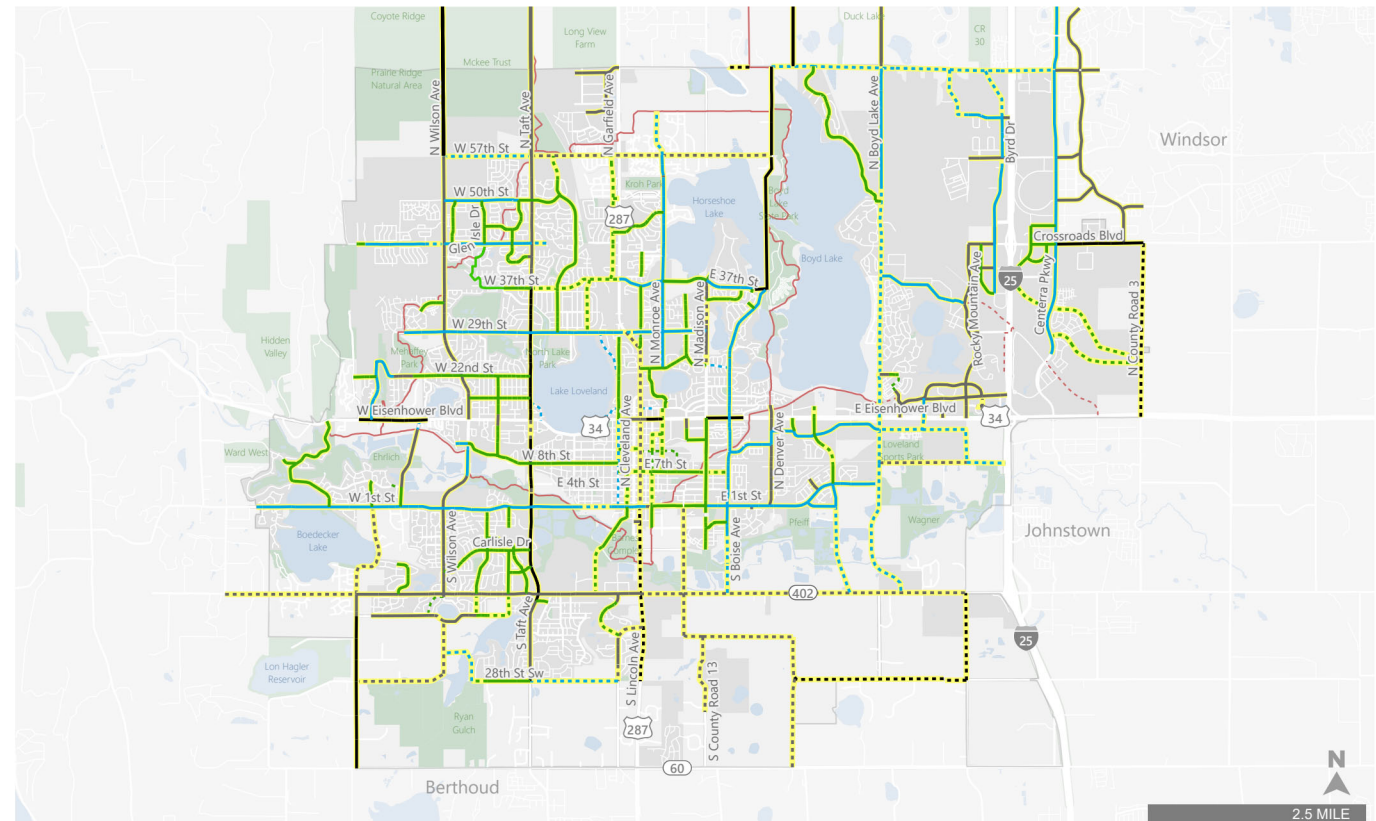
TABLE 10.1: MILES OF EXISTING AND FUTURE BICYCLE FACILITIES

Bicycle Facility Type	Miles of Existing Facility	Miles of Future Facility
Bicycle Route	15	4
Bicycle Lane	112	52
Buffered Bicycle Lane	19	TBD
Shared-Use Path	46.8	38

These projects were identified based on a number of considerations, including the following:

- Identification of corridors that result in minimal out of direction travel
- Identification of corridors with additional right of way available, either through the narrowing of travel lanes, reallocation of a wide shoulder, or removal of on-street parking (Note: removal of travel lanes is not required to implement any of the future facilities)
- Identification of low volume, low speed streets where low cost improvements can be effective
- Identification of corridors that provide access to and from local origins and destinations including schools, parks, transit stops, civic buildings, and the Recreation Trail

FIGURE 10.2: FUTURE BICYCLE NETWORK



Bike Lane	Proposed Bike Lane	Bike Route	Rec Trails and Shared Use Paths
LTS 1	1	LTS 1	Existing
LTS 2	2	LTS 2	Future
LTS 3	3	LTS 3	Lake
LTS 4	4	Proposed Bike Routes	Park
		1	
		2	

Note: Different level of traffic stress (LTS) scores may feel differently than other roadways with the same score depending on the roadway design and type of bicycle infrastructure.



Bicycle Facility Types

This section defines and describes characteristics of the future bicycle facility types. Understanding the characteristics of these facilities is critical for successful implementation that applies both best practices and local standards (Larimer County Urban Area Street Standards (LCUASS)). The City of Loveland updated their bicycle facility design standards in LCUASS in 2021.

Bicycle Routes

Bicycle routes are facilities on streets with low vehicle volumes and speeds where people bicycling share the travel lane with people driving. Bicycle routes use signs and pavement markings (such as sharrows) along with speed and volume management to indicate the presence and prioritization of people bicycling (**Figure 10.3**). Typically, these streets are local, residential roads generally not used for through travel. Bicycle routes should include wayfinding signage with distance, direction, and destination information. A

FIGURE 10.3: EXAMPLE OF A BICYCLE ROUTE
(Source: Rural Design Guide)



wayfinding program for Loveland is defined further at the end of this chapter.

The Level of Traffic Stress methodology identifies that the posted speed limit for roadways designated as low stress bicycle routes should generally be 30 mph or less and move fewer than 3,000 vehicles per day. In order to ensure travel speeds do not

exceed 30 mph, bicycle routes may include traffic calming features that control volume or speed through vertical deflection (bollards) and horizontal deflection (bulb outs, chicanes, medians). The *US Traffic Calming Manual* (Ewing, Reid, & Steven Brown) can be used to identify the appropriate treatment type for each bicycle route corridor. A study of each identified bicycle

route should be completed to plan and design the appropriate treatments (i.e. traffic calming, pavement markings and wayfinding) for that specific corridor.

FIGURE 10.4: BICYCLE LANE EXAMPLE



Bicycle Lanes and Buffered Bicycle Lanes

A bicycle lane is a designated space for bicyclists, separated from the general-purpose travel lane or parking lane by a single white line. According to LCUASS, bicycle lanes shall not be less

than five-feet wide, not including curb and gutter and not less than 6.5-feet wide when adjacent to on-street parking on roads with over 3,000 vehicles per day. A buffered bicycle lane has a horizontal, painted buffer with limited cross hatching between the bicycle lane and vehicle travel lane. A buffer can increase

FIGURE 10.5: BUFFERED BICYCLE LANE EXAMPLE



safety and provide additional comfort for bicyclists, especially on high speed, high volume roadways. The identification of future bicycle lane locations shall include the consideration of existing right of way, travel lane requirements and on-street parking. A buffered bicycle lane

should be considered based on the roadway speed, volume, and available right of way. It is recommended that with new development, a five-foot bicycle lane be accompanied by a two-foot painted buffer with limited cross-hatching between the bicycle lane and travel lane.

FIGURE 10.6: SHARED USE PATH EXAMPLE



Shared Use Path

A shared use path is an off-street, low stress facility that supports opportunities for both recreation and transportation. People who walk, bicycle, skate, are in wheelchairs, or mobility devices can experience increased

comfort and safety on a shared use path because it is entirely separated from motor vehicles. Loveland's shared use path spine – the Recreation Trail, is a 23-mile system of paved trails that encircles the City. In some places, the Recreation Trail becomes either a wide sidewalk or an on-street bicycle lane. In

addition to the Recreation Trail, there are 20 miles of soft surface trails that are part of closed-loop systems within the City's Open Lands and Natural Areas.

All shared use paths serving bicyclists should be a minimum width of ten-feet (as identified in LCUASS). There should be at

least a two-foot vertical buffer (concrete or landscaping) between the path and roadway. The construction of shared use paths will be coordinated between the Parks and Recreation Department and Public Works.

Regional Trail Corridors

There are 12 corridors featured in the *Regional Active Transportation Plan (ATP)* adopted in July 2021, as shown in **Figure 10.7**. These corridors will enhance regional access for Loveland's active transportation users. At the time *Connect Loveland* was developed, five regional trail corridors have been implemented, two of which traverse Loveland – the North

Loveland/Windsor Trail (Corridor 5) and the Front Range Trail (Corridor 7). The future bicycle corridors in *Connect Loveland* integrate the following planned corridors with the City's bicycle and pedestrian network and prioritize these trail corridors (as a part of Chapter 15). The following three corridors are identified in the NFRMPO Non-Motorized Plan and are included in this planning effort:

- The Big Thompson River trail (Corridor 2) will be a 35-mile, east-west facility connecting the existing Loveland Recreation Trail to communities like Milliken and Evans, and will ultimately serve 15 schools.
- The Great Western/Johnstown/Loveland Trail (Corridor 4) will run 25 miles from Loveland to Eaton. It will follow the alignment of the Great Western Railroad

and will serve as a connector to the rural areas in the northeastern portion of the MPO region.

- To improve east-west bicycle connections, the US-34 Parallel is a 21.5 mile facility planned to connect Loveland and Greeley; off-street and/or separated facilities that parallel US-34 will be sought wherever possible.

FIGURE 10.7: NFRMPO ACTIVE TRANSPORTATION CORRIDORS

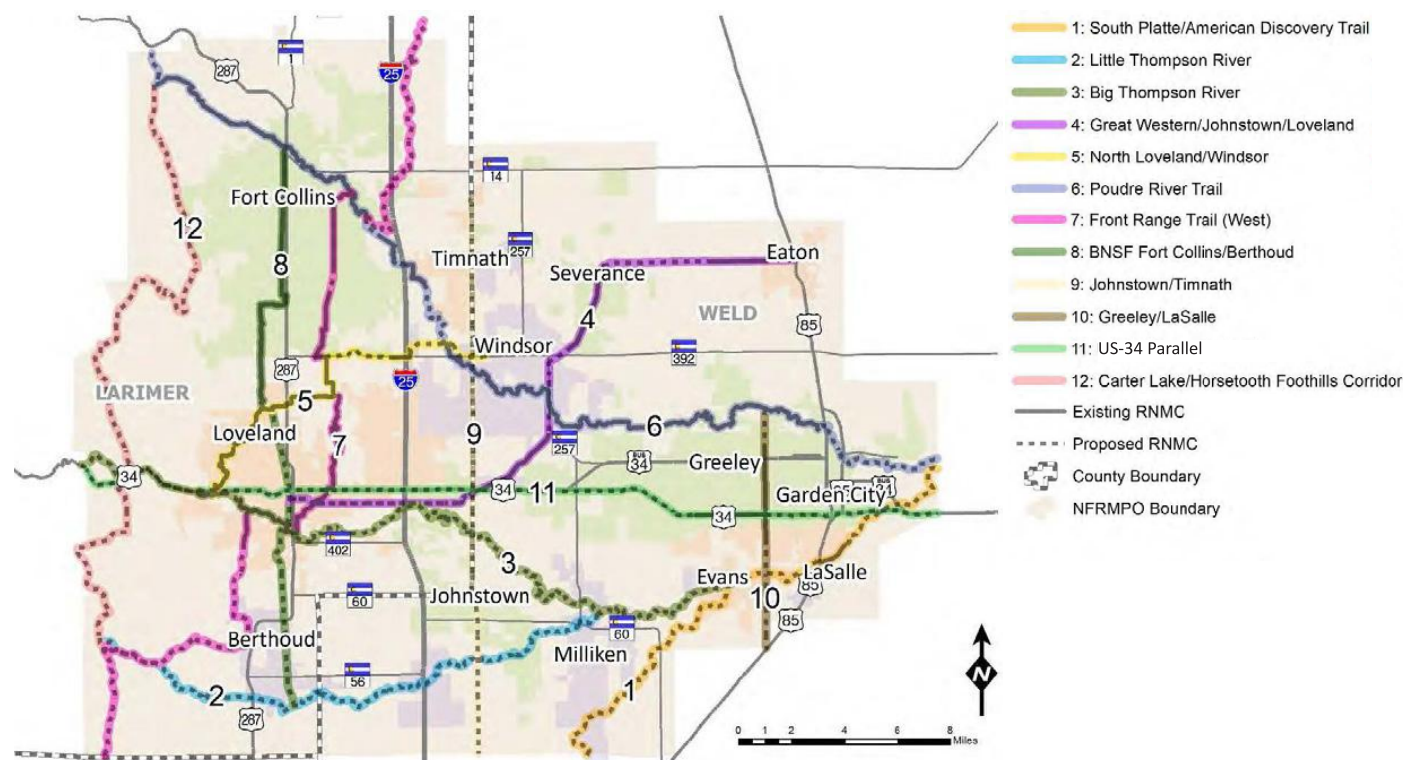


FIGURE 10.8: PROPOSED BICYCLE NETWORK PROJECTS

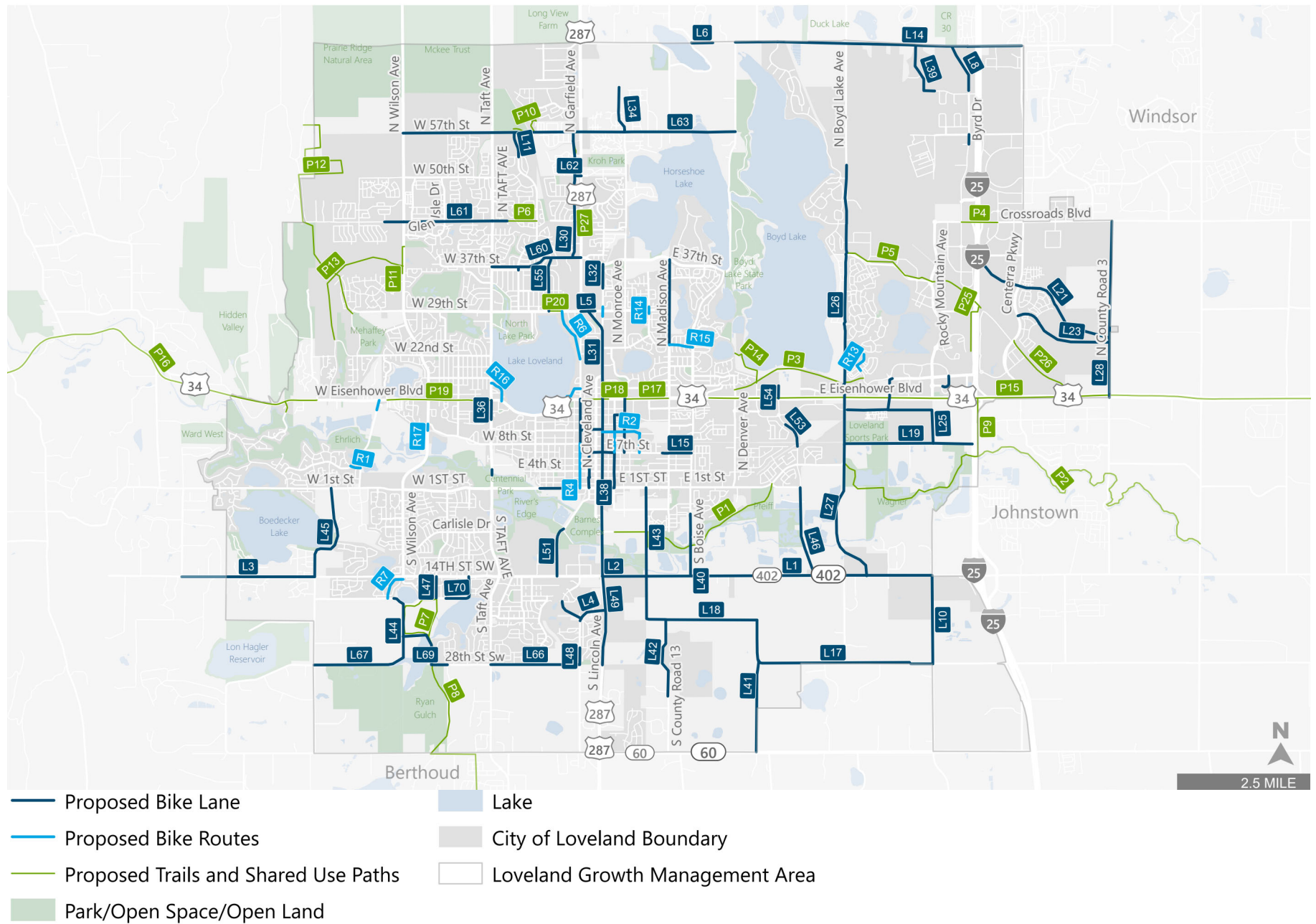


TABLE 10.2: BICYCLE ROUTE FUTURE PROJECT LIST

Project Code	Corridor	From (extent 1)	To (extent 2)	Length (miles)	Cost Estimate	Notes
R-1	Crestone Drive	Foothills Drive	N Namaqua Avenue	0.1	\$21,000	Bike Route
R-2	E 10th Street	N Lincoln Avenue	N Hayes Avenue	0.4	\$78,000	Bike Route
R-3	E 16th Street	N Lincoln Avenue	N Washington Avenue	0.1	\$23,000	Bike Route
R-4	Garfield Avenue	W 8th Street	W 1st Street	0.5	\$91,000	Bike Route
R-5	Lake Drive	E Eisenhower Blvd	N Garfield Avenue	0.3	\$50,000	Bike Route
R-6	Lake Drive	Garfield Avenue	W 29th Street	0.6	\$109,000	Bike Route
R-7	Melissa Drive	S Wilson Avenue	18th Street SW	0.3	\$60,000	Bike Route
R-8	N Hayes Avenue	E 7th Street	E 10th Street	0.2	\$40,000	Bike Route
R-9	N Lincoln Ave	Ginnala Dr	N of E 27th St	0.1	\$20,000	Bike Route
R-10	N Namaqua Ave	Eisenhower Blvd	S of Namaqua Ct	0.1	\$20,000	Bike Route
R-11	N Washington Avenue	E 7th Street	E 10th Street	0.2	\$42,000	Bike Route
R-12	Piney River Drive	Independence Drive	Plum Creek Drive	0.1	\$13,000	Bike Route
R-13	Plum Creek Drive	Piney River Drive	Lost Creek Drive	0.2	\$30,000	Bike Route
R-14	Silver Leaf Drive	White Elm Drive	Red Fir Place	0.1	\$14,000	Bike Route
R-15	Silver Leaf Drive	Madison Avenue	N Boise Avenue	0.3	\$49,000	Bike Route
R-16	Westshore Drive	Taft Avenue	W Eisenhower Blvd	0.3	\$49,000	Bike Route
R-17	Wilson Avenue	W 8th Street	W of Miner Courth	0.1	\$13,000	Bike Route

TABLE 10.3: **BICYCLE LANE** FUTURE PROJECT LIST

Project Code	Corridor	From (extent 1)	To (extent 2)	Length (miles)	Cost Estimate	Notes
L-1	14th Street SE	S Lincoln Avenue	S County Road 7	3.2	\$314,000	Multimodal
L-2	14th Street SE	S County Road 13C	S St Louis Avenue	0.5	\$48,000	Multimodal
L-3	14th Street SW	S County Road 23E	S County Road 21	1.5	\$146,000	Bike Lane
L-4	19th Street SE	Valency Drive	S Lincoln Avenue	0.3	\$32,000	Bike Lane
L-5	29th Street	N Garfield Avenue	Linden Court	0.2	\$16,000	
L-6	71st Street	E County Road 30E	Front Range Trail	0.2	\$24,000	Bike Lane
L-7	Byrd Drive	Earheart Drive	Goldco Drive	0.1	\$11,000	
L-8	Byrd Drive	Rockwell Avenue	E County Road 30	0.5	\$53,000	Multimodal
L-9	County Road 20E	Mountain Lion Drive	I-25	0.4	\$43,000	
L-10	County Road 7	E County Road 16	14th Street SE	1.0	\$97,000	Bike Lane
L-11	Duffield Avenue	W 36th Street	W 37th Street	0.0	\$28,000	Bike Lane
L-12	Duffield Avenue	Coral Burst Drive	W 57th Street	0.3	\$4,000	Bike Lane
L-13	E 1st Avenue	N Jefferson Avenue	N Washington Ave	0.1	\$6,000	Bike Lane
L-14	E 71st Street / E County Road 30	N County Road 11	Fairground Avenue	3.2	\$314,000	Bike Lane
L-15	E 7th Street	Rec Trail	N Boise Avenue	0.3	\$32,000	Bike Lane
L-16	E 7th Street	N Garfield Avenue	N Washington Avenue	0.4	\$37,000	Bike Lane

CONTINUED TABLE 10.3: **BICYCLE LANE** FUTURE PROJECT LIST

L-17	E County Road 16	S County Road 11	County Road 7	2.0	\$193,000	Bike Lane
L-18	E County Road 16E	E County Road 13C	E County Road 11	1.2	\$121,000	Bike Lane
L-19	E County Road 20E	Boyd Lake Avenue	I-25	1.4	\$97,000	Bike Lane
L-20	Foxtail Drive	Stone Creek Circle	McWhinney Boulevard	0.2	\$17,000	Bike Lane
L-21	Future Roadway	Clydesdale Parkway	N County Road 3	1.7	\$169,000	
L-22	Hahns Peak Dr	McWinney Boulevard	Mountain Lion Drive	0.4	\$36,000	
L-23	Kinston Parkway	Centerra Parkway	N County Road 3	1.2	\$113,000	
L-24	Madison Avenue	Silver Leaf	37th Street	1.0	\$93,000	Bike Lane
L-25	Mountain Lion Drive	N Boyd Lake Avenue	E County Road 20E	1.3	\$130,000	
L-26	N Boyd Lake Avenue	Valley Oak Drive	E County Road 20E	3.2	\$309,000	
L-27	N Boyd Lake Avenue	E 5th Street	14th Street SE	1.7	\$161,000	Multimodal
L-28	N County Road 3	E Eisenhower Boulevard	Crossroads Boulevard	2.0	\$193,000	Multimodal
L-29	N Garfield Avenue	Eisenhower Boulevard	W 8th Street	0.5	\$49,000	
L-30	N Grant Avenue	W 57th Street	W 37th Street	1.4	\$138,000	
L-31	N Lincoln Avenue	Buchanan Avenue	E 29th Street	2.1	\$199,000	Bike Lane
L-32	N Lincoln Avenue	E 33rd Street	E County Road 24E	0.3	\$26,000	Bike Lane
L-33	N Monroe Avenue	E 16th Street	E 7th Street	0.7	\$70,000	

CONTINUED TABLE 10.3: **BICYCLE LANE** FUTURE PROJECT LIST

Project Code	Corridor	From (extent 1)	To (extent 2)	Length (miles)	Cost Estimate	Notes
L-34	N Monroe Avenue	W of Wisteria Drive	E 57th Street	0.5	\$51,000	
L-35	N Railroad Avenue	E 7th Street	1st Street	0.4	\$40,000	
L-36	N Taft Avenue	W 11th Street	W Eisenhower Boulevard	0.2	\$21,000	Multimodal
L-37	N Washington Avenue	E 12th Street	E 10th Street	0.3	\$30,000	
L-38	N Washington Avenue	E 7th Street	E 1st Avenue	0.4	\$39,000	
L-39	Rickenbacker Road	E County Road 30	Aviation Circle	0.7	\$65,000	
L-40	S Boise Avenue	14th Street SE	Chickadee Place	0.7	\$68,000	Multimodal
L-41	S County Road 11	42 Street SE	E County Road 16E	1.5	\$145,000	Bike Lane
L-42	S County Road 13	Cody Drive	E County Road 16 E	0.9	\$87,000	Bike Lane
L-43	S County Road 13C	E County Road 16E	E 1st Street	1.5	\$144,000	Bike Lane
L-44	S County Road 19	W County Road 16	W CR 16H	0.6	\$58,000	Bike Lane
L-45	S County Road 21	14th Street SW	W 1st Street	1.2	\$144,000	Bike Lane
L-46	S County Road 9e	E 1st Street	14th Street SE	1.0	\$98,000	Multimodal
L-47	S Dotsero Avenue	14th Street SW	18th Street SW	0.2	\$24,000	Bike Lane
L-48	S Garfield Avenue	W County Road 16	Derby Hill Drive	0.2	\$18,000	Bike Lane

CONTINUED TABLE 10.3: **BICYCLE LANE** FUTURE PROJECT LIST

L-49	S Lincoln Avenue	W County Road 16	14th Street SE	1.0	\$96,000	Bike Lane
L-50	S Lincoln Avenue	1st Street	14th Street SE	1.0	\$97,000	Multimodal
L-51	S Roosevelt Avenue	Fire Engine Red Street	14th Street	0.6	\$55,000	
L-52	S Tyler Avenue	W County Road 16H	14th Street SW	0.2	\$23,000	Bike Lane
L-53	Sculptor Drive	Volans Drive	Zodiac Place	0.3	\$30,000	Bike Lane
L-54	Sculptor Drive	E Eisenhower Boulevard	Tarima Peak Drive	0.1	\$13,000	Bike Lane
L-55	Sheridan Avenue	W 29th Street	W 37th Street	0.6	\$59,000	Bike Lane
L-56	Taft Avenue	S of Big Thompson River	N of Big Thompson River	0.1	\$6,000	Bike Lane
L-57	Valency Drive	Cholla Drive	19th Street SE	0.3	\$30,000	Bike Lane
L-58	W 10th Street	N Garfield Avenue	N Lincoln Avenue	0.3	\$24,000	Bike Lane
L-59	W 1st Street	N Franklin Avenue	Grant Avenue	0.4	\$37,000	Bike Lane
L-60	W 37th Street	N Taft Avenue	N Garfield Avenue	1.0	\$101,000	Bike Lane
L-61	W 43rd Street	Sullivan Avenue	Smith Park Court	1.4	\$135,000	Bike Lane
L-62	W 50th Street	N Grant Avenue	Gardfield Avenue	0.1	\$7,000	
L-63	W 57th Street	N County Road 17	N County Road 11c	2.8	\$267,000	Multimodal
L-64	W 57th Street	N County Road 19	N County Road 17	1.0	\$98,000	Multimodal
L-65	W 8th Street	Milner Court	Imperial Court	0.0	\$5,000	

CONTINUED TABLE 10.3: **BICYCLE LANE** FUTURE PROJECT LIST

Project Code	Corridor	From (extent 1)	To (extent 2)	Length (miles)	Cost Estimate	Notes
L-66	W County Road 16	S Taft Avenue	S Garfield Avenue	1.0	\$98,000	
L-67	W County Road 16	S County Road 21	S County Road 19	1.0	\$100,000	
L-68	W County Road 16	S County Road 19	W County Road 16	0.6	\$60,000	
L-69	W County Road 16	SW 28th Street	Spring Mountain Drive	0.2	\$18,000	
L-70	W County Road 16H	S Del Norte Avenue	S Tyler Avenue	0.3	\$25,000	
L-71	W County Road 16H	Melissa Drive	S County Road 19	0.1	\$13,000	

Note: Projects are listed in alphabetical order. Cost estimates vary - solely striping costs are shown for some projects since other aspects of the bicycle lane are included with a concurrent roadway upgrade. Standalone bicycle lane projects have a higher cost estimate.

TABLE 10.4: SHARED USE PATH FUTURE PROJECT LIST

Project Code	Corridor	From (extent 1)	To (extent 2)	Length (miles)	Cost Estimate	Notes
P-1	Big Thompson River	E 1st Street	Civic Center Trail	1.8	\$3.8 million	Trail
P-2	Big Thompson River	E 5th Street	S County Line Road	6.6	\$ 13.8 million	Trail
P-4	Crossroads Boulevard	Byrd Drive	Clydesdale Parkway	0.4	\$860,000	Trail
P-5	E 37th Street	N Boyd Lake Avenue	Rocky Mountain Avenue	1.1	\$2.3 million	Trail
P-6	From proposed on-street	Smith Park Court	Duffield Avenue	0.3	\$710,000	Trail
P-7	Front Range Trail West	18th Street	28th Street	0.5	\$950,000	Trail
P-8	Front Range Trail West	18th Street	Loveland Reservoir	5.2	\$10.8 million	Trail
P-9	I-25	US-34	Big Thompson River	0.6	\$1.4 million	Trail
P-10	North Loveland_Windsor	Sunset Vista Natural Area	Meadowlark Mobile Home Park	0.4	\$910,000	Trail
P-11	North Loveland_Windsor	35th Street	South of Glen Isle Drive	0.3	\$680,000	Trail
P-12	Northwest Connection	W 57th Street	Mehaffey Park	3.6	\$7.6 million	Trail
P-13	NW Trail CONcept 3	W 22nd Street	N Wilson Avenue	1.6	\$3.4 million	Trail
P-14	S Boyd Lake Spur	Lower Hoffman Lake	Chubbuck Ditch	0.5	\$1.1 million	Trail
P-15	US-34	Chubbuck Ditch	65th Avenue	14.3	\$30.1 million	Trail
P-16	US-34	N County Road 31D	Morning Drive	5.4	\$11.3 million	Trail
P-17	US-34	Monroe Avenue	Madison Avenue	0.5	\$1.0 million	Trail

CONTINUED TABLE 10.4: SHARED USE PATH FUTURE PROJECT LIST

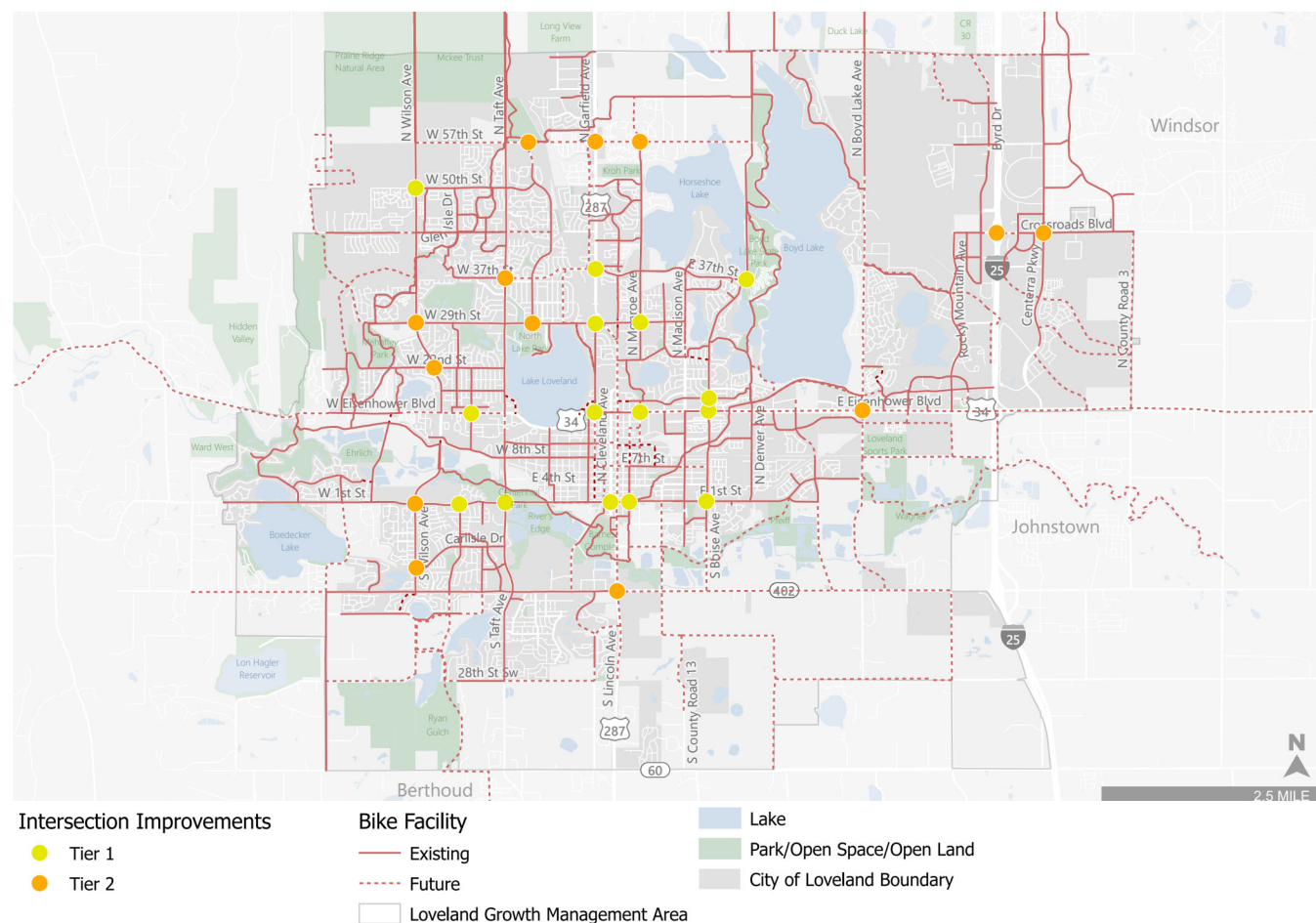
Project Code	Corridor	From (extent 1)	To (extent 2)	Length (miles)	Cost Estimate	Notes
P-18	US-34	N Garfield Avenue	N Jefferson Avenue	0.3	\$670,000	Trail
P-19	US-34	Kennedy Avenue	N Taft Avenue	1.2	\$2.5 million	Trail
P-20	W 29th Street	Sheridan Avenue	Lake Drive	0.2	\$320,000	Trail
P-21	Future Trail	Rocky Mountain Avenue	W of I-25	0.5	\$950,000	Trail
P-22	Future Trail	W of I-25	E of Kendall Parkway	0.2	\$430,000	Trail
P-23	Future Trail	E of N Boyd Lake Avenue	Piney River Drive	0.2	\$420,000	Trail
P-24	Future Trail	Chestnut Drive	Ranch Acres Drive	0.2	\$330,000	Trail
P-25	I-25 Frontage	29th Street	E of MCR Access Road	0.6	\$1.2 million	Trail
P-26	Kendall Parkway	Centerra Parkway	US-34	0.9	\$1.9 million	Trail
P-27	N Grant Ave	W 43rd Street	N of E 42nd Street	0.1	\$110,000	Trail

Note: Projects are listed in alphabetical order

Bicycle Crossings

It is paramount to consider how people bicycling cross roads at full intersections and at designated midblock crossings. The weakest link approach acknowledges that a low stress bicycle facility is only as comfortable as the least comfortable component; this component is often the intersection. **Figure 10.9** shows the high priority locations for potential multimodal intersection improvements, identified by the *Connect Loveland* Project Team. Intersections are divided into two tiers of priority, based on considerations such as the bicycle corridor Level of Traffic Stress (LTS), bicycle corridor facility type, and proximity to key destinations.

FIGURE 10.9: HIGH PRIORITY MULTIMODAL INTERSECTION IMPROVEMENTS



An effective bicycle facility crossing design applies strategies and tools at the intersection to reduce the conflict between vehicles and people on bicycles by targeting three key elements:

1. Reduce vehicle turning speeds
2. Increase the visibility of bicyclists
3. Give bicyclists the right-of-way

The characteristics of the roadway being crossed and the bicycle facility type influence what crossing treatment is appropriate. There are five main types of bicycle facility crossing designs, defined as:

1. Minor street crossings
2. Protected intersections
3. Dedicated intersections
4. Roundabout
5. Grade separated crossing

Table 10.5 shows the potential crossing treatments to consider when facility type and street type are cross-referenced. Crossing treatment types as identified by

TABLE 10.5: BICYCLE CROSSING TYPE TOOLBOX

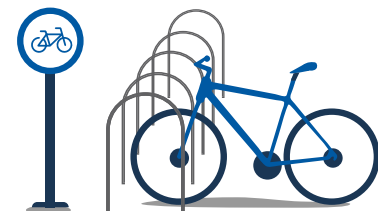
(Source: modification from NACTO, *Don't Give up at the Intersection*)

Bicycle Facility Type	Intersection Category: Street Classification of the Perpendicular Street, Being Crossed by Bicyclists				
	Local	Collector	Arterial	Driveway	Roundabout
Bicycle Route	Minor Street Crossing	Dedicated Intersection	Dedicated Intersection	Minor Street Crossing	Merge with Traffic
Bicycle Lane	Minor Street Crossing	Dedicated Intersection	Dedicated Intersection	Minor Street Crossing	
Trail	Minor Street Crossing	Dedicated Intersection	Dedicated Intersection	Minor Street Crossing	Provide Ramps to Pedestrian or Otherwise Separated Infrastructure/ Grade Separated Crossing

this table can be evaluated and designed on a case-by-case basis as a part of the bicycle facility future implementation process.

Table 10.5: Bicycle crossing type toolbox look up table (Source: modification from NACTO, *Don't Give up at the Intersection*¹)

¹ <https://nacto.org/publication/dont-give-up-at-the-intersection/>

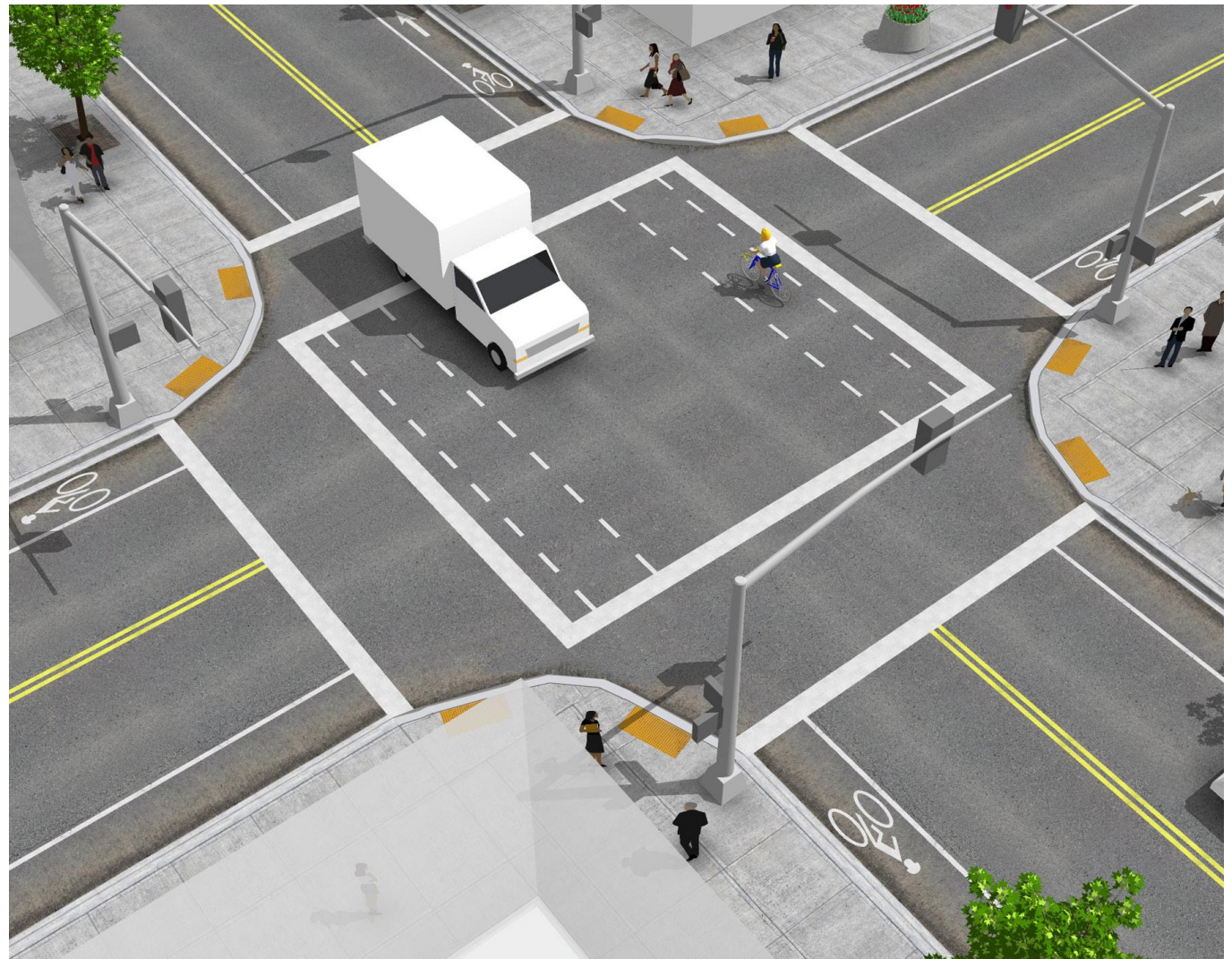


Minor Street Crossings

Minor street crossings are an example of an appropriate treatment type when bicycle routes or bicycle lanes cross local roads or driveways. Design components of a minor street crossing can create a comfortable experience for bicyclists. Design components may include: compact corners or bulb outs that slow vehicle turning speeds and increase visibility of bicyclists and pedestrians; high visibility marking across the roadway; and/or green paint used at high conflict areas to increase awareness of the presence of bicyclists. In **Figure 10.10**, the white dashed line through the intersection is an example of how a bicycle facility can be continued through the intersection to form a minor street crossing.

FIGURE 10.10: MINOR STREET CROSSING CONCEPT

(Source: NACTO Urban Bikeway Design Guide)

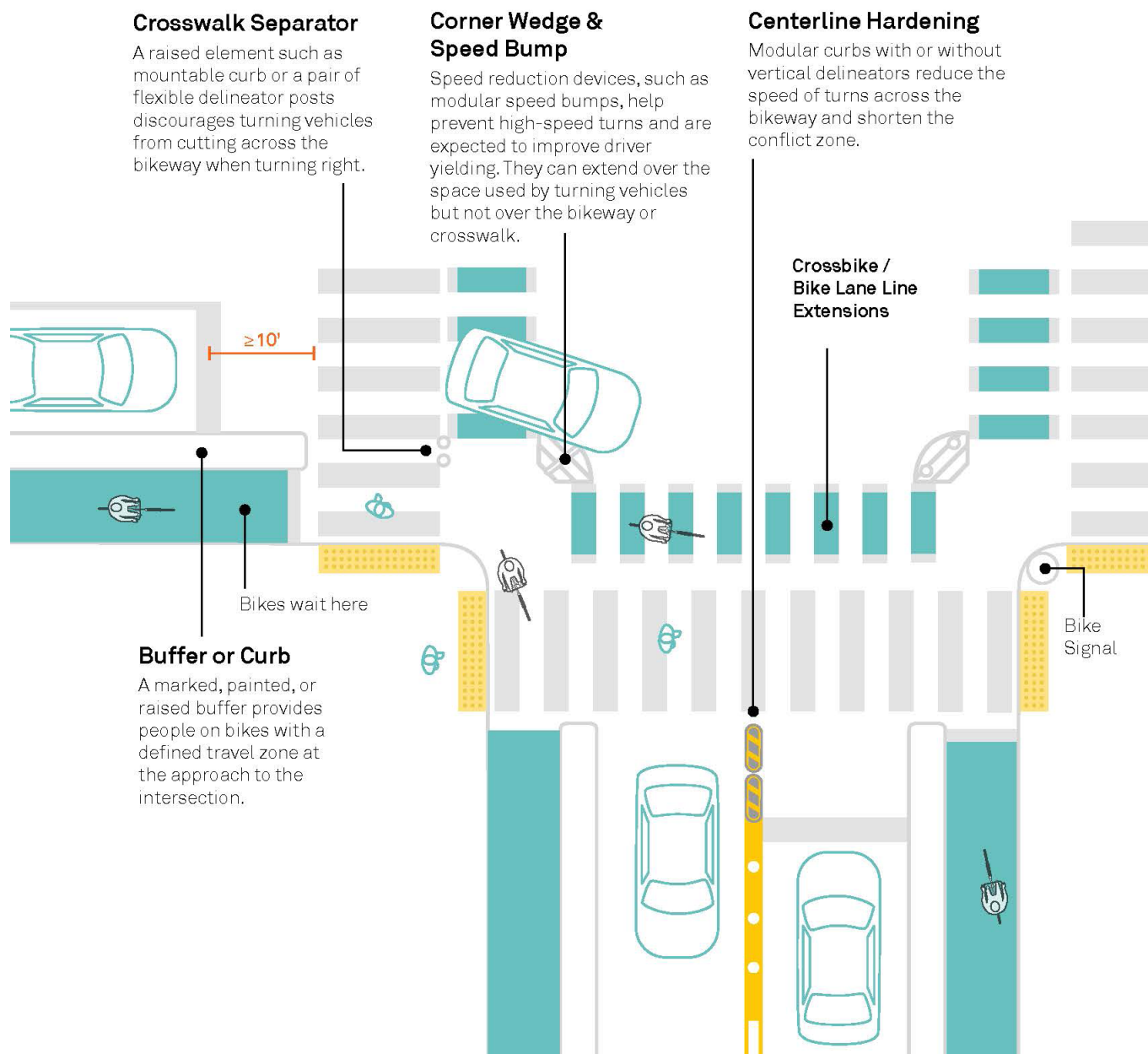


Dedicated Intersections

Dedicated intersections are a potential tool when bicycle routes, bicycle lanes, or shared use paths meet high volume, high speed roadways. An example of a dedicated intersection is shown in **Figure 10.11** (refer to NACTO's *Don't Give Up at the Intersection* for details on dedicated and protected intersections). Dedicated intersections are design options that can be used on an interim or trial basis. Design flexibility is necessary at each location to account for the local context and the intricacies of dedicated intersection designs.

FIGURE 10.11: DEDICATED INTERSECTION CONCEPT

(Source: NACTO, *Don't Give Up at the Intersection*)



Roundabouts

When bike facilities meet a single lane roundabout with a designated speed of <15 mph, bike routes and bike lanes can merge with traffic. Additional signage and striping should be installed, including on-street painted arrows/shared lane markings through the roundabout. This infrastructure should clearly identify the crossing locations for bicyclists with the use of ramps, pavement markings and/or signage. When a bicycle facility meets a two-lane roundabout, bike facilities are not carried through roundabouts. Instead, separated facilities for bicyclists typically should be incorporated with the pedestrian facilities and clearly marked as shared use. Additional alternatives exist and are being developed for accommodating bicyclists at roundabouts and should be considered as part of the planning and design for each potential location.



Grade Separated Crossings

Grade separated crossings are locations where pedestrians or bicyclists can cross a roadway without having to interact with vehicular traffic; these can be either over (bridge) or under (tunnel)-passes. LCUASS states that: *On major Collectors and Arterials, where required by the Local Entity Engineer, underpass or overpass (grade separated) pedestrian crossings shall be provided for regional/ neighborhood paths and trails.* The final section of the **Chapter 11** contains details on when and how to consider grade separated crossings. Future grade separated crossing locations are listed on page 123.

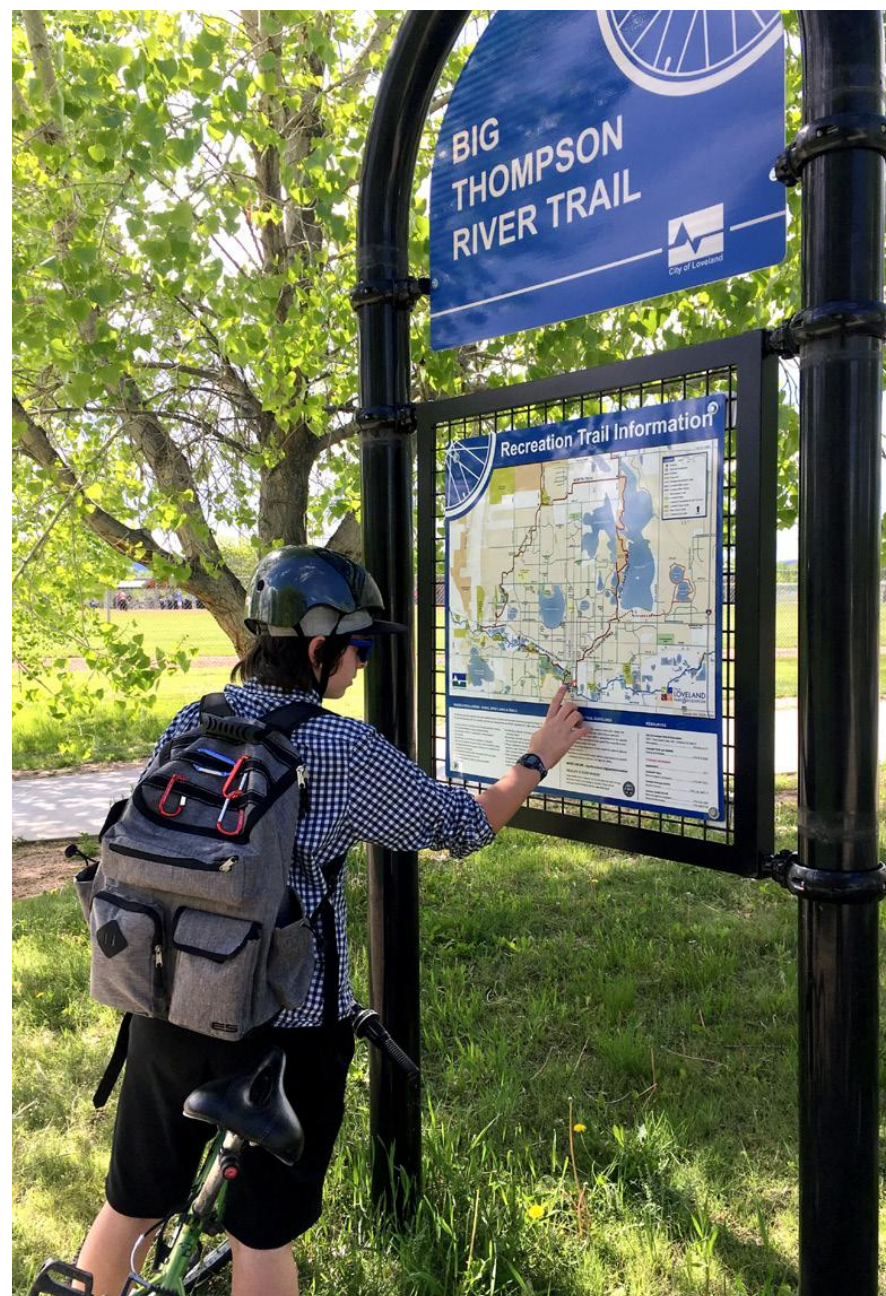
Wayfinding Program

Loveland currently has a wayfinding system developed and implemented by the Parks and Recreation Department along 23-miles of paved recreation trails. These wayfinding signs include a logo and trail segment name, as shown in the example

in **Figure 10.12**. Many of the signs also include distances, directions to key destinations, street names, and distances along the trail. The wayfinding signage is complimented by 27 kiosks that include maps and regulations.

In the future, Public Works should coordinate with Parks and Recreation to expand and improve the current wayfinding program so more comprehensive coverage of the Recreation Trail and the on-street bicycle network is available. Wayfinding signs should be located at decision points—typically at the intersection of two or more bicycle facilities and at other key locations leading to and along bicycle routes and bicycle lanes. As the City implements new bicycle facilities, wayfinding signs should continue to be implemented.

FIGURE 10.12: EXISTING RECREATION TRAIL WAYFINDING SIGNAGE



Summary

Feedback from the public and stakeholders (summarized in **Chapter 4**) demonstrated strong support for making bicycling in Loveland more comfortable and convenient. This chapter reflects these desires and provides the blueprint for how the City will expand and invest in bicycling through 2040. Key components of expansion of the bicycle network described in this chapter include:

- **Completion of the existing and future bike network-**

Connect Loveland identifies a comprehensive and connected bicycle network that will provide bicyclists of all ages and abilities the opportunity to travel and recreate by bicycle. Future bicycle connections build off of the City's existing bicycle facilities, while providing convenient access to key destinations and trails.

- **Level of Traffic Stress framework-** The existing and

future bike network incorporates a Level of Traffic Stress (LTS) methodology that acknowledges that all not all bike facilities are comfortable for all users. This Plan symbolizes existing and future bike facilities' Level of Traffic Stress similar to downhill ski maps—green, blue, gray, and black

- **Improved and expanded crossings for people biking-**

This chapter identifies high priority locations for multimodal

intersection improvements. The Plan helps determine appropriate crossing treatments based on bicycle facility type and street classification.

- **Wayfinding Program-** *Connect Loveland* recommends a wayfinding program that builds off the existing wayfinding signs to provide users with a branded and intuitive system that connects the on-street bicycle network with the Recreation Trail to provide connectivity and mobility.



11. Pedestrian Plan

The pedestrian network consists of sidewalks, shared use paths, and street crossings. This network is an important component of safe travel in Loveland; providing direct, safe and comfortable connections for pedestrians is central to making walking a viable option for transportation and recreation. Current challenges for pedestrians in Loveland include the lack of connectivity in the overall street grid, missing or insufficient sidewalks and many natural barriers including lakes, rivers, irrigation canals and railroads. The Recreation Trail is a great asset for pedestrians in Loveland however, walking to or along this path often requires out of direction travel. In addition to increased segments for walking, expanding the number of safe crossings is also critical to an efficient and effective pedestrian network.

Connect Loveland identifies a Pedestrian Plan that will expand and complete Loveland's pedestrian network. The Pedestrian Plan has four main objectives: 1. Complete sidewalk gaps in high priority pedestrian areas; 2. Rehabilitate existing sidewalks; 3. Rebuild curb ramps to comply with ADA; and 4. Implement new and enhanced pedestrian street crossings. This section describes the overall proposed infrastructure improvements as well as a prioritization of the proposed pedestrian improvements. This prioritization enables City staff to determine how to implement the improvements as funding becomes available between now and 2040.

The goal for the pedestrian network in Loveland, established through the *Connect Loveland* process and documented in **Chapter 5**, is to:

**CREATE A SAFE, LOW STRESS NETWORK
OF PEDESTRIAN FACILITIES THAT
ARE ACCESSIBLE AND EFFICIENT FOR
COMMUNITY MEMBERS OF ALL AGES
AND ABILITIES.**



Pedestrian Standards

Figure 11.2 and **Table 11.1** show the minimum design standards for sidewalk and parkway widths based on Loveland's requirements in Chapter 7 of the Larimer County Urban Area Streets Standards (LCUASS). These requirements identify that arterials require at least six foot wide sidewalks with a ten foot parkway major and minor collectors require six foot sidewalks with six foot parkway and commercial/industrial, and local residential streets require five foot sidewalks with a six foot parkway.

Figure 11.2 shows an example of a cross section (local residential street) from LCUASS, displaying pedestrian facility standards.

Loveland has compiled an inventory of existing sidewalk quality, width, parkway presence, curbs, and ramps. Concurrent with the development of *Connect Loveland*, the City collected data related to existing

sidewalks and traffic signals to compile ADA/Public Right-of-Way Accessibility Guidelines (PROWAG) infrastructure information. *Connect Loveland* recommends that Public Works GIS staff maintain a detailed inventory of the presence, accessibility, and quality of all existing sidewalks, parkway, curbs, and ramps that need to be implemented or upgraded. This inventory will enhance the ability to implement the prioritization proposed in this plan.

TABLE 11.1: SIDEWALK STANDARDS BASED ON LCUASS

Street Classification	Sidewalk	Parkway (Tree Lawn)	Redevelopment Sidewalk Width
6-lane arterial	6'	10'	8'
4-lane arterial	6'	10'	8'
2-lane arterial	6'	10'	8'
Major collector	6'	6'	No change
Minor collector	6'	6'	No change
Commercial/industrial (local)	5'	6'	No change
Residential local	5'	7'	No change
Rural	0'	0'	No change

FIGURE 11.2 EXAMPLE OF PEDESTRIAN FACILITIES WITHIN A STREET CROSS-SECTION PER LCUASS (LOCAL RESIDENTIAL)

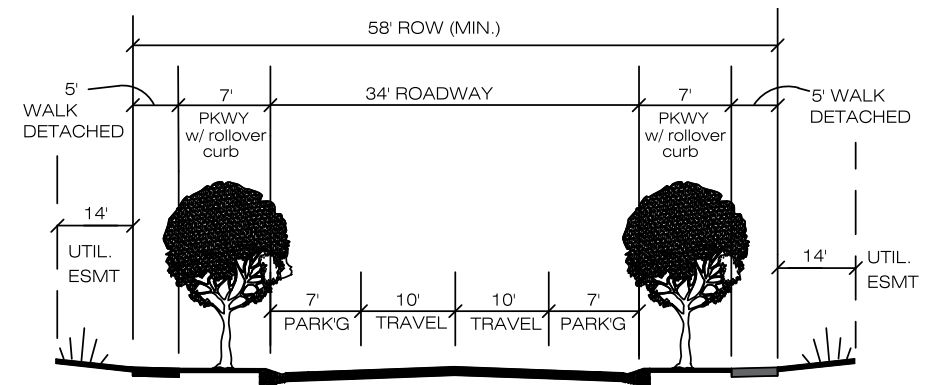
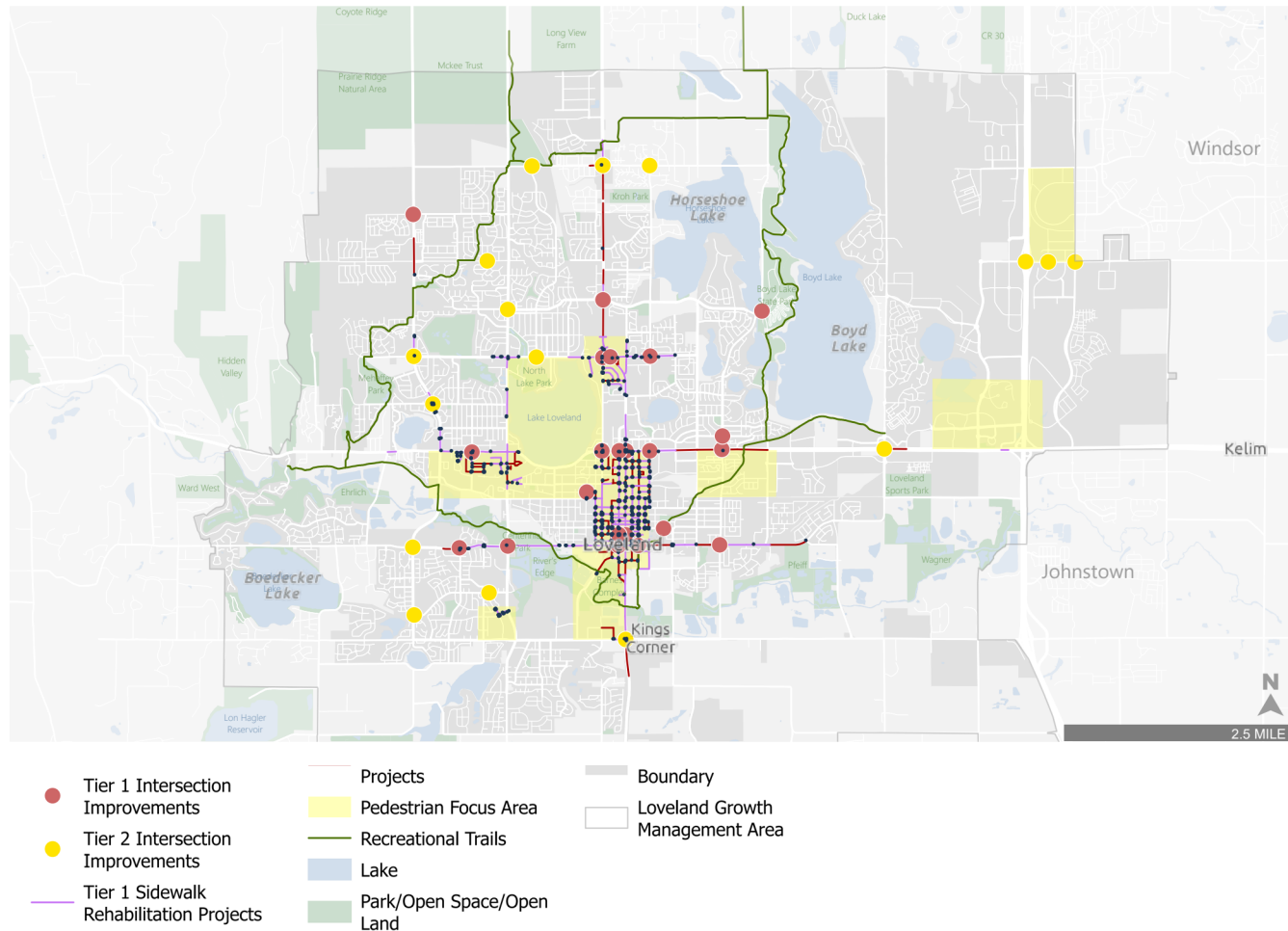


FIGURE 11.3: PEDESTRIAN PRIORITIZATION TIERS

Pedestrian Prioritization

Per the City of Loveland's municipal code, it is the adjacent land owner's responsibility to install and maintain sidewalks.

New construction is responsible for building sidewalks to the City's current standards. However, as City and national standards have changed, areas with older development tend to have pedestrian networks that do not

meet current standards.

There are two approaches the City of Loveland takes in addressing pedestrian network improvements. The first is Pedestrian Network Completion

(PNC) where existing gaps will be filled through the annual sidewalk gap program. The second is Pedestrian Network Rehabilitation (PNR) where deficient pedestrian facilities will be upgraded as street rehabilitation occurs. ADA accessible ramp improvements are done as part of the street rehabilitation program.

Connect Loveland creates a data-driven model for the prioritization of specific sidewalk projects whether they are gap completion or rehabilitation projects. This model allows for a prioritization process that acknowledges there is limited funding and provides a framework for prioritizing projects with the greatest need and return on investment. The prioritization model was based on the synthesis of a number of different factors critical to determining where people need and want to comfortably walk the most, especially those in vulnerable groups. The following list contains the inputs that were summed and used to create three tiers of prioritization for the City's pedestrian network. These tiers are shown in **Figure 11.3**. Pedestrian network gaps and deficient curb ramps are overlaid on these tiers to show

the locations that deserve near-term consideration.

The following inputs were used to create the pedestrian prioritization tiers; they are equally weighted and are listed in no particular order:

- Number of schools within ¼ mile of each corridor
- Presence of a trail access point within ¼ mile of each corridor
- Number of bike and pedestrian-related crashes within 100 feet of each corridor weighted by crash severity
- Number of bus stops within ½ mile of each corridor
- Number of public parks or open spaces within ¼ mile of each corridor
- Corridor is within downtown or ¼ mile of downtown
- Number of city buildings within ¼ mile of each corridor
- Number of community services within ¼ mile of each corridor

The prioritization of the Pedestrian Plan has the following components, in the order listed:

1. Pedestrian network completion - Tier 1

2. Pedestrian network rehabilitation - Tier 1
3. Pedestrian network completion - Tier 2
4. Pedestrian network rehabilitation - Tier 2
5. Pedestrian network completion - Tier 3
6. Pedestrian network rehabilitation - Tier 3

Tier 1 sidewalk completion and rehabilitation projects are shown in **Figure 11.3** and summarized in **Table 11.2**.

Within each of the six categories stated previously, City staff will discuss and prioritize specific locations for gap completion or rehabilitation annually and on a case by case basis. Additionally, the following qualitative criteria will be considered:

- Is there new development or redevelopment in proximity to a sidewalk gap?
- How/when does this location tie into the street rehabilitation schedule?
- Is there grant funding or another funding source available for priority sidewalks?
- Are there potential

partnerships with local entities such as the Loveland Housing Authority, the school district, or Larimer County?

Pedestrian Crossings of Roadways

There are two main types of marked roadway crossings for pedestrians – either controlled crosswalks or uncontrolled crosswalks. A controlled marked crosswalk is a legal crossing across a roadway approach controlled by a stop sign or traffic signal with pedestrian crossing markings. An uncontrolled marked crosswalk is a legal striped crosswalk across a roadway approach without any control, such as a stop sign or traffic signal. Generally controlled crossings are located on higher vehicle volume, higher speed roadways, such as arterials. Uncontrolled crossings are typically located on lower vehicle volume, lower speed roadways locations such as local streets. The specific treatment (marked crosswalk, signage, beacon, etc.) for a specific crossing can be determined using

local and national guidance, discussed in this section.

LCUASS provides local guidance on the implementation of pedestrian crossings at both controlled and uncontrolled locations. Existing crossings should be evaluated regularly to help ensure the current standards are being met.

In addition to these local standards, the City can reference federal and state guidance. FHWA and USDOT developed the “*Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations*.”¹ In 2021 CDOT published a similar resource named “*Pedestrian Crossing Installation Guide*.”²

These documents summarize criteria for pedestrian uncontrolled crossing, procedures for evaluating the need for crossing treatments and the types of crossing treatments

¹https://safety.fhwa.dot.gov/ped_bike/step/docs/STEP_Guide_for_Improving_Ped_Safety_at_Unsig_Loc_3-2018_07_17-508compliant.pdf

² <https://www.codot.gov/safety/traffic-safety/assets/documents/cdot-pedestrian-crossing-guidelines-2021.pdf>

that may be applicable for a particular set of vehicular volumes, vehicular speeds, and roadway geometry. Providing safe and appropriately spaced roadway crossings is an important component of a complete pedestrian network. Both proactive and reactive approaches are key to a comprehensive pedestrian crosswalk safety strategy. Per the introduction of this Chapter, objectives 3 and 4 guide the implementation of crossings in Loveland--Objective 3: to rebuild curb ramps to comply with ADA; and objective 4. to implement new enhanced pedestrian street crossings.

Reactively Addressing Pedestrian Crossing Locations

To address locations where the community has expressed a desire for a crosswalk or crash data indicates a need for a crossing treatment, City staff can refer to the uncontrolled crossings guidance provided by the CDOT Pedestrian Crossing Guidelines in **Appendix D** to determine if a crosswalk is merited and what treatment

type is appropriate. Treatment type is based on vehicular traffic volume, speed limit, and number of travel lanes. Treatments to consider include high visibility crosswalks markings, raised crosswalks, signage, curb extensions, pedestrian refuge island, beacons such as Rectangular Rapid Flashing Beacon (RRFB) or Pedestrian Hybrid Beacon (PHB), or roadway reconfiguration, also known as a road diet.

Proactively Addressing Pedestrian Crossing Locations

Figure 11.3 prioritizes sidewalks and areas where City staff will proactively investigate street crossing locations, first in Tier 1 locations, then Tier 2 locations, followed by Tier 3 locations. Proactive approaches to investigating street crossings could include walking assessments and fieldwork to address potential safety issues that may not be evident in reported crash records or specific requests from the community.

Per the Loveland Roadmap

to Safety Plan (**Appendix E**) described in Chapter 13, Loveland can identify priority safety improvement projects at those intersections based on high-risk roadway features that correlate with particular severe crash types. This systemic safety approach goes beyond spot treatments where previous crashes have occurred to identifying locations across the system that have the highest potential for future severe crashes.

This approach was utilized for the development of the Loveland Citywide Roadway Safety Study. Top intersections of concern were identified through this study by reviewing intersection crash history, geometry, intersection type, and traffic volume to calculate the expected crashes. These expected crashes were then compared to the actual crashes to determine whether an intersection is experiencing an above number of crashes. These identified intersections are a good starting point for identifying improved pedestrian crossings locations.

Pedestrian and Bicycle

Grade Separated Crossings

Grade separated crossings are locations where pedestrians and bicyclists can cross a roadway without having to navigate vehicular traffic; these can be either over-passes (i.e., a bridge) or under-passes (i.e., a tunnel). These crossing types are an essential component of Safe Systems, which is an evidenced-based approach defined by FHWA that assumes people make mistakes and these mistakes may lead to fatalities. A Safe System is designed to anticipate and accommodate errors by drivers and other road users. A Safe System is designed to reduce or eliminate opportunities for crashes resulting in forces beyond human endurance.² Because grade separated crossings minimize the opportunity for human error, they reduce the risk of a traffic-related fatality.

Pedestrian and bicycle grade separated crossings can be considered at high priority locations. While standards with precise guidance on when a grade separated crossing must be implemented have not been

adopted at this time, the City should continue to reference LCUASS Chapter 16.2.1. I, which states: *On major Collectors and Arterials, where required by the Local Entity Engineer, underpass or overpass (grade separated) pedestrian crossings shall be provided for regional/ neighborhood paths and trails. These pedestrian crossings shall be coordinated with the appropriate department.* Overall, the decision to implement a grade separated crossing should be based on a number of factors, including:

- **Speed-** candidates for grade separated crossings include streets operating at or above 35 mph. As shown in **Figure 11.4**, fatality rates go up significantly as speed increases.
- **Facility type-** Grade separated crossings can be used to provide direct access to the Recreation Trail and shared use paths, which provide comfortable, low stress experiences for all users. The weakest link approach conveys that a walking experience will be negatively altered by the most stressful point in a trip, typically

at an intersection. Investing in grade separated crossings where trails and paths cross arterials extends the low stress facility through the intersection.

- **Users-** Grade separated crossings are valuable to people of all ages and abilities. Grade separated crossings can be located where children are present, including destinations such as schools, parks and libraries. Ages 8+ was chosen as a threshold as the American Academy of Pediatrics only recommends that kids travel on their own after eight years of age as their cognitive function is well-developed enough by that time to obey traffic signals. These crossing types also ensure a safe crossing opportunity for older adults, those with mobility

challenges, and others who may have trouble crossing high speed, high volume roadways at grade.

Identified Grade Separated Crossing Locations:

(No identified funding sources yet):

- N. Wilson Avenue at Prairie Ridge Open Space
- N. Wilson Avenue near 35th Street
- Boise Avenue at Big Thompson River

- Boise Avenue at GLIC Ditch
- LCR 11C at N. Boyd Lake
- Near Taft Ave and 57th St. Intersection
- Rossum Drive and US 34
- 57th St. at BNSF Crossing

² https://safety.fhwa.dot.gov/zerodeaths/docs/FHWA_SafeSystem_Brochure_V9_508_200717.pdf

FIGURE 11.4: FATALITY RATE BY VEHICULAR SPEED

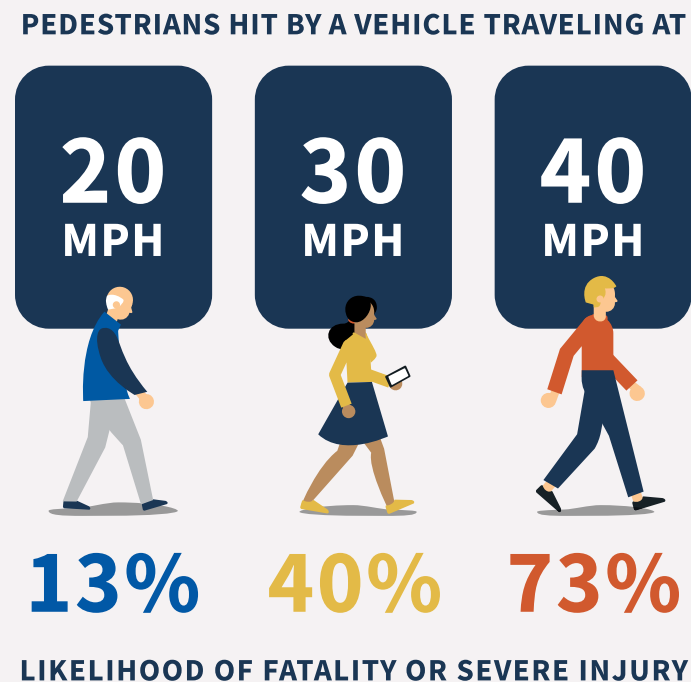


TABLE 11.2: SUMMARY OF TIER 1 SIDEWALK PROJECTS

Location	Improvement Type	Feet	Cost
Corridor: 57th Street	New Sidewalk	528	\$120,000
	Sidewalk Upgrade	-	\$-
Corridor: 1st Street	New Sidewalk	6,336	\$1,460,000
	Sidewalk Upgrade	13,728	\$3,160,000
Corridor: 29th Street	New Sidewalk	1,056	\$240,000
	Sidewalk Upgrade	6,336	\$1,460,000
Corridor: Lincoln Avenue	New Sidewalk	3,168	\$730,000
	Sidewalk Upgrade	12,672	\$2,910,000
Corridor: Buchanan Avenue/ Highway 287	New Sidewalk	528	\$120,000
	Sidewalk Upgrade	1,056	\$240,000
Corridor: Garfield Avenue	New Sidewalk	8,448	\$1,940,000
	Sidewalk Upgrade	3,696	\$850,000
Corridor: Eisenhower Boulevard	New Sidewalk	6,864	\$1,580,000
	Sidewalk Upgrade	8,976	\$2,060,000
Other Pedestrian Focus Areas	New Sidewalk	36,960	\$8,500,000
	Sidewalk Upgrade	73,392	\$16,880,000
TOTAL NEW SIDEWALK		66,000	\$15,180,000
TOTAL SIDEWALK UPGRADE		123,552	\$28,420,000
GRAND TOTAL		189,552	\$43,600,000

Summary

Feedback from the public and stakeholders (summarized in **Chapter 4**) demonstrated strong support for making walking in Loveland more comfortable and convenient. This chapter reflects these desires and provides the blueprint for how the City will expand and invest in the pedestrian network through what *Connect Loveland* has framed, the Pedestrian Plan Key components of expansion of the pedestrian network described in this chapter include:

- **Complete sidewalk gaps in high priority pedestrian areas** - Loveland should prioritize the completion of missing sidewalks in locations where there are no facilities. Sidewalk and tree lawn widths should meet LCUASS standards based on street classification.
 - **Rehabilitate existing sidewalks**- This includes replacement of damaged sidewalks, widening of substandard sidewalk, upgrade of curb ramps to meet ADA standards, and implementation of pedestrian crossings at intersections.
- Similar to the completion of the network, sidewalk and tree lawn widths should meet LCUASS standards based on street classification.
- **Rebuild curb ramps to comply with ADA**- Implement new curb ramps and upgrade existing curb ramps to ensure that they are ADA compliant. This investment should be completed according to the prioritization tiers identified in this chapter.
 - **Implement new enhanced pedestrian street crossings** - This begins with the identification of crossing

locations, both reactive to community concerns and safety hot spots as well as proactive in high priority locations, such as the top intersection locations of concern identified in the Loveland Citywide Roadway Safety Study. For identified locations, this chapter provides a guide to determining the appropriate crossing treatments based on the vehicle volume, vehicle speed, and pedestrian volume. Grade separated crossings are recommended for consideration where appropriate.



12. Loveland Transit Plan

Determining Scenario Themes

Between 2020 and 2040, the City of Loveland plans to continue investing in transit with the goal of growing local and regional ridership and expanding mobility options across the City. Improvements will be phased gradually over time based on available funding and will respond to land use changes. In other words, as Loveland grows and land use patterns in some areas change (e.g., greater density and mixes of land uses downtown and along the US-287 and US-34 corridors), transit services should expand in both geographic coverage and in the types of service provided. **Figure 12.2** provides a map of the proposed 2040 transit vision. Alignments shown in **Figure 12.2** are general and exact routing will be determined during implementation based on land development, roadway operations, scheduling, and other factors.



The proposed 2040 transit network strikes a balance between transit coverage and frequency. “Coverage” routes provide service to more of the city, which makes transit available to more users. “Frequency” routes are more often and direct, which makes transit more convenient and viable, particularly for discretionary trips like shopping or recreation. In general, the proposed 2040 network builds off the 2018 route restructure, which resulted in a boost in ridership as routes were made more direct, frequent, and with more reliable on-time performance.

By 2040, it is anticipated that service hours of local buses, operated by City of Loveland Transit (COLT), will need to triple as compared to 2020 levels. Coverage should be expanded to serve growing areas of the City, including the Centerra development, the northwest areas of the City (around US-287), and south areas of the City (around SH 402). Frequency will need to be increased to at least 30 minutes on all routes, and two high-frequency routes introduced (with service every 15 minutes) along US-287 and US-34.



LOVELAND WILL CONTINUE TO WORK WITH REGIONAL PARTNERS TO EXPAND SERVICE ON THE FLEX AND BUSTANG, ALONG US-287 AND I-25 RESPECTIVELY.

Additionally, it is anticipated that two new regional routes will connect Loveland to Estes Park and to Greeley, and Loveland will also support the potential Front Range passenger rail serving Loveland¹. Capital investments will be necessary to grow the bus fleet, improve bus stops, park and rides, and transit facilities, and improve speed and reliability of high-frequency local transit and regional service.

Details on the proposed expansion of local and regional service as well as capital improvements are provided in the following sub-sections.

¹ Implementation of Front Range passenger rail will be a complex and expensive multi-jurisdictional effort lead by the State of Colorado. Loveland will support this to the extent possible, but it will primarily be dependent on action from the State and funding from local, state, and federal governments to become a reality.

Local Transit

Local transit is provided by COLT and serves internal trips within Loveland. COLT also acts as an important feeder service to the FLEX regional route between Fort Collins and Boulder County. About one quarter of existing riders on COLT transfer to the FLEX. Improving connections between COLT and regional routes, including both the FLEX and Bustang as well as the future planned regional routes to Greeley and Estes Park, will be essential to growing ridership and achieving the City's transportation goals.

Local transit would likely be expanded in two phases as described in **Table 12.1**. Phase 1 and Phase 2 improvements are mapped in **Figure 12.1** and **Figure 12.2** respectively. The timing of local transit expansion will depend on both funding availability and the pace of land development.

TABLE 12.1: TRANSIT PLAN IMPLEMENTATION PHASES

Phase 1	Phase 2
<ul style="list-style-type: none"> Four buses will be added to the local fixed-route system, effectively doubling 2020 service levels Route 3 will split into the two routes: <ul style="list-style-type: none"> » Northeast Route » US-34 Route Route 6 will be replaced by two new routes: <ul style="list-style-type: none"> » North Route » Northwest Route Frequency on all COLT routes will be increased to 30 minutes 	<ul style="list-style-type: none"> Four buses will be added to the local fixed-route system on top of Phase 1 increases, effectively tripling 2020 service levels Frequency along US-34 and US-287 will increase to every 15 minutes New route or on-demand service will be added to serve future development along SH 402 Two new regional routes are planned to connect Loveland to Estes Park and Greeley (regional coordination required)

FIGURE 12.1. PHASE 1 TRANSIT VISION

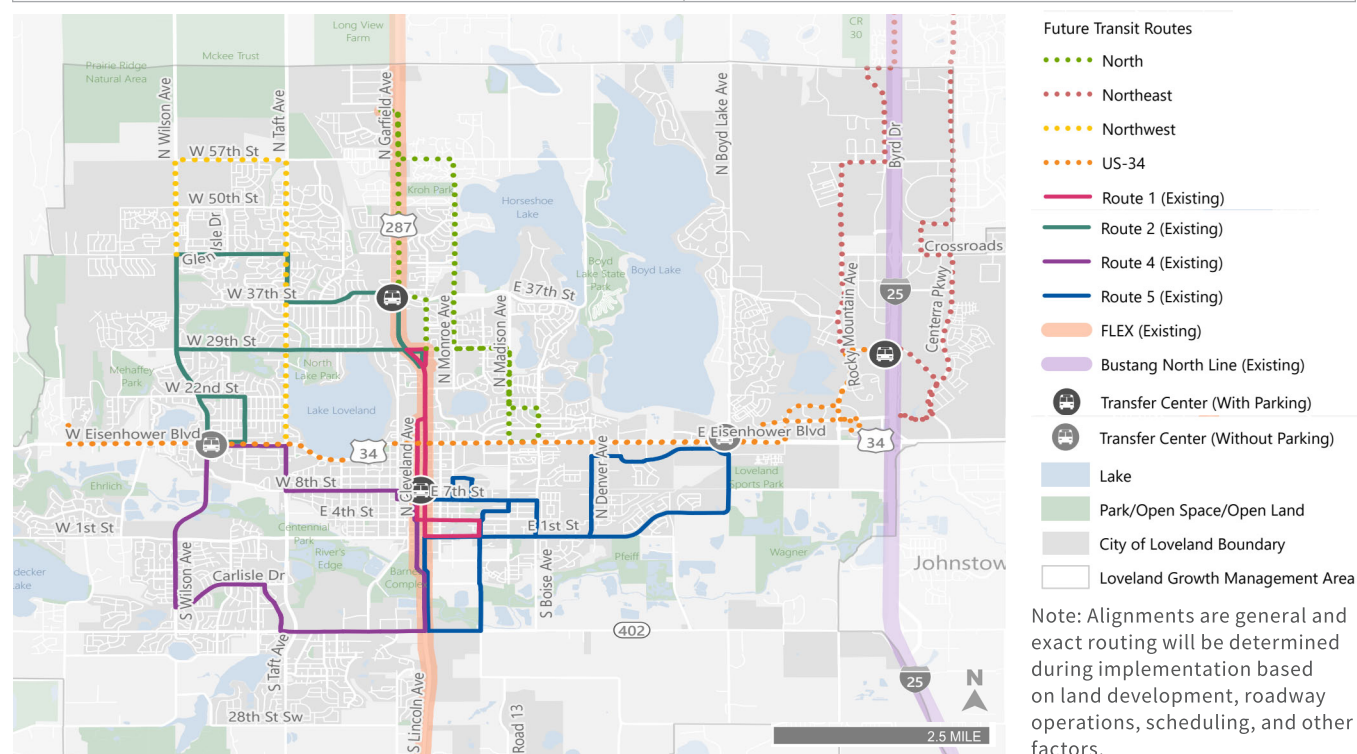
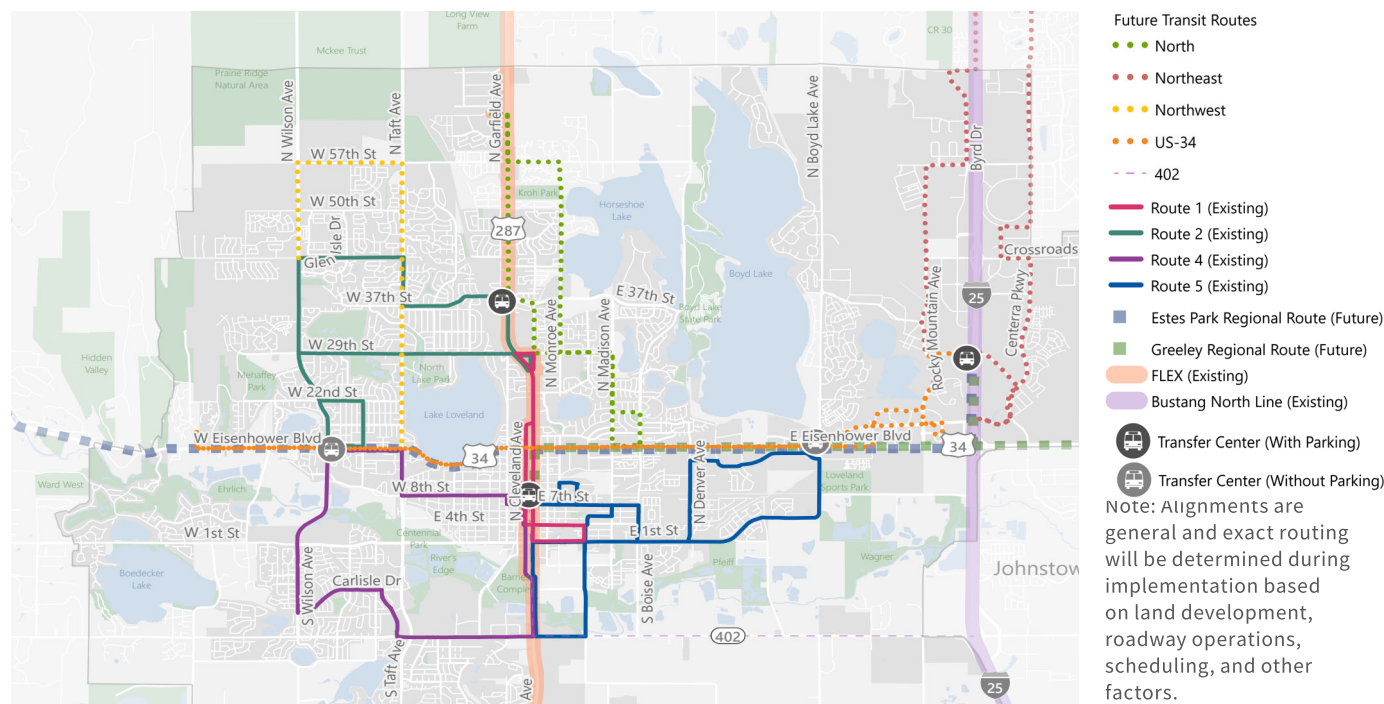


FIGURE 12.2. PHASE 2 2040 TRANSIT VISION



Regional Transit

Transit service between Loveland and surrounding communities has grown significantly in the last decade. Most notably is the expansion of the FLEX service along the US-287 corridor to Fort Collins, Longmont, and Boulder as well as the introduction of (and growth of) Bustang service provided by CDOT along the I-25 corridor to downtown Denver. Regional transit service to

Loveland is expected to continue to increase in the future and play a larger role in regional commuting patterns. The growth in regional transit is an important consideration given the increasing regionalization of the area economy, as described in **Chapter 3**. The continued dispersal of workers relative to employment areas and housing affordability issues in certain areas will increase demand for regional trips both

in cars and in transit. Today, regional transit flows are largely outbound from Loveland in the morning commute to job centers in Fort Collins, Boulder County, and Denver. While this pattern is expected to remain in 2040, substantial job growth within Loveland will generate more of a “reverse commute” pattern as well. Loveland can enhance transit’s ability to support employees who commute into the City

through various transportation demand management strategies described in **Chapter 13**.

The public and stakeholder process revealed that investment in regional transit is a high priority for the community. Loveland will continue to work collaboratively with partner agencies to improve regional transit between Loveland and neighboring communities along the Front Range. Regional partners include, but are not limited to, Larimer County, Weld County, Boulder County, Transfort, Greeley-Evans Transit (GET), Town of Estes Park, Town of Windsor, CDOT (Bustang), and the NFRMPO. Loveland will prioritize the following investments in regional transit:

- **Loveland – Estes Park.**

A market and operations analysis for a new transit route connecting Loveland with Estes Park should be explored. This route is included in the 2015 Statewide Transit Plan and NFRMPO’s 2045 Regional Transit Element (RTE). The new route could potentially intercept recreational visitors to the Town of Estes Park and Rocky Mountain

National Park as well as serve commuter traffic between the two cities. Future studies would determine the exact alignment, but this route would likely begin at the Kendall Parkway/I-25 park and ride and run west along US-34 to Estes Park, with connections to the COLT, FLEX, and Bustang in Loveland. Potential partner agencies include the Town of Estes Park, Larimer County, and CDOT.

• **Loveland – Greeley.** Loveland will continue working with Greeley-Evans Transit, Weld County, Larimer County, Town of Windsor, and the NFRMPO to explore the feasibility of adding a regional route between Loveland and Greeley. This route

is included in the 2020 Statewide Transit Plan and NFRMPO's 2045 RTE. This route would serve growing traffic between the two regions. Future studies would determine the exact alignment, but this route would likely begin at the South Transfer Point in downtown Loveland and serve the Kendall Parkway/I-25 park and ride providing connections to the COLT, FLEX, and Bustang in Loveland.

• **FLEX.** The FLEX provides important regional transit connections between Fort Collins, Loveland, Berthoud, Longmont, and Boulder. About one quarter of existing COLT riders transfer to the FLEX. The 2019 Fort Collins Transit Master Plan

and the 2045 RTE supports increasing FLEX service to capture a larger share of the growing commuting population. Potential expansion would be achieved through collaboration with Fort Collins and other communities to fund increased frequency and span of service to more hours of the day and days of the week. Over the years, FLEX has seen strong ridership growth, and this trend is likely to continue given regional employment and housing trends. Loveland will also need to make potential improvements to the local transit network (see **Figure 12.1**) to improve connections between the COLT and FLEX.

• **Bustang North Line.** CDOT operates Bustang service between Loveland and Denver along I-25 via the North Line. As part of the I-25 North expansion project, CDOT is investing heavily in infrastructure for transit service along I-25 between Fort Collins, Loveland, and Denver. Investments include a new mobility hub, the Centerra Loveland Station, which will be constructed along a new section of Kendall Parkway, north of US Highway 34. The mobility hub is currently under construction and will feature 200 parking spaces, bike racks and EV chargers. Center load slip ramps will allow Bustang busses to safely exit the Express Lanes to the bus stop in



the highway median and re-enter the highway. At the hub, local connections can be made between the COLT and Bustang.

The City of Loveland will also continue to work with CDOT and Fort Collins (and other future partner communities along the line) to support increased service levels along the North Line. Long-term, as development increases downtown and along SH 402, there may be an opportunity to add a Bustang route originating in downtown Loveland and serving the park and ride at I-25/SH 402.

- **Front Range Rail.** Plans for a comprehensive passenger rail system serving the Front Range have been under consideration for decades by local and state

governments, advocacy groups, and other stakeholders. In 2017, the Southwest Chief and Front Range Passenger Rail Commission (Rail Commission) was re-established to facilitate the development and operation of passenger rail service along the Interstate 25 corridor. In 2020, CDOT and the Rail Commission completed an Alternatives Analysis that evaluated corridors for passenger rail service to the major population centers, considered governance options and conducted stakeholder outreach. The Alternatives Analysis showed that Front Range Passenger Rail is technically feasible and can be implemented using existing transportation corridors. Additionally, one of the preferred identified stations

is located in Loveland. During 2023 and 2024 additional analysis will be completed and documented in the Final Report Service Development Plan to be completed in quarter three of 2024. Loveland will continue to be an active partner in the planning and development of Front Range passenger rail with CDOT and will support investment in regional passenger rail to Loveland. Future passenger rail and local bus service will also be planned so that connections can be made between the two.

- **Route Connectivity.** The easier it is for transit riders to connect between transit services and different regional providers, the more likely people will choose to travel via transit. Loveland

will work with regional partners to improve connectivity among regional agencies and reduce barriers. This will include working toward making the following improvements:

- » Single fare payment – This would allow patrons the ability to purchase one fare for a trip on the FLEX, Bustang, COLT, and other future services.
- » Timed transfers – Schedules will be planned to reduce wait times when transferring between services.
- » Transfer points – Routes will be planned so connections between service providers can be made via a short walk.
- » Trip planning applications – This is described further in **Chapter 14** (see Mobility-as-a-Service)



Capital Investments

As part of realizing the vision for transit in Loveland, the City will need to make capital investments. These investments would allow for expanded transit service, improve access to transit, and improve transit operations.

• **Bus Fleet.** The proposed tripling of transit service levels between 2020 and 2040 will require COLT to increase its fixed-route bus fleet from four to twelve vehicles. This total does not include additional backup (contingency) buses and paratransit buses, which will also need to grow to match the expanded service area.

• **Transfer Points/Park and rides.** There are three existing

transfer points on the COLT system: North, South, and West. The West and South transfer points are on-street bus stops and the North Transfer point is an off-street facility in a parking lot leased from the Loveland Food Bank. The North Transfer Point is the primary connection point to the FLEX and is also a designated park and ride, primarily used by Fort Collins-bound commuters.

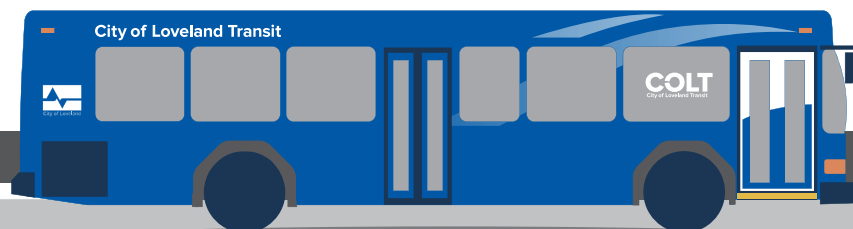
As the system grows, it is proposed that COLT will make the following investments in transfer points and park and rides. There may also be a need to designate additional transfer points. Some of these improvements will need to be made in partnership with other agencies.

» **North Transfer Point.** The City of Loveland purchased land near the intersection of

US-287 and 37th Street with the intent of relocating the North Transfer Point. The City will pursue development of a new permanent off-street North Transfer Point on this property. The new transfer point should be built to adequately accommodate the FLEX and all planned COLT routes. Since the North Transfer Point is the primary stop for Loveland residents to access the FLEX (with many of the Fort Collins – Loveland FLEX runs terminating here), the facility should also include a park and ride and bicycle parking

» **South Transfer Point.** The South Transfer Point is located at 8th Street and US-287 at the north end of downtown Loveland and

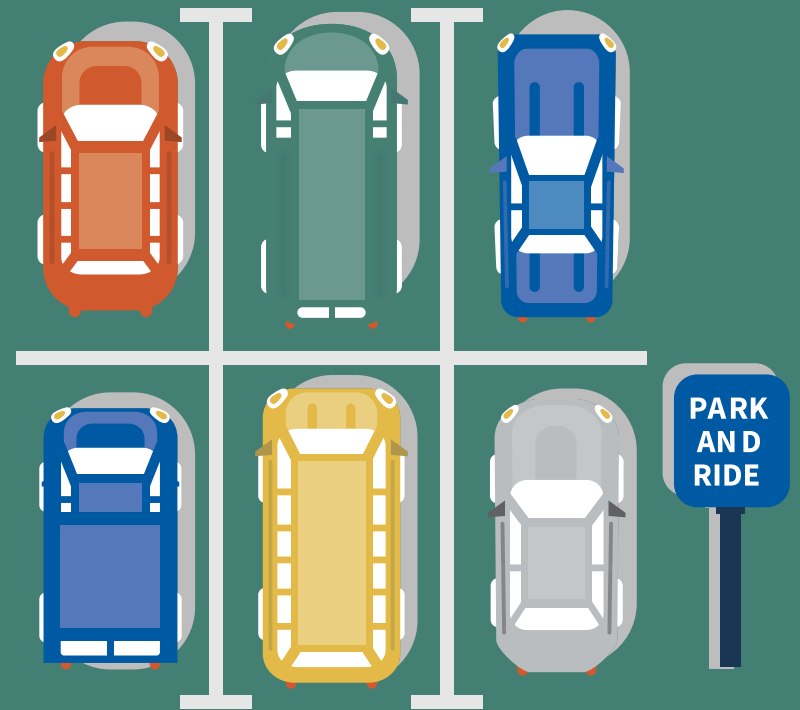
is another transfer point between three COLT routes and FLEX runs to Longmont. There is an existing agreement with an adjacent shopping center to allow parking for transit users. In the near term, COLT will maintain the existing arrangement. As development increases downtown, COLT will explore developing a more formal on-street or off-street transfer center downtown. Additionally, because remote parking is not the best use of land downtown, as additional FLEX service south of Loveland is added, COLT will explore the potential for adding a new park and ride along US-287 south of the downtown to accommodate demand for FLEX parking. In the event that passenger rail service is



developed along the BNSF railroad corridor in the future, this location will be a key transfer point between passenger rail and COLT routes.

- » **Park and rides for Regional Service.** As part of implementing regional service to Estes Park and Greeley, the City of Loveland should identify park and ride locations for these new regional transit routes. A logical location for both routes may be at the planned I-25/Kendall Parkway Park and ride owned by CDOT. Additionally, Loveland will evaluate the potential for an additional park and ride near US-34 on the west side of the City to serve as an intercept lot along the proposed Loveland to Estes Park route. Funding and implementation of a park and ride for these regional services will be done in collaboration with CDOT and partner jurisdictions. This will be particularly true for service to Estes Park that will likely serve a large portion of people from outside of Loveland.

Park and Rides



Park and rides are one tool transit agencies use to expand the catchment area of (i.e. improve access to) long-haul, limited-stop regional and commuter transit services. In Loveland the main purpose of park and rides is to increase access to regional transit services (such as FLEX and Bustang) for residents of Loveland and the surrounding areas. These facilities are primarily used by commuters traveling to Denver, Fort

Collins, Longmont, and Boulder. In the future park and rides in Loveland may also be used by regional travelers to Estes Park and Greeley. Because COLT provides local service, the vast majority of COLT riders are not using park and rides and thus park and rides are not intended to increase access to COLT. Other tools will be used to increase access to COLT, including: expanding the coverage and frequency of COLT, building

out the pedestrian and bicycle network, improving connections between local and regional transit, and through transportation demand management strategies, all of which are described in other parts of this plan. Expansion of park and rides in the future will be closely aligned with expansion of the regional transit network in order to improve access to (and grow ridership along) the regional transit network.

• **Bus Stops.** The City is planning to initiate a program to improve bus stops over time. Loveland will need to develop their own bus stop design guidelines (the City currently uses the City of Fort Collins guidelines). Improvements will follow these guidelines and will generally include a concrete waiting area, bench, shelter, lighting, route information, trash receptacle, and bicycle parking. Per the guidelines, not all bus stops will have all amenities and stops with higher ridership will have more amenities. At a minimum all bus stops should have a concrete waiting area, adequate signage, connect to the sidewalk, and meet American with Disability Act (ADA) requirements to ensure access for users of all abilities. As one means of implementing improvements, the City will study requiring large developments to make improvements to adjacent bus stops (existing or planned) when they are constructing their developments or making major renovations. Additionally, as new bus stops are added and routes modified, the bus stops should be placed or relocated as close to a controlled marked crosswalk as feasible on collector and arterial

streets. The focus on marked crosswalks is an important link between transit access and safety.

• **Speed & Reliability**

Improvements. As part of the proposed Phase 2 of expansion of the local transit network, high-frequency service will be added to the US-287 and US-34 corridors. When this occurs, the City will need to analyze those corridors for potential capital improvements to increase transit speed and reliability of both local and regional routes along those corridors. Potential improvements may include (but are not limited to) transit signal priority, queue jump lanes at congested intersections, business access/transit-only (BAT) lanes, removal of bus pullouts, and bus bulb-outs.

• **Bus Maintenance Facility.**

COLT buses are currently maintained at the Loveland Transit Operations Maintenance Center near downtown. In the near-term, this facility has the capacity to accommodate a doubling of the bus fleet as part of Phase 1 expansion of the local bus network. However, a new or

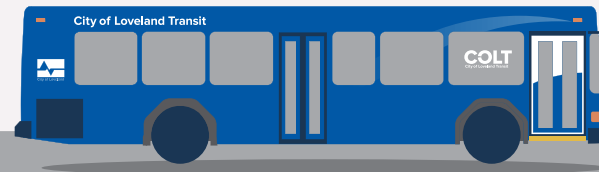
expanded maintenance facility will be needed long-term to support full buildout of the local and regional transit network identified in this plan.

Additionally, the existing maintenance facility is in a

location that could serve as a good station for a future front range passenger rail. This opportunity will continue to be considered and analyzed as plans for a front range passenger rail develop.

Regional Transit Authority

The proximity between Loveland and the neighboring transit agencies, particularly Fort Collins, along with the plan for more regional service prompts the question of whether Loveland and neighboring transit providers should consolidate into a regional transportation service. RTAs are allowed under Colorado State law and are used to collect fees, fares, and taxes to fund transportation capital and operations projects, including transit. For Loveland, joining an RTA offers the potential for less overhead and an economy of scale that can be beneficial for purchasing vehicles, attracting competitive bids, administering the transit program, and securing grants. The downside is that Loveland would have less control of local service than if they remain independent. In the near-term, neither COLT nor Transfort are interested or considering consolidating into a larger RTA. However, as the communities of the North Front Range continue to expand regional transit service and coordinate or combine services, Loveland should continue to look for opportunities to partner with other agencies and increase the efficiency, ease of use, and ridership of the regional transit system.



2040 Service Metrics

The following charts (**Figure 12.3 – Figure 12.6**) depict the outcomes in 2040 if the recommendations in the Loveland Transit Plan are implemented. By 2040 annual ridership on COLT would grow by over 300% from 2019 and productivity (passengers per revenue hour) would increase by 35%.²

² Ridership and productivity forecasts are based on a frequency elasticity (to reflect the increase in route frequencies) and the forecast population and employees that would be within walking distance of transit based on the preferred land use scenario.

FIGURE 12.3: ANNUAL COLT RIDERSHIP

COLT Fixed-Route Annual Ridership

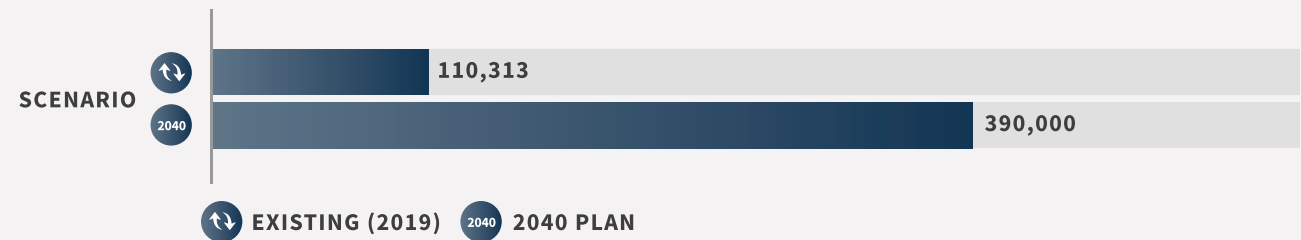


FIGURE 12.4: COLT PRODUCTIVITY

Riders Per Service Hour



*Excludes Paratransit Service

Local transit system coverage, or the percent of residents and jobs within close walking distance of transit, would also increase by 2040. The percent of residents within a quarter mile of transit (about a five-minute walk) would increase from 49% to 58% and the number of jobs would increase from 53% to 56%. Even more significantly, will be the increase in access to high frequency transit, which generally attracts passengers from a larger walking distance (a half mile instead of a quarter mile) and attracts more riders from other modes. Because there are no routes in 2020 that operate at a high-frequency, the percent of the residents and jobs within a half mile of high-frequency transit (15 minutes or less) would increase from zero in 2020 to 39% and 44% respectively by 2040.

FIGURE 12.5: COLT SERVICE AREA COVERAGE

Within 1/4 Mile of Transit

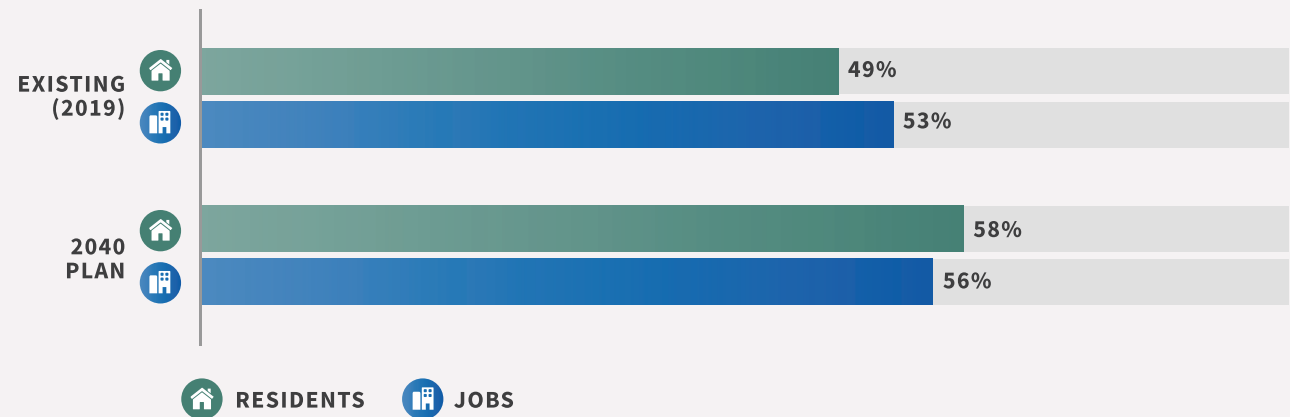
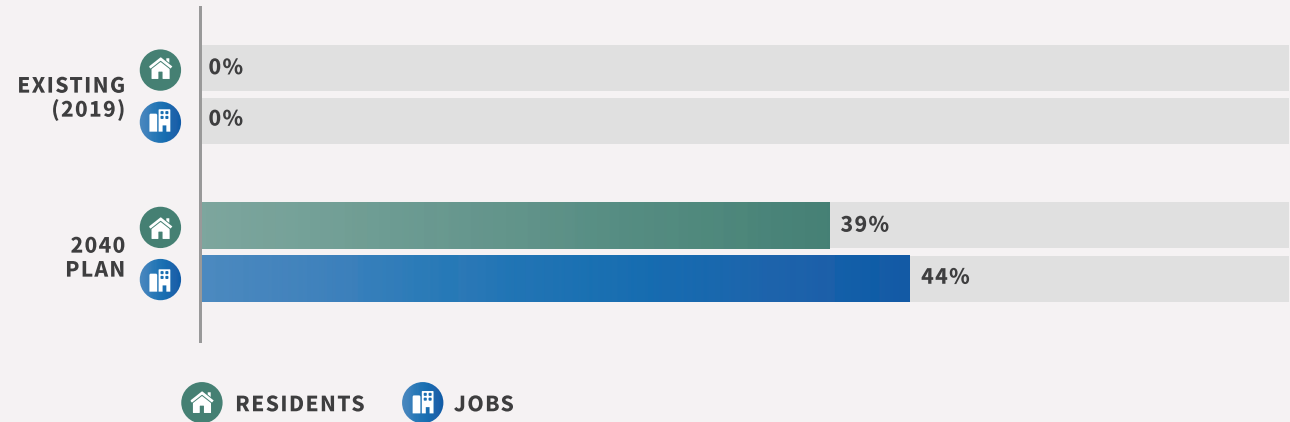


FIGURE 12.6: HIGH-FREQUENCY TRANSIT COVERAGE

Within 1/2 Mile of High Frequency* Transit



*High frequency = every 15 minutes

FIGURE 12.7: 2040 PLAN COST

Annual O&M Cost (2018 dollars)

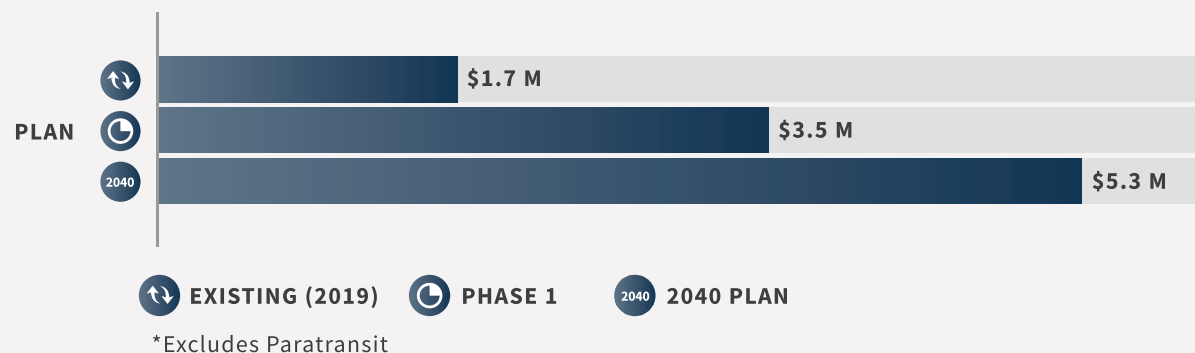


FIGURE 12.8: EXISTING COLT FUNDING SOURCES

2019 COLT Source of Funds



Transit Funding

Implementing the transit plan will require a tripling of revenue service hours by 2040 as well as several major capital investments. By 2040, annual operating expenses for just the fixed-route service operated by COLT is expected to increase from \$1.7 million in 2018 to \$5.7 million (both in 2018 dollars), see **Figure 12.7**. Because the City's population is expected to grow by 44% between 2020 and 2040, the annual cost per capita will grow by about 130% (from \$23 to \$53 per capita annually). This will require developing a strategy to increase funding for transit over time.

Figure 12.8 shows that over 70% of operations funding for COLT currently comes from City general funds, with most of the rest from federal operating grants. In order to expand service, Loveland will need to generate new funding sources. Potential new funding sources could be specific to transit or packaged as part of a larger multimodal transportation improvement fund. **Chapter 15** provides more detail on funding options the City will explore to expand transit, including through sales tax, transportation utility fees, or others.

In addition to exploring new local funding options, Loveland will continue to leverage state and federal transit funding sources. While the availability of state funding specific to transit is currently limited, this may change as CDOT continues to grow its Division of Transit & Rail and the state legislature develops proposals to address transit funding. There are numerous formula-allocated and competitive federal transit grants for both capital and operating improvements that Loveland will leverage to build out the transit network (see some listed below). Loveland will also work closely with the NFRMPO, Larimer County, and nearby communities to explore and leverage funding opportunities to grow regional

transit. For example, local transit agencies are increasingly partnering on bus purchases to get a better rate on a bulk order or coordinating to obtain a grant on a multi-jurisdictional corridor. Examples of potentially relevant Federal Transit Administration (FTA) grants include:

- Congestion Mitigation and Air Quality (CMAQ)
- §5307 Urbanized Area Formula Grants
- §5310 Formula Funds for Enhanced Mobility of Seniors and People with Disabilities
- §5339 Grants for Buses and Bus Facilities
- Integrated Mobility Innovation



Converting to Fare Free

In 2019 fares accounted for 4% of COLT's operating budget. This is a relatively low proportion of fares relative to overall costs. Given the low proportion of fares, Loveland may want to explore converting the transit system to fare-free in order to improve access to transit and grow ridership. The current adult fare for the COLT is \$1.25. COLT already offers fare-free service to youth under 18 years of age through the "Youth Ride Free" program initiated between August, 2019 and May, 2020. COLT also provides a discounted rate of 60 cents to seniors and people with a disability. In 2018, these three populations that receive free or reduced fares accounted for about 65% of COLT's ridership.

Research has shown there is a strong elasticity between fares and ridership. Fares can be a big barrier to potential riders, both from the financial burden

and inconvenience (finding exact change, etc.). Converting to fare-free would likely lead to increased ridership and productivity across the system. Fare-free would also increase speed and reliability of service, save administrative costs and substantially increase equity of the system by providing greater access to the service for people with all levels of income. Some of the barriers to fare-free transit include the need to make up for the lost fare revenue, the added cost of fully funding dial-a-ride services, and political sensitivities about transit riders getting an outsized subsidy from the public.

There are several examples of fare-free systems in the U.S., including Chapel Hill NC, Missoula MT, and Corvallis OR. Chapel Hill is the largest in the country with annual ridership over 6 million and annual operating expenses

of about \$18 million. Kansas City recently voted to convert its transit system to fare free starting sometime in 2020, the first major metropolitan area in the U.S. to do so. Also in 2020, Intercity Transit, which provides transit service in metropolitan Olympia, WA (annual ridership in 2019 of about 4.7 million), began a five-year fare-free pilot program. Intercity Transit's fare recovery was about 9 percent prior to going fare-free. Ridership in January 2020 (the first full month of fare-free operations) increased by 20 percent year-over-year, including a nearly 50 percent increase in ridership on weekends. These results indicate that more people have improved transportation access, particularly for discretionary weekend travel. The early success of the Youth Ride Free Program illustrates the potential benefits of converting to a fare-free system.

Transit Oriented Development

As new residential and commercial development occurs, particularly at infill sites along major corridors, new markets for capturing transit riders will emerge. There is clear research that shows the linkage between higher densities, increased transit ridership, and lower vehicle miles traveled (VMT). Loveland's comprehensive land use plan "Create Loveland" envisions new commercial development concentrated at prominent intersections and nodes and along transit supportive corridors. Directing new and dense development along transit corridors (such as US-34, US-287, and SH 402) and allowing for higher density nodes will contribute to increased transit ridership, particularly when coupled with new high frequency service on some of these corridors. Low density developments on the edge of the City will be more challenging and less cost-effective to serve by transit. Furthermore, investment in regional transit points, bus stops, and high-frequency service

will incentivize and increase the opportunities in Loveland for transit-oriented development.

Additionally, the success of transit in the future will heavily depend on investments to the pedestrian amenities, including walkways and street crossings within existing and future developments. Buildout of the bicycle and pedestrian networks as part of the layered network (see Chapters 8, 10, and 11) will greatly expand the reach of transit to include areas beyond the core transit corridors.

Leveraging Transit Technology

Changing transportation technology will impact public transit in both the near-term and long-term, and over time, Loveland should adapt to leverage these changes in the most positive ways. Many of these technologies are evolving at a rapid pace, and as with any new technology, the full impact, opportunities, and implications are still emerging. A few technologies that Loveland

will monitor in the coming years and may leverage to improve transit are described here.

• **Electric Buses** – Electric buses and other zero emissions vehicles (ZEVs) are becoming increasingly common and the FTA has increased incentives for transit agencies to procure electric buses. While electric buses offer cleaner, quieter technology with reduced maintenance costs, there are still some drawbacks that will make it challenging for COLT to integrate electric buses into the system near term. These include the high purchase cost, the need to modify maintenance facilities to accommodate charging infrastructure, the time required to charge buses, and most importantly the limited distance buses can travel between charging. In the near-term, Loveland will continue to use internal combustion engine buses, but as electric bus and ZEV technology advances to become more cost effective and operationally feasible, Loveland will consider converting to an all-electric fleet.

• **Autonomous Transit** – Autonomous vehicles have been in testing phase for some time and there are numerous examples of pilot programs with autonomous trucks and transit around the world. While it is difficult to predict when autonomous vehicles will become more abundant, transit buses are likely to be one of the earliest adopters of the technology. This is because transit operates on a fixed route with predictable schedules, stops, and alignments, all elements that make implementing autonomous vehicle technology simpler. Autonomous vehicle technology in buses may also reduce the cost to provide transit by eliminating the need for drivers, which is the single greatest cost of operating transit. Autonomous buses will also help address a persistent labor shortage of commercially licensed drivers. Loveland will monitor the evolution of autonomous transit as a potential cost saving measure in the future, and when the technology becomes available, it may allow the City to expand transit service with lower impacts to the annual operating cost.

• **On-Demand Service** – In the previous decade, ride hailing services using mobile applications (such as Uber and Lyft) have significantly disrupted transportation services in a short time. This disruption includes reductions in transit ridership in some areas. At the same time, an opportunity has emerged to leverage these on-demand services to provide transportation to low density neighborhoods or during non-peak hours. Many transit agencies have piloted partnerships with private sector on-demand providers to various degrees of success. Loveland has a partnership with a private taxi provider that allows paratransit users to utilize Dial-a-Taxi during hours paratransit does not operate or for destinations outside the service area. While the bulk of transit changes documented in this plan focus on expanding and improving the fixed-route network (which will continue to be the most energy and space efficient way to move large numbers of people), Loveland will consider opportunities to leverage on-demand partnerships in the future as a way of serving low-demand areas or expanding the span of service.

• **Transit Signal Priority (TSP):** Adaptive signal technology that allows buses to communicate with a traffic signal in order to extend green time in their direction of travel. TSP helps transit vehicles run on schedule. Innovative new uses for traffic signal pre-emption (interruption of a current signal indication) are also emerging. For example, Los Angeles is testing traffic signal pre-emption to trigger red lights to slow/stop speeding vehicles during off-peak hours of the day in order to improve traffic safety.

Summary

The outreach process for *Connect Loveland* (summarized in **Chapter 4**) demonstrated strong support among the community for improving and expanding public transit in Loveland. The Loveland Transit Plan reflects these desires and provides the blueprint for how the City will expand and invest in transit through 2040. Key components of the Transit Plan described in this chapter include:

• **Significant Investment in Transit** – This Plan anticipates a tripling of transit revenue hours of service in Loveland by 2040 as

well as expansion of the regional transit network, and capital improvements to grow the bus fleet, improve bus stops and park and rides, and improve transit speed and reliability.

• **Balance of Transit Coverage and Frequency** - The proposed 2040 transit network strikes a balance between serving different areas of the city and improving the frequency and directness of routes, which will result in increased speed, reliability, and ultimately attractiveness of the service.

• **Phased Transit Expansion in Concurrence with Land Use Growth** - Improvements will be phased gradually over time based on available funding and will respond to land use changes.

• **Expanding Regional Transit** – This plan includes strategies to improve and expand regional transit, including improving connectivity with the local system,

that will allow transit to play a larger role in serving the rapidly growing regional travel market.

• **Leveraging New Transit Technology** – This plan includes strategies for the City to leverage emerging transit technologies to better serve the community, including electric and autonomous vehicle technology, transit signal priority, and on-demand service models.

The improvements outlined in this plan will help make the transit system in Loveland safer, more reliable, more convenient, and a more attractive means of transportation for the residents and employees in Loveland.

Lastly, implementing the Transit Plan will be a critical component of achieving the City's larger land use and transportation vision and goals (see **Chapter 5** and the *Create Loveland Plan*).



13. Programs and Policies



A comprehensive set of programs and policies is needed to support the recommendations provided in *Connect Loveland* and ensure the Plan's vision, goals, and objectives will be achieved. The transportation network is more than physical infrastructure; a supporting set of programs and policies will ensure the new roadways, active transportation facilities, and transit services that emerge from *Connect Loveland* are used effectively, efficiently, and safely. These programs and policies are also put in place so that the City's transportation system complements broader community values. This Chapter highlights opportunities to incentivize travel by modes other than single occupancy vehicle, highlights opportunities for leveraging existing programs to develop more bicycle and pedestrian infrastructure, and discusses how *Connect Loveland* can improve both health and safety outcomes.








USING THE PROGRAMS AND POLICIES HIGHLIGHTED IN THIS CHAPTER, THE CITY OF LOVELAND CAN ENSURE THAT ALL CONNECT LOVELAND RECOMMENDATIONS CAN BE IMPLEMENTED EFFECTIVELY.

Transportation Demand Management

Transportation Demand Management (TDM) is a set of strategies and policies for improving the efficiency of a transportation system by providing commuters and other travelers with opportunities to choose modes other than single occupancy vehicles (SOV). Rather than focusing on meeting travel demand through expanded infrastructure, TDM identifies barriers to using existing but under-utilized non-single occupancy vehicle options and generates mechanisms for overcoming those barriers. For example, if a company provides employee vehicle parking and no bicycle racks or secure bicycle storage then employees seeking to commute by bicycle face a barrier that can be overcome with a low-cost intervention. Through the *Connect Loveland* planning process, creating a mandatory TDM program emerged as the preferred level of involvement the City would have in shaping TDM.



TDM categories and policies can take on a range of different forms – **Table 13.1** is a set of broad categories that together encompass the spectrum of TDM options.

TABLE 13.1: TDM CATEGORIES

Strategy	Example
 Bicycle and Walking	Installing bike parking at key destinations
 Integrating TDM with Development	Allowing developers to sponsor a transit stop in lieu of meeting parking minimums
 Parking	Working with schools to reduce the availability of student parking and provide improved bus transportation
 Program	On-site daycare offered by major employers
 Rideshare	Vanpool programs where participants are eligible for pre-tax commuter benefits
 Transit	Transit fare subsidies
 Telecommuting	Incentivizing and supporting teleworking for City employees and including TDM programs for employees



An effective Connect Loveland TDM plan would feature strategies from each category. **Table 13.2** shows potential strategies for each category that are relevant to the City of Loveland, along with a high-level cost estimate for implementation and the potential of the strategy for changing travel behavior.



TABLE 13.2: TDM STRATEGIES

Category	Strategy	Description	Cost ¹	Potential Impact ²
 Bicycle and Walking	Bicycle Parking	Racks that are either outdoors or covered and provide secure bicycle storage.	\$400 - \$700/rack that holds about 4-8 bikes	Up to a 1% reduction in VMT
	Bicycle Repair Stands	A stand with attached tools that can be located along shared use paths or other key destinations. Riders can utilize the stands to make emergency repairs.	\$800 - \$1,500 per stand	Unknown – the presence of a repair stand helps eliminate uncertainty involved in commuting by bicycle.
	Bike Share Program	Public bicycles that can be accessed either as a walk-up rider or using a subscription service.	\$20,000 for a bike share dock that can fit 10 bicycles. Cost includes operating the dock and bicycles for one year.	Varies widely but some jurisdictions have reported a 10% to 20% vehicle commute trip replacement rate (e.g. one commute trip per week taken by bike share instead of by vehicle).
	Walk Pools/ Walking School Bus	Organized walking groups for commuters and students that encourage replacing driving with walking for short trips.	None. There may be some administrative costs involved in organizing walk pools.	Unknown
 Integrating TDM with Development	Density bonus in exchange for building less parking	Allowing developers to build more than the maximum allowable units in exchange for providing less parking than required by zoning.	None	Will reduce or eliminate some vehicle trips by households without a parking space.

¹ Cost information compiled from the Pedestrian and Bicycle Information Center, publication by the UNC Highway Safety Research Center, and vendor research for bike share systems.

² The California Air Pollution Control Officers Association has conducted a literature review that compiles documented impacts of TDM strategies.

Category	Strategy	Description	Cost ¹	Potential Impact ²
 Parking	Unbundled Parking	Parking spaces will be leased separately from residences or commercial space to highlight the cost associated with parking.	None	2.6% - 13% VMT reduction
	Parking Supply Management	Reducing the amount of free parking available.	Administrative costs TBD locally	5% - 12.5% reduction in VMT
	Parking Cash-Out	Employers pay employees a monthly stipend in exchange for not utilizing their parking spot.	Cash-out value would be at the discretion of the employer.	3% - 7.7% reduction in VMT
	School Parking Management	Advertising campaigns to promote travel to school by means other than driving. Public education can include information distributed to students about safe biking routes or about transit service.	Programs have reported costs in the \$7.50-\$12.50 per student range.	Unknown
 Programs	TDM Coordinators	Requiring major employers to have a TDM coordinator on staff. This individual organizes carpools, assists employees with identifying transit options, administers parking cash-out programs, etc.	Compensation at the discretion of the employer.	4% - 5% reduction in commute trips by single occupancy vehicle.
	Tailored Commuting Resource Guides	Resources for employees to better understand commute trip options.	Programs have reported costs in the \$7.50-\$12.50 per employee range.	4% - 5% reduction in commute trips by single occupancy vehicle.
	On-Site Daycare	Childcare services on-site at office buildings or other commercial developments. Employees who enroll their children in on-site daycare eliminate the need for trips to daycare centers.	No cost to the City – employers would fund the daycare center	Eliminates at least two vehicle trips per day for each participating employee (or shortens trips between home and work and vice-versa)

Category	Strategy	Description	Cost ¹	Potential Impact ²
 Rideshare	Rideshare Program	Designating parking specifically for employees who carpool and encouraging carpooling.	\$300-\$500 for striping and signage	1% - 15% reduction in commute
	Vanpool	Employer sponsored program for picking up employees from designated locations in a company vehicle and providing rides to work.	Operating cost can range from \$1,000 to \$1,500 per month for each van. Operating costs include contracting with a service for driving the vehicle, maintenance costs, fuel, insurance, and administration.	0.3% - 13.4% reduction in commute VMT
 Transit	Transit Fare Subsidy	Providing employees with transit passes.	\$180/annually per employee (cost of annual COLT pass – regional transit subsidy may vary)	0.3% - 20% reduction in commute VMT



The City of Loveland can support employer-sponsored TDM programs by advertising TDM benefits to large employers, instituting TDM incentives like distributing transit passes to employers, and supporting employer efforts by ensuring opportunities for multimodal travel exist.

Though not yet prevalent, Autonomous Vehicles will bring new implications for travel behavior and may create additional incentives for single occupancy vehicle travel. Chapter 14, on innovation, provides a set of potential challenges that could result from Autonomous Vehicles as well as policy solutions for mitigating the challenges.

Street Maintenance Multimodal Improvement Opportunities

While the Pavement Management Program (PMP) has proven to be an effective tool for maintaining a state of good repair on Loveland roadways, overall roadway maintenance and rehabilitation programs can incorporate multimodal improvements as part of roadway maintenance (per the objectives described in the implementation/funding section of Chapter 5). These improvements include revising

striping for vehicles and bikes, including adding buffer lanes between the separate uses to provide safer travel for both.

Once multimodal infrastructure is installed, maintaining the new facilities can be incorporated into routine roadway maintenance. For example, PMP tracking can extend to bike lanes since uneven pavement, cracks, potholes and other pavement quality issues impact people riding bikes as well. Clearing bicycle facilities following snow or other weather events is also a key aspect of maintenance. Developing a snow removal schedule for multimodal facilities that complements the schedule used for clearing roadways can ensure that facilities can

accommodate all users following weather events. This may entail acquisition of specialized plowing equipment for protected or separated bicycle facilities, or expanding the fleet of snow removal equipment as the bicycle network grows.

Implementation of the PMP recommendations has resulted in increased completed and future resurfacing of collector and arterial roadways in Loveland, improving the Pavement Condition Index (PCI) ratings. The maintenance program is currently focused mostly on local streets, which signifies that opportunities to add bicycle facilities onto some of the City's naturally lower level of traffic stress streets exist.

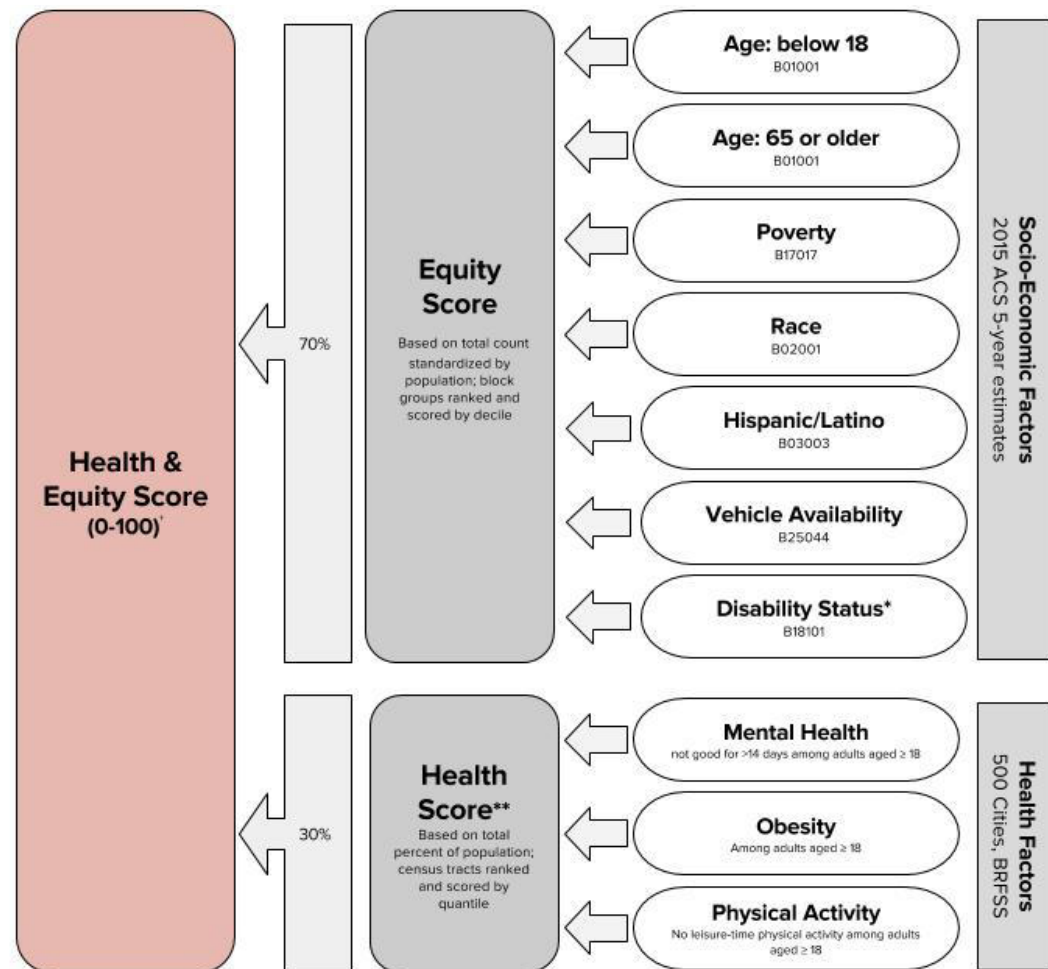


Community Health and Safety

Transportation is intertwined with community health, as described in Chapter 6. Connected and accessible transportation networks, including safe active transportation options, can improve community health by providing opportunities for physical activity. Furthermore, programs that address traffic safety can lead to a reduction of crashes. According to the 2022 Community Health Assessment by the Health District of Northern Larimer County, only 36.7% of Loveland respondents indicated that it is possible for them to get to many places they need to go by walking. Likewise, 36.6% indicated that transit service makes it possible from them to get to important, daily destinations. When asked about bicycling perception, 79.9% indicated that it was easy to bike in Loveland. When focusing on respondents who are more likely to experience negative health outcomes due to being overweight or lower income, the rate of respondents feeling that Loveland is difficult to navigate by means other than driving tended to increase. This suggests that transportation planning plays an important role in improving community health.

The following section highlights important work the City and regional partners are already engaged

FIGURE 13.1 CONTRIBUTORS TO HEALTH & EQUITY



*Population at block group level estimated from census tract data based on assumption of equal distribution based on population size

**Health information for tracts 8069001601, 8069001709, and 8069001301 not available; health score derived from average health score of like equity score census tracts

*Scored at block group level; all block groups within census tract were given same health score

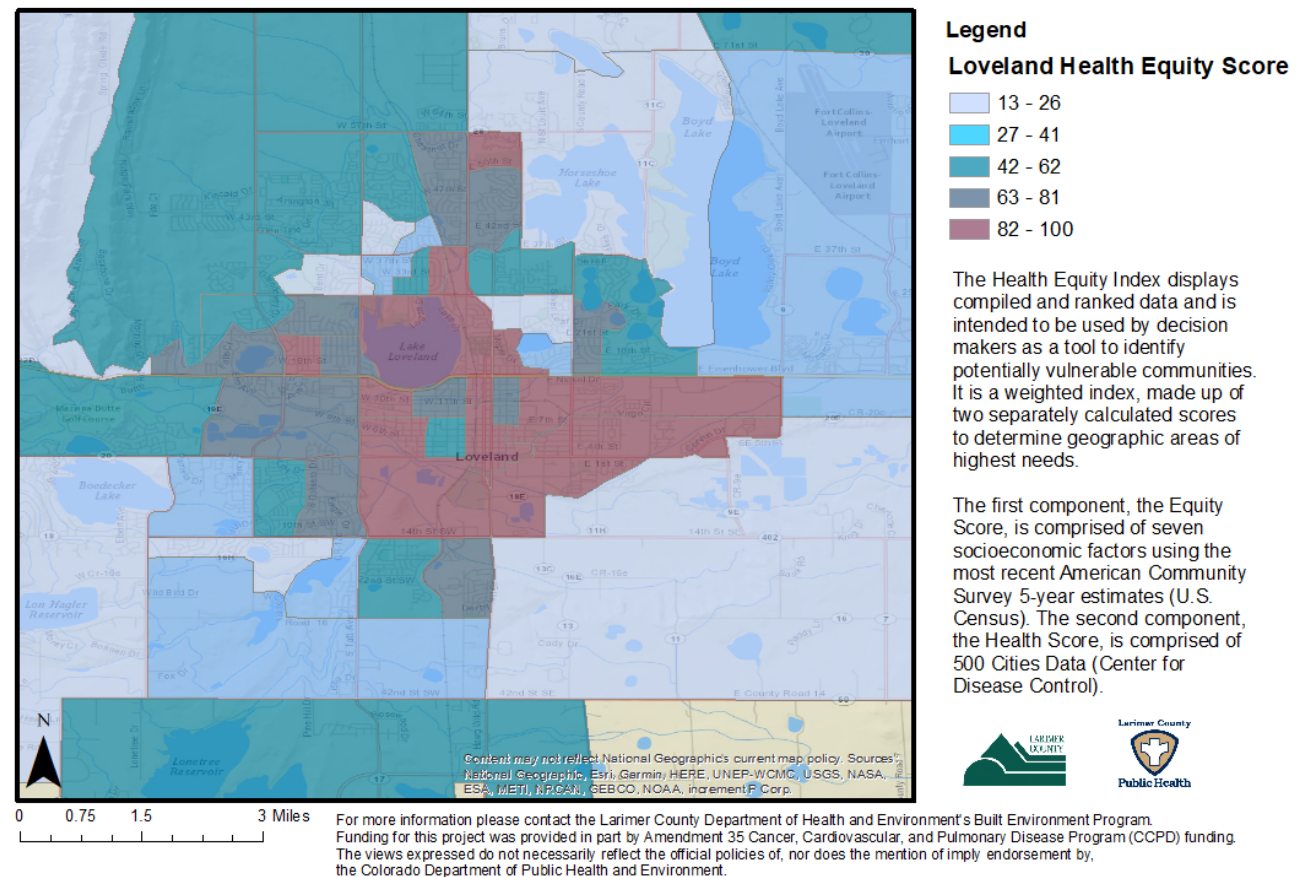
in to promote community health and safety and highlights additional opportunities. This interdisciplinary connection to health and equity is shown in **Figure 13.1.**

Loveland Health Equity

The Larimer County Department of Health and Environment convened a Data Working Group (DWG) in 2016. The DWG is a regional group of multisector professionals, including City of Loveland GIS staff. The group works collaboratively to combine and analyze local data and created a tool that supports health-inclusive policy making – the Multimodal Index (MMI). Additionally, the Larimer County Department of Health and Environment has previously created a Health Equity Index (HEI).

The Health Equity Index has 2 weighted components: the first component (70% of the HEI) is the “Equity Score.” It is a compilation and ranking of seven socioeconomic factors using the most recent American Community Survey 5-year estimates (U.S. Census). The seven factors used to create the score are recognized

FIGURE 13.2: HEALTH EQUITY INDEX



as characteristics that could indicate vulnerability: under 18, 65 or older, households at or below Federal Poverty Level, Hispanic/Latino, non-white, households without a vehicle, and disability status. The second component of the HEI is a “Health Score,” which is compiled and ranked from the “500 Cities Project” data

set provided by the Centers for Disease Control and Prevention. The three factors used to create the “Health Score” are obesity in adults, no leisure time physical activity in adults, and poor mental health for more than 14 days in adults. (**Figure 13.2**). A higher score indicates an area with lower equity outcomes where

community health issues may be more pervasive.

The DWG also developed an MMI, which combines demographic information with crash data and proximity to the existing active transportation network of transit stops, transit routes, bicycle lanes, sidewalks, and shared use paths.

The MMI underscores areas of the City where residents may lack access to safe, comfortable and connected active transportation facilities (**Figure 13.3**).

Safe Routes to School

Safe Routes to School (SRTS) is a national best practice that enhances opportunities for students to walk, bike, and roll to school safely. The most successful Safe Routes to School programs incorporate the Six E's: engagement, equity, engineering, encouragement, education, and evaluation. The Six E's represent an integrated and comprehensive approach to making streets healthier and safer for everyone, regardless of their destination or travel mode.

The City of Loveland will continue to support the Thompson School District (TSD) as it develops and manages a comprehensive SRTS program. The City will also continue to pursue infrastructure funding from the Colorado Department of Transportation's SRTS grant program as appropriate. This "engineering" component will

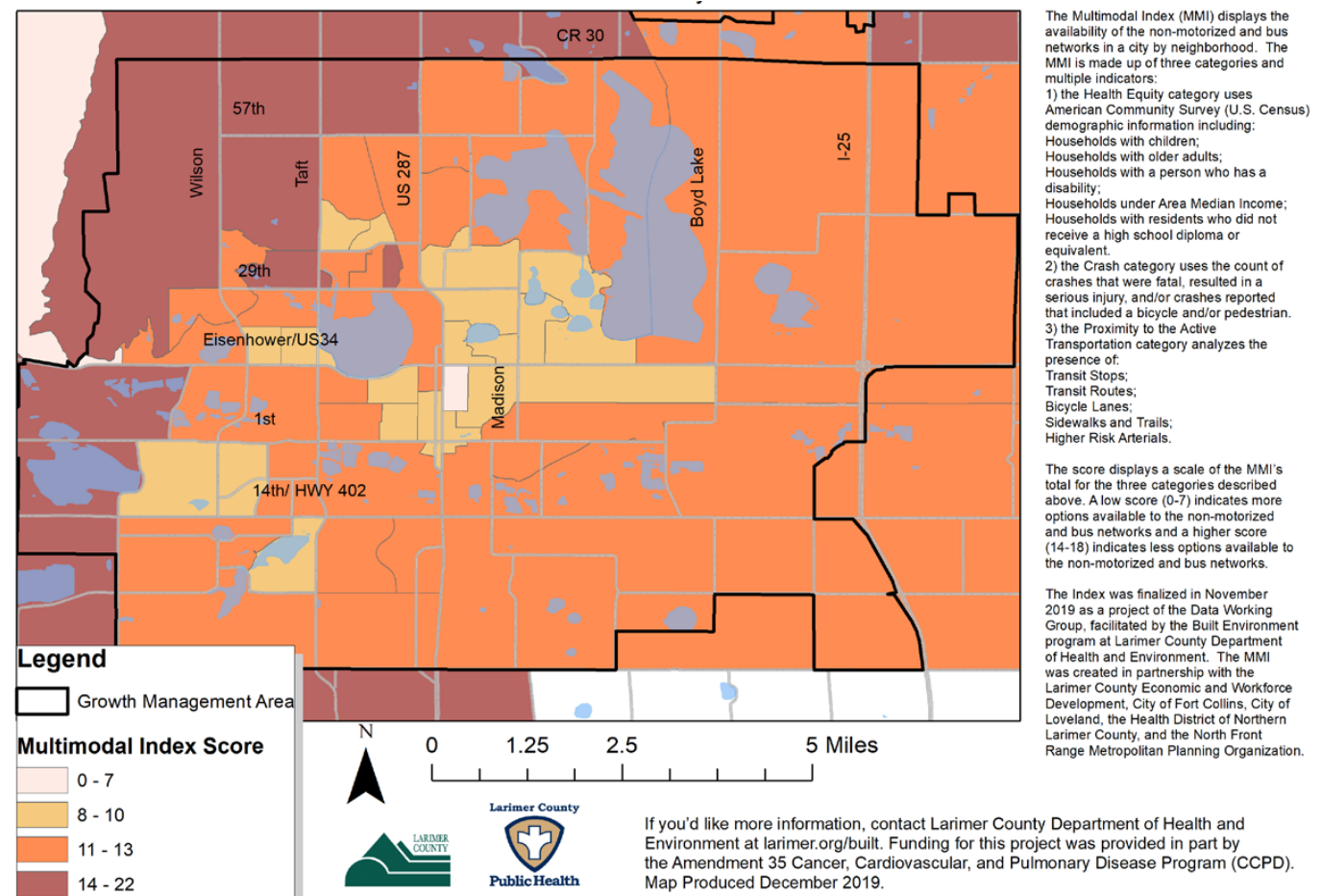
need be complimented by TSD's deployment of "encouragement and education" components. The City will coordinate closely with TSD on the following tasks:

- High-visibility signage and markings in school zones

- Police enforcement during peak travel times in school zones
- Designating curb space outside schools for pick-up and drop-off zones

- Conducting safety audits at pick-up and drop-off times to identify safety issues
 - Evaluating built environment barriers to walking and biking near school properties
- In addition to improving safety outcomes, a SRTS program can reduce traffic congestion,

FIGURE 13.3: MULTIMODAL INDEX



provide environmental benefits, improve health outcomes by promoting active travel, and create healthy walking and biking habits that may influence travel behavior later in life.

Safety Trends

The *Connect Loveland Existing Conditions Report*, summarized in **Chapter 2**, provides an in-depth summary of traffic safety patterns in Loveland from 2013 to 2018. Overall, the number of crashes has been on the rise, going from just over 1,200 in 2013 to 1,950 in 2018. However, the number of fatalities in Loveland has decreased from a peak of seven in 2016 to three in 2018, while the regional rate has risen yearly since 2011, with the exception of 2013, which witnessed a small decrease (**Figure 13.4**).

In the Roadway Safety Study conducted by Loveland in 2022, intersections, corridors, and crash types were analyzed to produce actionable items the city can take to improve safety and reduce crashes.

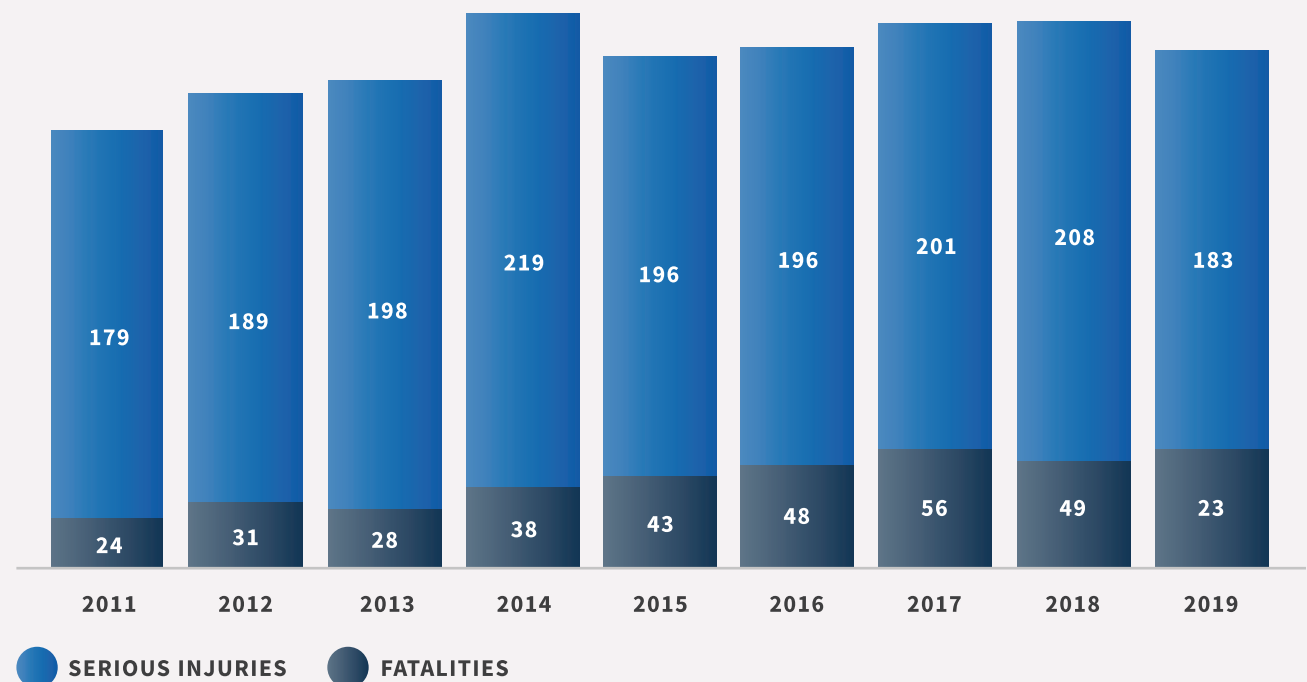
Vision Zero

Vision Zero programs have been adopted by municipalities around the country at a growing rate. Communities are committing to eliminating traffic crashes that result in fatalities or serious injuries

by providing safety training, implementing engineering solutions that are proven to slow vehicle speeds while reducing conflicts with other roadway users, and forming multidisciplinary initiatives for implementing safety programming.

Loveland can join the statewide program – Moving Towards Zero Deaths – as a first step in solidifying a citywide commitment to supporting multimodal travel through ensuring all trips in the community are as safe as possible.

FIGURE 13.4: NFRMPO FATALITIES AND SERIOUS INJURIES (SOURCE: NFRMPO)



Loveland Roadway Safety Study

The City of Loveland, Colorado has developed a Citywide Roadway Safety Study to create a proactive, holistic transportation safety framework. The study includes a data-driven process to review, evaluate, and analyze roadway safety information, a public outreach process to gather roadway safety comments and concerns from community members, a roadmap of action items across multiple safety strategies to improve safety, and a process for ongoing and future safety reviews and evaluation.

FHWA provides a basic planning framework for the LRSP but the process can otherwise be tailored to the local community. FHWA recommends a six-step process for plan development (Figure 13.5).

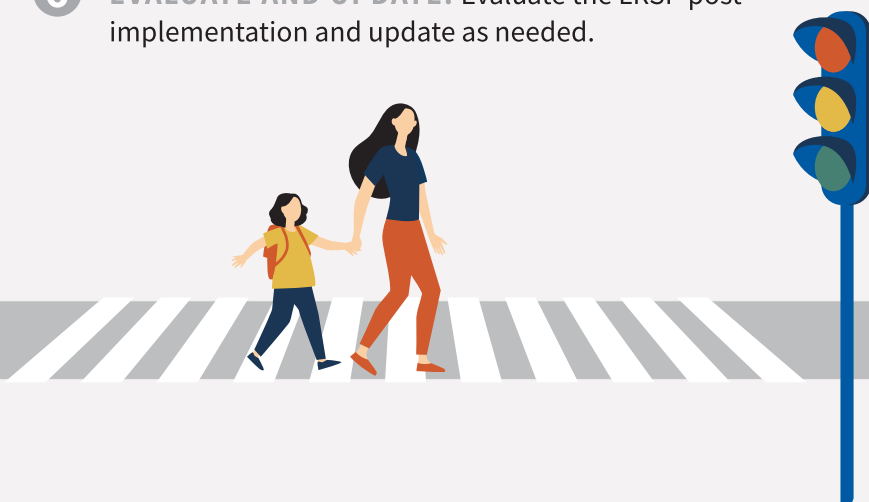
FIGURE 13.5: FHWA SIX-STEP PROCESS FOR PLAN DEVELOPMENT



- 1 ESTABLISHING LEADERSHIP** through a stakeholder committee or other body of individuals representing all entities involved in roadway safety. These can include law enforcement, schools, neighborhood groups, and medical services.
- 2 ANALYZING SAFETY DATA** to understand what the largest safety issues are on local streets.
- 3 DETERMINE EMPHASIS AREAS.** Using results from the safety analysis to establish corridors the LRSP should prioritize.
- 4 IDENTIFY STRATEGIES.** Develop a comprehensive set of strategies for addressing safety issues. These can include infrastructure changes like traffic calming or programmatic initiatives like stepped up speeding enforcement and public awareness campaigns.
- 5 PRIORITIZE AND INCORPORATE STRATEGIES.** Prioritize the strategies that will be most effective for addressing the priority streets identified in step 3. Develop a plan for implementing the strategies – the plan should include a timeline and performance measures for evaluation.
- 6 EVALUATE AND UPDATE.** Evaluate the LRSP post implementation and update as needed.

Leveraging Programs and Policies to *Connect Loveland*

The policies and programs highlighted in this chapter can help ensure that *Connect Loveland* is implemented equitably and provides the same mobility options for all residents and visitors. These policies and programs are intended to support multimodal travel, identify opportunities for enhancing community health through the City's transportation network, and ensure people have safe travel options. The implementation chapter at the end of *Connect Loveland* discusses opportunities for meeting plan goals through policies that support the vision described in Chapter 5.



14. Innovation

New technologies are emerging daily that are fundamentally changing the way people think about moving around their community. Most of the emerging trends and technologies listed here are so new they were not considered as part of the 2035 Transportation Plan. However, some have already started to appear in Loveland and other places in the region and around the country. Others are still in early development but will likely impact Loveland as they are more fully integrated into day-to-day mobility over the next 10 to 20 years.

This Chapter identifies potential policies, infrastructure, and plans to leverage these emerging technologies so that they support the *Connect Loveland* goals.



Shared Mobility

Shared mobility—the shared use of a motor vehicle, bicycle, or other low-speed travel mode (such as a scooter)—is an innovative transportation strategy that enables users to have short-term access to a mode of transportation on an as-needed basis. Shared mobility also provides a broader set of transportation options for users that reduce reliance on the private automobile, therefore reducing congestion and carbon emissions. Shared mobility is a key component of Mobility-as-a-Service (MaaS), described later in this section.

Bike/Scooter-Share

Bike share systems for both traditional and electric bicycles, and more recently electric-scooter share, have been a rapidly evolving trend over the last decade and have gained traction



**NEW TECHNOLOGIES ARE
EMERGING DAILY THAT ARE
FUNDAMENTALLY CHANGING
THE WAY PEOPLE THINK
ABOUT MOVING AROUND
THEIR COMMUNITY.**

in communities both large and small worldwide, shifting the way communities plan for and provide transportation. Bike share and scooter share have the potential to increase mobility options available in Loveland and the surrounding area in the future. They have been used in other places to improve access to transit, including to and from express and regional transit.

While bike share and scooter share currently do not exist in Loveland, many of the nearby communities, including Boulder, Denver, Longmont, and Fort Collins, have these systems in place. If Loveland were to introduce a bike share or scooter share program, it would be important for the City to work closely with potential operators to design a program that supports the communities land use and transportation goals, while mitigating potential issues. For bike share and scooter share to be successful, Loveland can also continue to

invest in and improve bicycle and pedestrian infrastructure, as well as ensure policies are up-to-date and clear on where and how future users are to operate these vehicles within the public right-of-way. Thus, a clear linkage between bike share/scooter share policies and the *Connect Loveland* bicycle network is important.

Car-Share

Car-sharing is a model for car rental, similar to bike share or scooter share, which allows users to pay for access to vehicles for limited periods of time. Car-share systems tend to have vehicles dispersed throughout a service area, and can be reserved through a few clicks on a webpage or smartphone

app. Loveland can support car-share in the future by continuing to permit on-street parking, dedicating parking spaces for car-share providers, and providing incentives or requirements for new developments to provide car-share and/or car-share parking. The market viability of introducing car-share to Loveland will depend on the extent to which people can get around the City by foot, bike, and transit, all of which afford the ability to choose not to own a car. Car-sharing has the potential to be a viable option in Loveland due to the existing and proposed plans across the other active modes as cities with poor transit and limited walking and biking are not viable for car-share businesses to operate.

Ride-hailing

Ride-hailing, provided primarily by Transportation Network Companies (TNC), i.e. Uber and Lyft, is a newer mobility service that has exploded in popularity over the past few years. At its most basic level, ride-hailing is simply the modern version of a taxi, using a web-based platform that matches passengers with drivers in a simpler and more intuitive way. Uber and Lyft are currently the TNCs operating within Loveland and the surrounding region. Locally, riders can use a service called zTrip, which provides an app-based, on-demand taxi style service in Northern Colorado using both sedans and wheelchair accessible vehicles.

Nationally, TNCs/ride-hailing represent the fastest growing transportation mode. Overall, ride-hailing presents some mixed opportunities for Loveland. It provides a niche in the travel market for many trips: evenings and weekends when transit does not operate; travel with bulky items; social travel; and more. Ride-hailing can also help to reduce the risk of impaired driving by providing an easy way home for people who should not be driving. On the other hand, excessive use of ride-hailing can lead to increased VMT, energy use/greenhouse gas emissions, traffic congestion, and crowded curb spaces and loading zones. Ride-hailing is also not a viable transportation mode for some low-income households, outside



of occasional/emergency use, so TNCs cannot be relied on for basic transportation services.

Because the vast majority of trips in Loveland today are made by driving, the risk for increased VMT from ride-hailing is small. However, as Loveland grows and makes investments in the pedestrian, bike and transit networks, the City may need to work more closely with TNCs to ensure that ride-hailing is part of the mobility environment, and does not detract from investments in the multimodal network. Some potential future strategies to balance the pros and cons of ride-hailing are provided later in this document.

Curbside Management

Curbside management encompasses all of the different ways that curb space can be used, including parking, loading and unloading, deliveries, and outdoor dining. It focuses on the type of use the curb should be given to support the city's land use and existing need. While parking is one type of use to the curb, parking management is specifically focused on the management of parking spaces. This includes monitoring the supply and demand for parking, setting prices for parking, and enforcing parking regulations. Both curbside management and parking management are important for ensuring that curb

space is used efficiently and effectively.

As TNC's and delivery vehicles (driven by increases in e-commerce) increase in popularity, they also increase demand for curb space through pick-ups and drop-offs. Without designated curb space and enforcement of pick-up and drop-off zones, TNC and delivery vehicles can block travel lanes, conflict with bicyclists and pedestrians, double park, or block bus stops. This can result in safety conflicts and operational inefficiencies for private autos, freight, and transit. Curbside management may be something the City will need to consider downtown in the future. Potential future considerations could include:

- Creating designated pick-up and drop-off zones for passenger loading.
- Ensuring on-street parking designations do not extend to within 100 feet of an intersection. This improves sightlines for drivers, which enhances intersection safety.
- Implementing flexible curb space that fluctuates throughout the course of a day or week. For example, a block can be responsive to demand shifts throughout the day by offering loading zones during the day and parking at night.
- Creating a commercial loading program in downtown. This program would allow the City to negotiate delivery schedules with operators like FedEx and

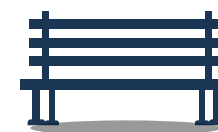
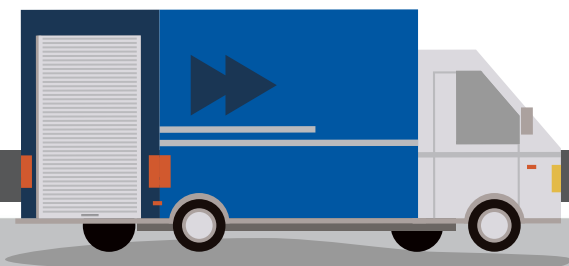
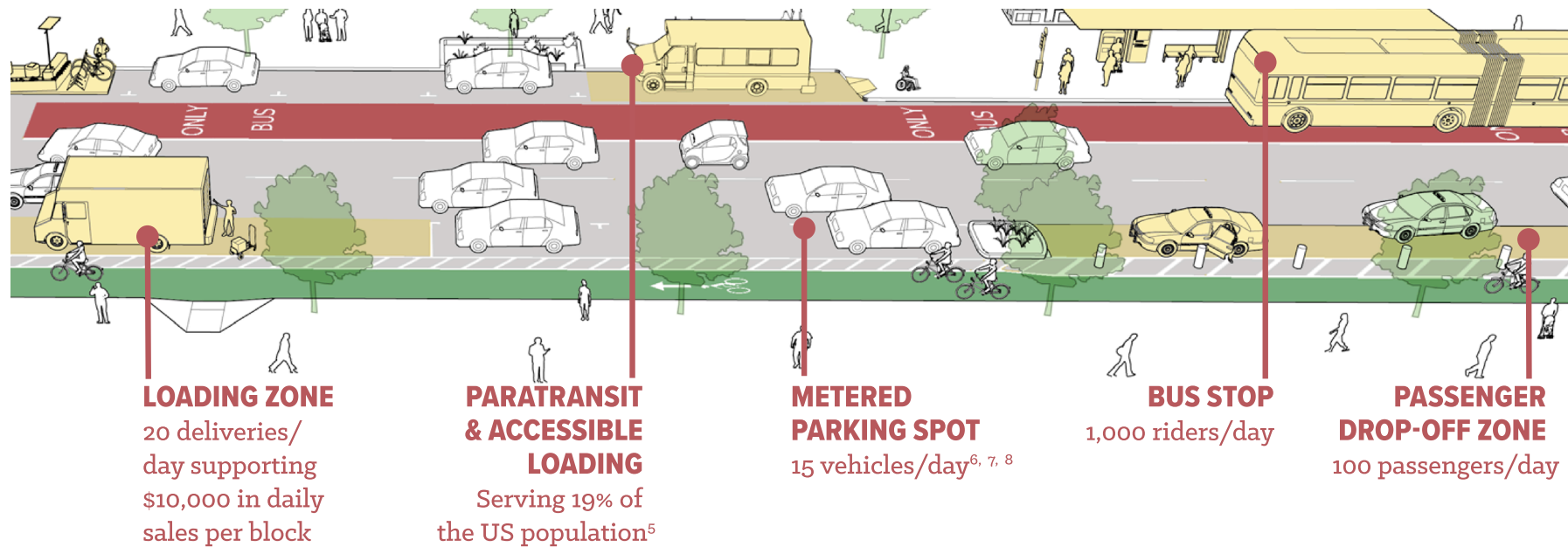


FIGURE 14.1: EXAMPLE OF A ROADWAY WITH A VARIETY OF CURB DESIGNATIONS (SOURCE: NACTO)

UPS and minimize conflicts between goods delivery and other mobility needs.

- Restricting deliveries to off-peak hours like mid-afternoon or after the evening rush hour.
- Utilize findings from the Downtown Parking Study (Phase I - 2018, Phase II - 2019, Phase III - 2023) to determine where on-street parking is underutilized and re-designate those parking spaces other uses like bike corrals or public realm enhancements like parklets.

- Expand bus stops where appropriate to accommodate multiple vehicles, which can reduce congestion.

Electric Vehicles

Electric vehicle (EV) technology is advancing at a rapid pace. At the same time, there are increasing regulatory and financial incentives from state and federal agencies that support public and private electric vehicle adoption. In addition to these trends, both

I-25 and US 34 are federally recognized as alternative fuel corridors. As a result, the City anticipates initiating a cross-departmental collaboration on EV readiness planning. Such efforts may include public charging and fueling infrastructure in tandem with City fleet electrification. Additionally, public-facing charging and fueling infrastructure at residential and non-residential locations with on-street and off-street access may be part of this broad-based EV readiness planning process.

Mobility as a Service

Mobility as a Service (MaaS) describes the shift away from privately owned automobiles and toward transportation that is offered as a service. This includes both public and private providers that can work together to provide a holistic landscape of transportation options, either as a subscription or pay-as-you-go service. MaaS provides reliable and comprehensive

transportation options and information that can reduce the reliance on or eliminate the need for private automobiles. Instead of incurring auto ownership related costs, like loan payments, insurance, and fuel, MaaS instead shifts personal transportation spending to paying for access to transportation services, which reduces the “sunk costs” of automobile ownership, decreases congestion, reduces emissions, increases the use of public infrastructure, and provides transportation providers with the data they need to be more cost-effective. MaaS can become increasingly appealing and viable through an integration of modes that includes payment integration, a trip-planning app and mobility hubs.

Loveland can encourage and facilitate MaaS by:

- Requiring open data from private providers to facilitate trip planning. This includes providing trip planning information and trip costs in a way that can be easily collected by a third party;
- Creating a platform for integrated payment that starts with COLT and later expands to include private providers.

Ultimately, Loveland may seek to require that third parties participate in an integrated payment system as a condition of operating in the City; and

- Creating public-private partnerships that use private providers to complement and supplement public transit. These partnerships can also help improve human service transportation provision. Larimer County and the NFRMPO are currently collaborating on establishing a One-Call/One-Click center for connecting older adults and people with disabilities to transportation resources in the region.

Autonomous and Connected Vehicles

Autonomous and Connected Vehicles (AV/CV), are two technologies that are rapidly evolving with the potential to impact travel patterns and trip choices in the future. AVs are capable of sensing the environment and moving through the street network with little or no human input. CVs are vehicles

that communicate with other vehicles on the road, as well as connected infrastructure, to improve roadway use and safety.

AVs may increase the demand for travel due to the decreased opportunity costs and reduced demand for parking. In addition, research on travel behaviors suggests that AVs may decrease transit usage except for high-frequency transit services like trains or bus rapid transit that operate on a dedicated facility. Some expected positive outcomes related to AVs would be providing elderly and youth populations with more mobility options and overall improvements in traffic safety.

There are a number of strategies to address the potential impacts of AVs and CVs. **Table 14.1** displays a list of potential challenges associated with AVs/CVs and proposals for associated policies to address these challenges is provided below. The policies were adapted from the Autonomous Vehicle Policy Framework Summit as well as research completed by Fehr & Peers.¹

¹[Autonomous Vehicle Policies](#)



TABLE 14.1: POTENTIAL AUTONOMOUS AND CONNECTED VEHICLE CHALLENGES AND CORRESPONDING POLICY SOLUTIONS

Challenge	Policy
Curbside management - AVs could cause curbside congestion that impacts other users and modes.	Develop and adopt design standards and fees for curbside drop-off zones. This would ensure that AVs do not dwell at the curb for excessively long periods of time.
Pedestrian safety - There may be unique concerns about the capability of AVs to adequately respond to pedestrian behavior.	Set maximum speeds on AVs that are pedestrian- and bike-friendly and ensure AVs pass pedestrians and bicyclists at a safe distance.
Equity - AVs may be more accessible to people with higher incomes and the added congestion could negatively impact lower income populations by increasing travel times for residents who are not traveling in AVs.	Expand efforts to engage and include disadvantaged communities in transportation planning, especially regarding shared mobility; Ensure mobility remains accessible for individuals without smart phone technology or banking relationships, and support efforts to provide banking and technology access to those without (addressing the digital divide; Work to make sure mobility options are available to serve those with disabilities.
When people do not have to drive, they might be interested in living further away from work.	<ul style="list-style-type: none"> • Support land use policies that restrict sprawl by promoting zoning changes that allow for more dense developments • Implement measures to prevent residential displacement that could result from increased property values associated with AVs. Property values may increase if land no longer needed for parking is converted to other uses
Transit may be less appealing if AVs are available.	<p>AVs can actually enhance the transit experience if there are programs bridging AVs with transit services. This can be achieved through formal transit hubs and first/last mile connections. For example, Denver has an autonomous shuttle to connect a light rail station to an employment area.</p> <p>Other ideas include:</p> <ul style="list-style-type: none"> • Refine transit governance and procurement processes to allow for different operational models like public/private partnerships • Explore opportunities for serving as an integrating or centralized resource for fundamental aspects of mobility such as trip planning, trip scheduling, and revenue collection, where a centralized portal offers customer value • Ensure that AV trips do not replace walking, cycling, or transit trips by bundling AV access with non-motorized transport options and transit so that AV users also have seamless access to transit or bike share systems.

CONTINUED TABLE 14.1

Challenge	Policy
Design of existing transportation infrastructure may not accommodate AVs.	<p>AVs are likely to use travel lanes more efficiently since they can maintain closer following distances with other vehicles safely. Underutilized travel lanes can be re-purposed to provide additional space for pedestrians and bicyclists while also providing dedicated lanes for AVs, which will ensure safety and comfort for people walking along the curbside, and create valuable public spaces in neighborhoods and downtowns alike.</p>
Existing parking facilities were not intended for AVs.	<p>Site planning and parking design that accommodates AVs and anticipated changes in demand. The City could consider reducing minimum parking requirements in anticipation that AVs and more robust transit service will reduce the need for people to park at their final destination by:</p> <ul style="list-style-type: none"> • Reducing the amount of parking required as part of new construction • Developing prototypes for adaptable parking garages and infrastructure that could be retrofitted in the future • Repurposing ground-level space from passive parking to active uses.
On-the-ground technologies are not compatible with AVs and CVs.	<p>Investing in smart infrastructure (e.g., dynamic traffic-control signals and multimodal sensor technology). AVs can operate more efficiently, and cities can better manage AV usage if there is connected vehicle infrastructure. This can be accomplished through pricing, trip metering, etc. Other possibilities include:</p> <ul style="list-style-type: none"> • Creating feedback groups to assess/improve user experience • Installing smart sensors to provide dynamic view of infrastructure conditions • Streamlining online mobility content and make it easier to understand and provide direct feedback
There is a large volume of data that will be available with the roll-out of CV's and AV's. Ensuring the privacy of this data while using it to improve mobility will be important.	<p>Loveland can work with state and federal legislators to ensure that the City can access relevant and anonymous data from AVs to help in understanding travel patterns and managing the traffic and curb congestion that could be caused by AVs. Third-party data brokers, such as universities, can facilitate collection and analysis of privately generated data to enable better service planning without compromising intellectual property or competitiveness.</p>

Additional Technologies for Improving Transportation Networks

Intelligent Transportation Systems (ITS) are new technologies that are reshaping traveler experience on roadways. Some examples of ITS include:

- **Adaptive Signal Control:** Traffic signals that can automatically adjust traffic signal timing based on current traffic conditions. These signals help reduce traffic congestion and pedestrian and bicycle crossing wait times.
- **Transit Signal Priority (TSP):** Adaptive signal technology that allows buses to communicate with a traffic signal in order to extend green time in their direction of travel. TSP helps transit vehicles run on schedule. Innovative new uses for traffic signal pre-emption (interruption of a current signal indication) are also emerging. For example, Los

Angeles is testing traffic signal pre-emption to trigger red lights to slow/stop speeding vehicles during off-peak hours of the day in order to improve traffic safety.

- **Mobility Hubs:** Centers that integrate various transportation modes to allow users to make seamless connections between their origins and destinations. Often centered around transit stations, mobility hubs enable quick transfers from a bus onto a scooter or shared bike, and can also share real-time information on connecting buses, availability of shared-use mobility devices, and walking directions to nearby destinations.
- **Connected Vehicles and Infrastructure:** New technologies are increasingly connecting vehicles with one another and with the roadway. By “connecting” vehicles and roads through wireless communication technologies, mobility improvements can be made without rebuilding roads or pursuing other costly upgrades. Additionally, vehicles can communicate with one another

to avoid collisions, reduce following distance, and monitor possible obstructions that may go unnoticed by drivers. Vehicles that communicate with roadway infrastructure can also help planners and traffic engineers manage congestion and reduce emissions. These new technologies are evolving and will soon become standard features in private vehicles. Loveland can continue to provide corresponding updates to the City’s roadway network, which will enable vehicles and roads to operate together more seamlessly.

Chapter 9 details specific corridors and interactions where ITS technologies can be utilized to enhance roadway operations. To be effective, ITS technologies require robust communications and connectivity in the field.

While the City has an expanding fiber optic network, additional work is required to ensure that connectivity is available on all corridors and that suitable redundancy and resiliency is provided.

Ensuring New Technologies Support Planning Goals

New approaches to mobility, ranging from Autonomous Vehicles to Shared Mobility, are generating new opportunities for connectivity and often spur rapid and significant shifts in travel behavior. Transportation services like ridesharing companies or one-day delivery for household goods were unthinkable just a decade ago but are now ubiquitous and often universally accessible. Understanding where transportation trends are leading is crucial to preparing a policy framework that can embrace new technologies and use them as a community asset rather than an abrupt shift that must be accommodated reactively. The new technologies and approaches to providing mobility that are highlighted in this chapter present an opportunity to help meet the goals of *Connect Loveland*.



15. Performance Measures

Monitoring specific data and information focused on the achievement of *Connect Loveland's* goals is an important way of evaluating current success, modifying the path forward, and building momentum and support within the community. The Goal Monitoring, as shown in **Table 15.1**, following, lists each of *Connect Loveland's* ten transportation goals, with corresponding performance measure(s) for each goal that provide a means to easily measure and track that goal.



Performance measures are intended to track the effectiveness of the implementation of recommendations towards the City's goals introduced in **Chapter 5**. These performance measures also will enable City staff to communicate outcomes as the transportation system changes in future years and can be used on a continuous basis for evaluation of the proposed recommendations. This Monitoring Table will be reviewed and updated by the City's Public Works Department on a regular basis.





The details of each goal include the following:





- Performance Measure: quantifiable approach to measuring the status and progress of a goal
- Possible Data Sources: the possible sources for the raw data
- Recommended Threshold: a threshold for success if applicable and additional information for how to track a given metric over time



TABLE 15.1: GOAL MONITORING TABLE

Goal	Performance Measure	Possible Data Source(s)	Recommended Threshold
 1. Multimodal Connectivity	Miles of complete low-stress bicycle facilities	City-maintained shapefile originating from <i>Connect Loveland</i> updated annually	There are 172 miles of existing bicycle facilities, and 99 additional miles proposed to complete the bicycle network. Implement about five miles of bike facilities a year in order to complete the bicycle network by 2040.
	Percent of roadways with sidewalks that meet ADA and LCUASS standards	City will inventory the sidewalk network for completion, ADA compliance, and meeting standards	Based on inventory, Loveland will ensure all applicable (according to LCUASS) sidewalks are complete and ADA compliant
	Percent of crossings with ADA-compliant curbs and ramps	City will inventory curbs and ramps for completion, ADA compliance, and meeting standards	Based on inventory, Loveland will ensure all applicable curb ramps are ADA compliant
	Average Travel Time (minutes per mile)	-Acyclica -Streetlight, with Trip Attributes -INRIX	Travel time can be measured and tracked over time. The threshold for various segments will be relative to existing conditions. Travel time statistics can be disaggregated by 15 minute time periods. Travel time on these corridors should be tracked for peak and off-peak times.
	Transit ridership	COLT ridership data	The threshold will be relative to existing conditions, with an increase each year
 2. Aligning Transportation and Land Use	Coordination of land use and transportation	Continue weekly meetings between Public Works Department and Development Services	All significant development and land use decisions are coordinated with the Department of Public Works

Goal	Performance Measure	Possible Data Source(s)	Recommended Threshold
 3. Trails and Recreation	Percent of the proposed City Rec Trail network that is complete	Per Parks & Recreation data sources	Coordinate with Parks & Recreation and determine a phasing strategy that ultimately reaches 100%
	Percent of City Rec Trail access points that are accessible by a low stress on-street bicycle facility	City-maintained shapefile originating from <i>Connect Loveland</i>	Determine a phasing strategy that ultimately reaches 100%
	Percent of Regional Non-Motorize Corridors (per the 2016 NFRMPO Non-Motorized Plan) traversing the City that are complete	City-maintained shapefile originating from NFRMPO updated annually	Determine a phasing strategy that ultimately reaches 100%
 4. Environment	Annual vehicle miles traveled (VMT) per capita	Streetlight data; City of Loveland count stations	Annual reduction in VMT that will contribute to achieving regional air quality goals
 5. Health and Safety	Reduction in the annual crash rate (number of crashes/volume or VMT) on key corridors or city-wide	-Geocoded crash data (CDOT and Loveland Police Department) per Million entering vehicles	The threshold will be relative to existing conditions
	Reduction in the number of fatal and severe injury crashes		Loveland should work towards a goal of zero traffic-related fatalities per year
	Multimodal Index (MMI) and Health Equity Index (HEI) scores which includes chronic disease measures and socioeconomic factors	Larimer County Department of Health & Environment, Built Environment	The threshold will be relative to existing conditions or set by the Department of Health & Environment
 6. Policies and Programs	Employee and resident participation in Transportation Demand Management programs/strategies	City of Loveland Quality of Life Survey	Determine a phasing strategy that ultimately reaches 20% by 2040

Goal	Performance Measure	Possible Data Source(s)	Recommended Threshold
 7. Implementation and Funding	Pavement Condition Index (PCI)	Per determination by the Public Works Department (https://www.fhwa.dot.gov/pavement/management/qm/data_qm_guide.pdf)	Keep the roadway network at the targeted average PCI rating of 75 to 80
	Prioritize plowing sidewalks and bike facilities	Through policy change and determination by Parks and Recreation and the Public Works Departments	Self-assessment of achievement of TMP recommendations on plowing
	Distribution of annual capital expenditure between walking, biking and driving	Assessment per Finance Department	The threshold will be relative to existing conditions, with an increase in percent of funds dedicated for pedestrian, bicycle and roadway infrastructure.
	Quantity of external funds acquired	Assessment per Finance Department	The threshold will be relative to existing conditions, with an increase in percent of funds coming from external sources.
 8. Equitable Access and Mobility	Percent of bus stops that meet ADA standards for accessibility	COLT and City inventory	Based on inventory, Loveland will prioritize the upgrade of bus stops to become ADA compliant
	Percent of residents and jobs within ¼ mile of a transit stop	Spatial analysis of COLT bus stop data and Census population and LEHD employment data	Per forecasting by the travel demand model, residents within ¼ mile of transit should increase by .5% each year from 49% in 2019 to 58% in 2040; jobs should increase .15% each year from 53% in 2019 to 56% in 2040
 9. Regional Collaboration	Number of implemented multimodal projects that connect Loveland to adjacent communities	Public Works Department records	Aim to implement at least one project a year that supports or provides regional multimodal access
	Number of implemented projects that leverage local funding with regional partners'	Per determination by the Public Works Department	Aim to implement at least two project a year that collaborate with regional partners
 10. Innovation	Number of implemented partnerships, technologies or policies that leverage innovation to improve mobility	Per determination by the Public Works Department	Implement at least one new partnership, technology or policy each year that leverages innovation to improve mobility

16. Implementation



This chapter discusses the main sources of funding the City of Loveland will use to implement Connect Loveland and the revenues that can be anticipated from those sources by 2040. The anticipated revenues were applied to a prioritized project list to establish a Fiscally Constrained Plan for Connect Loveland. This chapter also describes unfunded needs, additional funding sources the City could pursue to fill those needs, and next steps.

Main Funding Sources for Implementing Connect Loveland

The City of Loveland traditionally relies on five main sources of funding for implementing the Capital Improvement Plan, which are listed here and described in more detail in the following section:

1. Collector Street Equivalent Improvement Costs
2. Capital Expansion Fees
3. Colorado Department of

Transportation or Federal Funding

4. General City Funds
5. Centerra funding as included in the 2004 Master Finance Agreement (MFA)

Collector Street Equivalent Improvement Costs

Developers are required to construct or pay for the costs of streets up to the full major collector street width for internal streets and one-half of the major collector street width for adjacent perimeter streets. On arterial streets, including those in the Connect Loveland Transportation Capital Improvement Plan, developers are still required to pay for the portion of the street that would be equivalent in cost to a major collector. This typically includes two travel lanes, bike and parking lanes, and the curb, gutter and sidewalk on both sides of the street. Along adjacent land, the property owner is required to construct street improvements or pay for the portion of the street improvements constructed by others, if any, when their property develops or redevelops.

Capital Expansion Fees (New Development's Share of Oversized Improvements)

The share of Connect Loveland improvements resulting for arterial streets that are necessary to offset the impacts of new growth will continue to be funded with development (new development or redevelopment) through Street Capital Expansion Fee (CEF). These “oversized” improvements include medians, the third through sixth lane, turn lanes, bridges, and signals/roundabouts. The oversized improvements are attributable to vehicle trips generated by development across the city that result in the need for streets with more capacity than a major collector street can accommodate.

Capital Expansion Fees (CEF's) were adopted by City Council to off-set the impacts of development on the City's infrastructure. The current approach for Street CEF's has been used since the 2020 Transportation Plan was adopted in 2000.

In the plan-based approach, the

needs are identified through a planning process, providing a correct correlation between the need and the cost. For Street CEF's, this is based on the growth-related needs being identified and the associated costs determined so that each development pays a proportionate share of its anticipated impact.

Street CEF's Calculations

For Street CEF's, the total growth-related costs have been identified based on the anticipated projects. Using the NFRMPO Regional Travel Demand Model as the basis, it was determined that the total number of growth-related daily trip ends for Loveland in 2040 (the Plan horizon year for Connect Loveland) is 813,609 (the result of subtracting current daily trip ends from 2040 daily trip ends).

This information is then used as part of the calculations to determine the cost per daily trip end for Street CEF's. The proportionate share approach is based on the knowledge that traffic will be added by an individual project and the associated daily trip ends will use a portion of the overall estimated growth-based daily trip ends

anticipated by 2040.

Establishing the total number of daily trip ends for the Plan horizon year and calculating the CEF based on this information allows the City to determine:

- What share of the 813,609 new daily trips a project will use
- The estimated funds that will be collected and anticipated road improvements that will be completed

Note: Should growth be lower than predicted then the total amount of CEF's will be lower but the need to add capacity will also be reduced. Conversely, if growth is higher than anticipated, then the additional CEF's will fund the needed capacity enhancements.

Basis for Street CEF's

From the above information, Street CEF's are calculated from:

The Capital Expansion Fee in the Connect Loveland Transportation Plan is \$270,516,075 in current (year 2022) dollars.

- Total New Daily Trip Ends estimated due to new growth in 2040: 813,60
- Cost Per Trip = CEF Fees / Trip Ends = \$270,516,075/813,609

= \$332.49 per Trip End
 "Proportionate Share" Impact Fee
 = ADT generated by the proposed project x Percent Primary Trips x \$332.49 per Trip End

- ADT from ITE – 11th Edition
- Percent Primary Trips from ITE Trip Generation Handbook – 3rd Edition

Colorado Department of Transportation (CDOT) Share

The City anticipates that the Colorado Department of Transportation will provide partial funding for improvements to portions of US-34, US-287, and SH-402 within the City's Growth Management Area. The CDOT share comprises about 50 percent of the total costs of the improvements on these state-owned roadways.

City General Funds

The "City's share" includes improvements that correct existing deficiencies, upgrade the quality of existing improvements, and accommodate through trips

(trips traveling through Loveland but not stopping within the City). Funding for the City Share typically comes from the General Fund.

Centerra Metro District

As part of the Centerra Master Finance Agreement (MFA), development within the included area is responsible for not the Developer-related street infrastructure improvements, but the City-related street oversizing infrastructure improvements as well as specific regional improvements (large scale improvements to I-25 and US 34) in which the City would not typically participate. These improvements are implemented if they are deemed necessary to offset the impacts of proposed development within the included area. To that end, the costs for these street improvements are shown for reference as they are not included in the City's costs. Currently, the MFA is set to expire on December 31, 2029. With any future amendments or the expiration of the MFA, any arterial street infrastructure improvements within that area that are not completed or

otherwise affected will need to be evaluated for inclusion in the City's costs. Any changes will likely impact the calculations and result in increases to Street CEF's and/or City's share of the costs.

Connect Loveland Funding Plan

The Connect Loveland Capital Improvements Plan consists of projects identified as necessary to be completed by 2040, based on the anticipated growth within the City of Loveland. The plan includes specific roadway sections and intersections on arterial streets with cost estimates based on 2023 dollars. (Note: Collector and Local streets are not included in the estimates as they are the responsibility of Development.) It breaks out sections of the CDOT road system within Loveland that will be expanded with outside dollars. It also includes projects within the Centerra MFA area that are anticipated to be constructed with growth and development (see above for further information related to the MFA projects).

Each project or project area is looked at to determine the normal development contribution (Collector Street Equivalents), the portion due to anticipated growth (CEF's), the potential for grants and/or outside funding (CDOT, Centerra, etc.), with the remaining amount covered by the overall City (General Fund).

Overall projects are looked at compared to anticipated revenue and the list is refined to ensure that it is Fiscally Constrained – Expenditures can be covered by Anticipated Revenues.

Table 16.1 reflects the breakdown of the funding from the sources.

The breakdown of the Connect

TABLE 16.1: GOAL MONITORING TABLE

Funding Source	Amount*
City Share (General Fund; other)	\$100,843,365
Capital Expansion Fee (CEF) Share	\$270,516,075
Collector Street Equivalent Share	\$115,686,500
Other (CDOT, Federal, Grants) Share	\$ 45,994,660
Subtotal	\$533,040,600
Centerra – Internal (Remaining Costs)	\$ 79,364,000
Centerra – Regional (Remaining Costs)	\$150,078,000
Subtotal	\$229,442,000
TOTAL	\$762,482,600

* These costs include roadway, intersection, bike/ped, and bridge improvements, as well as ITS and Transit infrastructure and operations.

Loveland Fiscally Constrained Capital Plan by category is shown in **Table 16.2**.

TABLE 16.2: FISCALLY CONSTRAINED CAPITAL PLAN BY CATEGORY

City Streets	\$299,954,000
CDOT Roadways	\$ 73,073,000
Other Projects	\$160,013,600
Pedestrian and Bicycle Improvements	\$ 20,000,000
ROW Acquisition	\$ 5,000,000
Transit	\$ 13,500,000
Intelligent Transportation System (ITS)	\$ 2,000,000
Intersection and Traffic Signal Improvements	\$ 101,250,000
Eisenhower @ Lincoln and Cleveland	\$ 9,000,000
Bridge replacements due to structural deficiency	\$ 8,263,600
Professional Services for Transportation Planning	\$ 1,000,000
Centerra Metro District Projects	\$229,442,000
TOTAL	\$762,482,600

Fiscally Constrained Plan

The following section describes the set of projects that can be implemented using the anticipated revenues while following the breakdown of transportation funding investments as allocated in the preferred scenario.

Connect Loveland is not recommending new roadways or roadway widenings or other improvements beyond facilities that are needed to accommodate anticipated growth. The Roadway Plan projects include roadway cross section and intersection upgrades, as well as adjacent bicycle and pedestrian improvements. The Fiscally Constrained Plan fully funds the set of projects shown in the Roadway Plan (Chapter 9).

Projects from the Bicycle Plan, found in Chapter 10, that are not included with the Roadway Plan projects or anticipated to be constructed with development, will be funded from the \$20 million allocated for pedestrian

and bicycle improvements shown in **Table 16.2**. The total estimated cost of adding the proposed bicycle lanes and routes is approximately \$6.4 million. The Bicycle Plan includes a set of recommended intersection upgrades for better accommodating multimodal users. These upgrades are included, in part, by the intersection projects listed in the Roadway Plan. Remaining intersection improvements are currently unfunded. It should be noted that the Connect Loveland funding plan assumes that a portion of the shared-use path projects shown in Table 10.4 of the Bicycle Plan will be funded through sources identified by the City of Loveland Parks & Recreation Department. The total cost of proposed trail and shared-use path projects is approximately \$99.4 million.

The balance of funding allocated for pedestrian and bicycle improvements – \$20 million – will be allocated towards completing sidewalk network gaps shown as Tier 1 sidewalks in the Pedestrian Plan (**Figure 11.3**) and that fall within designated priority areas and along priority corridors.

Certain sidewalk segments will be completed during arterial street upgrade and though development for collector and local streets. The City of Loveland Capital Improvements Program staff will identify Tier 1 sidewalk gaps that would not otherwise be completed and allocate the \$44 million towards completing the Tier 1 sidewalk network. Further refinement and planning for the completion of the remaining pedestrian improvement projects will be completed in a separate process outside of Connect Loveland. See “Next Steps” section at the end of this chapter for additional information.

Transit Plan implementation will be funded partially through the \$13.5 million shown in **Table 16.2**. This funding, coupled with existing FTA Funding for Operations and future FTA/Federal Grants for funding for buses/other capital improvements, is sufficient to implement Phase 1 of the Transit Plan shown in Chapter 12. It is anticipated that this funding will be adequate to cover the operating and maintenance costs associated with the additional service. Phase 1 of the Transit

Plan consists of:

- Four buses will be added to the local fixed-route system, effectively doubling 2020 service levels
- Route 3 will split into the two routes:
 - » Northeast Route
 - » US-34 Route
- Route 6 will be replaced by two new routes:
 - » North Route
 - » Northwest Route

Frequency on all COLT routes will be increased to 30 minutes. The projects identified in the plan that are directly related to improvements beyond a major collector street are eligible for reimbursement through the City’s Street Oversizing policies, subject to annual appropriation through the City’s Budget Process. Projects not included in the plan are not eligible for oversizing reimbursement as they were not included in the calculation of Street Capital Expansion Fees imposed on new development.

The final funding allocation of the Fiscally Constrained Plan for different modes for Connect Loveland is shown in **Table 16.3**.

Project Prioritization and Phasing

The following section outlines a community-based, data-driven approach to prioritizing projects listed in the *Connect Loveland* bicycle and roadway plans. (Note: The Pedestrian Plan requires additional work in order to evaluate and prioritize projects beyond Tier 1. See

“Next Steps” section at the end of this chapter for additional information.) Using a data-driven methodology enables the City to determine which projects best accomplish plan goals and serves as a guide for the City to make informed choices regarding the order of project implementation. This methodology provides a transparent approach that informs decisions, with the understanding that funding sources and circumstances may alter the order of implementation.

Each project is scored based on criteria that measures how closely the project addresses the goals of *Connect Loveland*. Scores are based on the existing conditions at a project location

rather than future outcomes. For example, the safety score reflects the number of crashes near the proposed project as opposed to the project’s capacity for improving safety outcomes. The safety outcomes of a project will be measured as a part of a project’s more detailed scope later in the planning and design process.

There are two tiers of criteria. Tier 1 criteria are the quantifiable inputs that inform project rank. Some criteria, like safety, will contain weighted factors. Crashes resulting in serious injury will be weighted more heavily than crashes resulting in property damage only. Tier 2 criteria are not inputs in the summed score or rank, but are considered qualitatively in tandem with the rank. Tier 2 criteria can be used by City Staff to inform ongoing decisions regarding project implementation. The *Connect Loveland* vision and goals guided the selection of prioritization criteria.

Tier 1 Inputs:

1. **Access to key destinations** – Does the proposed project

provide access to key destinations? Destinations include:

- Bus Stops
- Parks and Open Lands
- Schools
- The Rec Trail and other trail access points
- Government/Civic Buildings
- Community Services (e.g. hospitals, health clinics, shelters, etc.)

2. **Safety** – Does the proposed project address the safety of roadway users in the city? Crashes resulting in death or severe injury, or involving bicyclists or pedestrians, are weighted more heavily.

3. **Efficiency** – How well does the proposed project move people?

4. **Demand** – How many people does the proposed project serve, both residents and employee

5. **Equity** – Does the project serve vulnerable communities such as those who do not own or are able to operate vehicles, are more predisposed to health issues,

TABLE 16.3: FISCALLY CONSTRAINED PLAN ALLOCATED BY TRANSPORTATION MODE

<i>Connect Loveland</i> Plan Component	Funding
Roadway Improvements	\$469,382,500
Bicycle Improvements	\$ 6,441,000
Pedestrian Improvements	\$ 13,559,000
Transit Plan	\$ 13,500,000
Other (ITS, Bridge Replacement, etc.)	\$ 11,263,600
TOTAL	\$762,482,600

and do not currently have access to comfortable active transportation facilities?

Tier 2 Inputs:

1. Planning-level cost estimate

– Cost is an important factor in prioritization, but should not be a driver. Grant opportunities and designated funding pots may influence a project’s ability to be funded.

Regional connectivity – *Does the proposed project provide enhanced connectivity between Loveland and neighboring communities (e.g. new regional transit, New regional active transportation corridor, etc.)?*

2. Public and Stakeholder

Input – *How well-supported is a certain project or project type by the community and/or political leaders?*

Table 16.4 and **Table 16.5** display projects from the Roadway and Bicycle corridor plans, along with a prioritization score for each project. It is recommended that the City of Loveland implements projects in the order of the prioritization score, with higher score projects being implemented in the short range (0-5 years),

medium priority projects being implemented in the 5-10 years range, and lower priority projects being implemented in the long-term (10+ years). Although projects are prioritized as a part of this plan, this prioritization should maintain a level of flexibility and be updated yearly. If a funding source becomes available that is geared towards a certain project type or location, the City can modify the prioritization list in order to leverage this opportunity. The intersection improvements listed in the Roadway and Bicycle Plan chapters are funded through the allocation for intersection and traffic signal improvements shown in **Table 16.2** and can be implemented concurrently with the associated corridor project. This allows for more efficient implementation of projects that will enhance connectivity up to and through an intersection.

TABLE 16.4: ROADWAY CORRIDOR PROJECTS PRIORITIZATION

Project ID	Project Street	Extent 1	Extent 2	Recommendation	Prioritization Score	Rank	Cost	Phasing (Years)
17	Taft Avenue	Big Barnes Ditch	US-34	From four-lane road with no center turn lane or bike lanes to four-lane arterial	17	1	\$10,671,000	0 to 5
18	Taft Avenue	US-34	29th Street	From four-lane road with no center turn lane or bike lanes to four-lane arterial	17	2	\$12,747,000	0 to 5
4	W 57th Street	Taft Avenue	US 287	2 lane CR to 4 lane arterial	16	3	\$15,699,000	0 to 5
23	US-34	Garfield Avenue	Monroe Avenue	From four- to six-lane arterial	16	4	\$5,261,000	0 to 5
25	US-34	Boyd Lake Avenue	Rocky Mountain Ave	From four- to six-lane arterial	16	5	\$1,900,000	0 to 5
19	SH 402	US-287	S St Louis Avenue	From two-lane County Road to four-lane arterial	15	6	\$6,194,000	0 to 5
20	SH 402	St. Louis Avenue	Boise Avenue	Two-lane CR to four-lane arterial	15	7	\$7,761,000	0 to 5
21	SH 402	Boise Avenue	Boyd Lake Avenue	Spot improvements and bike lane	15	8	\$12,969,000	0 to 5
22	SH 402	Boyd Lake Avenue	I-25 Ramps	From two-lane County Road to four-lane arterial	15	9	\$14,934,000	0 to 5
10	Boyd Lake Avenue	LCR 20E	Mountain Lion Drive	Widen to four-lane arterial. Completed from Mountain Lion to US-34. Not completed from 20E to Mountain Lion.	14	10	\$4,061,000	0 to 5
14	LCR 9E	SH 402	Corvus Drive	From two-lane County Road to two-lane arterial	13	11	\$12,395,000	0 to 5
29	Byrd Drive	Rockwell Avenue	71st Street	Two-lane arterial	13	12	\$5,140,000	0 to 5
33	US-34	Boise Avenue	Denver Avenue	From six-lane arterial with narrow lane widths, no bike lanes/shoulder or sidewalks to standard six-lane arterial cross section	13	13	\$5,586,000	0 to 5

TABLE 16.4: ROADWAY CORRIDOR PROJECTS PRIORITIZATION (CONTINUED)

Project ID	Project Street	Extent 1	Extent 2	Recommendation	Prioritization Score	Rank	Cost	Phasing (Years)
42	LCR 20E	Boyd Lake Avenue	I-25	From two-lane County Road to two-lane arterial	13	14	\$12,359,000	0 to 5
1	29th Street	Cascade Avenue	Wilson Avenue	Widen to two-lane arterial	12	15	\$8,394,000	5 to 10
35	Kendall Parkway	Rocky Mountain Avenue	I-25	Two-lane arterial	12	16	\$3,828,700	5 to 10
36	Kendall Parkway	Centerra Parkway	US 34	Two-lane arterial	12	17	\$6,617,800	5 to 10
39	Boyd Lake Avenue	SH 402	Big Thompson River Bridge	New two-lane arterial	12	18	\$8,925,000	5 to 10
3	W 57th Street	Wilson Avenue	Taft Avenue	2 lane CR to 2 lane arterial	11	19	\$8,513,000	5 to 10
26	US-34	Centerra Parkway	LCR 3	From four- to six-lane arterial	11	20	\$14,514,000	5 to 10
34	Taft Avenue	42nd Street	28th Street	From two- to four-lane arterial	11	21	\$9,716,000	5 to 10
40	Taft Avenue	28th Street	14th Street	Upgrade to four lane arterial	11	22	\$12,509,000	5 to 10
9	Boyd Lake Avenue	LCR 20C	LCR 20E	Widen to four-lane arterial	10	23	\$2,899,000	5 to 10
11	Centerra Parkway	Crossroads Boulevard	0.5 miles south	From two- to four-lane arterial	10	24	\$4,192,000	5 to 10
12	LCR 20C (5th Street)	Callisto Drive	Boyd Lake Avenue	From two-lane County Road to two-lane arterial	10	25	\$2,094,000	5 to 10
13	LCR 3	US-34	Crossroads Boulevard	From two-lane County Road to four-lane arterial	10	26	\$16,516,000	5 to 10
15	Madison Avenue	Silverleaf Drive	29th Street	From three- to four-lane arterial	10	27	\$6,050,000	5 to 10
16	Madison Avenue	29th Street	37th Street	From two-lane County Road to two-lane arterial	10	28	\$4,021,000	10+
24	US 34	Madison Avenue	Boise Avenue	From four- to six-lane arterial	10	29	\$7,721,000	5 to 10

TABLE 16.4: ROADWAY CORRIDOR PROJECTS PRIORITIZATION (CONTINUED)

Project ID	Project Street	Extent 1	Extent 2	Recommendation	Prioritization Score	Rank	Cost	Phasing (Years)
28	71st Street	N Boyd Lake Avenue	I-25 W Frontage Road	From two-lane County Road to two-lane arterial	10	30	\$12,872,000	10+
32	Crossroads Boulevard	Centerra Parkway	LCR 3	From two- to four-lane arterial	10	31	\$11,456,000	10+
38	Boise Avenue	Mount Columbia Avenue	E 37th Street	New two-lane arterial	10	32	\$3,548,000	10+
5	S Boise Avenue	SH-402	4th Street SE	2 lane CR to 2 lane arterial	9	33	\$12,258,000	10+
31	Fairgrounds Avenue	Rodeo Drive	71st Street	From two- to four-lane arterial	9	34	\$11,456,000	10+
37	New Arterial	37th Street	LCR 3	Two-lane arterial	9	35	\$12,288,000	10+
7	Boyd Lake Avenue	E CR 16	SH 402	New two-lane arterial	8	36	\$26,033,000	10+
8	N Boyd Lake Avenue	Big Thompson River Bridge	LCR 20C	New two-lane arterial	8	37	\$6,671,000	10+
27	Wilson Avenue	50th Street	57th Street	From two- to four-lane arterial	8	38	\$6,329,000	10+
30	Rocky Mountain	Crossroads Boulevard	Earhart Road	Two-lane arterial	8	39	\$6,053,000	10+
6	Boyd Lake Avenue	Hwy 60	E County Road 16	New two-lane arterial	7	40	\$16,442,000	10+
2	37th Street	Seven Lakes Drive	LRC 11C	From two-lane County Road to two-lane arterial	5	41	\$1,192,000	10+
41	57th Street	US 287	Monroe Avenue	From two-lane County Road to two-lane arterial	5	42	\$7,519,000	10+
TOTAL ROADWAY CORRIDOR PROJECTS							\$378,304,500	

TABLE 16.4: ROADWAY CORRIDOR PROJECTS PRIORITIZATION

Project ID	Type	Corridor	From (extent 1)	From (extent 2)	Cost Estimate	Prioritization Score	Rank	Phasing
L31	Bike Lane	N Lincoln Avenue	Buchanan Avenue	E 29th Street	\$199,000	15	1	0-5 years
L16	Bike Lane	E 7th Street	N Garfield Avenue	N Washington Ave	\$37,000	12	2	0-5 years
R4	Bike Route	Garfield Avenue	W 8th Street	W 1st Street	\$91,000	11	3	0-5 years
R11	Bike Route	N Washington Avenue	E 7th Street	E 10th Street	\$42,000	11	4	0-5 years
L13	Bike Lane	E 1st Avenue	N Jefferson Avenue	N Washington Ave	\$6,000	10	5	0-5 years
L50	Bike Lane	S Lincoln Avenue	1st Street	14th Street SE	\$97,000	10	6	0-5 years
L56	Bike Lane	Taft Avenue	S of Big Thompson River	N of Big Thompson River	\$6,000	10	7	0-5 years
L60	Bike Lane	W 37th Street	N Taft Avenue	N Garfield Avenue	\$101,000	10	8	0-5 years
L24	Bike Lane	Madison Avenue	Silver Leaf	37th Street	\$93,000	9	9	0-5 years
L36	Bike Lane	N Taft Avenue	W 11th Street	W Eisenhower Boulevard	\$21,000	9	10	0-5 years
L58	Bike Lane	W 10th Street	N Garfield Avenue	N Lincoln Avenue	\$24,000	9	11	0-5 years

TABLE 16.4: ROADWAY CORRIDOR PROJECTS PRIORITIZATION (CONTINUED)

Project ID	Type	Corridor	From (extent 1)	From (extent 2)	Cost Estimate	Prioritization Score	Rank	Phasing
L32	Bike Lane	N Lincoln Avenue	E 33rd Street	E County Road 24E	\$26,000	8	12	0-5 years
L43	Bike Lane	S County Road 13C	E County Road 16E	E 1st Street	\$144,000	8	13	0-5 years
L59	Bike Lane	W 1st Street	N Franklin Avenue	Grant Avenue	\$37,000	8	14	0-5 years
L63	Bike Lane	W 57th Street	N County Road 17	N County Road 11C	\$267,000	8	15	0-5 years
R3	Bike Route	E 16th Street	N Lincoln Avenue	N Washington Avenue	\$23,000	8	16	0-5 years
R16	Bike Route	Westshore Drive	Taft Avenue	W Eisenhower Blvd	\$49,000	8	17	0-5 years
L1	Bike Lane	14th Street SE	S County Road 13C	S County Road 7	\$314,000	7	18	0-5 years
L2	Bike Lane	14th Street SE	S Lincoln Avenue	S St Louis Avenue	\$48,000	7	19	0-5 years
L12	Bike Lane	Duffield Avenue	W 36th Street	W 37th Street	\$4,000	7	20	0-5 years
L15	Bike Lane	E 7th Street	Rec Trail	N Boise Avenue	\$32,000	7	21	0-5 years
L19	Bike Lane	E County Road 20E	Boyd Lake Avenue	I-25	\$97,000	7	22	0-5 years

TABLE 16.4: ROADWAY CORRIDOR PROJECTS PRIORITIZATION (CONTINUED)

Project ID	Type	Corridor	From (extent 1)	From (extent 2)	Cost Estimate	Prioritization Score	Rank	Phasing
L20	Bike Lane	Foxtail Drive	Stone Creek Circle	McWhinney Boulevard	\$17,000	7	23	5-10 years
L49	Bike Lane	S Lincoln Avenue	W County Road 16	14th Street SE	\$96,000	7	24	5-10 years
L52	Bike Lane	S Tyler Avenue	W County Road 16H	14th Street SW	\$23,000	7	25	5-10 years
L55	Bike Lane	Sheridan Avenue	W 29th Street	W 37th Street	\$59,000	7	26	5-10 years
L61	Bike Lane	W 43rd Street	Sullivan Ave	Smith Park Court	\$135,000	7	27	5-10 years
R15	Bike Route	Silver Leaf Drive	Madison Avenue	N Boise Avenue	\$49,000	7	28	5-10 years
L8	Bike Lane	Byrd Drive	Rockwell Avenue	E County Road 30	\$53,000	6	29	5-10 years
L11	Bike Lane	Duffield Avenue	Coral Burst Drive	W 57th Street	\$28,000	6	30	5-10 years
L45	Bike Lane	S County Road 21	14th Street SW	W 1st Street	\$115,000	6	31	5-10 years
L47	Bike Lane	S Dotsero Avenue	14th Street SW	18th Street SW	\$24,000	6	32	5-10 years
L48	Bike Lane	S Garfield Avenue	W County Road 16	Derby Hill Drive	\$18,000	6	33	5-10 years

TABLE 16.4: ROADWAY CORRIDOR PROJECTS PRIORITIZATION (CONTINUED)

Project ID	Type	Corridor	From (extent 1)	From (extent 2)	Cost Estimate	Prioritization Score	Rank	Phasing
L54	Bike Lane	Sculptor Drive	E Eisenhower Boulevard	Tarima Peak Drive	\$13,000	6	34	5-10 years
L66	Bike Lane	W County Road 16	S Taft Avenue	S Garfield Avenue	\$98,000	6	35	5-10 years
R1	Bike Route	Crestone Drive	Foothills Drive	N Namaqua Avenue	\$21,000	6	36	5-10 years
R5	Bike Route	Lake Drive	E Eisenhower Blvd	N Garfield Avenue	\$50,000	6	37	5-10 years
R12	Bike Route	Piney River Drive	Independence Drive	Plum Creek Drive	\$13,000	6	38	5-10 years
R13	Bike Route	Plum Creek Drive	Piney River Drive	Lost Creek Drive	\$30,000	6	39	5-10 years
L4	Bike Lane	19th Street SE	Valency Drive	S Lincoln Avenue	\$32,000	5	40	5-10 years
L28	Bike Lane	N County Road 3	E Eisenhower Boulevard	Crossroads Boulevard	\$193,000	5	41	5-10 years
L40	Bike Lane	S Boise Avenue	14th Street SE	Chickadee Pl	\$68,000	5	42	5-10 years
L44	Bike Lane	S County Road 19	W County Road 16	W CR 16H	\$58,000	5	43	5-10 years
L46	Bike Lane	S County Road 9e	E 1st Street	14th Street SE	\$98,000	5	44	5-10 years

TABLE 16.4: ROADWAY CORRIDOR PROJECTS PRIORITIZATION (CONTINUED)

Project ID	Type	Corridor	From (extent 1)	From (extent 2)	Cost Estimate	Prioritization Score	Rank	Phasing
L53	Bike Lane	Sculptor Drive	Volans Drive	Zodiac Place	\$30,000	5	45	10+ years
L57	Bike Lane	Valency Drive	Cholla Drive	19th Street SE	\$30,000	5	46	10+ years
L64	Bike Lane	W 57th Street	N County Road 19	N County Road 17	\$98,000	5	47	10+ years
L65	Bike Lane	W 8th Street	Milner Court	Imperial Court	\$5,000	5	48	10+ years
L68	Bike Lane	W County Road 16	S County Road 19	W County Road 16	\$60,000	5	49	10+ years
L70	Bike Lane	W County Road 16H	S Del Norte Avenue	S Tyler Avenue	\$25,000	5	50	10+ years
R7	Bike Route	Melissa Drive	S Wilson Avenue	18th Street SW	\$60,000	5	51	10+ years
L3	Bike Lane	14th Street SW	S County Road 23E	S County Road 21	\$146,000	4	52	10+ years
L6	Bike Lane	71st Street	E County Road 30E	Front Range Trail	\$24,000	4	53	10+ years
L10	Bike Lane	County Road 7	E County Road 16	14th Street SE	\$97,000	4	54	10+ years
L17	Bike Lane	E County Road 16	S County Road 11	County Road 7	\$193,000	4	55	10+ years

TABLE 16.4: ROADWAY CORRIDOR PROJECTS PRIORITIZATION (CONTINUED)

Project ID	Type	Corridor	From (extent 1)	From (extent 2)	Cost Estimate	Prioritization Score	Rank	Phasing
L27	Bike Lane	N Boyd Lake Avenue	E 5th Street	14th Street SE	\$161,000	4	56	10+ years
L67	Bike Lane	W County Road 16	S County Road 21	S County Road 19	\$100,000	4	57	10+ years
L69	Bike Lane	W County Road 16	SW 28th Street	Spring Mountain Drive	\$18,000	4	58	10+ years
L14	Bike Lane	E 71st Street / E County Road 30	N County Road 11	Fairgrounds Avenue	\$314,000	3	59	10+ years
L18	Bike Lane	E County Road 16E	E County Road 13C	E County Road 11	\$121,000	3	60	10+ years
L41	Bike Lane	S County Road 11	42 Street SE	E County Road 16E	\$145,000	3	61	10+ years
L42	Bike Lane	S County Road 13	Cody Drive	E County Road 16 E	\$87,000	3	62	10+ years
L71	Bike Lane	W County Road 16H	Melissa Drive	S County Road 19	\$13,000	3	63	10+ years
L5	Bike Lane	29th St	N Garfield Ave	Linden Ct	\$16,000	0	64	10+ years
L7	Bike Lane	Byrd Dr	Earheart Dr	Goldco Dr	\$11,000	0	65	10+ years
L9	Bike Lane	County Road 20E	Mountain Lion Dr	I-25	\$43,000	0	66	10+ years

TABLE 16.4: ROADWAY CORRIDOR PROJECTS PRIORITIZATION (CONTINUED)

Project ID	Type	Corridor	From (extent 1)	From (extent 2)	Cost Estimate	Prioritization Score	Rank	Phasing
L21	Bike Lane	Future Roadway	Clydesdale Pkwy	N County Rd 3	\$169,000	0	67	10+ years
L22	Bike Lane	Hahns Peak Dr	McWinney Blvd	Mountain Lion Dr	\$36,000	0	68	10+ years
L23	Bike Lane	Kinston Pkwy	Centerra Pkwy	N County Rd 3	\$113,000	0	69	10+ years
L25	Bike Lane	Mountain Lion Dr	N Boyd Lake Ave	E County Road 20E	\$130,000	0	70	10+ years
L26	Bike Lane	N Boyd Lake Ave	Valley Oak Dr	E County Road 20E	\$309,000	0	71	10+ years
L29	Bike Lane	N Garfield Ave	Eisenhower Blvd	W 8th St	\$49,000	0	72	10+ years
L30	Bike Lane	N Grant Ave	W 57th St	W 37th St	\$138,000	0	73	10+ years
L33	Bike Lane	N Monroe Ave	E 16th St	E 7th St	\$70,000	0	74	10+ years
L34	Bike Lane	N Monroe Ave	W of Wisteria Dr	W 57th St	\$51,000	0	75	10+ years
L35	Bike Lane	N Railroad Ave	E 7th St	1st St	\$40,000	0	76	10+ years
L37	Bike Lane	N Washington Ave	E 12th St	E 10th St	\$30,000	0	77	10+ years

TABLE 16.4: ROADWAY CORRIDOR PROJECTS PRIORITIZATION (CONTINUED)

Project ID	Type	Corridor	From (extent 1)	From (extent 2)	Cost Estimate	Prioritization Score	Rank	Phasing
L38	Bike Lane	N Washington Ave	E 7th St	E 1st Ave	\$39,000	0	78	10+ years
L39	Bike Lane	Rickenbacker Rd	E County Road 30	Aviation Cir	\$65,000	0	79	10+ years
L51	Bike Lane	S Roosevelt Ave	Fire Engine Red St	14th St	\$55,000	0	80	10+ years
L62	Bike Lane	W 50th St	N Grant Ave	Garfield Ave	\$7,000	0	81	10+ years
R2	Bike Route	E 10th Street	N Lincoln Avenue	N Hayes Avenue	\$78,000	0	82	10+ years
R6	Bike Route	Lake Drive	Garfield Avenue	W 29th Street	\$109,000	0	83	10+ years
R8	Bike Route	N Hayes Avenue	E 7th Street	E 10th Street	\$40,000	0	84	10+ years
R9	Bike Route	N Lincoln Ave	Ginnala Dr	N of E 27th St	\$20,000	0	85	10+ years
R10	Bike Route	N Namaqua Ave	Eisenhower Blvd	S of Namaqua Ct	\$20,000	0	86	10+ years
R14	Bike Route	Silver Leaf Dr	White Elm Dr	Red Fir Pl	\$14,000	0	87	10+ years
R17	Bike Route	Wilson Ave	W 8th St	W of Miner Ct	\$13,000	0	88	10+ year

Unfunded Projects

Anticipated revenues will fully fund projects shown in the Roadway Plan and corridor projects shown in the Bicycle Plan. Unfunded projects include certain intersection upgrades for accommodating bicyclists, and elements from the Pedestrian and Transit Plans.

Pedestrian Plan Needs

As discussed in Chapter 11, the Pedestrian Plan has four main objectives:

1. Completing the sidewalk network by filling gaps in high priority areas
2. Rehabilitating existing sidewalks
3. Rebuilding curb ramps to meet ADA standards
4. Implementing new and enhanced street crossings

A portion of the first objective will be completed through the \$20 million included in the Fiscally Constrained Plan for pedestrian improvements. Any

additional gaps not funded through new development or roadway upgrades should also be considered as an unfunded project. Beyond partial completion of the Tier 1 sidewalk network, the unfunded needs in the Pedestrian Plan include filling Tier 2 and 3 sidewalk gaps, sidewalk rehabilitation, rebuilding curb ramps, and implementing enhanced crossings. Some of these objectives will be partially met through development or through arterial and collector street upgrades. All other sidewalk needs are unfunded.

Transit Plan Needs

Phase 2 of the Transit Plan cannot be implemented using anticipated revenue. Phase 2 initiatives include:

- Four buses will be added to the local fixed-route system on top of Phase 1 increases, effectively tripling 2020 service levels
- Frequency along US-34 and US-287 will increase to every 15 minutes
- New route or on-demand service will be added to serve future development along

SH 402

- Two new regional routes are planned to connect Loveland to Estes Park and Greeley (regional coordination required)

Additional Funding Sources

As additional funding becomes available, the City of Loveland can allocate new funding resources towards implementing currently unfunded projects. The funding landscape is competitive and often requires City departments to enter the planning phase thinking about grant requirements that will set the City up for success in being awarded grants. A critical step in obtaining external grants is having project priorities identified in a Transportation Master Plan that are supported by the community and elected officials. Many of the projects in Connect Loveland could be a grant funded project. It will be critical to have the projects “shovel ready” so that the funding can be used for implementation. In most cases, the list of external funding sources requires local matching funds.

Funding sources will continue to change between 2020 and 2040, but this section identifies grant and funding streams available at the time of publication of this TMP. This section identifies the funding sources that supplement existing funding streams in Loveland.

Descriptions of grant opportunities come from state and federal sources.

Federal

- **Federal Highway Safety Improvement Program (HSIP):** Eligible projects in this category include improvements or corrections to safety issues on any local or regional public roads and trails or paths. Funded activities must be consistent with Colorado’s Strategic Highway Safety Plan. Projects are selected competitively through CDOT.
- **USDOT Rebuilding American Infrastructure with Sustainability and Equity (RAISE)** (formerly BUILD and TIGER): Since 2009, USDOT has distributed grants for planning and capital investments in surface transportation infrastructure. Grants are awarded on a competitive

basis for projects that will have a significant local or regional impact. RAISE funding can support roads, bridges, transit, rail, ports, or intermodal transportation

- **FTA §5307 Urbanized Area**

Formula Program: This program makes federal resources available to urbanized areas for transit capital and operating assistance. Urbanized areas are those areas with a population of 50,000 or more as designated by the U.S. Census Bureau

- **Infrastructure for Rebuilding American (INFRA):**

The FAST Act established the Nationally Significant Freight and Highway Projects (NSFHP) program to provide financial assistance—competitive grants, known as INFRA grants, or credit assistance—to nationally and regionally significant freight and highway projects that align with the program goals to improve safety, efficiency and reliability of freight; improve global competitiveness; reduce highway congestion; improve connectivity; and addressing growing demand for freight.

- **Safe Streets and Roads for All (SS4A) Grant Program:**

The SS4A program funds regional,

local, and Tribal initiatives to prevent roadway deaths and serious injuries. The program provides two types of grants: Planning and Demonstration grants and Implementation grants. Planning and Demonstration grants are intended to enable recipients to develop or complete a comprehensive safety action plan. Implementation grants support recipients to implement projects or activities identified in their comprehensive safety action plan.

- **Charging and Fueling Infrastructure Grant Program:**

Local governments and transportation providers/operators like COLT are eligible to apply for grants that fund deployment of electric vehicle charging and hydrogen/propane/natural gas fueling infrastructure along designated alternative fuel corridors. Additional eligible activities include installation of electric vehicle charging and alternative fuel in locations on public roads, schools, parks, and in publicly accessible parking facilities. Low and moderate income neighborhoods with low ratios of private parking or high ratios of multifamily

dwelling are prioritized for funding.

- **Strengthening Mobility and Revolutionizing Transportation (SMART)**

Grant Program: SMART grants provide public sector agencies in local and state governments to conduct demonstration projects that advance smart communities technologies like installation of sensors, upgraded traffic signal systems, and implementing technology that supports connected vehicles.

State

- **CDOT Funding Advancements for Surface Transportation and Economic Recovery Act (FASTER):**

This category includes safety-related projects, such as: asset management, transportation operations, intersection and interchange improvements, and shoulder and safety-related widening, and pedestrian and bicycle facilities. Projects are advanced by local governments and selected based on priority and data within CDOT Region 4.

- **Safe Routes to School (SRTS):**

This program is was formed to: Enable and encourage children to walk and bike to school;

Make walking and biking safer and more appealing; Facilitate planning development, and implementation of projects that improve safety, reduce traffic, fuel consumption, and air pollution around schools. There is no longer dedicated federal SRTS funding but the Colorado SRTS program has been continued with state funding and a local agency match requirement. This is a competitive program where projects are screened by a statewide selection advisory committee

- **Great Outdoors Colorado (GOCO):**

Funding from the Colorado Lottery is awarded to a variety of project types, including trail projects, across the state by the GOCO Board. GOCO Board members are appointed by the Governor and confirmed by the Colorado State Senate

- **Regional Priorities Program (RPP):**

The goal of this program is to implement regionally significant projects identified through the transportation planning process. These funds are flexible in use and are allocated to the regions by the CTC on an annual basis. The allocations are based on regional population, CDOT on-

system lane miles, and CDOT on-system truck Vehicle Miles Traveled (VMT).

Regional

- **Metropolitan Planning:**

Federal funds are allocated to the NFRMPO to provide for a continuing, comprehensive, and cooperative (3C) transportation planning process in the region.

- **Multimodal Options Fund (MMOF):**

The legislation states that the Multimodal Options Fund should promote a “complete and integrated multimodal system” through objectives such as benefitting seniors, providing enhanced mobility for the disabled population, or providing safe routes to school. Local recipients are required to provide a match of project funding equal to the amount of the grant, with exemptions allowed. The current MMOF funding is available through June 30, 2023. The City of Loveland received grant funding for two projects in the 2020 MMOF call for projects.

- **NFRMPO Congestion Mitigation and Air Quality Improvement Program (CMAQ):** The FAST Act continued the CMAQ program

to provide a flexible funding source to State and local governments for transportation projects and programs to help meet the requirements of the Clean Air Act. Funding is available to reduce congestion and improve air quality for areas that do not meet the National Ambient Air Quality Standards for ozone, carbon monoxide, or particulate matter (nonattainment areas) and for former nonattainment areas that are now in compliance (maintenance areas). Loveland is in an 8-hour ozone non-attainment area.

- **NFRMPO Surface Transportation Block Grants:**

The Surface Transportation Block Grant program (STBG) provides flexible funding that may be used by States and localities for projects to preserve and improve the conditions and performance on any Federal-aid highway, bridge and tunnel projects on any public road, pedestrian and bicycle infrastructure, and transit capital projects, including intercity bus terminals.

- **CDOT/NFRMPO Transportation Alternatives Program (TAP):** Eligible projects for TA grants include planning or

construction projects for on and off-road pedestrian and bicycle facilities, community enhancement activities, and safe routes to schools. Projects are screened and selected by CDOT Region 4 and funds are awarded through a competitive process to local entities.

Local

- **Local property tax:** Funds generated by sales, use, specific ownership, and property taxes can be transferred to general funds or directed towards capital projects. These can either be permanent or a local option tax that is subject to voter approval.

- **Transportation Utility Fees:** Transportation utility fees are a financing mechanism that treats the transportation system like a utility in which residents and businesses pay fees based on their use of the transportation system rather than taxes based on the value of property they occupy. The fees are not subject to voter approval and are based on the number of trips generated by different land uses. They are enacted on property owners and renters alike, paid on an ongoing monthly basis. The

City of Loveland currently has a Street Maintenance Fee that is collected and used specifically for funding a portion of the Annual Street Rehabilitation Program.

- **Dedicated Sales Tax:**

Additional sales tax could be collected as the result of a City or citizen sponsored ballot initiative to collect sale tax for specific/dedicated uses for transportation related use. This additional funding would be collected over a set amount of time and used to fund the included items.

- Other funding options that could be considered with further analysis are parking fees, transportation impact fees, and special assessments

Next Steps

Connect Loveland is a long-term transportation plan that includes a Fiscally Constrained Plan under the umbrella of a Vision Statement with specific Goals and Objectives. While able to move forward on many items, large portions of implementing the Bicycle, Pedestrian, and Transit Plans remain unfunded. The City will continue to pursue any and all opportunities for grants and other outside funding that comes available, including known and yet to be determined sources. With the constantly evolving and quickly changing landscape and needs across all transportation modes, a sustained effort is critical to success.

Additionally, the City will continue efforts to keep *Connect Loveland* and the City's transportation progress and needs visible to the community through on-going efforts to participate and promote in local, regional and state-wide groups and efforts. These efforts will include opportunities for both providing and receiving input and information in order to continue moving forward in a proactive

manner.

The Pedestrian Plan section specifically will require further refinement in order to better define projects and prioritization for implementation beyond what is included in *Connect Loveland*. It is anticipated that a separate effort will be undertaken within the next few years that will better guide the near term and create a more solid foundation for future master plans.

Finally, it is anticipated that the next major update will occur in 5 years. In the meantime, annual reviews of projects, costs and associated fees will be completed. Major changes to critical areas of land use, funding and/or technology prior to that would result in more in-depth review and updates to impacted plan sections.

APPENDIX A

EXISTING CONDITIONS

APPENDIX B

FUTURE LOVELAND

APPENDIX C

PUBLIC ENGAGEMENT RESULTS

APPENDIX D

CDOT PEDESTRIAN CROSSING GUIDELINES

APPENDIX E

LOVELAND ROADMAP TO SAFETY

APPENDIX F

CONNECT LOVELAND GLOSSARY OF TERMS

APPENDIX G

NFRMPO GLOSSARY OF TERMS

APPENDIX H

FULL PAGE REPORT MAPS