



Timnath
TRANSPORTATION PLAN

Timnath **TRANSPORTATION PLAN** Update

FEBRUARY 2024



Timnath **TRANSPORTATION PLAN**

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Table of Contents

	Page
1. Introduction	4
Purpose	4
Study Area.....	4
Planning Process.....	5
2. Community Engagement.....	6
Phase 1: Listening to the Community	6
3. Current Conditions.....	16
Demographics.....	16
Travel Trends.....	18
Street Network.....	21
Crash History	32
Bicycle and Pedestrian Facilities	35
Transit	41
4. Future Conditions	43
Methodology.....	43
Land Use Forecasts	44
Travel Demand Model Network Refinements.....	48
5. Vision and Goals	54
Transportation Goals	54
Transportation Objectives.....	55
6. Long Range Plan	56
Master Streets Plan.....	56
Bicycle Plan	66
Pedestrian Plan	69
Transit Plan	71



Timnath TRANSPORTATION PLAN

7. Implementation Strategy	72
Programmatic Recommendations.....	72
Project Recommendations.....	72
Funding.....	83
Action Plan.....	85

Appendices

Appendix A.	Timnath Travel Patterns
Appendix B.	Land Use Forecasts
Appendix C.	Cost Estimates

List of Figures

Figure 1.	Timnath Growth Management Area	5
Figure 2.	Key Themes from Community Input	10
Figure 3.	Timnath Residents Commute to Work Trips	19
Figure 4.	Commuter Inflow and Outflow	20
Figure 5.	Where Timnath Residents Commute	20
Figure 6.	Existing Street Network.....	23
Figure 7.	Roadway Surface Type	24
Figure 8.	Number of Vehicular Travel Lanes.....	25
Figure 9.	Traffic Control Devices	28
Figure 10.	Posted Speed Limits.....	29
Figure 11.	Existing Daily Traffic Volumes	30
Figure 12.	Railroad Crossings	31
Figure 13.	Crash Locations (2015-2019)	33
Figure 14.	Bicycle and Pedestrian Crashes (2015-2019).....	34
Figure 15.	Pedestrian Facilities	36
Figure 16.	Bicycle Facilities.....	37
Figure 17.	Bicycle Level of Stress.....	40
Figure 18.	Transit Facilities.....	42
Figure 19.	NFRMPO Transportation Analysis Zones (TAZs).....	45
Figure 20.	Household Growth (2015 to 2045)	46
Figure 21.	Employment Growth (2015 to 2045).....	47



Timnath TRANSPORTATION PLAN

Figure 22.	2045 Build Average Daily Traffic Forecasts.....	52
Figure 23.	2045 Build Levels of Congestion.....	53
Figure 24.	Master Streets Plan.....	57
Figure 25.	Urban 6-Lane Arterial Cross Section.....	59
Figure 26.	Urban 4-Lane Arterial Cross Section.....	59
Figure 27.	Urban 2-Lane Arterial Cross Section.....	60
Figure 28.	Urban Major Collector Cross Section.....	60
Figure 29.	Urban Minor Collector Cross Section.....	61
Figure 30.	Urban Local Street Cross Section.....	61
Figure 31.	Rural 4-Lane Arterial Cross Section.....	62
Figure 32.	Rural 2-Lane Arterial Cross Section.....	62
Figure 33.	Rural Collector/Local Street Cross Section.....	62
Figure 34.	Preferred Commercial Truck Routes.....	65
Figure 35.	Bicycle Plan.....	68
Figure 36.	Pedestrian Plan.....	70
Figure 37.	Near Term Projects (2024 – 2030).....	86
Figure 38.	Long Term Projects (2031 – 2045).....	87
Figure 39.	Future Projects (Beyond 2045).....	88
Figure 40.	Regional Projects.....	89

List of Tables

Table 1.	Key Demographics.....	17
Table 2.	Land Use Growth Summary.....	44
Table 3.	Planning Level Capacities.....	48
Table 4.	Transportation Objectives.....	55
Table 5.	Functional Classifications, Cross-Sections, and ROW Preservation.....	58
Table 6.	Program Recommendations.....	72
Table 7.	Roadway Projects.....	74
Table 8.	Intersection Projects.....	78
Table 9.	Bicycle and Pedestrian Projects.....	79
Table 10.	Railroad Crossing Projects.....	80
Table 11.	Regional Projects.....	81



Timnath TRANSPORTATION PLAN

1. Introduction

The Town of Timnath is a community of approximately 9,300 residents (2022 US Census ACS). The Town, founded in 1882, has remained an agriculture and farming community for decades. Over the past two decades, communities in northern Colorado have been experiencing rapid growth, and Timnath is no exception. Current building permit trends suggest that the Town of Timnath's population could grow increase by 7,500 residents in the next 10 to 15 years. The migration of families and young professionals to Timnath, and Northern Colorado in general, demonstrates a shift in demographics, lifestyles, and markets in the area. Transportation will largely influence the way in which Timnath will continue to grow and develop, and the Transportation Plan sets a vision for the Town's future transportation network to support the community's desire to maintain its small town character and to support and manage growth responsibly.

Purpose

Transportation is a critical component of community planning, and Timnath recognizes the need to be proactive about transportation as the pace of growth and development increases. This Transportation

What is a Transportation Plan?

A process of gathering information to understand:

- Existing and future conditions
- Community needs

To create a plan for the future that:

- Sets a vision for the Town's transportation future
- Identifies improvement projects
- Preserves right-of-way
- Establishes funding responsibilities
- Helps Timnath respond to community needs today and for future generations

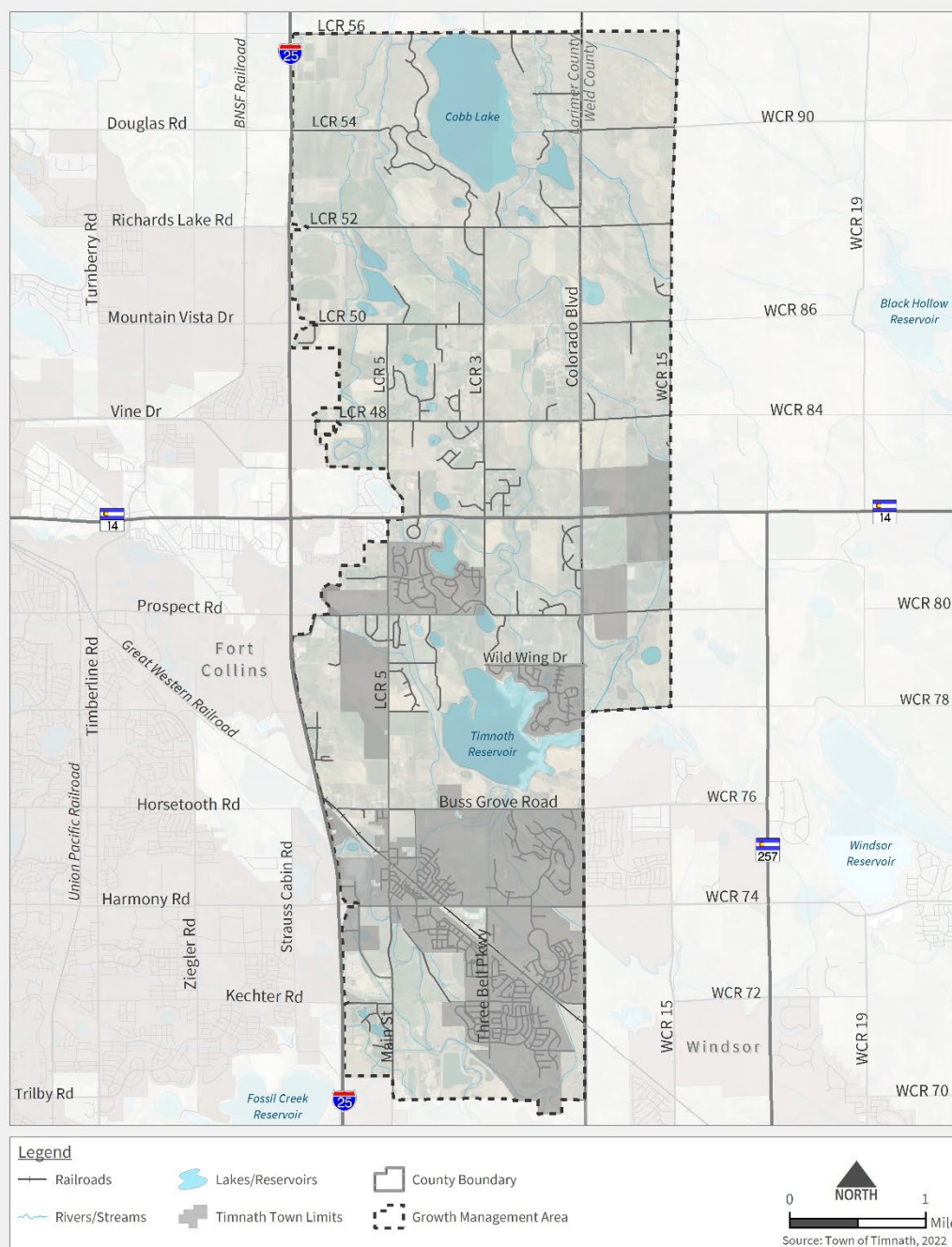
Plan, therefore, offers guidance on how to strategically plan and accommodate this expected growth. This plan updates the Town's previous Transportation Plan, which was adopted in 2015. The plan addresses all modes of transportation and is intended to accommodate projected growth through 2045. This plan contains guidance to assist staff and policymakers in reviewing development proposals and implementing transportation improvements. The plan includes a list of projects necessary to realize Timnath's transportation goals. It is intended that this plan be flexible enough to accommodate future revisions and adjustments as development conditions dictate.

Study Area

The Timnath Comprehensive Plan (2020) identifies the Town's Growth Management Area (GMA), which represents those areas beyond the town limits that can reasonably be expected to annex into the Town as growth continues. The study area for this Plan, therefore, is the GMA limits, as shown on **Figure 1**.



Figure 1. Timnath Growth Management Area



Planning Process

The development of this Transportation Plan involved specific technical tasks, coordination, and community engagement. It also included inventorying the existing transportation system and documenting areas of deficiencies so that immediate needs could be identified. The project team then obtained current and projected socioeconomic data to refine the growth assumptions used in the regional travel demand model. The travel demand model was then used to project future traffic and identify future

needs. The project team used a combination of technical evaluation and community input to establish roadway, bicycle and pedestrian, and transit plans. The project team then developed a list of short-term, mid-term, and long-term needs to serve as the basis for the Town's Capital Improvement Plan (CIP). Street standards were also established. The project team used transportation goals and objectives, established in Timnath's Comprehensive Plan (2020), as a starting point to develop the policy framework. New or modified goals were created and upon adoption of this Plan, they will supersede the Comprehensive Plan's transportation goals and objectives.

2. Community Engagement

At the onset of the Transportation Plan Update, the project team developed a dynamic public involvement plan with goals to educate the community about what a transportation plan is and how connectivity to and from the Town is of regional significance, to provide messaging to frame the importance of a plan update, and to celebrate the success of previous planning efforts.

Engagement strategies to support these goals were developed in coordination with the project team, event planners, and the public relations firm that executes communications for the Town. These conversations and partnership helped to identify various in-community opportunities and communication channels to reach local and regional residents.

Phase 1: Listening to the Community

Phase 1 of outreach was developed to:

- ▶ Inform the public about the process and generate excitement
- ▶ Educate the public about why an update to the multimodal transportation plan is important
- ▶ Provide accessible, two-way communication opportunities
- ▶ Listen and understand the community's perspective on mobility in, around, to and from Timnath

Through this effort, the project team obtained a keen sense of the community's perspective on mobility, an understanding of potential opportunities for future enhancements, and community values.

Project Webpage

FHU developed and hosted a microsite to house all project information and engagement tools. The site was linked to the Town's primary website. The microsite provided updated information about engagement opportunities, project timeline, and background information from the 2015 Transportation Plan.



[Home](#) [Give Your Ideas!](#)



Timnath continues to grow and change. As our community grows, so too does the need for transportation infrastructure. A well-planned multimodal transportation system will meet the needs of the community today and into the future.

The Town's Transportation Plan was last updated in 2015.
Why do we update it? Great question.

Travel patterns and transportation technologies evolve.
The plan is updated, approximately every 5 years, to ensure that it reflects both current and future community needs.



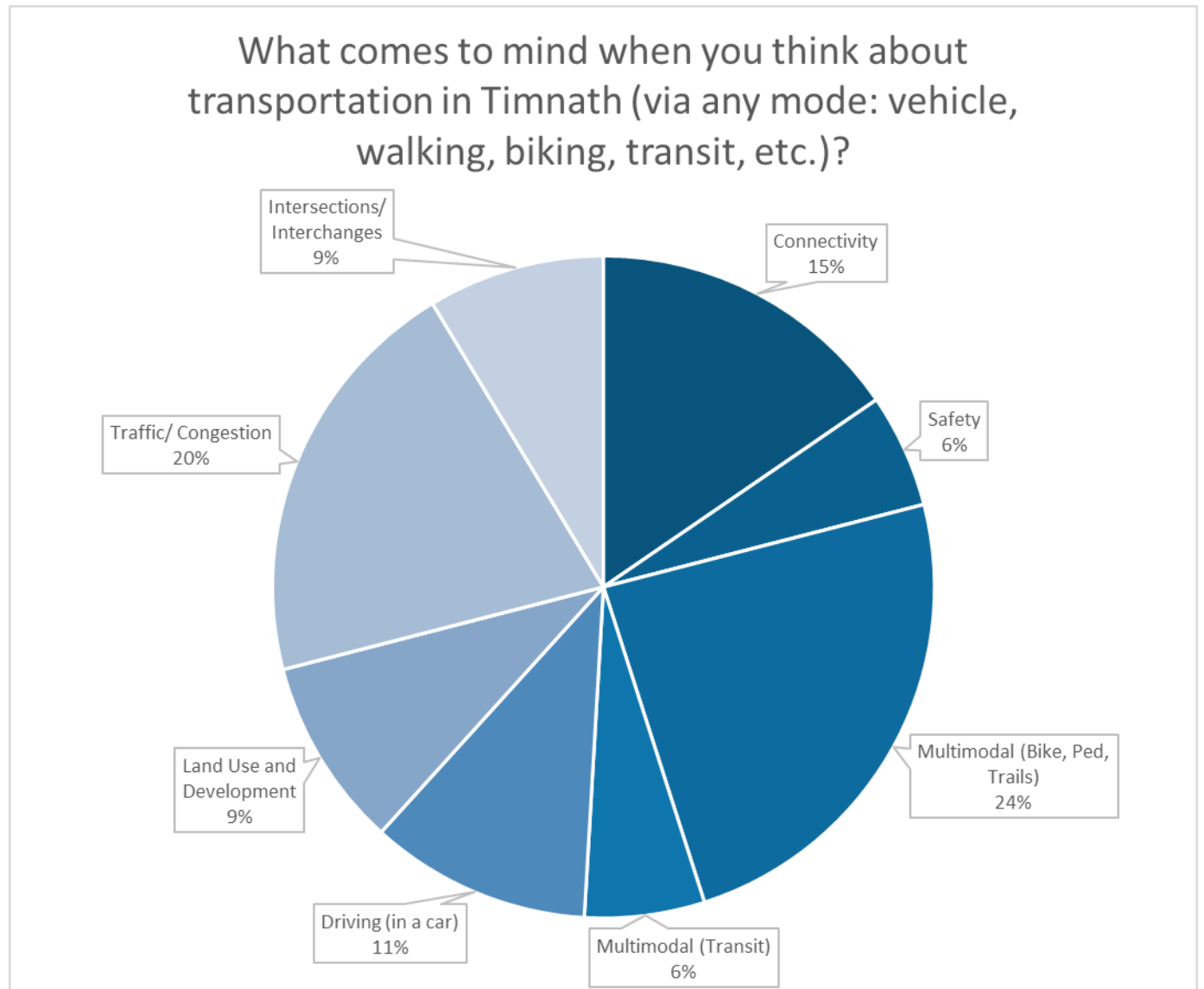
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Digital Engagement Tools

Survey

When the project launched in late 2022, the first step to outreach included a single question survey: “What comes to mind when you think about transportation in Timnath (via any mode: vehicle, walking, biking, transit, etc.)?” This listening activity was coupled with a series of messages that were launched on the Town’s website, This Week in Timnath community e-news, and social media accounts to drive traffic. Responses helped the team gather an initial pulse point on community desires and needs.

Results: 149 Responses



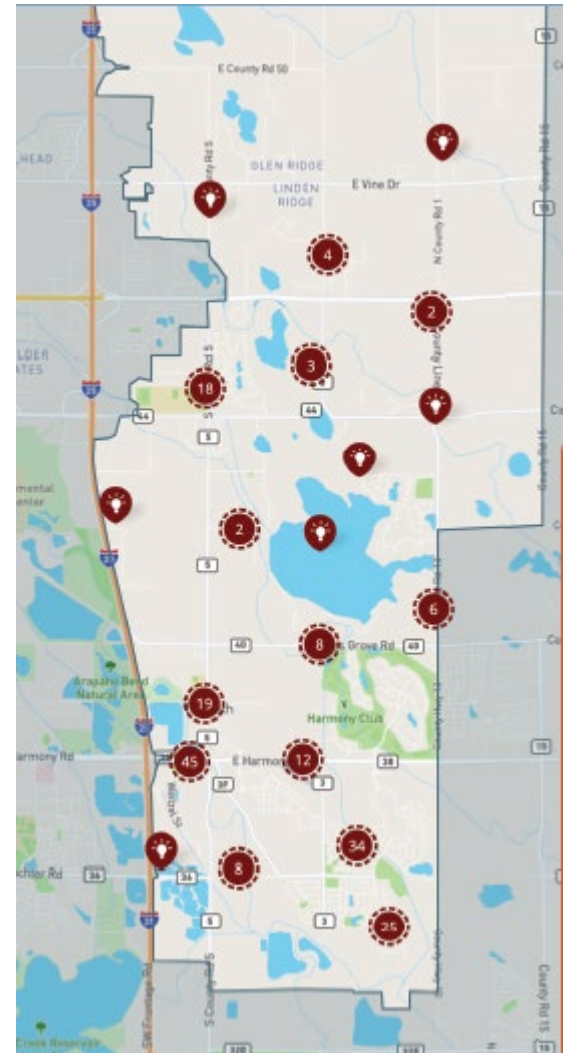


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Crowdsourcing Map

Following the first survey, the project team developed and promoted an online location-based crowdsourcing map through the same channels as the survey. The project team also sent emails to all those who responded to the survey earlier in the year to engage again. The map asked: “What ideas do you have to improve travel in and around Timnath? Whether you drive, bike, walk, scoot, or prefer to take transit.”

In total, there were 365 map comments (17 captured at the Safety Fair). This is just one important result. Because the online map allows respondents to not only see other comments, but also reply and provide a sentiment “like” or “dislike” vote, there were far more engagements than just 365.



Engagement

365 Comments

1,886 Like Votes
on Comments

315 Dislike Votes
on Comments

172 Discussions

2,738 TOTAL
ENGAGEMENTS



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In Person Community Events

To meet community members where they are, the project team identified a list of Timnath events in which to participate. For the first phase, the team aimed to attend the Holiday Lighting Festival on December 2, 2022. Unfortunately, this event was canceled the day-of due to high winds. Given the winter weather, the project team identified the next best opportunity to be the Timnath Safety Fair on April 29, 2023.

The project team spoke to dozens of event attendees and engaged in meaningful two-way conversations. Most people who stopped at the booth were interested in both learning about the project and sharing their thoughts, ideas, and concerns. The booth featured informational boards and a replica of the online map.

From discussions at the event, 17 were location specific. These were entered to the online map for further engagement. Interestingly, these specific 17 comments captured 413 “like/thumbs up” votes and 41 “dislike/thumbs down” votes online. These were some of the most engaged comments.



Direct Mail

The project team developed a postcard and sent it to 3,613 addresses in the Timnath zip code. The call to action was engagement with the online commenting map.

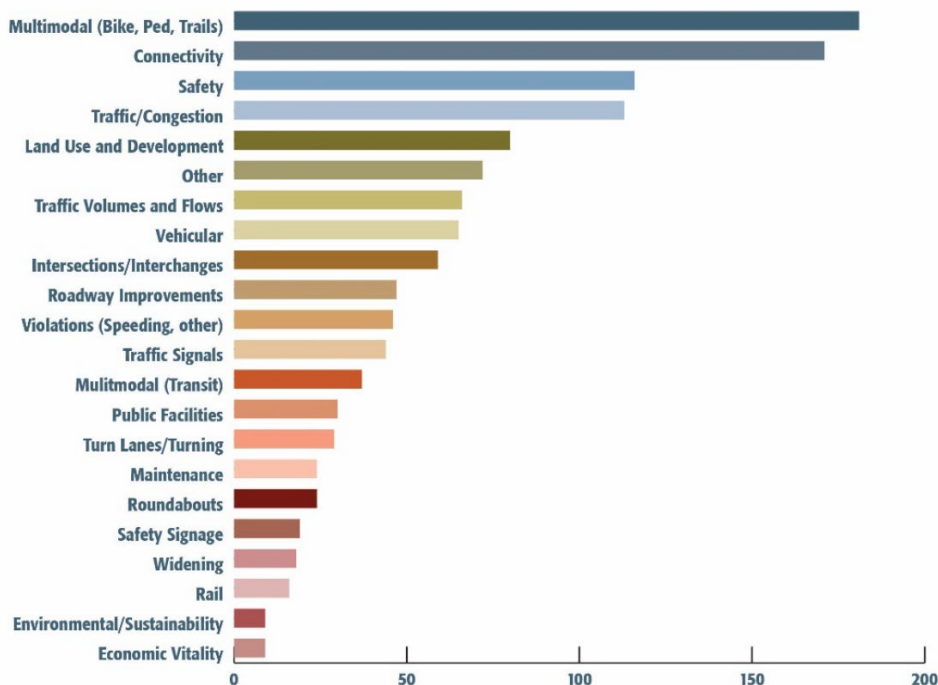
Key Themes

The project team categorized all comments received through the online and in-person engagement activities. **Figure 2** depicts the key themes from the community engagement and the frequency of comments in each category. The Phase 1 community input was used as a direct input into the draft plan recommendations, as described in the “Community Input in Action” diagram on the next page.



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Figure 2. Key Themes from Community Input



COMMUNITY INPUT IN ACTION

Projects



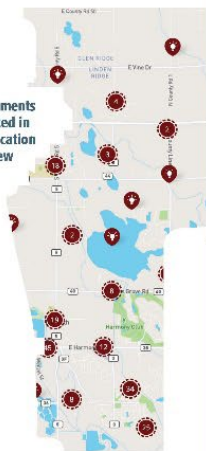
Supported

Many public comments were in alignment with previously identified and upcoming roadway improvements



New

Public comments have resulted in the identification of seven new projects



Programs



Addressing Systematic Issues



Signal timing program to optimize efficiency and provide educational opportunities

Traffic calming and pedestrian crossing policy/program to establish best practices and procedures for evaluation and implementation



Safe routes to school program to identify walking and biking routes and optimize drop-off and pick-up operations in coordination with School District

Plans



Each and every comment was considered and categorized to create these plans



Master Streets Plan

Bike and Pedestrian Plan



Transit Plan



Comments about transit, bike/pedestrian incorporated into modal plans

Constraints and Tradeoffs

Although all public input ideas were considered, some did not advance because they did not offer enough benefit to offset impact to surrounding properties or cost.



Impact to existing homes



Feasibility



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Phase 2: Priorities

The second phase of community engagement began in November 2023 and focused on understanding the community's priorities.

In Person Community Event

The Town hosted a November 2, 2023, public meeting to listen and understand the public's perspective on draft vision, goals, and recommendations for future plans, programs and projects. Fifty-two attendees engaged with the project team and left comments and concerns related to Master Streets, Pedestrian, Bicycle, and Transit plans.

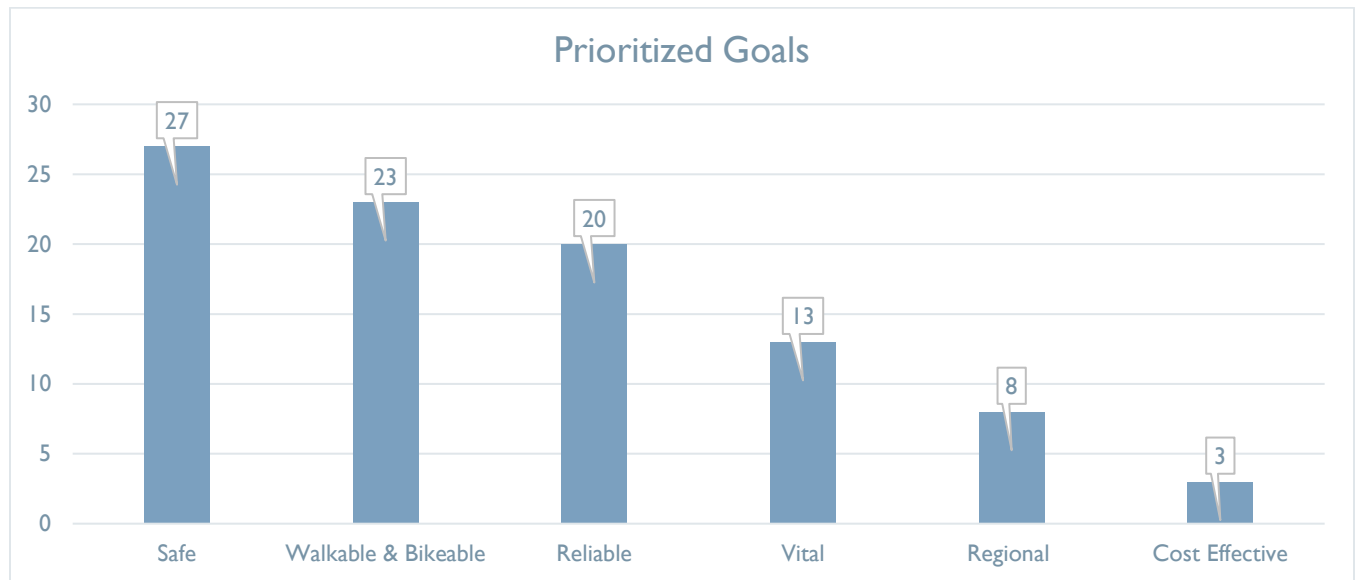
- ▶ Total comments: 41
- ▶ Master Streets Plan comments: 24
- ▶ General comments: 9
- ▶ Pedestrian Plan comments: 4
- ▶ Transit Plan comments: 2
- ▶ Bike Plan comments: 2

The most frequent comment was related to keeping Main Street open as a through street for local traffic and cyclists. Town Staff provided background context on the previous planning efforts that led to Old Town street network plans that are being advanced and are incorporated in the Master Streets Plan.



Timnath TRANSPORTATION PLAN

The transportation goals were voted on to get a better understanding of the community's top priorities. There were **94 votes** in the **6 goal** areas. Safety was the top-rated goal area, followed by Walkable & Bikeable, and Reliable. **Chapter 5** provides more detail on the Transportation Vision and Goals.



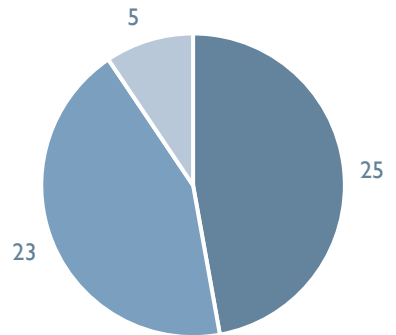
On printed poster boards, the attendees voted with sticker dots on how they'd allocate funding to progress the street, bicycle, pedestrian and transit plans. The Street Network was rated priority, totaling **101 votes**, bringing the roads up to current standards as the most popular category with **40 votes**, **34 votes** for future street capacity, and **27 votes** for new street connections.

The Bicycle Network received **75 votes** that were split relatively equally among the four types of improvements, with shared use paths receiving the highest. The Pedestrian Network received **53 votes**, most of which were split between sidewalks and community trails. Transit Access and Service collected **33 votes**, over half of which were focused on improving access to the Harmony Mobility Hub. Overall, this exercise reflected the community's desire for a balanced approach to advancing a multimodal network in Timnath.



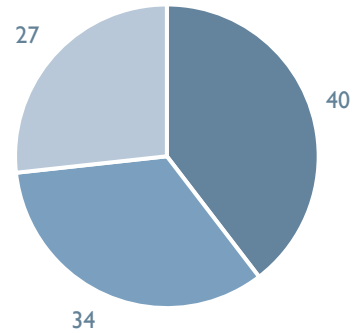
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Pedestrian Network



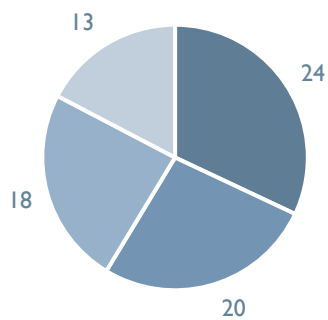
- Sidewalk Paths
- Community trails
- Grade separated crossings (underpass)

Street Network



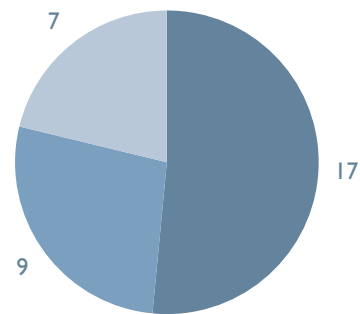
- Future street capacity
- New street connections
- Bring roads up to current standards

Bicycle Network



- Shared use path
- On-street bike lanes
- Grade separated crossings (underpass)
- Community trails

Transit Access & Service



- Access to Harmony Mobility Hub
- Provide more transit options directly in Timnath
- Serve transit-dependent populations

Digital Engagement

The project team developed additional Social Pinpoint engagement tools to collect feedback on the goals and priorities for the transportation plan. In Fall 2023, the project page received **1,095 views** from **625 visitors** with the tools collecting **161 contributions** from **49 contributors**.



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Timnath Transportation Plan

We are seeking your insights and feedback. Help create an updated vision to keep you moving in and around Timnath.



Timnath Transportation Plan

Timnath continues to grow and change. As our community grows, so too does the need for transportation infrastructure. A well-planned multimodal transportation system will meet the needs of the community today and into the future. The Town's Transportation Plan was last updated in 2015.

Why do we update it? Great question.

Travel patterns and transportation technologies evolve. The plan is updated, approximately every five years, to ensure that it reflects both current and future community needs.

[REVIEW MEETING MATERIALS](#)

[PRIORITIZE GOALS](#)

[ALLOCATE "FUNDING"](#)

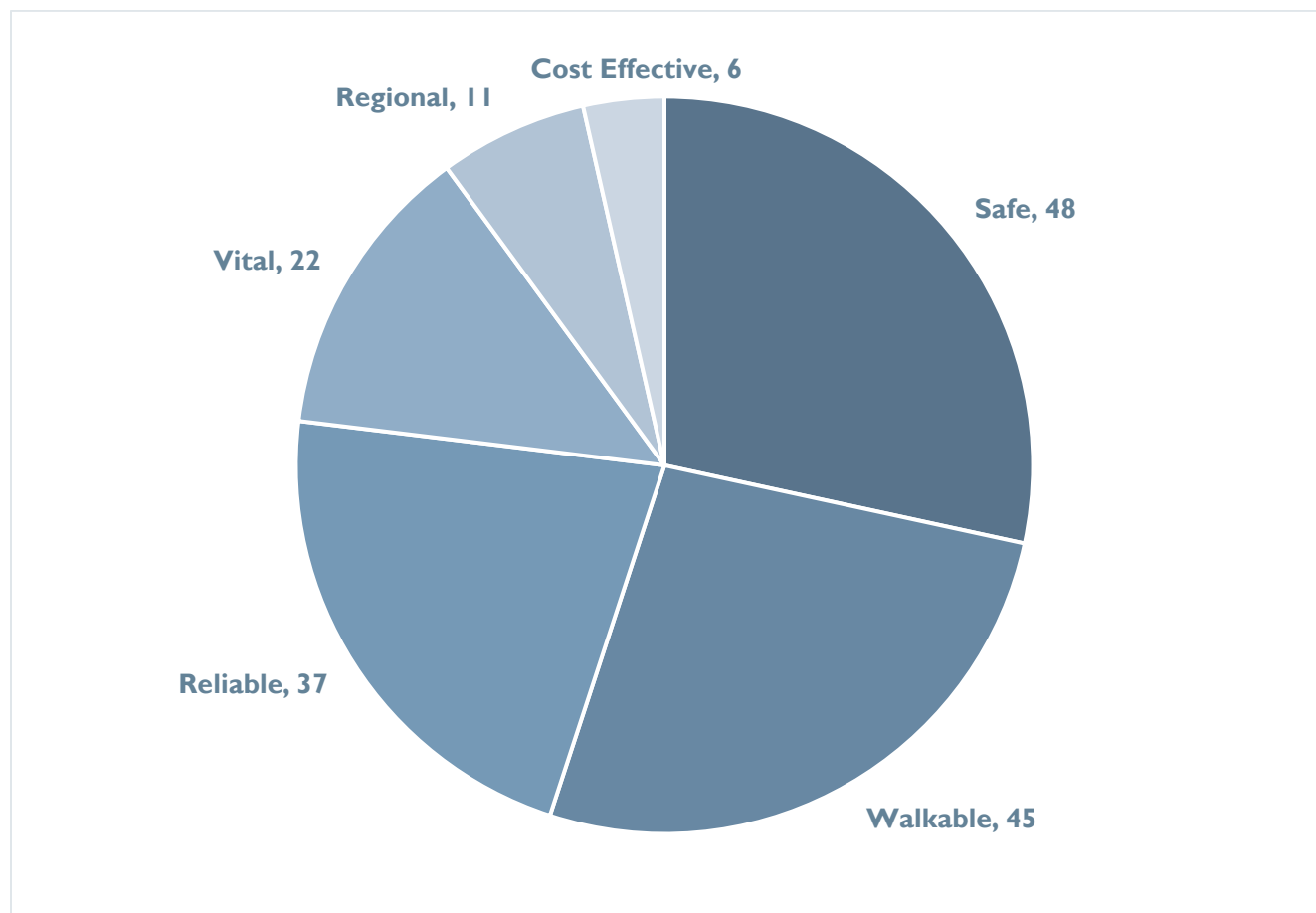
The Town hosted a meeting on Thursday, November 2 to listen and understand the public's perspective on draft

What is a Transportation Plan?



Transportation Goals

Similar to the in-person community event, online participants were asked to identify their top three goal areas; the results mirror those from the public meeting.



Note: The in-person votes were manually input into Social Pinpoint after the November public meeting.



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Transportation Plan Priorities

The online engagement also included a priorities exercise that mirrored the sticky-dot exercise from the public meeting. The collective results are depicted below and were used to inform the Implementation Plan (**Chapter 7**).

49 Bike Network
43 Ped Network

92 Total



Shared Use Paths

33 Bike Network
60 Ped Network

93 Total



Community Trails

74 Total

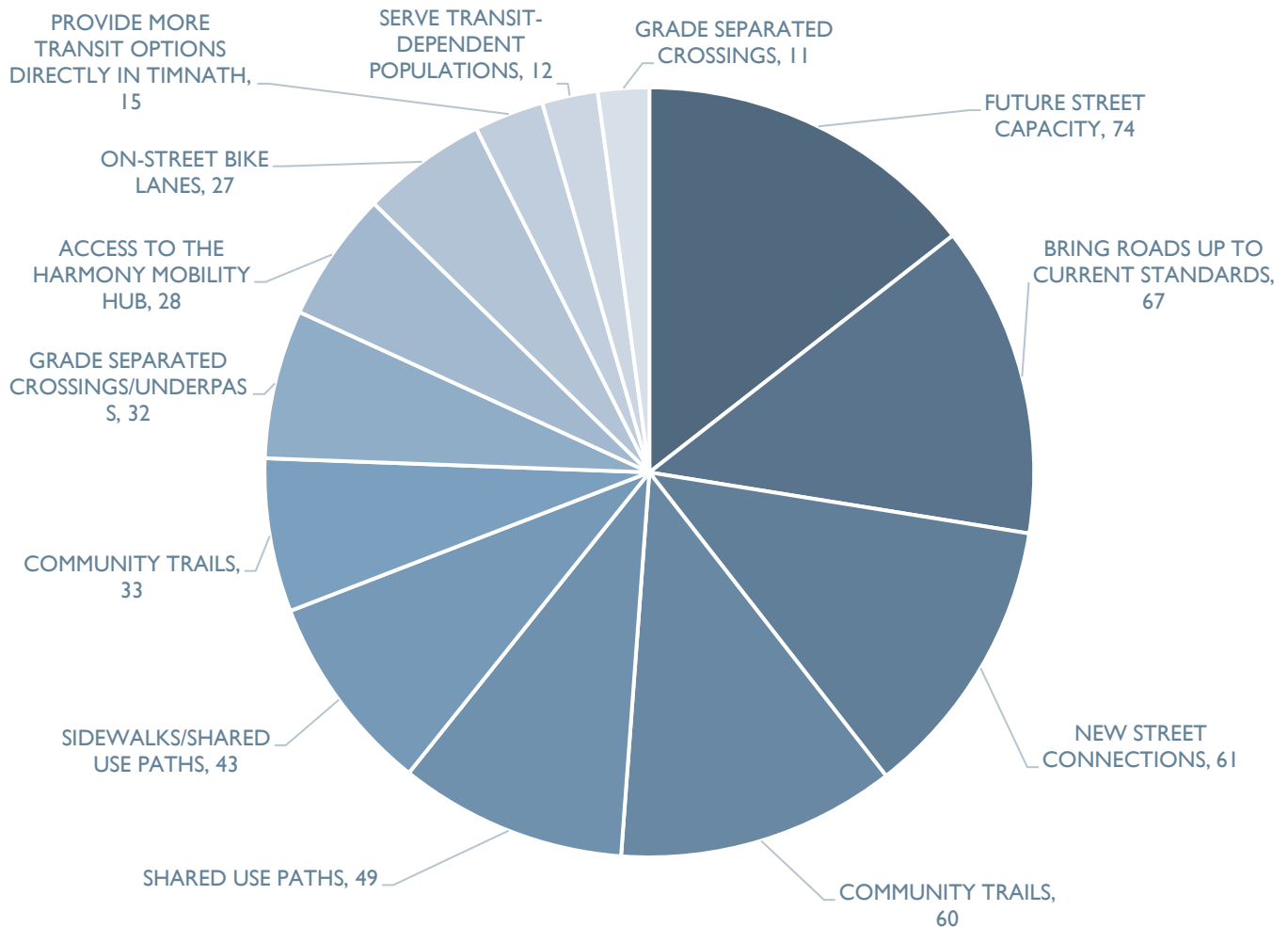


Future Street Capacity

67 Total



Bring Roads up to Current Standards



3. Current Conditions

The project team inventoried the existing transportation system and travel patterns to understand what is working well and what needs to be improved to address travel needs of Timnath residents. **Chapter 3** documents Timnath's demographics and travel trends and inventories the existing multimodal transportation system within the Town's GMA. This includes streets, bicycle and pedestrian facilities, trails, transit, truck freight, and evolving transportation technologies. The roadway inventory involved collecting data associated with the existing street system (such as number of lanes, paving, traffic control devices, posted speed limits, etc.) and compiling traffic counts. The inventory focuses on streets with a functional classification of Major Collector and higher and does not include local streets. The multimodal inventory includes bicycle and pedestrian facilities, nearby transit service, and railroad information.



Demographics

Assessing demographics is a key step to understanding the composition of the community and the use of the transportation system. The assessment also anticipates where new or improved transportation facilities or services are needed and ensures they are accessible and equitable. Not only does the number of people living and working in Timnath affect transportation needs, but where people choose to live and work greatly influences the demand for transportation infrastructure and services in Timnath, as well as in the North Front Range region.

The demographic information provided in this section is based on data from the Census Bureau, American Community Survey (ACS) 2022 5-Year Estimates, the most recent comprehensive dataset available. Timnath has a 2022 estimated population of 9,300. **Table 1** summarizes the key demographics within the Town of Timnath that may have unique transportation needs. Vulnerable populations include older adults (65 and older), children (younger than 18), people with disabilities, zero-vehicle households, low-income populations, and minority populations.



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Table 1. Key Demographics

Demographic	Percent of Timnath	Unique Transportation Needs
Older Adults	Approximately 14.5 percent of Timnath residents are 65 years and older.	The growing interest in active and independent living among older adults has increased community focus on providing more accessible transportation services that support active older adult lifestyles. The availability and quality of transportation options are key to determining where older adults decide to live. As time goes on and driving becomes less of an option, older adults may have more limited access to services and amenities if alternative transportation options are not adequate.
Children	Approximately 33.2 percent of Timnath residents are younger than 18 years of age.	Children under the legal driving age have to rely on walking, biking, transit or those who can drive for transportation options. Transportation services and infrastructure connecting schools and community facilities should be safe and easily accessible to people of all ages. Additionally, safe routes to walk and bike can encourage more active lifestyles that contribute to physical and mental well-being.
People With Disabilities	Approximately 5.2 percent of Timnath residents have a disability.	Many people with disabilities cannot drive on their own, meaning they rely on other forms of transportation to access services and amenities. Some persons with disabilities may require the use of a mobility aid (e.g., wheelchair). It is important for transportation to be accessible to people of all abilities.
Race and Ethnicity	Timnath is a relatively homogenous community with approximately 92.4 percent identifying as white alone and 7.6 percent of the community identifying as a minority population.	Minority populations, including people who identify as Black, Hispanic or Latino, Asian, American Indian, or Alaskan Native, have been historically underserved in communities throughout the United States. An equitable transportation network offers convenient and affordable access among housing and jobs, medical services, education, grocery shopping, and social/recreational activities for all users. Access results in opportunities that often positively influence personal health and quality of life.
Low-Income Households	Approximately 4.0 percent of Timnath households have household incomes at or below federal poverty guidelines.	Low-income households are important to consider when planning for transportation improvements because these residents may have limited access to a vehicle, rely more on lower-cost transportation options such as walking, biking, riding transit, or rely on others to meet their transportation needs.



Timnath TRANSPORTATION PLAN

Demographic	Percent of Timnath	Unique Transportation Needs
Zero Vehicle Households	Less than 1 percent of Timnath residents do not have access to a vehicle.	These households cannot afford a vehicle, choose not to have a vehicle, or have a disability preventing them from driving a vehicle. An increasing number of younger individuals do not own a personal vehicle compared to previous generations. When identifying transportation infrastructure and service improvements, residents with limited or no access to a vehicle should be considered as they rely on others to carpool or depend on other modes of transportation for daily trips and errands, including walking, biking, and riding public transit.

Travel Trends

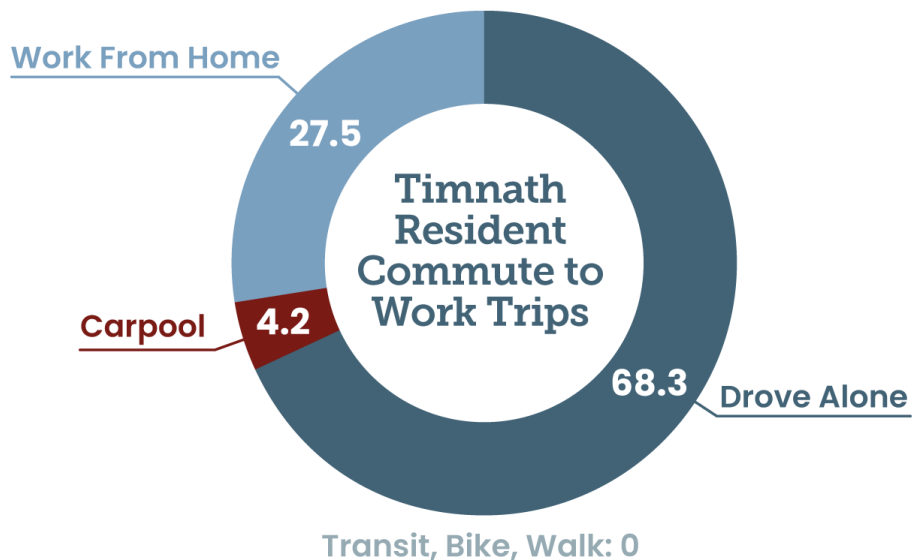
The quality and experience of how people travel in Timnath are important factors in planning for current and future growth and resulting transportation needs. Town streets can play a number of roles, including as thoroughfares that handle vehicle traffic through the town, as bicycle routes for commuters to employment or transit stations, or as recreation facilities for pedestrians or bicyclists. Land use patterns throughout the North Front Range area have largely resulted in car-dependent communities, but recent and long-term investments in transit and multimodal infrastructure in the North Front Range Region indicate that land use patterns, demographics, and travel preferences are changing.

Transportation to Work

Mode Share

As shown on **Figure 3**, on a typical workday, approximately 68.3 percent of Timnath residents drive alone to their employment and 4.2 percent carpool. Approximately 27.5 percent work from home, and a statistically insignificant amount take transit, bike, or walk to work. These percentages represent only Timnath resident commute to work trips, no other types of non-work-related trips (e.g., running errands).

Figure 3. Timnath Residents Commute to Work Trips



Source: 2022 ACS 5-Year Estimates

Commuter Inflow and Outflow

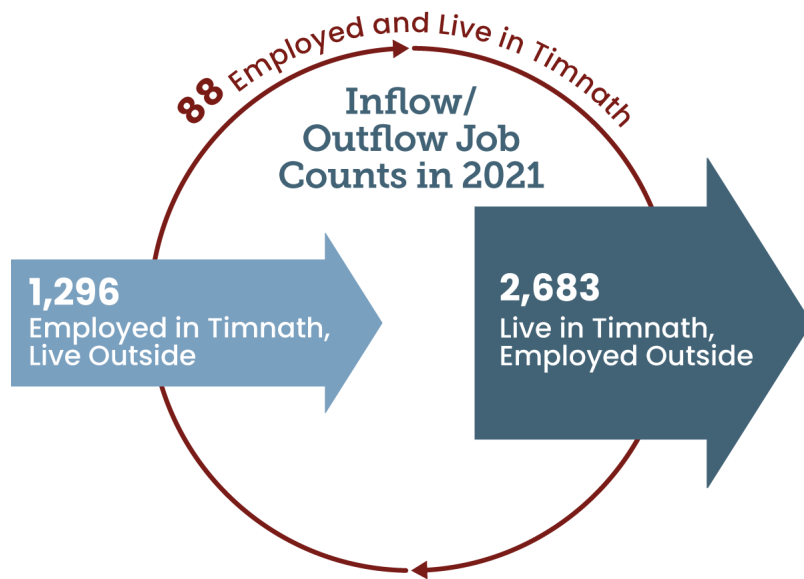
As shown in **Figure 4**, the overall daily population in Timnath decreases as more employees commute outside Timnath than commute to work in Timnath. Nearly 1,300 residents from other communities commute into Timnath to work, whereas approximately 2,700 Timnath residents leave Timnath for employment in other communities. Only 88 people both live and work in the town. The average commuting time for Timnath residents is 23.7 minutes, compared to Colorado's average commute time of 25.6 minutes. In addition to the inflow and outflow of Timnath residents and employees, many commuters also travel through Timnath along the main throughfare, Harmony Road. As jurisdictions adjacent to Timnath continue to grow, Timnath will likely continue to experience an increase of commuters along East Harmony Road and other major corridors.





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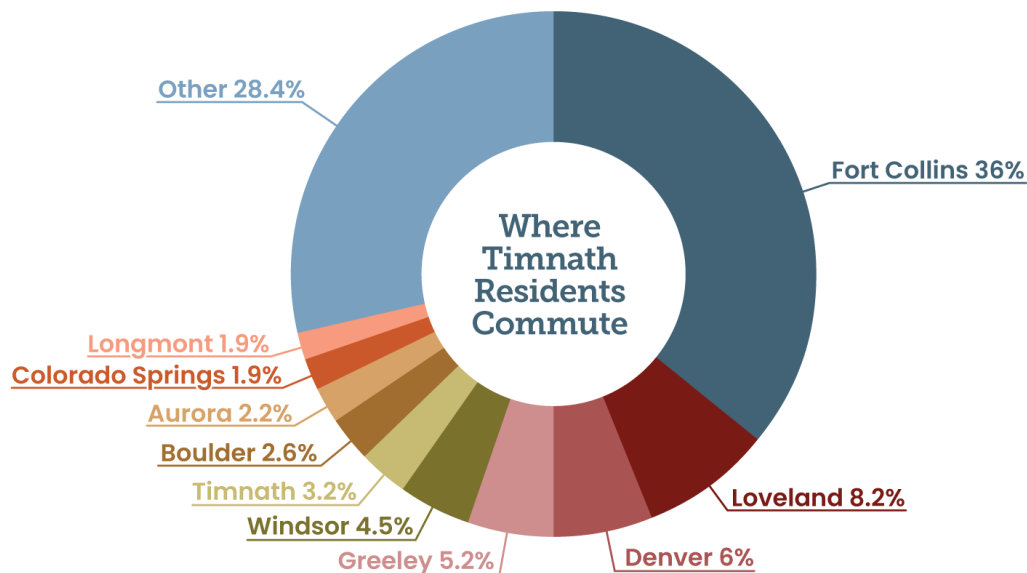
Figure 4. Commuter Inflow and Outflow



Source: Longitudinal-Employer Household Dynamics Program, 2021

As shown in **Figure 5**, Fort Collins is the most common commuting destination for Timnath residents, followed by Loveland, Denver, and Greeley.

Figure 5. Where Timnath Residents Commute



Source: Longitudinal-Employer Household Dynamics Program, 2021

Housing and Transportation (H&T) Affordability Index

The Housing and Transportation (H+T) Affordability Index is another metric used to understand how transportation impacts Timnath residents and to inform how Timnath can plan for more accessible, equitable, and affordable transportation options. Transportation, including the various costs of vehicle ownership such as maintenance or the costs associated with using another mode of transportation such as transit, is typically the second largest expenditure for households. Traditional measures of affordability do not include transportation costs; therefore, factoring in both housing and transportation costs through the H+T Affordability Index provides a more comprehensive way of thinking about the cost of housing and true affordability.

On average, Timnath residents spend 38 percent of their household income on housing and 24 percent on transportation. Combined, this is 62 percent, significantly higher than the Center for Neighborhood Technology's recommended amount of 45 percent. The average annual transportation cost is \$17,058 for Timnath residents, and the average number of cars per household is 2.16 (*Source: Center for Neighborhood Technology, October 2022*).

Street Network

Streets generally provide two important functions: access and mobility. Each street type is specifically designed to operate with certain characteristics based on adjacent land uses, level of continuity, transportation modes served, and proximity and connections to other facilities. The functional classification of a street describes these characteristics and reflects its role in the street network and relationship with adjacent land use. A street's classification also forms the basis for access management (e.g., driveways), corridor right-of-way preservation, multimodal facility types, and street design guidelines and standards. The functional classification is typically viewed as the desired condition for a street.



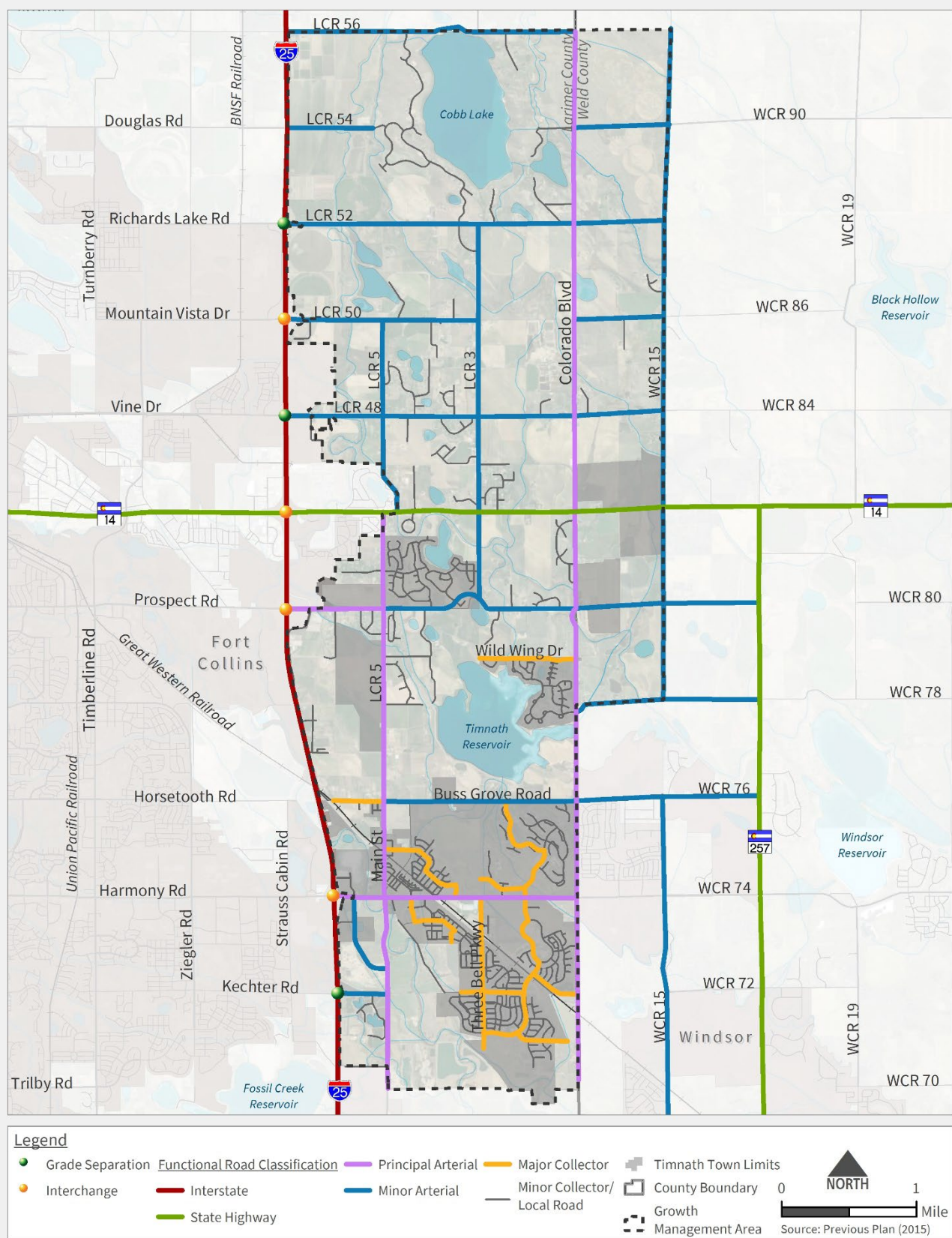
Timnath's streets are classified as Local, Minor Collector, Major Collector, Minor Arterial, and Principal Arterial, as shown on **Figure 6**. Roadway surface types and number of travel lanes are shown on **Figure 7** and **Figure 8**, respectively.

- ▶ **Local Streets and Minor Collectors** serve the highest level of access, providing direct driveway access to adjacent properties and carrying traffic to collector streets. Local Streets may be limited in continuity and may be designed to discourage through traffic. Local Streets are usually the most comfortable streets for walking and biking as the amount of interaction with vehicular traffic is minimal and travel speeds are low. The majority of Timnath's neighborhood streets are classified as Local Streets.
- ▶ **Major Collectors** gather traffic from Local Streets and connect travelers to the arterial network. Collectors provide a balance between access and mobility and retain continuity through neighborhoods. Collector streets also can play a critical role in increasing connectivity of the bicycle and pedestrian network. Three Bell Parkway and Signal Tree Drive are examples of Major Collector streets that provide a connection to the arterial street network.
- ▶ **Minor Arterials** provide for trips of moderate length and offer connectivity to streets of higher functional classification. Minor Arterials provide intra-community continuity and a higher degree of land access than Principal Arterials. With higher posted speed limits and a greater amount of vehicular traffic, Minor Arterials can present more stressful environments for bicyclists and pedestrians. Buss Grove Road is an example of a Minor Arterial that provides intra-community continuity in the Timnath region.
- ▶ **Principal Arterials** provide a high degree of mobility and serve corridor movements with longer trip lengths. While adjoining land uses can be served directly, access to adjacent properties is limited to emphasize mobility of vehicles. Harmony Road is an example of a Principal Arterial that provides high mobility with longer trip lengths.
- ▶ **State Highways and Interstates** have the highest level of mobility, providing unimpeded high-speed regional and interstate connections, Interstate 25 (I-25) is an example of a limited access divided highway that links major urban areas and is located on the western edge of the Timnath GMA. Other State Highways within and proximate to the GMA include Colorado Highway (CO) 14 and CO 257. While these highways are critical for regional travel, they are owned and maintained by the Colorado Department of Transportation (CDOT).



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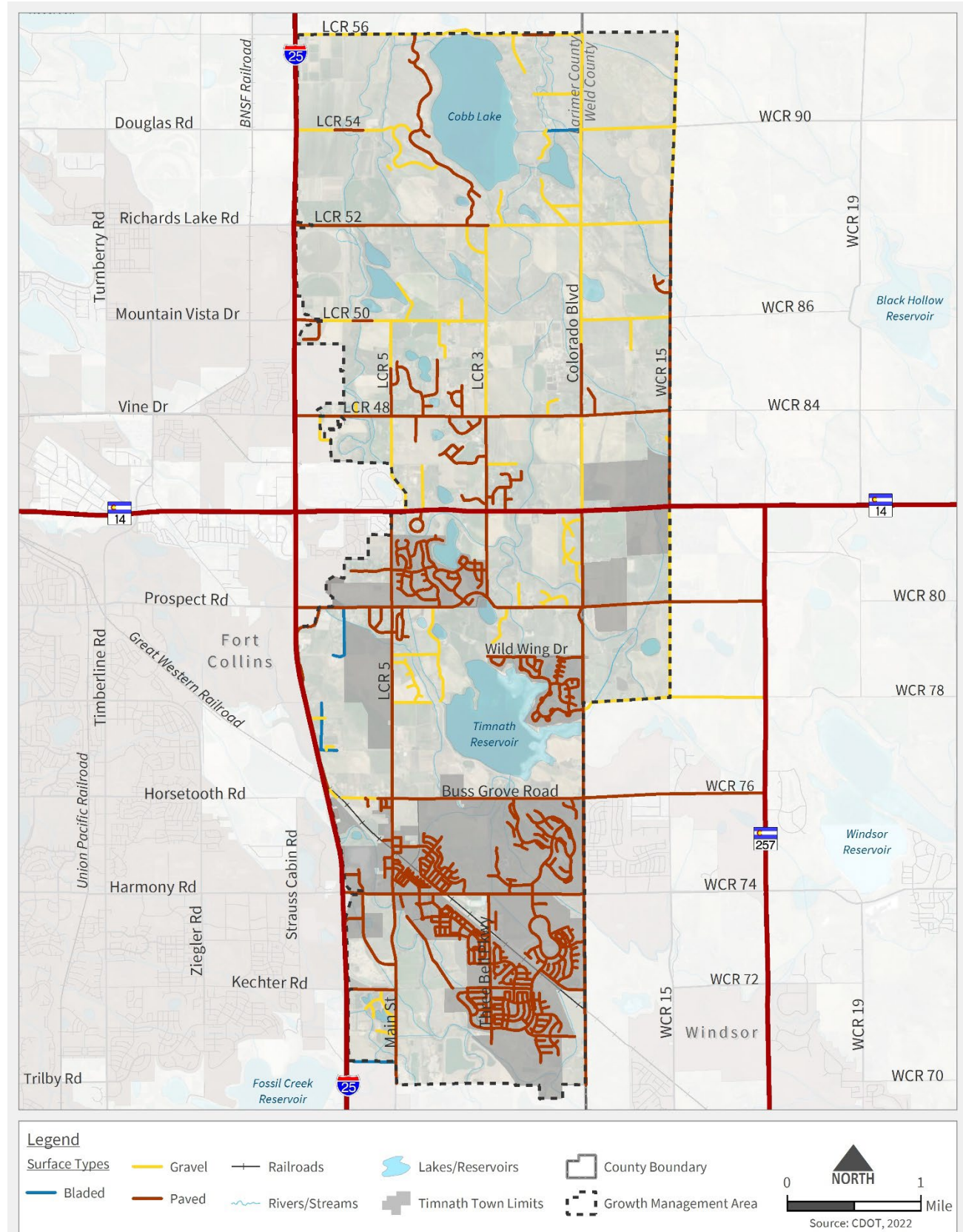
Figure 6. Existing Street Network





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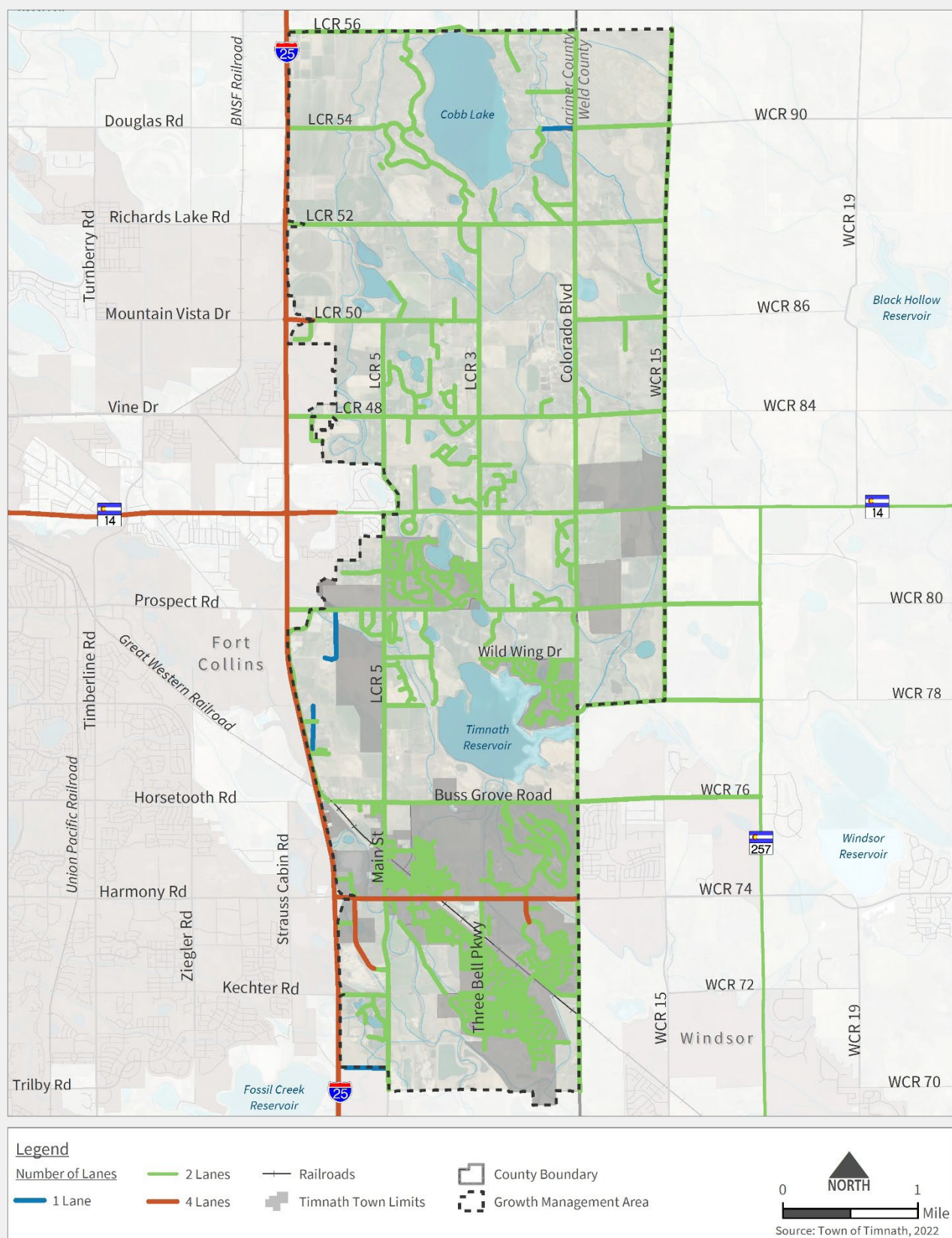
Figure 7. Roadway Surface Type





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Figure 8. Number of Vehicular Travel Lanes





Timnath TRANSPORTATION PLAN

Regionally Significant Corridors

The North Front Range Metropolitan Planning Organization (NFRMPO) has identified Regionally Significant Corridors, which serve as regional connections between North Front Range communities. The Timnath GMA has five identified corridors: Colorado Highway (CO 14), Prospect Road, Colorado Boulevard, Main Street, and Harmony Road.

Colorado Highway (CO) 14

CO 14 is a two-lane east-west state highway that is a part of the National Highway System. CO 14 bisects the GMA, running just north of the existing town limits. To the west, it provides access to Fort Collins, I-25, and US 287. To the east, it provides access to Severance, Ault, US 85, and further east to Sterling and I-76.

Prospect Road

Prospect Road is a two-lane east-west road one mile south of CO 14. To the west, it provides access to Fort Collins, I-25, and US 287. To the east, it provides access to CO 257, where it terminates. Prospect Road's designation as a Regionally Significant Corridor is from Main Street to the west.

Colorado Boulevard

Colorado Boulevard (Larimer County Road [LCR] 1/Weld County Road [WCR] 13), a two-lane north-south roadway, runs along or near the eastern boundary of the GMA. It provides access to rural areas to the north, although it is only considered a Regionally Significant Corridor up to CO 14. To the south, it parallels I-25 providing access to Windsor, CO 392, and US 34.

Main Street

Main Street (LCR 5), a two-lane north-south street, runs through Old Town, parallel to I-25. The roadway does not provide regional connectivity north of CO 14, where it ceases to be classified as a Regionally Significant Corridor. To the south, it provides access to the western edge of Windsor, eastern edge of Loveland, CO 392, and US 34.

Harmony Road

Harmony Road is a major east-west roadway that provides the primary access to Timnath. To the west, it provides access to southern Fort Collins, I-25, and US 287. To the east, it provides access to Windsor, Severance, Eaton, and US 85. It has four lanes through Timnath between I-25 and WCR 15, while it has two lanes further east and six lanes west of I-25.

Traffic Control Devices

Figure 9 illustrates the existing traffic control devices in the Timnath GMA on streets classified as Major Collector or higher. Intersection traffic control ensures safe and efficient traffic operation by assigning right-of-way between conflicting traffic streams. This assignment of right-of-way provides uniform and predictable movements of vehicles, bicyclists, and pedestrians. Typical intersection traffic control may consist of a traffic signal, roundabout, or a STOP sign on the minor street approaches.

Posted Speed Limit

Posted speed limits in Timnath range from 25 miles per hour (MPH) on collector streets such as Wild Wing Drive, to 45 MPH on Harmony Road, and to 65 MPH along sections of CO 14, as shown on **Figure 10**. Access, adjacent land use, placement of crosswalks and other elements of street design can all impact speed limits along the street. It is important to design streets to balance the safety and mobility needs of all users. Higher speeds are associated with severe injury and fatal crashes, as described in the next section.

Traffic Volumes

CDOT, Larimer County, and Timnath provided existing daily traffic volumes on roadways within and around the Timnath GMA. The project team also used StreetLight data to supplement the traffic data collection effort. **Appendix A** includes a detailed evaluation of travel patterns using StreetLight data. StreetLight uses location-based services, publicly available Census, traffic counts, and points of interest data to estimate traffic volumes and patterns. Most of the traffic counts shown on **Figure 11** were obtained in 2021; however, some of the counts in the northern portion of the GMA are older, from 2017/2018. Larimer County recorded traffic volumes on Kechter Road and Main Street in 2023.

Harmony Road near I-25 has the highest volumes in the GMA with over 44,000 vehicles per day (vpd) immediately east of I-25. The traffic volumes drop significantly to 31,000 vpd east of Weitzel Street. Daily traffic volumes along Harmony Road decrease further east toward Colorado Boulevard. The next highest volumes in the GMA are along CO 14 with 13,200 vpd just east of Main Street. Main Street carries 13,000 vpd south of Kechter Road and approximately 4,800 vpd through Old Town.

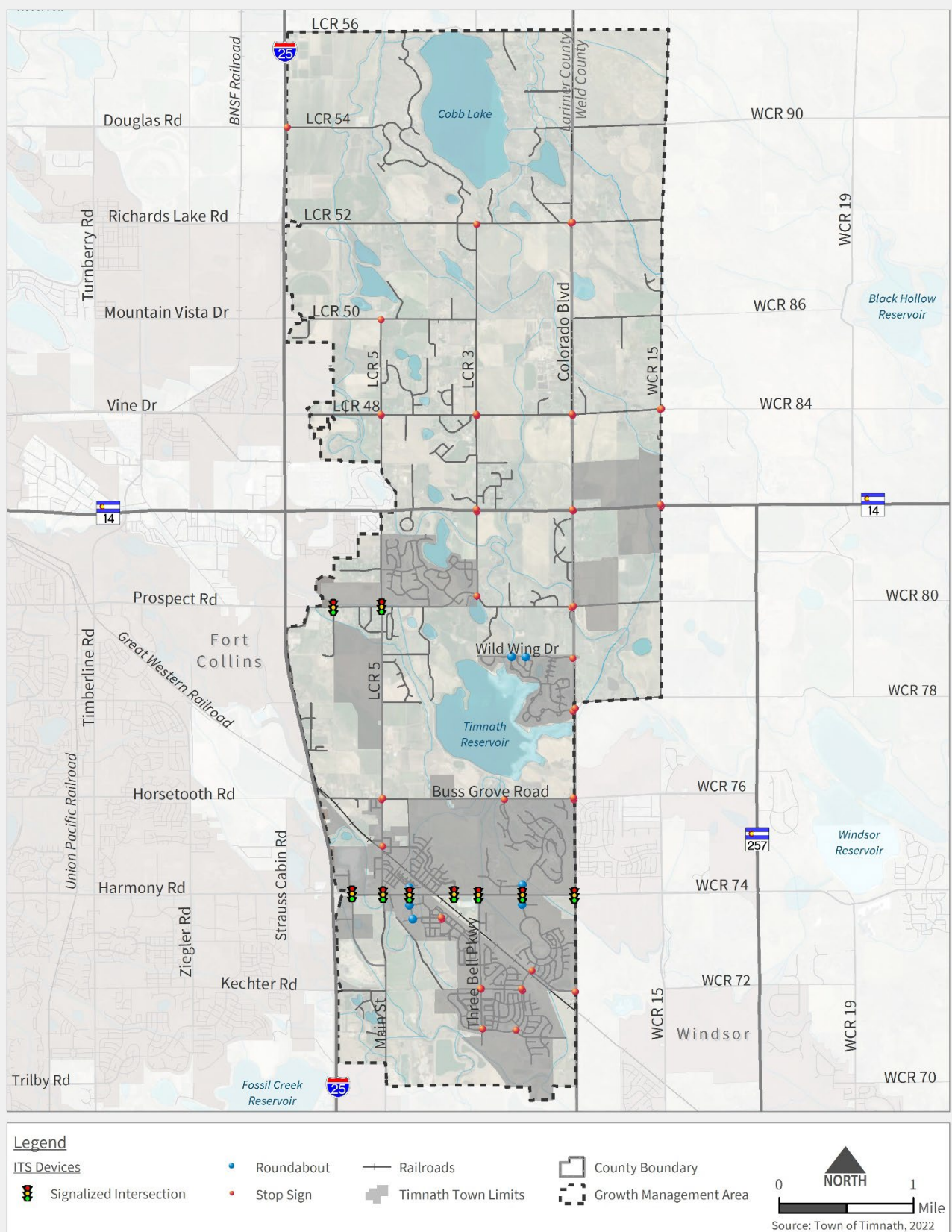
Railroad Crossings

The Greeley Line of the Great Western Railway (GWR) serves the Timnath area. The Greeley Line is a single track that bisects the Town of Timnath from northwest to southeast, as shown on **Figure 12**. According to the GWR, typically two to four trains per day pass through the Town of Timnath, traveling 1 to 20 MPH. The maximum time table speed is 20 MPH, and the train movements are indicated to occur during the day (rather than at night). There are five existing at-grade railroad crossings, three of which are within the Town's quiet zone. A new at-grade railroad crossing is anticipated at the Timnath Parkway crossing.



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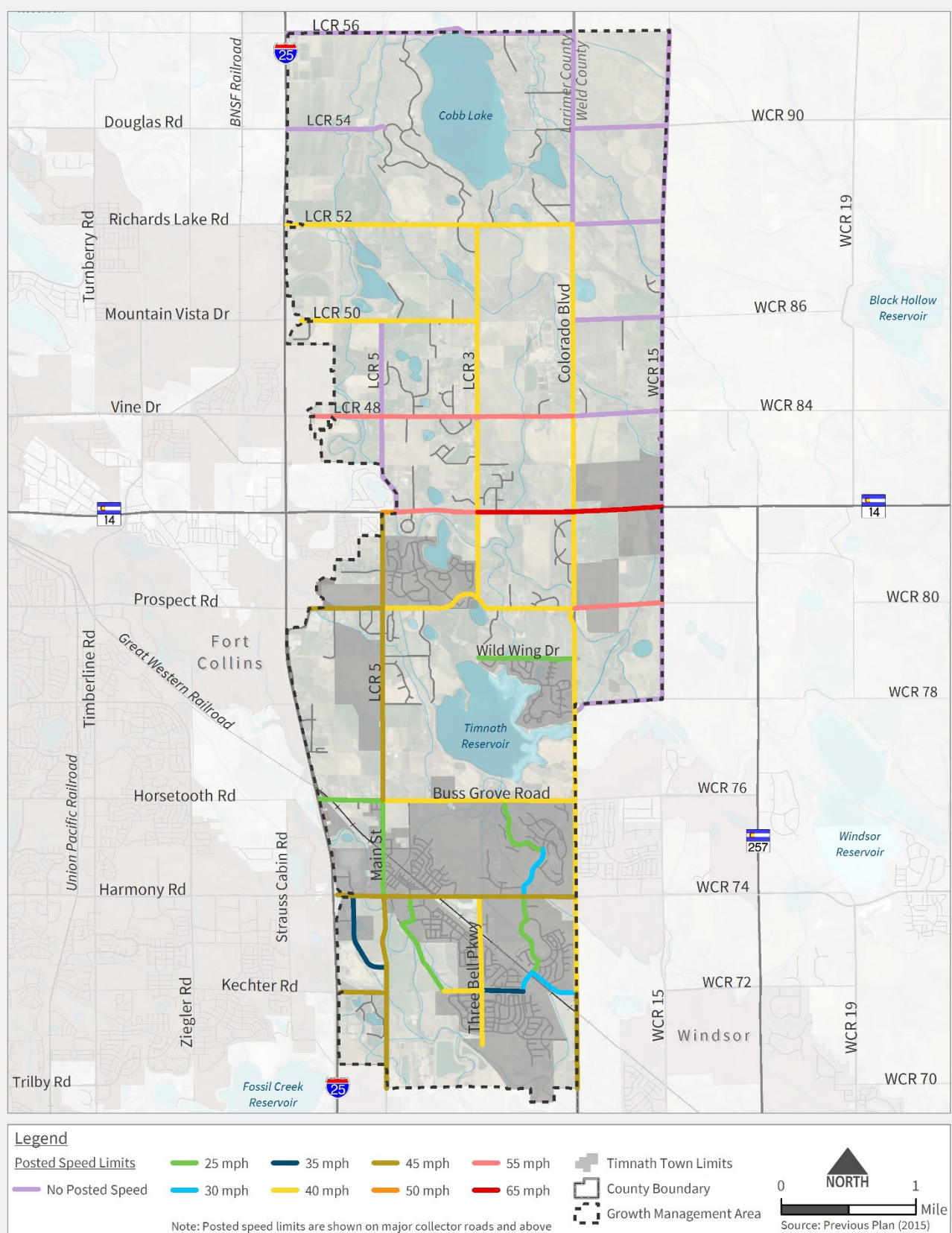
Figure 9. Traffic Control Devices





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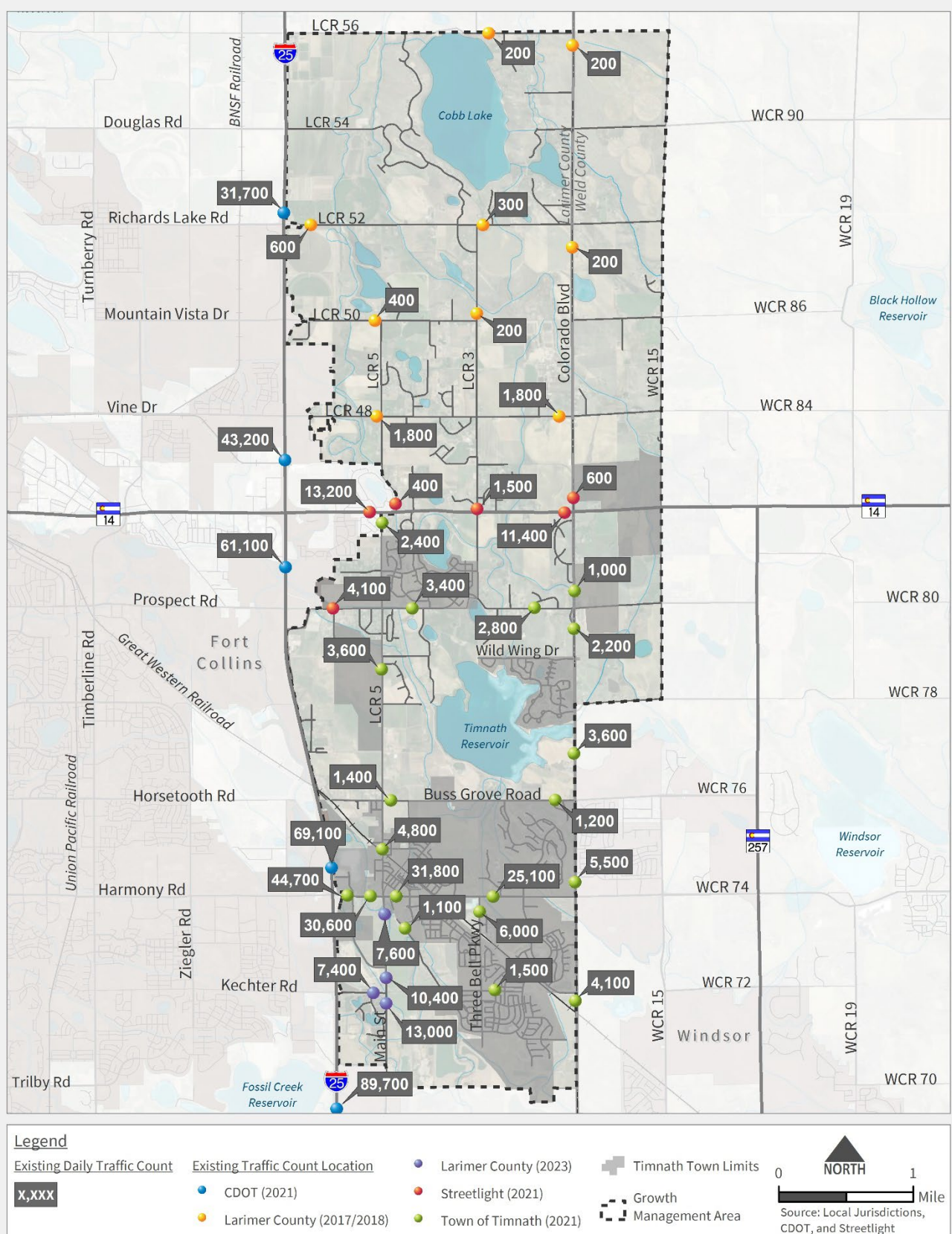
Figure 10. Posted Speed Limits





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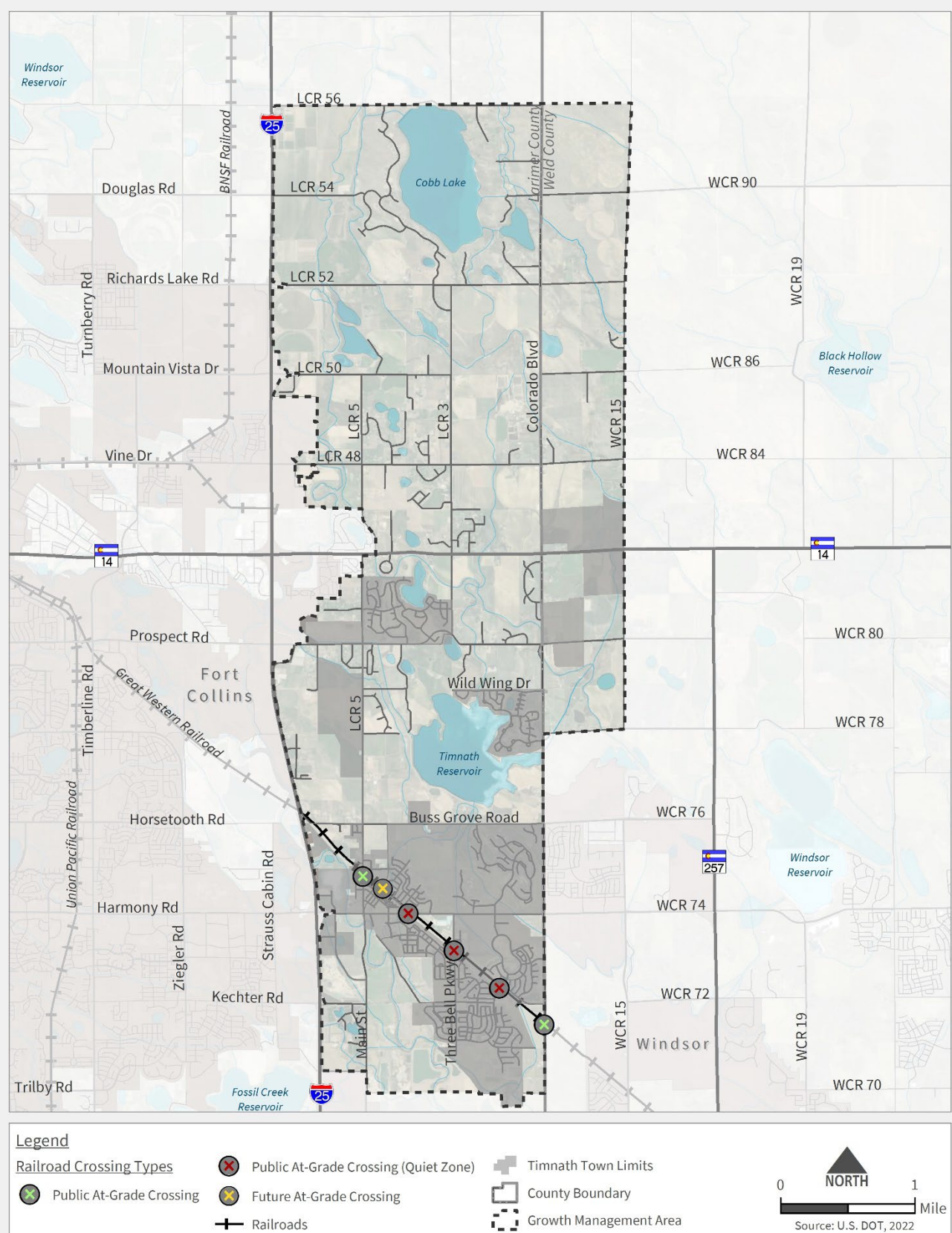
Figure 11. Existing Daily Traffic Volumes





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Figure 12. Railroad Crossings





Crash History

An evaluation of crash data provides an understanding of where conflicts and crash trends between modes of transportation occur. These data inform the development of transportation safety improvements and safety education strategies. During the five-year period from 2015 through 2019, there were 611 reported traffic crashes on roads within the GMA. While most of these crashes (511) involved property damage only, 98 injury crashes and 2 fatal crashes occurred on roads within Timnath. Crash data are from the CDOT crash database that is populated with data provided by police departments throughout Colorado. **Figure 13** depicts crash locations.

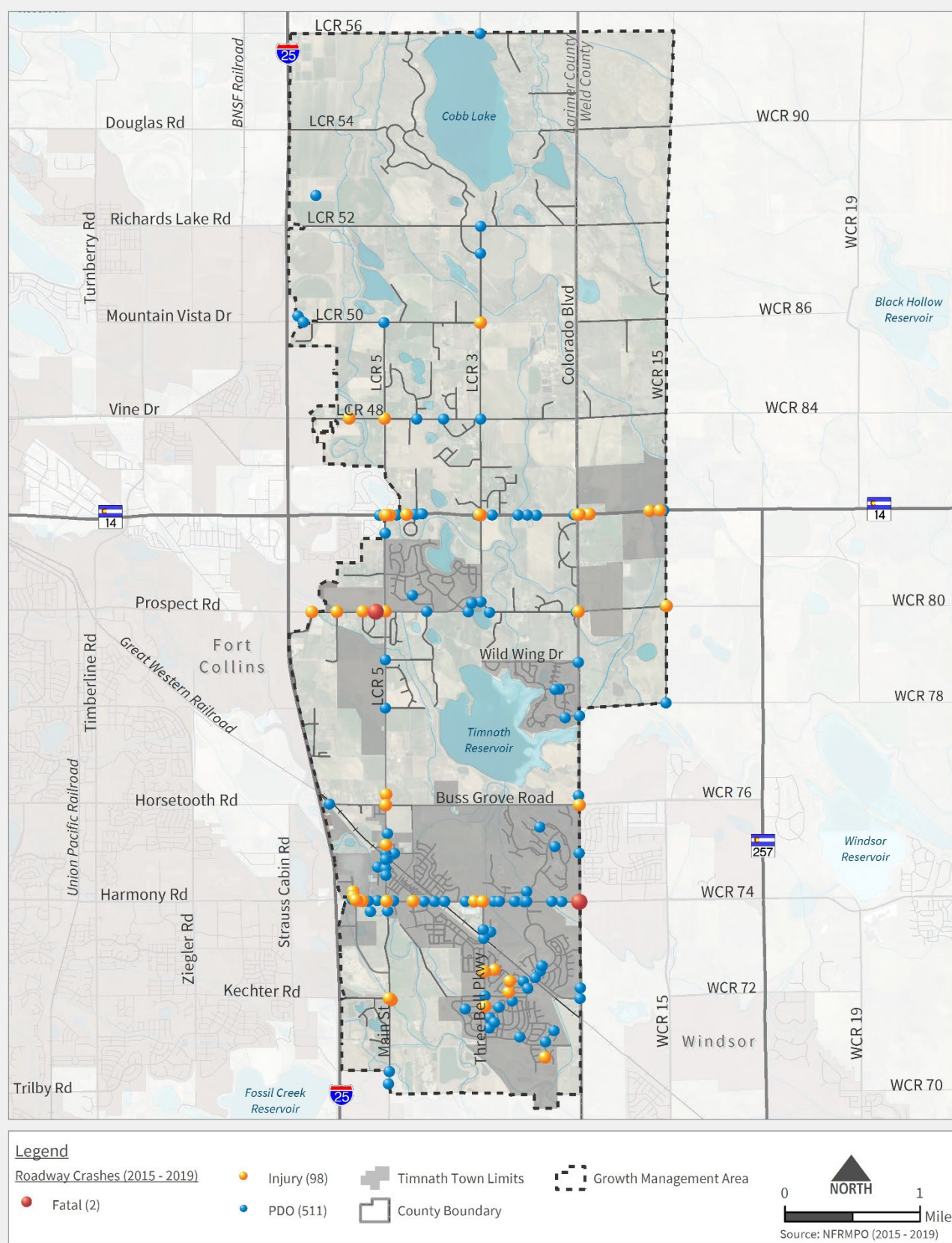
Bicycle and Pedestrian Involved Crashes

Bicyclists and pedestrians are some of the most vulnerable users of the transportation system. Between 2015 and 2019, bicyclists and pedestrians were involved in 3 crashes in Timnath, as shown on **Figure 14**. Bicycle and pedestrian trips are expected to increase as more people choose active transportation options in Timnath and in the region. This growth emphasizes the critical importance in supporting the implementation of safe, comfortable, and connected multimodal facilities.



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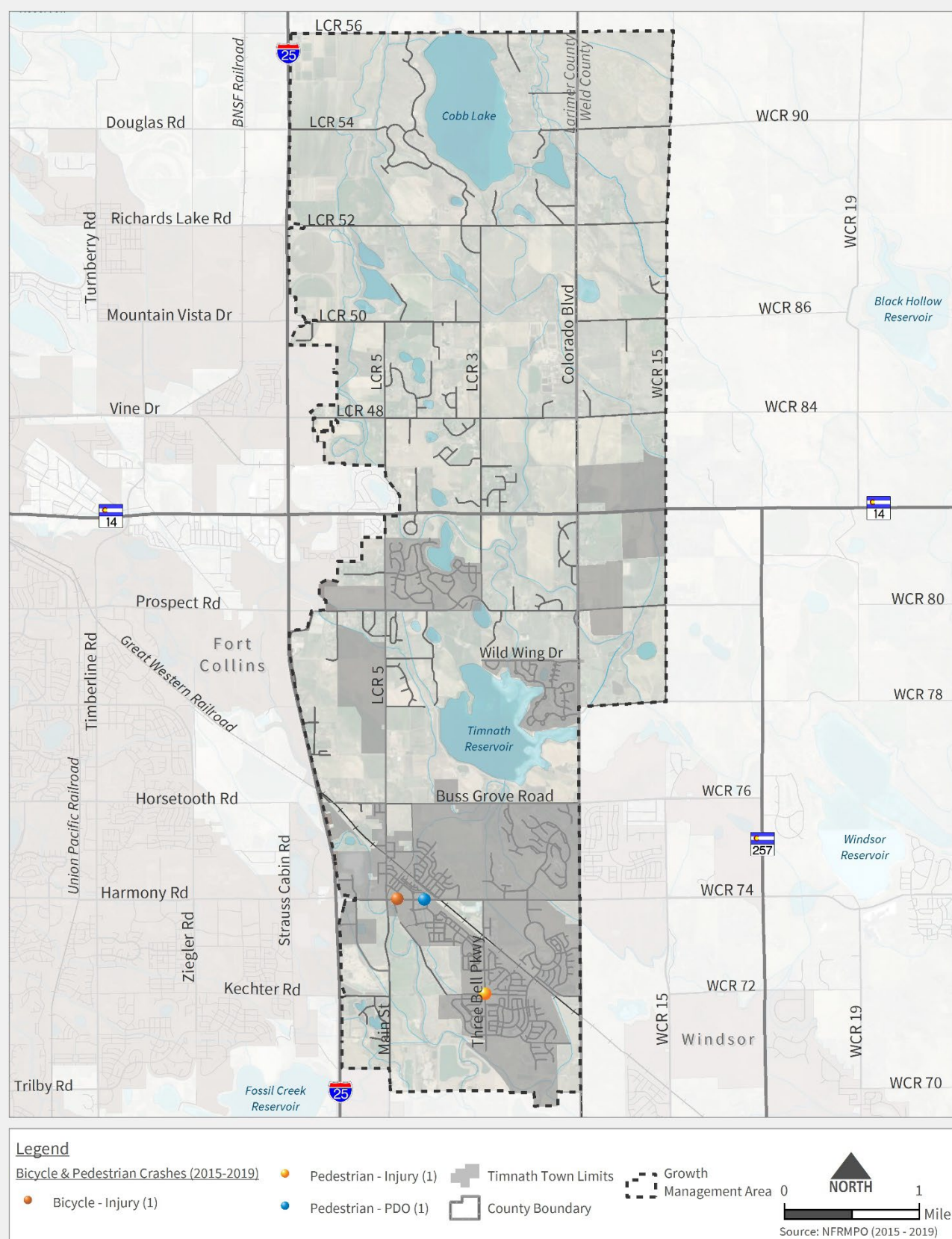
Figure 13. Crash Locations (2015-2019)





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Figure 14. Bicycle and Pedestrian Crashes (2015-2019)



Bicycle and Pedestrian Facilities

As the Town's population increases and growth continues, a variety of available transportation options, including biking and walking, will become increasingly important not only to connect to local neighborhood centers, community destinations, schools, recreational amenities, but to support healthy transportation choices. Timnath has an expanding network of pedestrian and bicycle facilities, as shown on **Figure 15** and **Figure 16**, respectively. These networks continue to expand, and the complete network will be built over time as development occurs and when key missing connections are prioritized.

Sidewalks

Sidewalks and trails generally serve the purpose of providing pedestrian access between neighborhoods to commercial areas and to community resources such as parks, libraries, community gardens, and schools. Sidewalks and trails can also be used for recreational purposes. As shown on **Figure 15** for Major Collectors and higher, Timnath has a growing network of sidewalks. Portions of collector and arterial roads such as Harmony Road, Buss Grove Road, and Colorado Boulevard have gaps in sidewalk coverage. The complete sidewalk network will happen over time as development occurs and when key missing connections are prioritized. The Town's design standards include 6' detached sidewalks on all Major Collectors and Arterials; however, the Town may require shared use paths (wide sidewalks – generally 10' or wider – that can be used by bicyclists, pedestrians, and other active modes) where higher levels of active transportation are anticipated.

On-Street Bike Network

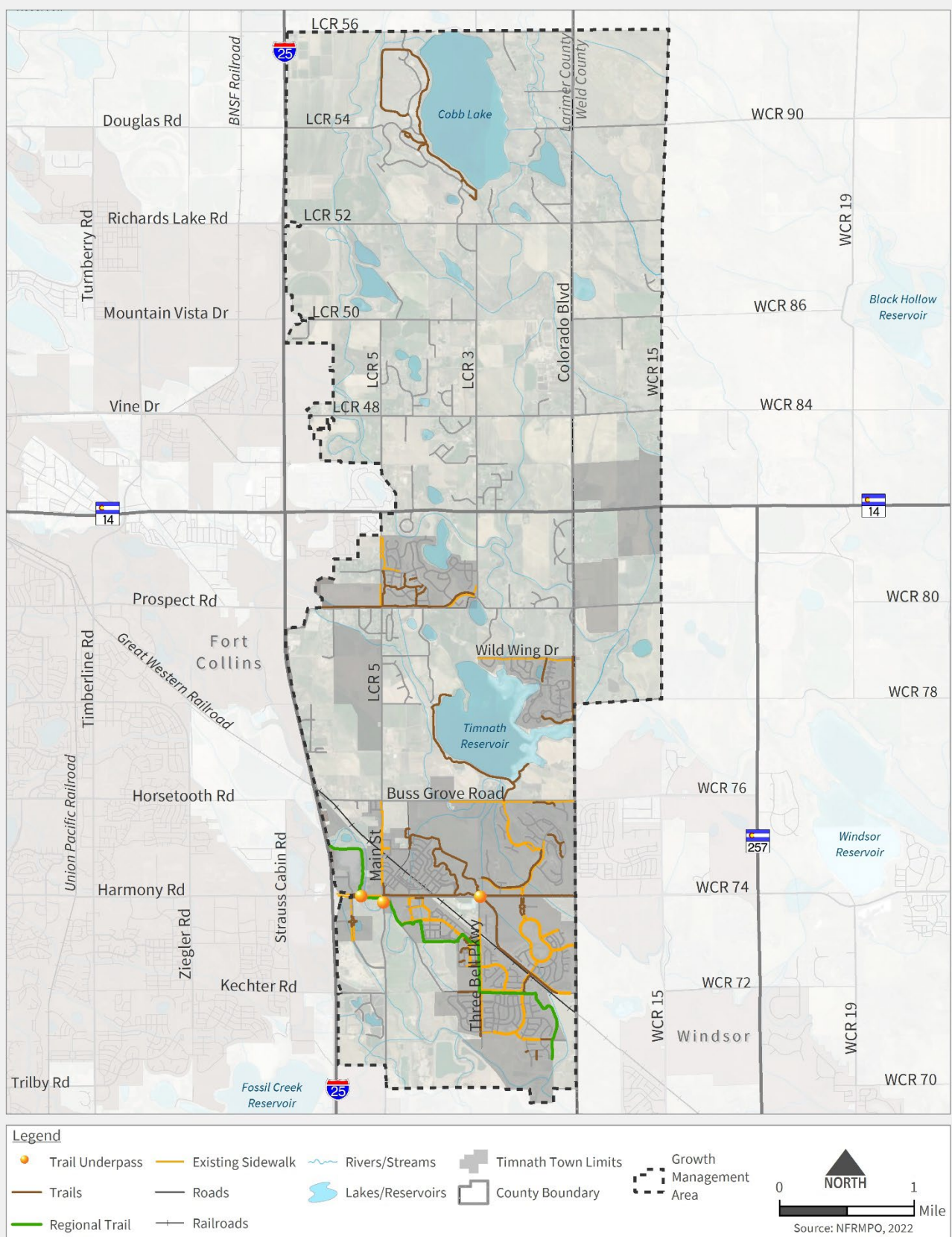
Bikeways primarily serve two purposes: as a means of transportation (often for commuting) and for recreation. The design of bicycle facilities differs for each of these purposes. Commuting bicyclists often want to ride the most direct route from their origin to their destination, even along streets with higher traffic volumes. Recreational cyclists, on the other hand, prefer to ride on either detached shared use trails or streets with low traffic volumes.

Timnath currently has several on-street bicycle lanes. Harmony Road has bike lanes throughout the GMA (I-25 to Colorado Boulevard), and Main Street, Prospect Road, and Buss Grove Road have bike lanes on some sections. Several collector streets within neighborhoods also have striped bike lanes including Three Bell Parkway, Club Drive, Grand Tree Boulevard, River Pass Road, Schoolhouse Road, Summerfield Parkway, and Twin Bridges Drive. Existing on-street bike lanes are depicted on **Figure 16**.



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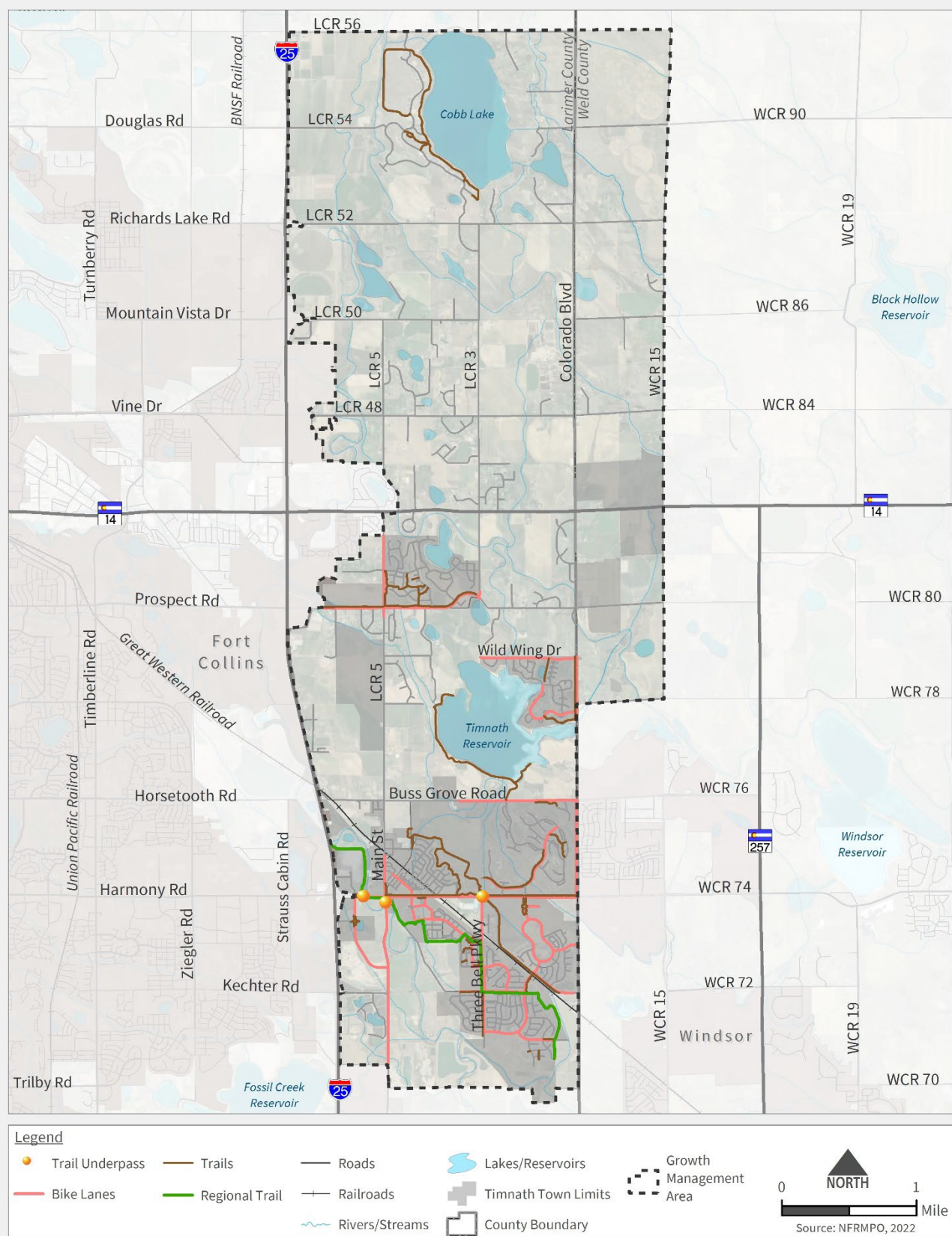
Figure 15. Pedestrian Facilities





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Figure 16. Bicycle Facilities



Trails

Timnath is fortunate to be located at the crossroads of major planned regional trail systems. Colorado State Parks is working to create a continuous multiuse trail extending along the Front Range from New Mexico to Wyoming. The completed Front Range Trail Corridor Plan proposes a route of approximately 725 miles. A key element of this trail is a connection from Greeley to the foothills west of Fort Collins along the Cache la Poudre River, through Timnath. Timnath, with the support of development, grants, and partnerships, completed a section of the Poudre River Trail, which is located north and east of Walmart and continues through the Timnath community, terminating near the southeast corner of the currently incorporated area. Connecting the Poudre River Trail across I-25, as well as to the trail system to the southeast of Timnath, is a regional priority and is planned for the near future. Other community trails have been built as part of developments. The Regional and Community Trails serve both bicyclists and pedestrians and are, therefore, shown on **Figure 15** and **Figure 16**.





Types of Bicyclists

Bicyclists are categorized into four groups to assist efforts with bicycle facility planning:

- ▶ **Strong and Fearless:** These bicyclists are willing and capable of riding with limited or no bicycle-specific infrastructure. National surveys of large metro areas found that approximately 7 percent of the population falls into the “Strong and Fearless” category.
- ▶ **Enthused and Confident:** One level down from Strong and Fearless, Enthused and Confident riders are willing to bike if just some bicycle-specific infrastructure is in place. The national survey found that approximately 5 percent of the population falls into the Enthused and Confident category.
- ▶ **Interested but Concerned:** This group would be willing to bike if there was high-quality bicycle-specific infrastructure in place, such as buffered bike lanes. According to the same national survey, this group makes up most of the population, with 51 percent categorized in the Interested but Concerned category.
- ▶ **No Way No How:** This group consists of people who will always be unwilling to ride their bikes even with high quality infrastructure in place. The national survey showed that approximately 37 percent of the population is in the No Way No How category.

While these numbers vary from place to place, they provide a useful benchmark that planners can use to determine how best to implement bicycle infrastructure to attract the greatest number of riders.

Level of Traffic Stress for Bicycles

To attract bicycle riders of a wide range of ages and abilities, a bicycle network needs to include safe, low-stress, and high-comfort facilities that limit the interaction with motor vehicles. The bicycle Level of Traffic Stress (LTS) tool, developed by the Mineta Transportation Institute, assesses the comfort level associated with bicycling on different types of on-street bicycle facilities. The results of this tool help to identify potential areas of concern on a transportation network. Using street characteristics, including traffic speeds and volumes, number of lanes, and bike lane width (if applicable), the tool calculates a grade on a scale of 1 to 4, corresponding to the following levels of comfort:

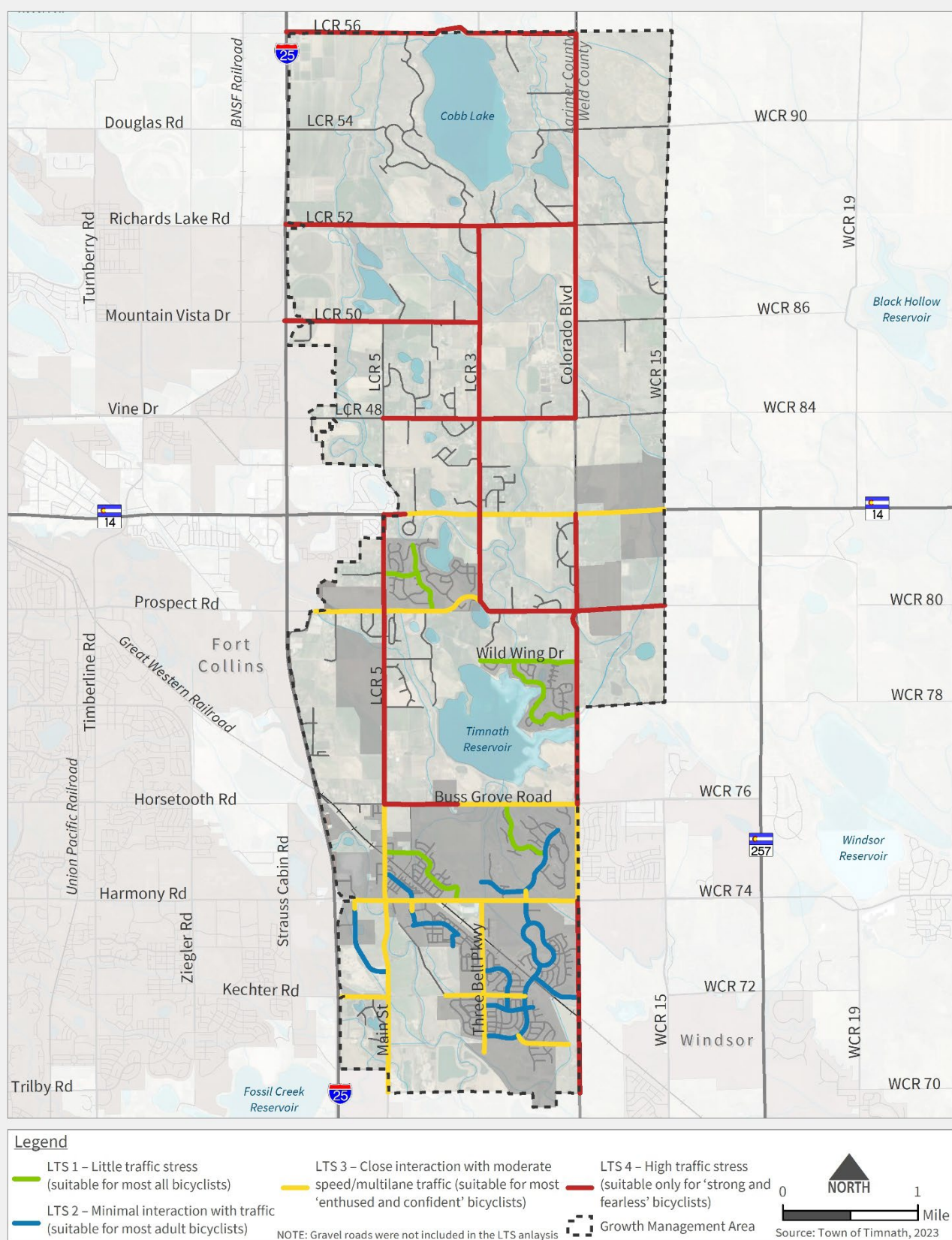
- ▶ **LTS 1:** Little traffic stress; suitable for most all bicyclists, including children
- ▶ **LTS 2:** Minimal interaction with traffic; suitable for most adult bicyclists
- ▶ **LTS 3:** Exclusive riding zone or shared lane with low speeds; comfortable to many current bicyclists
- ▶ **LTS 4:** High traffic stress; only suitable for “Strong and Fearless” bicyclists

Figure 17 shows LTS results for the Town. Due primarily to the high speed limits, many of the arterials in Timnath are highly stressful environments for bicycling. Where bike lanes exist on arterial roads (Harmony Road and sections of Main Street), the LTS is typically 3. The major collector system in the southern portion of the GMA provides a high level of comfort for bicyclists, generally at LTS 2.



Timnath TRANSPORTATION PLAN

Figure 17. Bicycle Level of Stress



Transit

The Town of Timnath currently does not offer transit service; however, many services exist in the immediate vicinity, as shown on **Figure 18**. The following subsections summarize existing public transit and human services transportation options surrounding Timnath.

Transfort

Transfort is the primary transit service provider for the City of Fort Collins. Transfort does not currently serve Timnath; however, Route 16 runs along Harmony Road, with a stop at the Harmony Transfer Center. Route 16 operates on 60-minute headways and connects to the South Transit Center (STC) and Fossil Ridge High School using Harmony Road. At the STC, riders can transfer to the following routes: 11, 12, 19, FLEX and MAX bus rapid transit (BRT). MAX BRT operates on 20-minute headways and connects the major activity and employment centers throughout Fort Collins, including Colorado State University and Old Town. The FLEX serves stops between Fort Collins, Loveland, Berthoud, and Longmont. Transfers to Denver and Boulder through the Regional Transportation District (RTD) bus system are available in Longmont.

Greeley-Evans-Transit (GET)

Greeley-Evans-Transit (GET) is the primary transit service provider for the City of Greeley. GET does not currently serve Timnath; however, the Poudre Express Regional Bus Route, which connects Greeley, Windsor, and Fort Collins, operates along I-25 and stops at the Harmony Transfer Center.

CDOT Bustang

CDOT's North Line along the I-25 corridor provides service between Fort Collins and Denver and primarily caters to commuters. The service connects the Downtown Transit Center in Fort Collins and Denver Union Station with a stop of the Harmony Transfer Center and US 34 at I-25 in Loveland. The North route includes eight trips every weekday and two trips on the weekends.

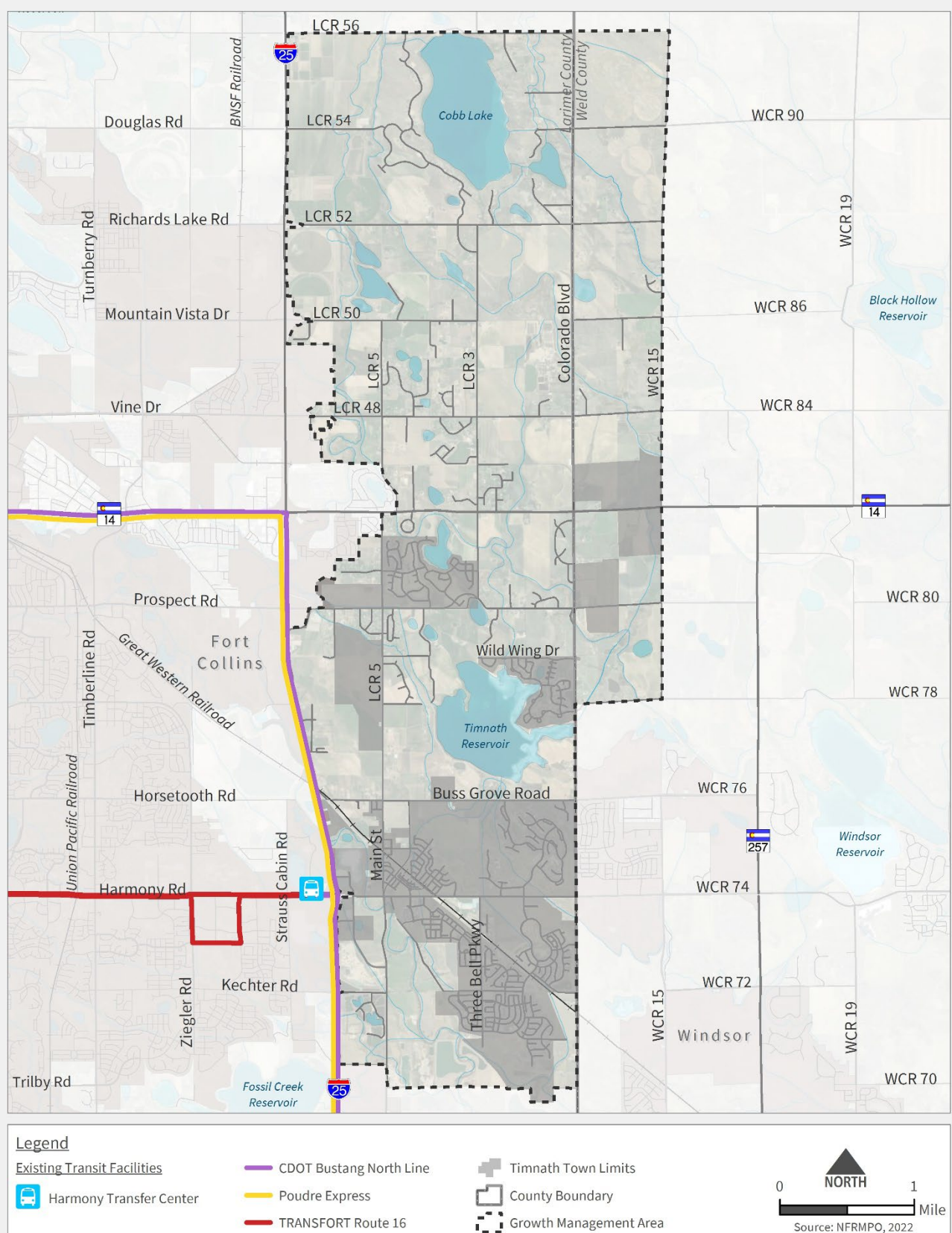
Groome Transportation

Groome Transportation is a private service provider offering connections between the Harmony Transfer Center and Denver International Airport (DEN). The service departs the Harmony Transfer Center hourly between 4:40 AM and 10:40 PM. Home pick-up/drop-off service is also available.



Timnath TRANSPORTATION PLAN

Figure 18. Transit Facilities



4. Future Conditions

The Town of Timnath is experiencing rapid growth and is expected to continue growing at a rate of more than 400 new households and nearly 200 new jobs per year through 2045. This growth is expected to include increased density in some current areas of the town and the incorporation of new development in the Town's GMA. As growth continues, increased travel demand is expected to accompany it.

Chapter 4 documents the extent and nature of the growth in travel needs on the Town's transportation system. This chapter also describes the application of the NFRMPO travel demand model and the resulting estimated traffic forecasts for the long-range planning horizon of 2045.



Methodology

This Transportation Plan update uses the NFR Regional Travel Model as the travel forecasting tool. The NFR model uses land use estimates and the transportation network as the main inputs. The model measures the amount of traffic that different types of land uses (residential, retail, office, industrial, etc.) generate for the North Front Range and around the country. The volume of traffic generated from any specified area can then be determined based on the amount of development (number of households or jobs).

NFRMPO Model 5.11 (September 2021) is the most currently available travel demand model. This model includes fiscally constrained transportation projects and develops forecasts based on the density and location of households and jobs, the existing and planned roadway and transit networks, and travel behavior characteristics developed through extensive analysis of the area. This update to the Transportation Plan uses the NFRMPO Model 5.11 years 2015 and 2045 as the basis for future planning scenarios. The 2015 base model was used because it is calibrated to actual conditions in 2015. The interim year model for 2020 was also used, along with traffic counts from 2021 and later, as the basis for model post-processing to represent “post-pandemic” travel patterns.

Land Use Forecasts

To develop specific allocations of residential and commercial development throughout the region, the NFR model is subdivided into transportation analysis zones (TAZs), as shown on **Figure 19**. The NFR base year model includes estimates of the number of households and employees for the year 2015. The NFRMPO uses a land use allocation model, along with input from the communities within the region, to estimate household and employment forecasts for 2045. For the purpose of this Transportation Plan, Town staff refined the future land uses within the Timnath GMA to better represent the Timnath Comprehensive Plan and development anticipated by 2045.

Table 2 summarizes the total estimated number of households (Timnath current has an average household size of 2.98 persons) and employment (individual jobs) for the TAZs within the Timnath GMA, in 2015 and 2045. **Appendix B** documents the 2045 land use forecasts by TAZ and the changes to the NFRMPO model land use forecasts.

Table 2. Land Use Growth Summary

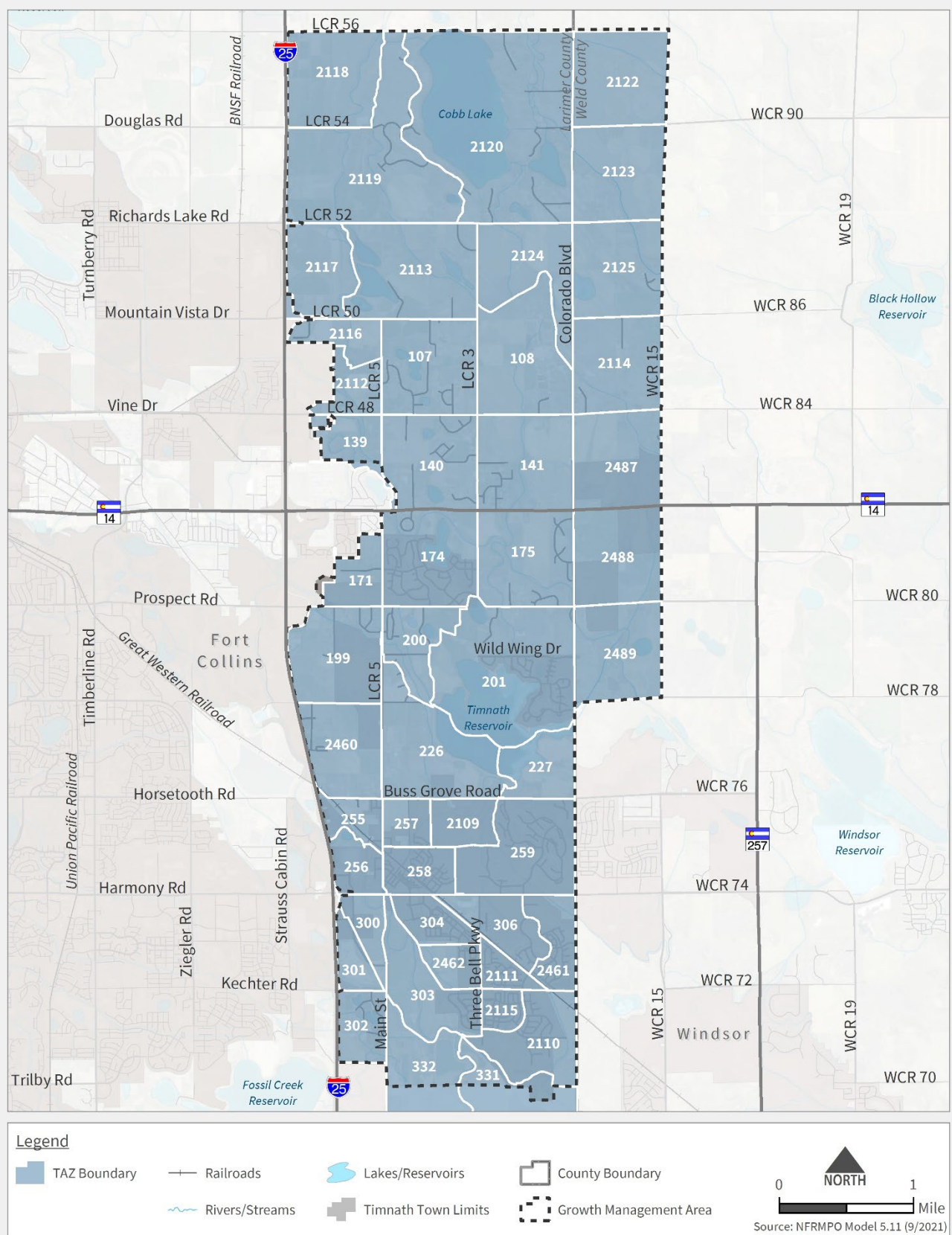
Year	Households	Employment
2015	1,595	1,305
2045	14,418	7,128
Growth	12,823	5,823
Annual Growth	427	194

The household growth and employment growth by TAZ are shown spatially on **Figure 20** and **Figure 21**, respectively. As shown on the growth maps, the vast majority of the household and employment growth over the next 20 years is expected to occur south of CO 14.



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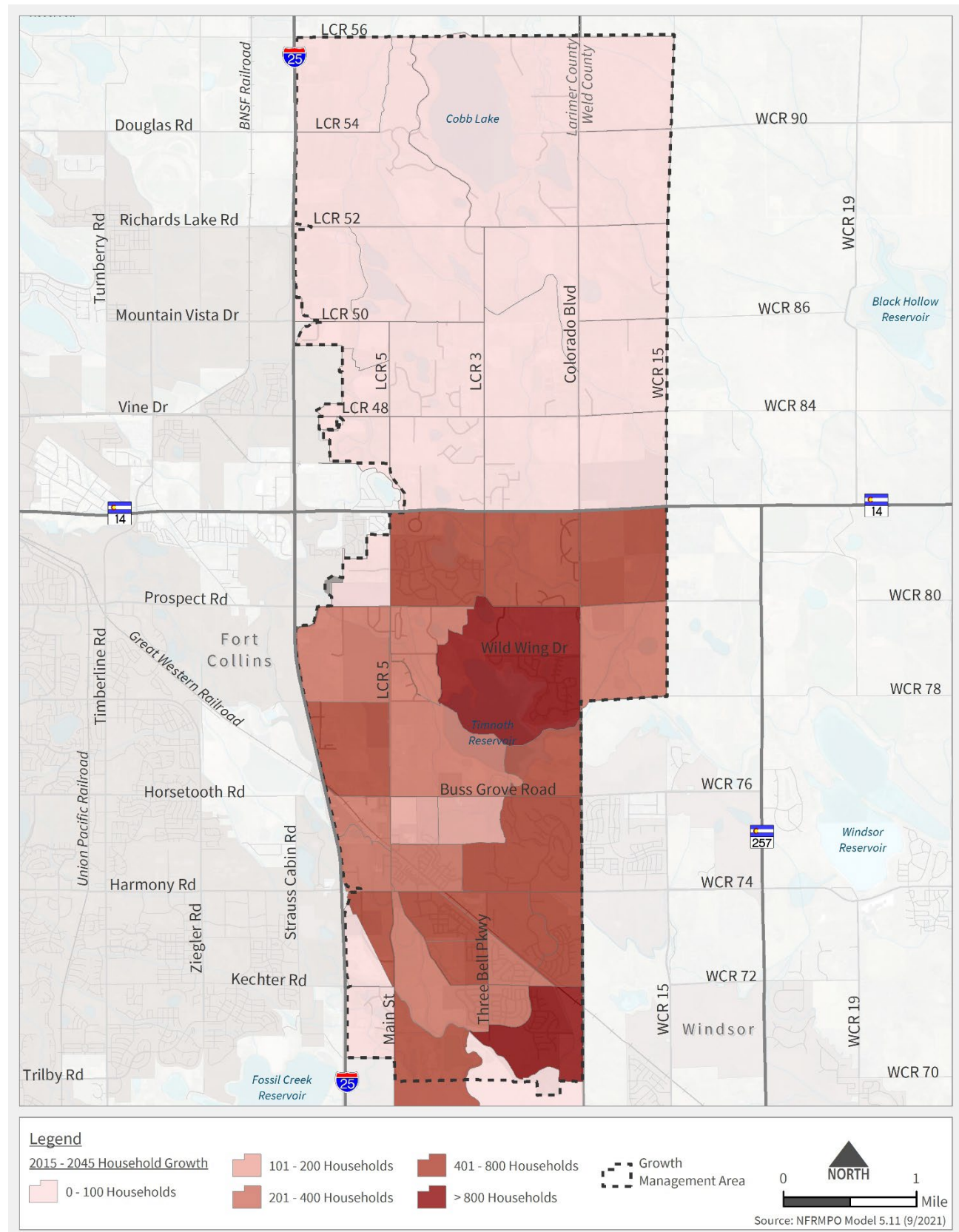
Figure 19. NFRMPO Transportation Analysis Zones (TAZs)





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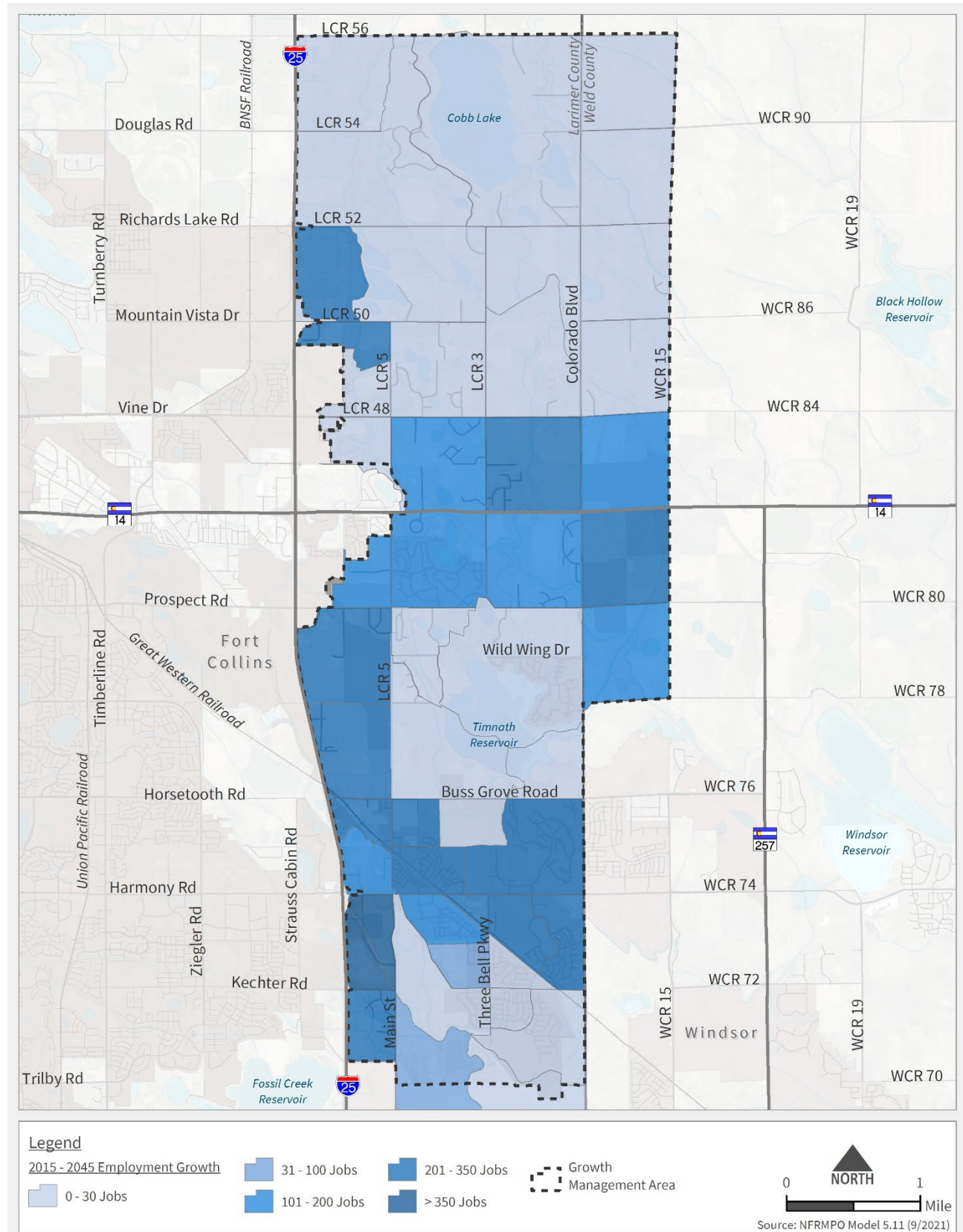
Figure 20. Household Growth (2015 to 2045)





Timnath TRANSPORTATION PLAN

Figure 21. Employment Growth (2015 to 2045)



Travel Demand Model Network Refinements

The future travel demand patterns in the Timnath GMA and the North Front Range region are primarily a function of the population and employment opportunities in the area. The household and employment data outlined in the previous sections were used as input to the NFR travel demand model. The model provides traffic forecasts on the various street networks that were used to assess improvement needs. These forecasted volumes were used to identify capacity deficiencies in the roadway network and to evaluate the effectiveness of alternatives.

2045 Baseline Model

The NFRMPO travel demand model for 2045 uses a Fiscally Constrained transportation network that includes projects reasonably expected to be funded and built by 2045. For the purpose of this Transportation Plan, the project team removed roadway improvement projects within the GMA from the model for an initial 2045 baseline model run that represents anticipated growth in households and employment with no improvements to the transportation system, except those with committed funding. The only project in the GMA with committed funding is construction of the Timnath Parkway from Main Street to Buss Grove Road. Additionally, the regional model network was refined to include locally significant roadways to best reflect the existing network within the GMA.

Volume to Capacity Analysis

The project team compared traffic volumes versus planning level capacities to assess roadway capacity needs for the 2045 planning horizons. This analysis helps determine where critical widening projects are needed, while drawing attention to potential trouble areas to prioritize where right-of-way preservation should occur for widening projects beyond 2045. To perform this analysis, a volume to capacity (V/C) ratio was calculated using daily traffic volumes and planning level capacities assumed for each roadway classification. **Table 3** lists the planning level capacities.

Table 3. Planning Level Capacities

Classification	Capacity per Lane (vpd)
Principal Arterial	8,000
Minor Arterial	6,000
Major Collector	5,000
Gravel Road	200

A lower V/C ratio means better flow of traffic along that segment of road. The following V/C ranges are used for assessing Timnath's street network:

- ▶ Free Flow (V/C < 0.7)
- ▶ Uncongested (V/C 0.7 to 0.9)
- ▶ Congesting (V/C 0.9 to 1.2)
- ▶ Congested (VC > 1.2)

The project team completed an initial V/C analysis using the 2045 Baseline model to develop the Master Streets Plan (as documented in **Chapter 6**) and the Implementation Plan (as documented in **Chapter 7**).

Alternatives Analysis

The project team used the travel demand model to test the effectiveness of several roadway improvements to address the existing and future congestion on Timnath's street network. The following major roadway improvement alternatives identified through a combination of technical analysis (using the 2045 Baseline V/C ratios) and community input were evaluated for effectiveness and prioritization:

- A.** Widen Harmony Road to 6 lanes
- B.** Extend Timnath Parkway from Buss Grove north to Main Street
- C.** Widen Main Street to 4 lanes south of Harmony Road
- D.** Reconstruct Main Street from Timnath Parkway to Prospect Road
- E.** Widen Main Street to 4 lanes (including the Parkway)
- F.** Reconstruct Colorado Boulevard from Harmony Road to the South GMA
- G.** Extend Kechter Road from Main Street to River Pass Road
- H.** Extend Three Bell Parkway south to CO 392

The travel demand model results indicate that the vast majority of the current and future congestion in Timnath could be mitigated by building roadway improvement alternatives A – F, which are included in the Master Streets Plan (**Chapter 6**) and should be phased over time to accommodate increasing travel demands. While some of these projects are needed in the near term, others will not be needed until closer to 2045.

Harmony Road Widening: Harmony Road currently experiences congestion, and the traffic volumes today suggest consideration of widening to 6 lanes, particularly for the section between I-25 and Main Street. Congestion is expected on Harmony Road between I-25 and Three Bell Parkway in the future, even when it is widened to six lanes. As documented in **Appendix A**, the widening of Harmony Road to 4 lanes has attracted significant regional trips (those without an origin or destination in Timnath). The trend of induced demand on Harmony Road is anticipated to continue if/when it is widened to 6 lanes, particularly if other regionally significant corridors like Mulberry (CO 14), CO 257, and CO 392 remain as 2-lane roads. Widening Harmony Road to 6 lanes will further erode the north-south connectivity for residents traveling from one side to the other, particularly for bicyclists and pedestrians. For these reasons (and the significant cost), it is recommended that the widening of Harmony Road be deferred to the long term future (2031–2045). In the near term (2024–2030), the following strategies are recommended to help to alleviate congestion on Harmony Road:

- ▶ Focus on providing alternative routes to I-25 and Fort Collins (Main Street/Timnath Parkway connections to Prospect Road and Kechter Road)
- ▶ Optimize the efficiency of the corridor with signal timing advancements
- ▶ Enhance options for alternative travel modes

Main Street & Timnath Parkway: Main Street and Timnath Parkway will play an important role in offering north-south connectivity for all travel modes within Timnath as the community continues to grow. These streets connect neighborhoods to Old Town and offer routes to access I-25 and Fort Collins via Prospect Road, Mulberry Street (CO 14), and Kechter Road. Based on the travel demand model results, the following order of improvements is recommended for the Main Street/Timnath Parkway corridor:

1. Build Timnath Parkway from Main Street to Buss Grove Road (funded, currently under construction)
2. Extend Timnath Parkway from Buss Grove Road north to Main Street
3. Widen the Main Street bridge over the Poudre River (south of Harmony Road) (4 lanes)
4. Widen Main Street from the Poudre River bridge to Kechter Road (4 Lane Rural Arterial)
5. Reconstruct Main Street from Timnath Parkway to Prospect Road (2 Lane Urban Arterial)
6. Widen Timnath Parkway (4 Lane Urban Arterial)

As detailed in **Chapter 7**, the first five priorities for the Main Street/Timnath Parkway corridor are recommended for the near term (2024–2030), and the widening of Timnath Parkway to 4 lanes can be deferred to the long term (2031–2045) based on the travel demand forecasts.

Colorado Boulevard: Colorado Boulevard is a Regionally Significant Corridor up to CO 14. It parallels I-25 providing access to Windsor, CO 392, and US 34 and serves an important incident management function for I-25. Within the Timnath GMA, the travel demand model does not suggest the need for widening to 4 lanes by 2045. However, reconstructing the section from Harmony Road

south as a 2-Lane Urban Arterial (including bike lanes and sidewalks) and the section between Harmony Road and CO 14 as a 2-Lane Rural Arterial are recommended by 2045 (as part of the long term plan). Right-of-way for future widening (beyond 2045) should be preserved along Colorado Boulevard from the South GMA to Buss Grove Road.

Ketcher Road & Three Bell Parkway Extensions: Both of these project ideas were suggested during the first phase of community engagement. While these projects would help to complete the arterial roadway network in the southern portion of the Timnath GMA, they would be considerably more difficult to implement. Both projects would require a new crossing of the Poudre River, which would involve environmental clearances and considerable costs, and could result in undesirable impacts to current residents. These roadway extensions are not expected to relieve future congestion on Harmony Road enough to justify the associated costs and impacts. Because of the significant effort, costs, and impacts associated with these two alternatives, and the ability of the project alternatives to address the vast majority of current and future congestion, extensions of Kechter Road and Three Bell Parkway are financially and environmentally infeasible and are therefore not included.

2045 Build Model

The project team used the 2045 Baseline model results, in combination with the alternatives analysis, to identify the Master Streets Plan as detailed in Chapter 6. All improvements identified for 2045 were included in a 2045 Build model run to understand the resulting travel demand forecasts, which are presented on **Figure 22**.

The project team completed a V/C analysis using the 2045 Build traffic forecast and the roadway capacities associated with the improved network. **Figure 23** shows the resulting levels of congestion for all roadways within the Timnath GMA with a roadway classification of Major Collector or higher. The green segments are expected to have relatively unimpeded, free flowing traffic. Yellow segments are expected to be relatively uncongested, but likely with some delays at major intersections. Orange and red segments are expected to experience congestion, even with the 2045 Master Streets Plan improvements in place.

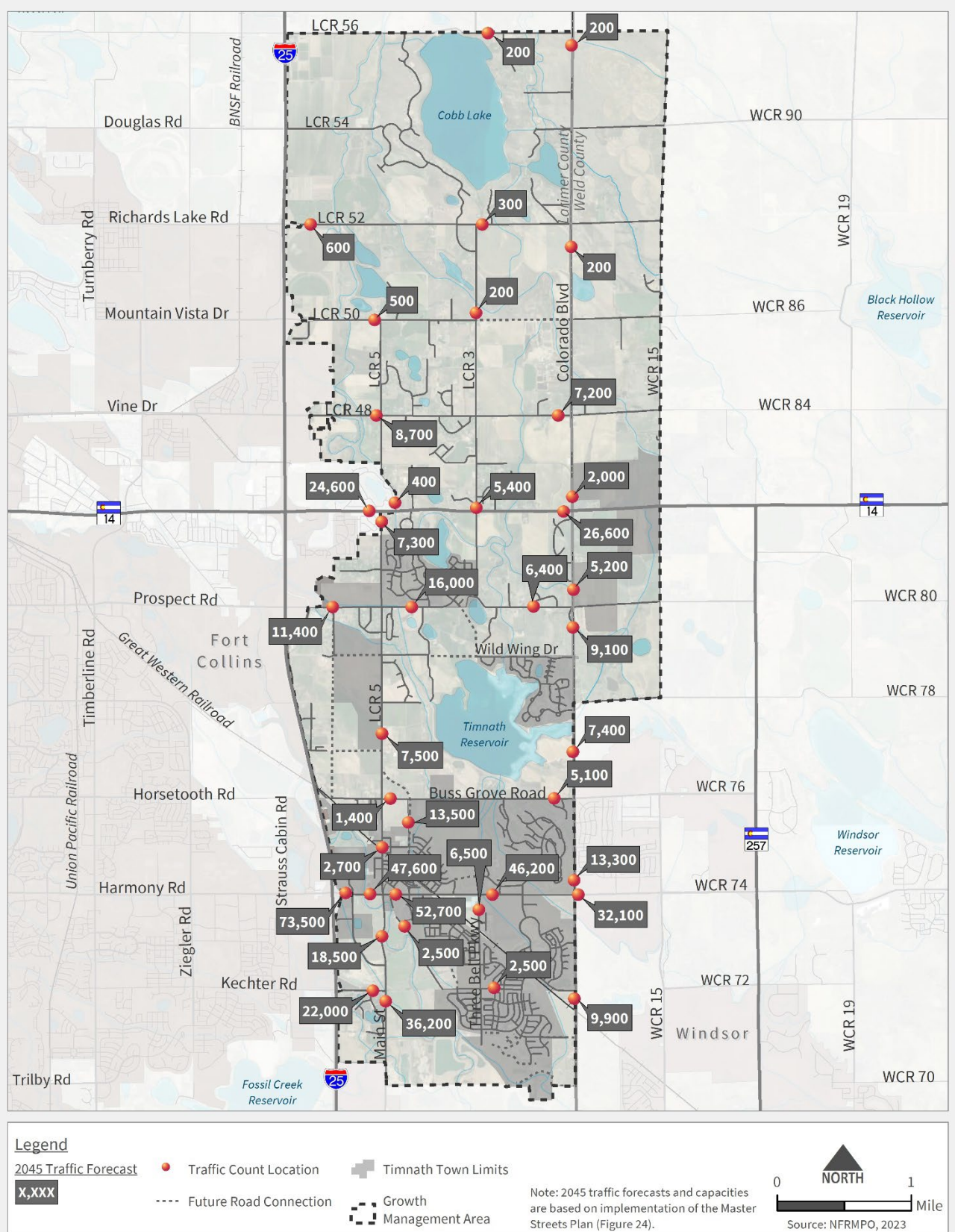
Some congestion is expected on Harmony Road in the future; the long term widening to 6 lanes is expected to attract more regional trips to the corridor. Main Street south of Harmony Road and Kechter Road provide alternative routes to Fort Collins and are expected to experience some congestion in the future.

As described in the **Land Use Forecasts** section, limited development north of CO 14 is expected by 2045. The roadway segments north of CO 14 expected to experience congestion are currently gravel roads (with a daily capacity of only 400 vehicles per day). These roadway segments will be improved to the appropriate arterial street standard at the time of development.



Timnath TRANSPORTATION PLAN

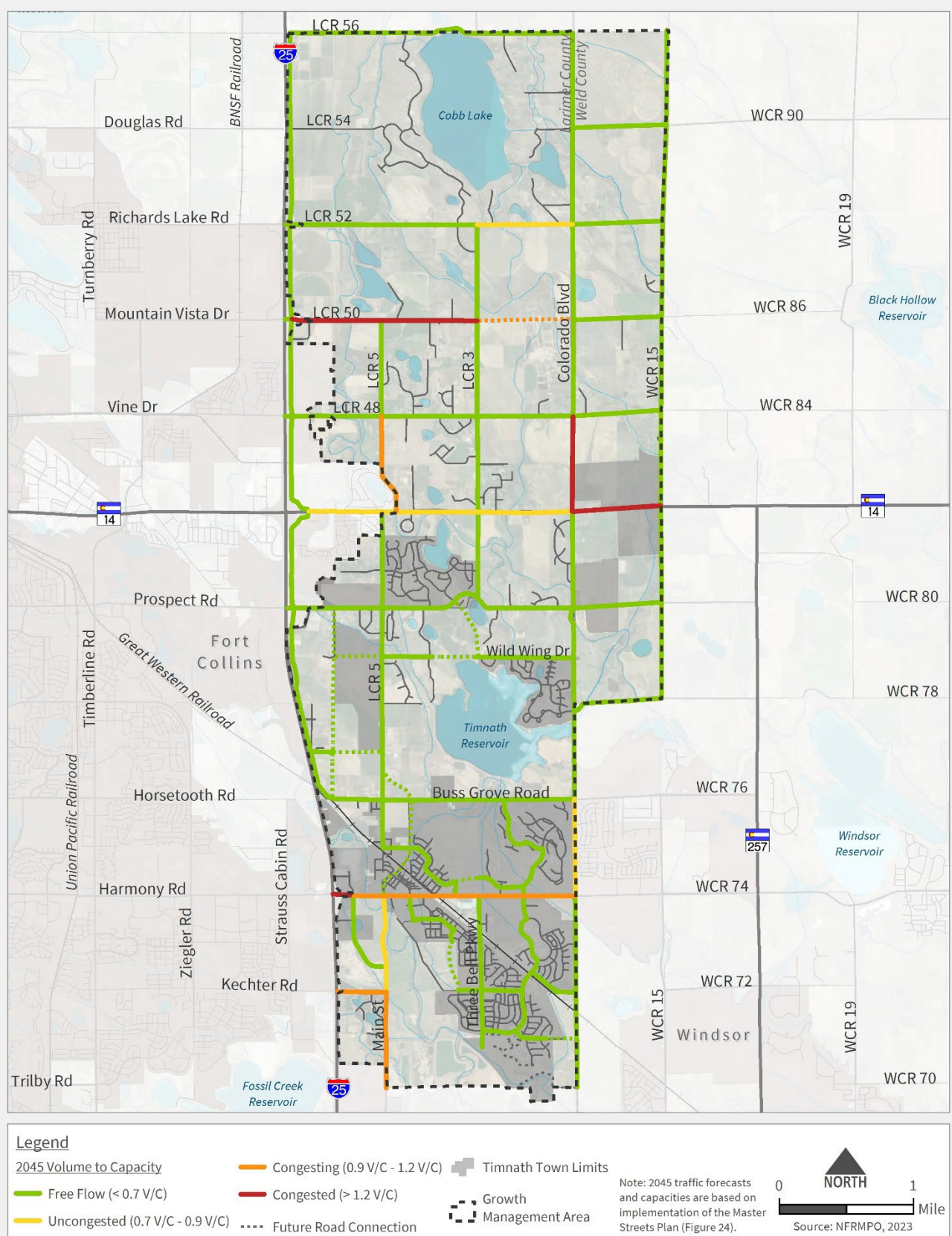
Figure 22. 2045 Build Average Daily Traffic Forecasts





Timnath TRANSPORTATION PLAN

Figure 23. 2045 Build Levels of Congestion



5. Vision and Goals

Timnath's Transportation Vision: *A well-planned transportation network that supports a thriving community by offering safe and convenient mobility options and reliable regional connections.*

Transportation Goals

The goals listed below represent the community's desired state for the Town's transportation system. These six goals are the foundation for the supporting objectives and the plan recommendations. The vision, goals, and objectives included herein supersede the transportation goals, objectives, and actions of the Comprehensive Plan upon adoption of this plan. The updated goals should be incorporated into the next update of the Comprehensive Plan.



Safe – A family-friendly transportation system that is focused on the elimination of traffic-related injuries and fatalities.



Walkable and Bikeable – A connected trail and on-street bike and sidewalk network that encourages biking and walking (and other micromobility options) for recreation, commuting, and to access community and regional destinations.



Reliable – An efficient street network that optimizes existing infrastructure, includes key connections, and offers predictable travel times.



Vital – A transportation system that supports economic and community vitality.



Regional – A leader in collaborating on the planning and funding of regional transportation projects.



Cost Effective – A practical network built in partnership with the development community.



Transportation Objectives

The transportation objectives listed in **Table 4** are measurable actions intended to support the Town's realization of the six transportation goals. These objectives should be monitored periodically to ensure progress is being made toward achieving the Town's goals.

Table 4. Transportation Objectives

Goal Area	Objective(s)
Safe	Reduce crash rates for pedestrians, bicyclists, and motorists
	Apply a safe systems approach to enhance safety for all users of the transportation system
Reliable	Manage automobile congestion
	Provide Timnath residents with public transit options
Cost Effective	Consider sustainable construction practices for transportation projects, including consideration of life cycle cost analysis
	Maintain a short-term and long-range CIP for improvements to and scheduled replacements of the Town's infrastructure
Walkable and Bikeable	Develop a continuous system of bicycle lanes and trails that connect with Old Town Core, New Town Center, activity centers, and developing neighborhoods
	Develop an off-street pedestrian and bicycle trail system that connects open spaces and recreation areas in and around Timnath
	Incorporate low-stress bicycle facilities and sidewalks through the development approval process
	Ensure all new streets and sidewalks are designed and built to connect with existing streets and sidewalks, offering direct connections between neighborhoods and commercial areas
	Increase connectivity of modal networks and connections between modes
Regional	Increase regional coordination in developing a multimodal transportation system
	Improve the coordination and funding of transportation projects
Vital	Increase coordination of land use and transportation planning
	Minimize the transportation system's impact on the natural environment
	Integrate infrastructure in a manner that supports economic development

6. Long Range Plan

Master Streets Plan

Timnath’s Master Streets Plan focuses on providing a well-planned system of streets to serve the Town’s current and future multimodal travel needs. The Master Streets Plan shown on **Figure 24** was developed to accommodate 2045 travel demands and illustrates the functional classification (including urban versus rural designation) and future lane requirements for each street. The second number represents the number of lanes for which right-of-way should be preserved to accommodate growth beyond the year 2045.



Street Cross Sections

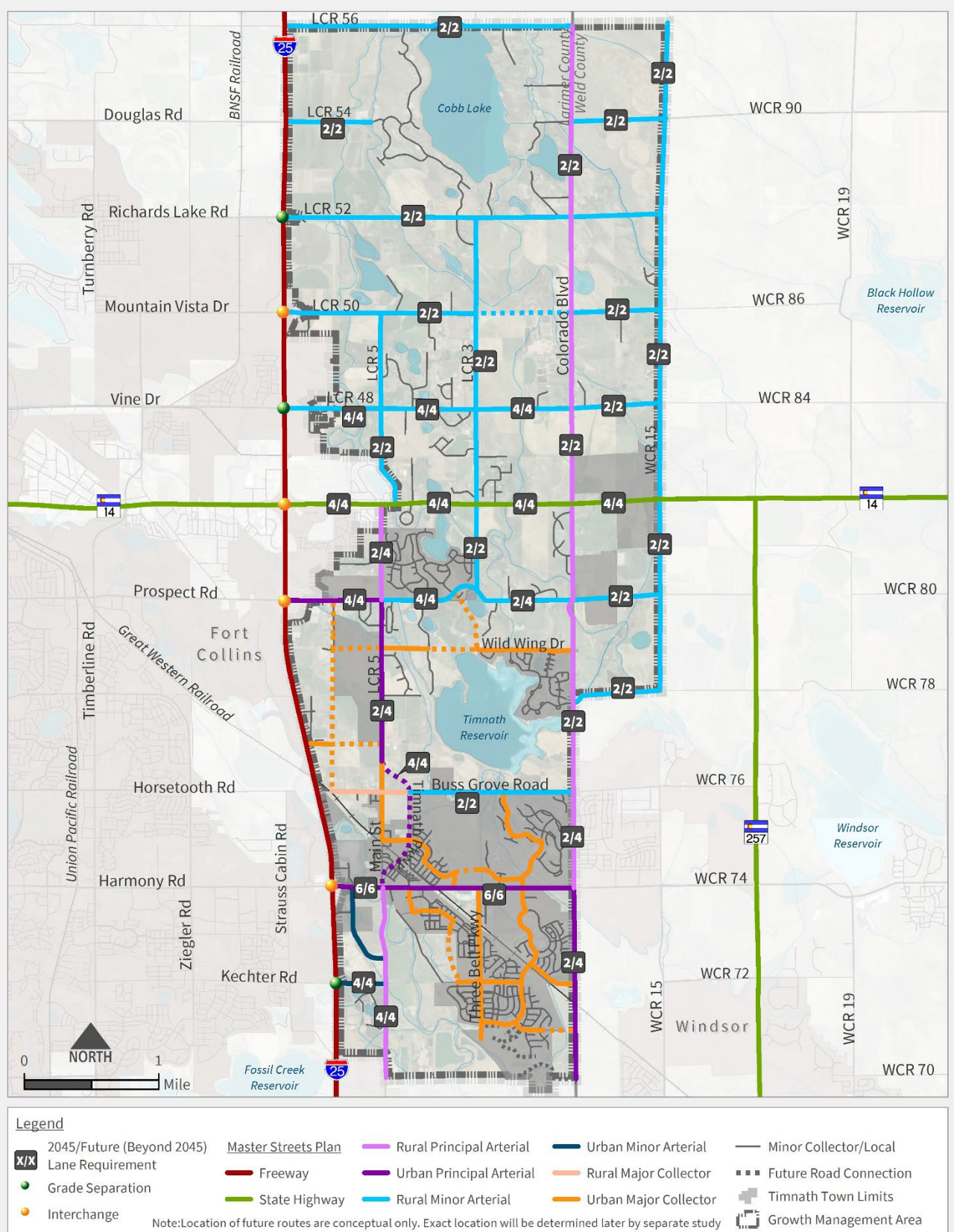
The Town of Timnath has adopted the Loveland standards in the Larimer County Urban Area Street Standards (LCUASS). The Town’s typical street cross sections are intended to provide safe, attractive, and comfortable access and travel for all modes within the public right-of-way. The Town’s cross sections shown on **Figure 25** through **Figure 30** match the Loveland cross sections in LCUASS. **Figure 31** through **Figure 33** present a series of rural cross sections with drainage ditches instead of curb and gutter. The rural cross sections may be considered in certain areas of Timnath either as an interim condition or as a context sensitive long-range option that may be more fitting to the rural setting in some areas of the GMA, as designated in the Master Streets Plan. Use of the rural cross section as an interim condition requires approval from the Town of Timnath. In addition to defining functional classification, the Master Streets Plan (**Figure 24**) identifies the through lane requirements to meet the 2045 travel demands. It also indicates the long-range through lane requirement to accommodate the travel demands at buildout of the community, beyond 2045.

Table 5 is a lookup table that translates the functional classification, 2045 lane requirement, and long-range lane requirement (from **Figure 24**) to the cross-section options and right-of-way width that should be preserved. The cross-section options are based on the 2045 lane requirements, and the minimum right-of-way preservation is based on the long-range lane requirement. The rural cross sections require an additional 20 feet of right-of-way to accommodate the roadside ditch. Streets in Timnath should be designed in accordance with the parameters noted in Table 7-2 of LCUASS.



Timnath TRANSPORTATION PLAN

Figure 24. Master Streets Plan





Timnath TRANSPORTATION PLAN

Table 5. Functional Classifications, Cross-Sections, and ROW Preservation

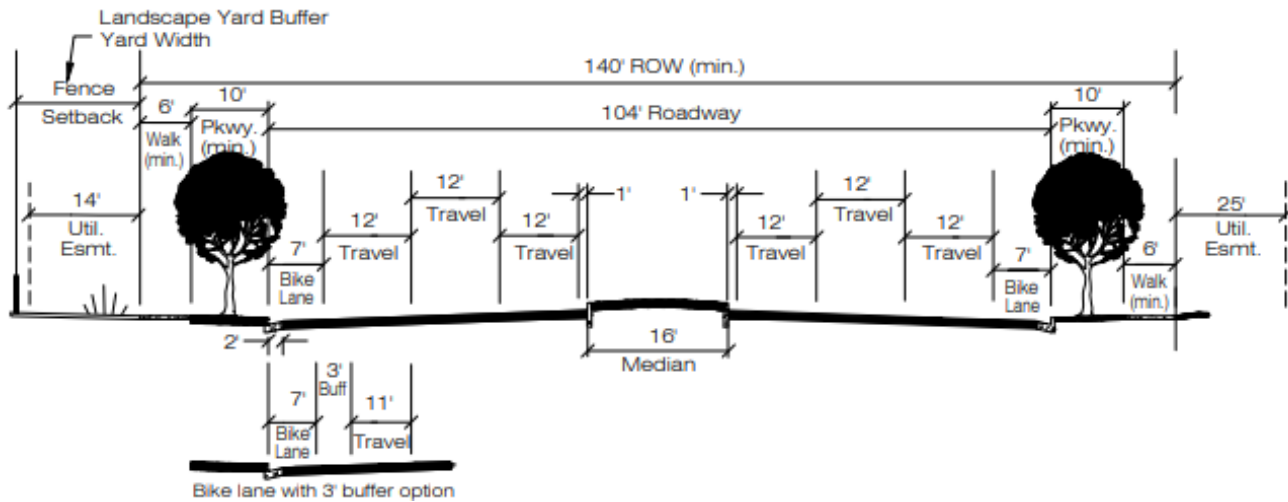
Functional Classification	2045 Lane Requirement	Long-Range Lane Requirement	2045 Cross Section	Minimum Right-of-Way
Urban Principal Arterial	2	2	Figure 27	100'
	2	4	Figure 27	120'
	4	4	Figure 26	120'
	6	6	Figure 25	140'
Urban Minor Arterial	2	2	Figure 27	100'
	2	4	Figure 27	120'
	4	4	Figure 26	120'
Urban Major Collector	2	2	Figure 28	80'
Urban Minor Collector	2	2	Figure 29	60'
Urban Local Street	2	2	Figure 30	58'
Rural Principal Arterial	2	2	Figure 32	120'
	2	4	Figure 32	140'
	4	4	Figure 31	140'
Rural Minor Arterial	2	2	Figure 32	120'
	2	4	Figure 32	140'
	4	4	Figure 31	140'
Rural Major Collector	2	2	Figure 33	100'
Rural Minor Collector	2	2	Figure 33	87'
Rural Local Street	2	2	Figure 33	70'

NOTE: The rural cross sections may be considered in certain areas of Timnath as an interim condition; use of the rural cross section as an interim condition requires approval from the Town of Timnath.



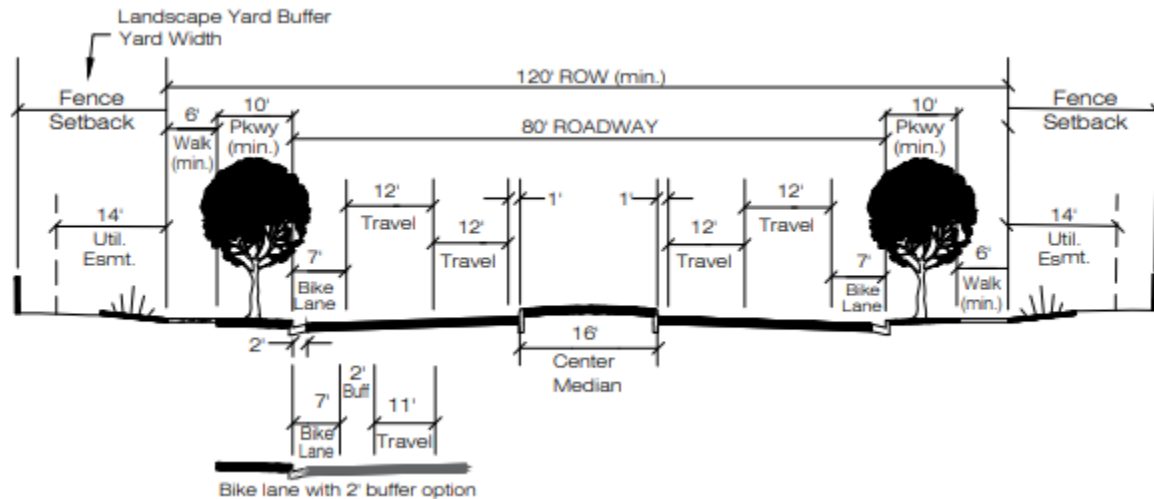
Timnath TRANSPORTATION PLAN

Figure 25. Urban 6-Lane Arterial Cross Section



Source: Larimer County Urban Area Street Standards 6-Lane Arterial (LCUASS Figure 7-1L)

Figure 26. Urban 4-Lane Arterial Cross Section

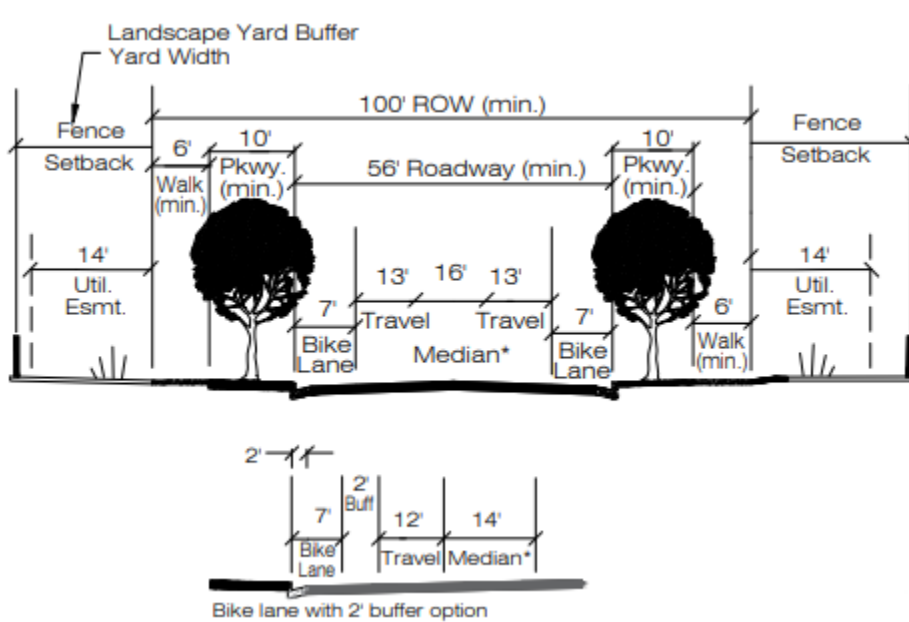


Source: Larimer County Urban Area Street Standards 4-Lane Arterial (LCUASS Figure 7-2L)



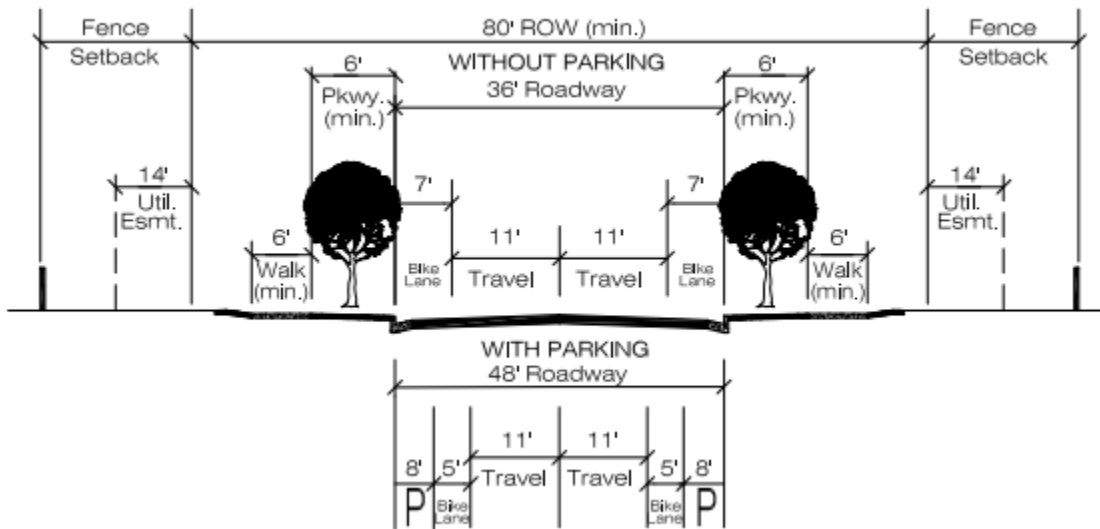
Timnath TRANSPORTATION PLAN

Figure 27. Urban 2-Lane Arterial Cross Section



Source: Larimer County Urban Area Street Standards 2-Lane Arterial (LCUASS Figure 7-3L)

Figure 28. Urban Major Collector Cross Section

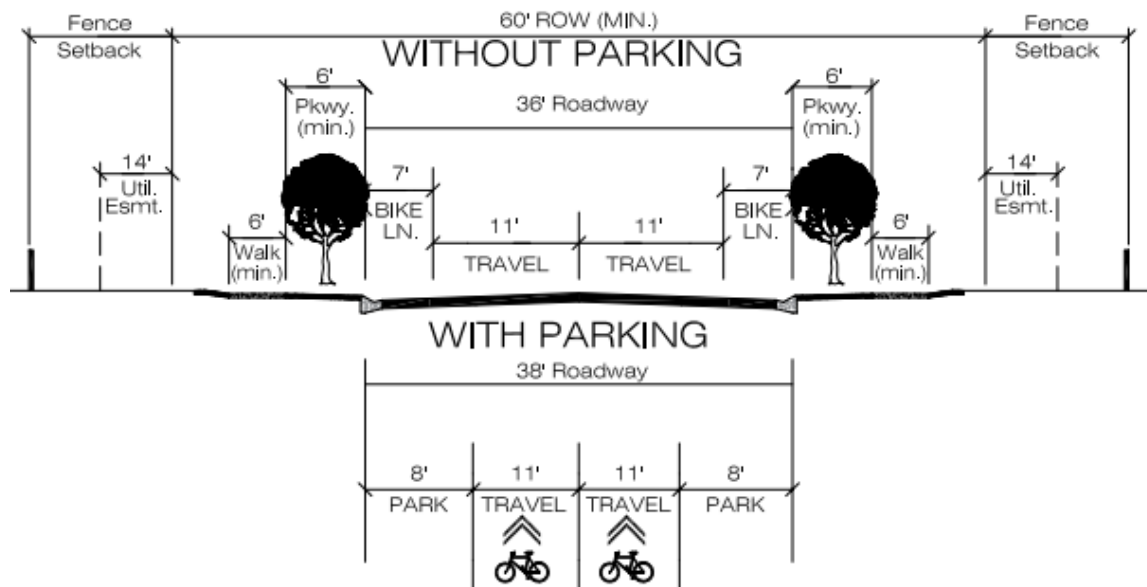


Source: Larimer County Urban Area Street Standards Major Collector/Commercial Collector (LCUASS Figure 7-4L)



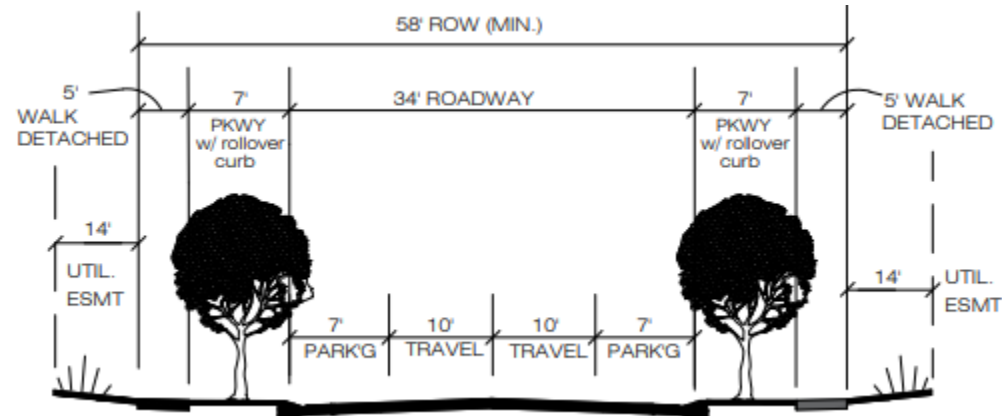
Timnath TRANSPORTATION PLAN

Figure 29. Urban Minor Collector Cross Section



Source: Larimer County Urban Area Street Standards Minor Collector Street (LCUASS Figure 7-5L)

Figure 30. Urban Local Street Cross Section



Source: Larimer County Urban Area Street Standards Residential Local Street (LCUASS Figure 7-7L)



Timnath TRANSPORTATION PLAN

Figure 31. Rural 4-Lane Arterial Cross Section

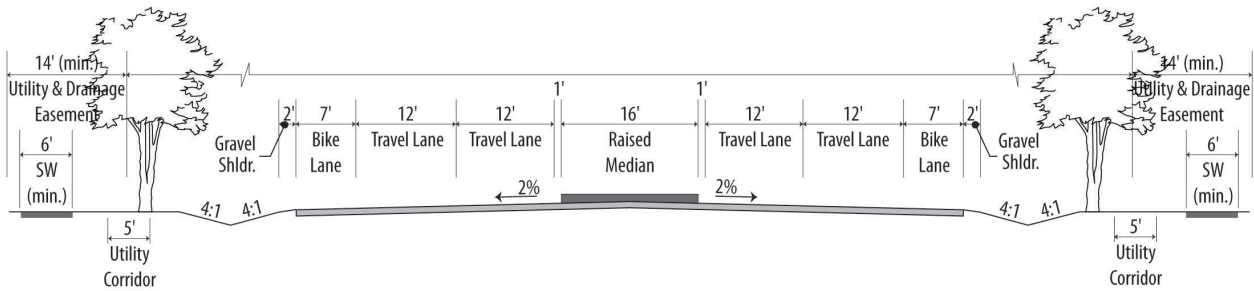


Figure 32. Rural 2-Lane Arterial Cross Section

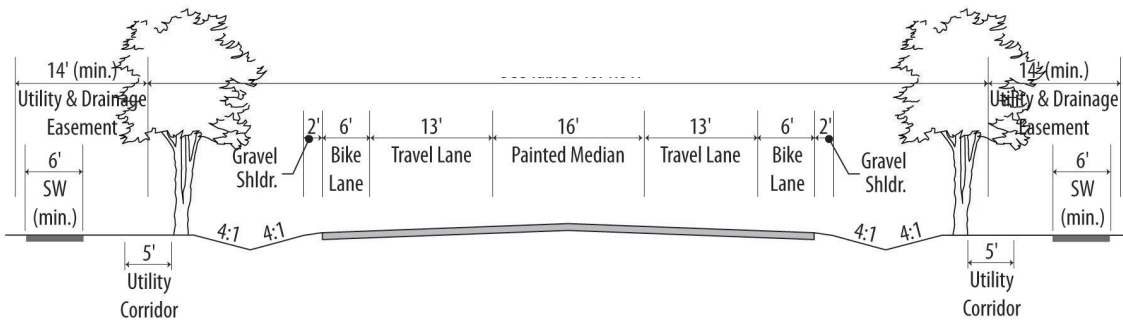
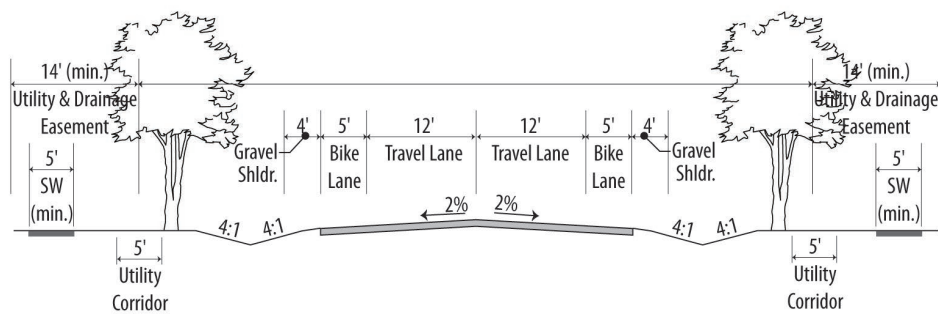


Figure 33. Rural Collector/Local Street Cross Section



Access Spacing Standards

To preserve the functional integrity, safety, and mobility of Timnath's street network, the Town has adopted the access control standards documented in LCUASS, with one exception as described in this section. The access standards encourage, to the extent possible, the provision of direct access to the streets with lower functional classifications. The State Highway Access Code governs access onto the state highway system. Any access onto the state highways in the vicinity of Timnath (CO 14 and CO 257) requires an access permit from CDOT, and the access design must comply with the Access Code. Federal Highway Administration and CDOT govern I-25, and modifications to access onto I-25 require extensive study, including a System Level Feasibility Study, an Interstate Access Request, and applicable environmental clearance.

Unlike LCUASS, Timnath's Master Streets Plan differentiates between Principal and Minor Arterials. The primary reason for this distinction is to allow different access spacing standards. The Principal Arterials are considered regional mobility corridors, and access is more restrictive. While the Minor Arterials serve an important mobility function in the community, the access standards are slightly less restrictive than those of LCUASS to encourage a gridded street network that provides convenient access into and between neighborhoods by car, foot, and bike. Access onto any of Timnath's arterial streets (Principal or Minor) requires the Town's approval through the development review process.

Principal Arterials within Timnath's GMA (regardless of lane requirements) shall comply with the technical design criteria, access spacing distances, and intersection control as presented in Table 7-4 and Chapter 9 of LCUASS for 4- or 6-Lane Arterials. These standards allow for 0.5-mile spacing of full-movement signalized intersections; all other accesses will be limited to right-in/right-out (RIRO) movements to protect the mobility function of the Principal Arterials.

The access spacing standards for Minor Arterials within Timnath's GMA deviate slightly from LCUASS' standards. Full-movement intersections shall be allowed on Minor Arterials (regardless of lane requirements) at 0.25-mile spacing. The full-movement intersections at 0.25-mile spacing shall be signalized only if a traffic engineering study documents the following conditions:

- ▶ Left turns from or onto the Minor Arterial would incur long delays (LOS F) during a peak period if unsignalized based on current traffic levels and/or 2040 traffic forecasts;
- ▶ A Manual of Traffic Control Devices signal warrant is expected to be met;
- ▶ A corridor signal progression efficiency of 30 percent can be maintained based on current traffic levels and 2040 traffic forecasts with the addition of the signal; and
- ▶ Geometric design criteria as presented in Table 7-4 of LCUASS (for 2-Lane Arterials) can be met.

Major Collectors, Minor Collectors, and Local Streets within Timnath's GMA shall comply with the criteria and access spacing distances as presented in Table 7-4 and Chapter 9 of LCUASS.



Timnath TRANSPORTATION PLAN

Geometric Design Standards

Timnath streets shall comply with the geometric design standards documented in Chapters 7, 8, and 9 of LCUASS (notably, Table 7-4). Regardless of the number of current or future lanes, Timnath's Principal Arterials shall comply with the 4- or 6-Lane Arterial geometric standards in LCUASS, and Timnath's Minor Arterials shall comply with the 2-Lane Arterial geometric standards in LCUASS.

Although the Parkway (from Harmony Road to the tie-in at Main Street

north of Buss Grove) is designated as a Principal Arterial, the Town's desire is to create a livable street that welcomes pedestrian and biking activity along and across the street through the Town core. To achieve this intent, the Parkway shall be designed to LCUASS 2-Lane Arterial geometric standards, which will result in slower travel speeds compatible with high levels of pedestrian and bicycle activity.



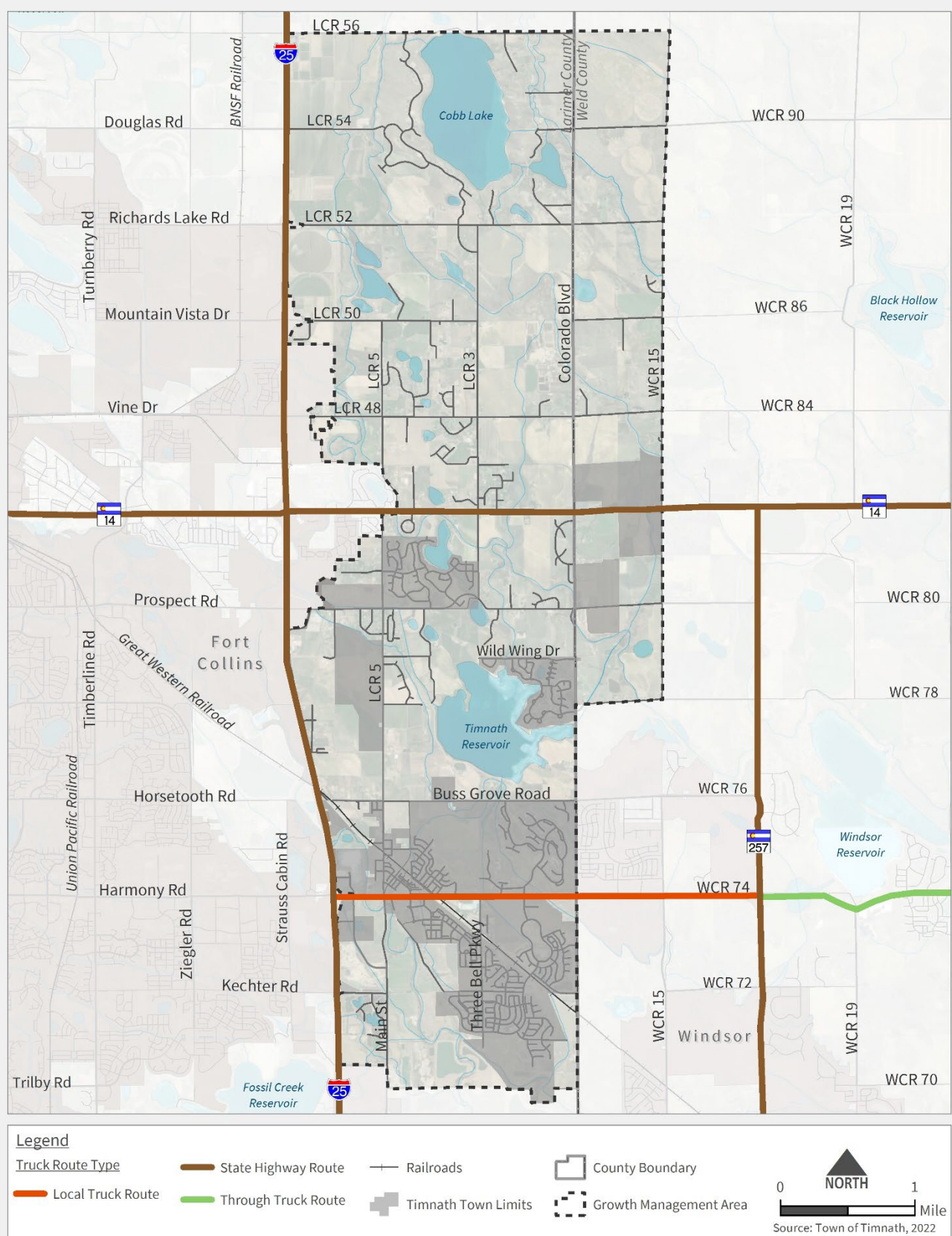
Preferred Future Commercial Truck Routes

Although commercial truck restrictions are primarily administered at the county level, the Town recognizes that it receives a significant amount of regional commercial truck traffic passing through the Town. **Figure 34** documents the Town's preferred truck routes as a resource for commercial trucks to use to travel through the GMA. These routes are compatible with the recommendations of the NFRMPO Sub Regional Study (April 2010). As the Town grows, these facilities will remain as appropriate routes for commercial trucks when considering design and speed limits, while other streets will be programmed to better accommodate local travel and alternative modes, potentially making them less attractive for commercial truck use.



Timnath TRANSPORTATION PLAN

Figure 34. Preferred Commercial Truck Routes





Timnath TRANSPORTATION PLAN

Bicycle Plan

To attract and support bicycle riders of all ages and abilities, a bicycle network needs to include safe, connected, low-stress, and high-comfort facilities that limit the interaction between bicyclists and motor vehicles. Both bicyclists and pedestrians are the most vulnerable users of the transportation system, due to higher risk for fatal or severe injury to occur from a collision with a motor vehicle, emphasizing the importance of providing safer bicycle facilities throughout Timnath.

The Bicycle Plan shown on **Figure 35** identifies Timnath's future on-street bike network, building on the existing trails and on-street bike lanes, as well as supporting the future trail network identified in the Comprehensive Plan. The bicycle network will provide safe and low-stress bicycle commuting and recreational opportunities and improved multimodal connections between neighborhoods and destinations. Improving bicycle facilities and connections also support active and healthy lifestyles and travel options.



Timnath's typical cross sections include on-street bike lanes for all arterial and collector streets. Arterial streets require a minimum 7-foot bike lane, and collector streets require a minimum 5-foot bike lane. **Figure 35** shows the future arterial street bike lanes. When fully built, the arterial street bike lanes will form a connected network of on-street bike facilities at approximately 1-mile spacing. Consideration should be given to enhanced bike lanes on higher volume streets (like Harmony Road, Main Street, and Colorado Boulevard) such as buffered bike lanes or protected bike lanes.

While the arterial street bike lanes will provide direction connections in and around the community, they will predominately serve the confident bicyclists; the "Interested but Concerned" population (which typically accounts for upwards of 60 percent of any population) may not be comfortable riding alongside the higher traffic volumes and higher speeds associated with the arterial street network. To better serve the "Interested but Concerned" population—and to better accommodate bicyclists of all abilities throughout Timnath—the Town's collector streets and trail network should be built to provide a connected network of low-stress bike facilities to complement the arterial street bike lanes.



Timnath TRANSPORTATION PLAN

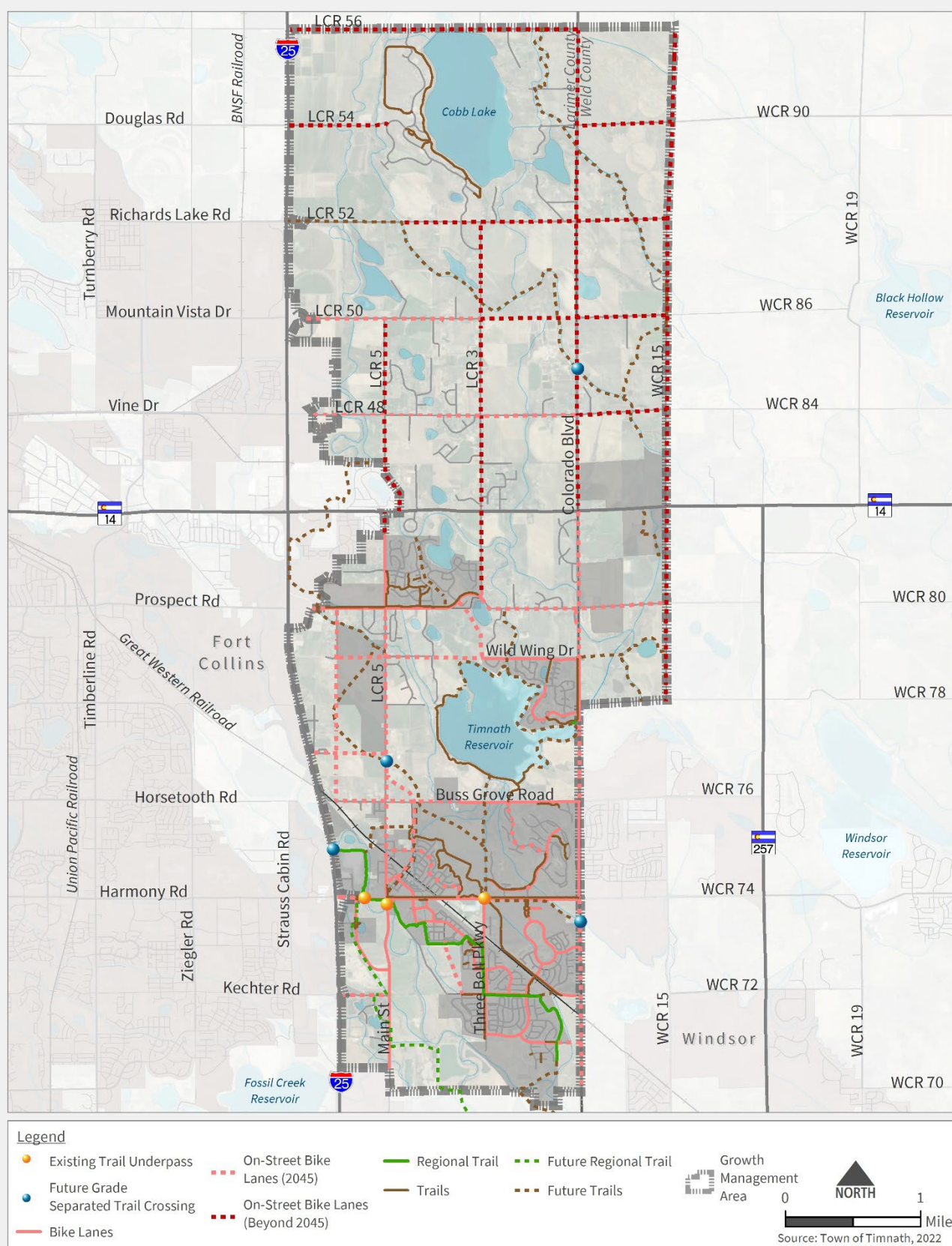
Several of the existing collector streets through residential areas have bike lanes and form the start of a low-stress bike network. Timnath is fortunate to be in a position to plan ahead for the provision of a well-connected network of low-stress bike facilities. While the exact alignment of the low-stress bike network on Collector streets will be determined through the development and development review process, low-stress bike routes should generally be provided at approximately 0.5-mile spacing between the Arterial streets. The low-stress bike facilities should be designed and built with the following guidance:

- ▶ Collector streets on the low-stress network should provide a relatively direct route for north-south and east-west travel through each 1-mile section of land.
- ▶ Collector streets in adjacent neighborhoods/developments should align, providing a connected network for all modes, particularly for bicycle travel on the low-stress network.
- ▶ Where the Collector streets on the low-stress network intersect Arterial streets, the intersection should be signalized (if warranted) or provide enhanced bicycle and pedestrian crossing treatments such as rectangular rapid flashing beacons (RRFB), pedestrian hybrid signals (HAWKs), and pedestrian crosswalks and/or cross-bike markings. In some cases, a grade-separated crossing may be required for safety.
- ▶ Bicycle facilities in Timnath shall be designed to comply with the AASHTO Bicycle Guide standards.



Timnath TRANSPORTATION PLAN

Figure 35. Bicycle Plan





Timnath TRANSPORTATION PLAN

Pedestrian Plan

The most vulnerable users of the transportation system includes pedestrians – whether walking using a mobility device such as a wheelchair – and bicyclists. Both rely on sidewalks, crosswalks, and other pedestrian facilities to safely travel through their neighborhoods, commute to work or school, run errands, recreate, or access transit. Gaps in pedestrian infrastructure, poor conditions of sidewalks, and unsafe crossings are just some of the conditions that can create safety and accessibility issues for pedestrians.

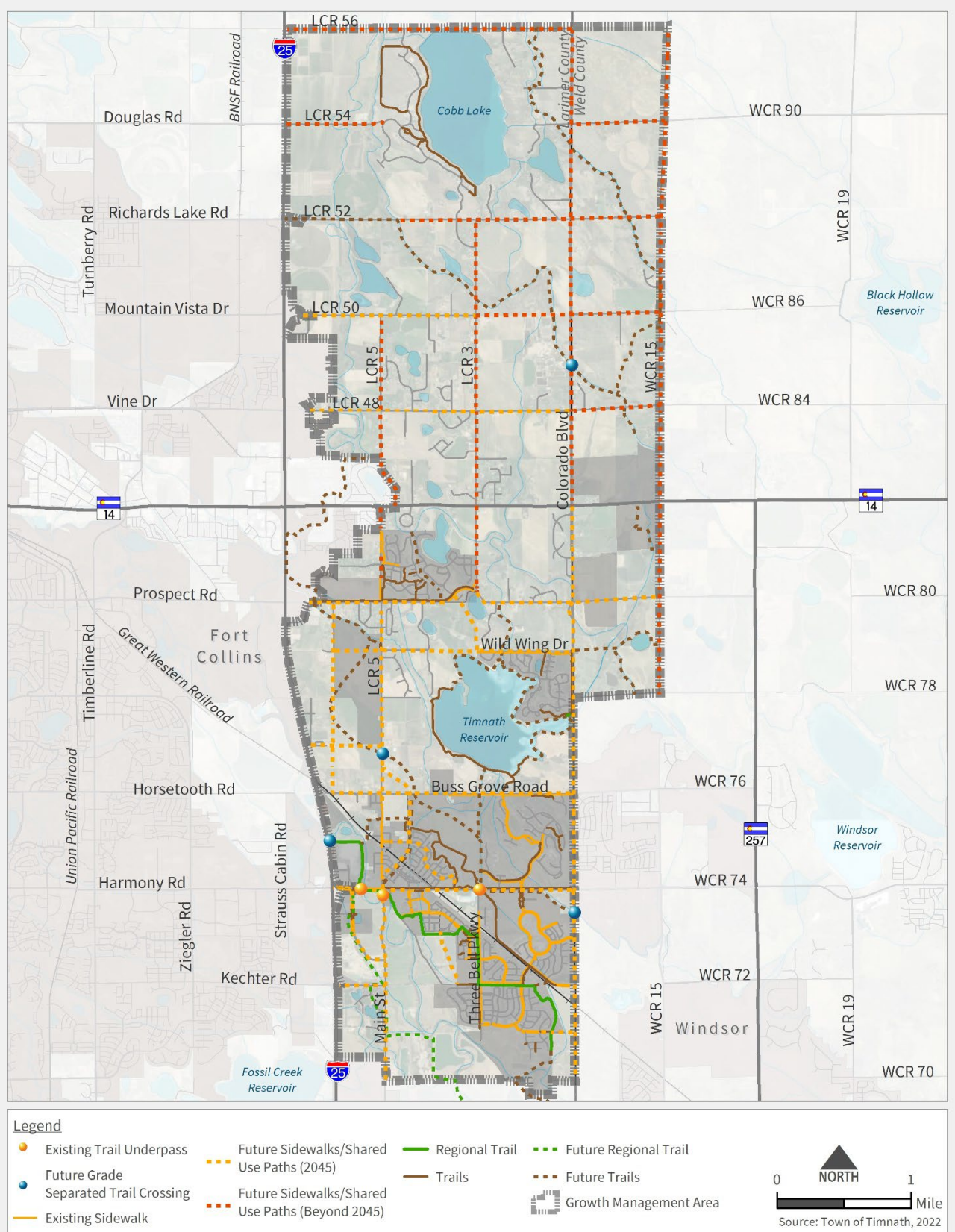


Timnath's Pedestrian Plan (**Figure 36**) will provide safe, accessible, connected, and context-sensitive pedestrian facilities (trails, sidewalks, and shared use paths) throughout Timnath to address the mobility needs of pedestrians. The expansion of the sidewalk network will happen over time as development occurs. Sidewalks on the Major Collector and higher streets are shown, but all streets in Timnath shall include sidewalks. Timnath's typical cross sections include a minimum 5-foot detached sidewalk along Local and Collector streets, and a minimum 6-foot detached sidewalk along Arterial streets. Pedestrian walkways connecting residential developments to the Arterial and Collector street system should be provided to ensure that pedestrians have quick and direct access between neighborhoods and to commercial areas. The Pedestrian Plan includes particular focus on improved sidewalk connections in the Old Town area and improved walking access to Timnath Elementary School.



Timnath TRANSPORTATION PLAN

Figure 36. Pedestrian Plan





Timnath TRANSPORTATION PLAN

Transit Plan

Timnath residents have expressed interest in adding public transit options and improving access to existing regional transit services. Several local and regional transit routes stop at the Harmony Transfer Center, which is located north of Harmony Road and west of I-25. CDOT has identified this location as a Mobility Hub – a location that provides convenient



connections between transit and other modes of transportation. The Town can pursue several options to enhance public transportation for the community, taking advantage of Timnath's proximity to the Harmony Mobility Hub:

- ▶ Consider opportunities to partner with Transfort to extend a limited number of future Harmony Bus Rapid Transit (BRT) trips into Timnath
- ▶ Leverage proximity to regional transit network and Harmony Mobility Hub:
 - ◆ Prioritize construction of bicycle and pedestrian connections between Timnath and the Harmony Mobility Hub
 - ◆ Explore opportunities for Transportation Demand Management (TDM) grants through CDOT's Office of Innovative Mobility (OIM) to improve connectivity including microtransit and micromobility
- ▶ Partner with Ride NoCo to promote the use of alternative modes of transportation for commuter trips (transit, carpool, vanpool, etc.)
- ▶ Coordinate with CDOT and advocate for Bustang service improvement opportunities such as:
 - ◆ Increase frequency during commuting times
 - ◆ Provide evening and additional weekend trips to Union Station (for recreation, access to DEN)
 - ◆ Continue Bustang to Broncos
- ▶ Coordinate with Senior Alternatives IN Transportation (SAINT) to assess the possibility of service expansion into Timnath
- ▶ Promote Groome as an option for residents to travel to DEN
- ▶ Participate in Front Range Passenger Rail planning efforts (Fort Collins to Pueblo)



7. Implementation Strategy

The Roadway, Bicycle, Pedestrian, and Transit Plans described in **Chapter 6** represent a long-term vision for achieving Timnath's transportation goals (**Chapter 5**). While improving travel by bike, by foot, by car, and by transit are clear community priorities, implementation of these recommendations will necessarily occur over time commensurate with available resources. This chapter provides guidance in the phasing and funding strategies for the Town to implement the transportation plan recommendations.

Programmatic Recommendations

It is recommended that the Town of Timnath develop four specific transportation programs to guide future location-specific improvements. These programs, as listed in **Table 6**, are all recommended for development in the near-term future. These programs will establish systematic approaches to address safety and operational concerns expressed by the community during the transportation planning process.

Table 6. Program Recommendations

Project ID	Name	Description	Primary Responsibility
Near Term Programs (2024–2030)			
53	Safe Routes to School Program	Identify Safe Routes to Schools and optimize drop-off and pick-up operations	School District/ Timnath
120	Signal Timing Program	Enhance signal systems to optimize efficiency and provide educational program	Timnath
143	Traffic Calming and Pedestrian Crossing Program	Traffic calming and pedestrian crossing policy/program	Timnath
157	Safety Action Plan	Pursue Safe System for All (SS4A) grant to develop a Safety Action Plan	Timnath

Project Recommendations

Roadway Projects

The roadway improvement projects needed to realize the 2045 Master Streets Plan fall in three general categories:

- ▶ Reconstruction to bring an existing road to the standard cross section
- ▶ Road widening to handle increasing traffic and to bring the road to the standard cross section
- ▶ New road connections

Timnath's typical cross sections (**Chapter 6**) are multimodal and include the provision of bike lanes and sidewalks on all streets. Therefore, the roadway improvement projects described herein include the design and construction of the associated bicycle and pedestrian facilities.

The roadway projects have been divided into three time periods based on input from the public, Town staff, and Council members; anticipated development patterns; and projected travel demand:

- ▶ Near Term (2024–2030)
- ▶ Long Term (2030–2045)
- ▶ Future (Beyond 2045)

Table 7 lists the projects in terms of general time frames but does not prioritize within each time frame. Although funding sources for these projects will vary, **Table 7** also presents planning-level cost estimates for each project. Contributions to these projects may come from the Town, developers, adjacent jurisdictions, state or federal funding, or other funding sources. Much of the needed right-of-way will be obtained from adjacent future development. Funding from "Timnath" may be from the Town's general fund and/or the Timnath Development Authority revenue.

The need for certain projects, such as the paving of county roads, will probably be created by specific developments, and these developers should be held responsible for funding such projects through transportation impact fees or exactions. **Appendix C** includes quantities and calculations used to develop the per-mile cost opinions for the Town's various cross sections. Cost estimates presented in this plan are high-level planning estimates. All costs are in 2023 dollars and exclude the costs of right-of-way acquisition.

Table 7. Roadway Projects

Project ID	Name	Location	Description	Length	Cost Estimate	Primary Responsibility
Near Term Projects with Committed Funds						
3	Timnath Parkway	Harmony Rd to Buss Grove	New Rural 2-Lane Arterial	1.0	\$8,700,000	Timnath
Near Term Projects (2024–2030)						
150	Buss Grove	Timnath Parkway to Acres Circle	Reconstruct to 2-Lane Arterial Cross Section	0.7	\$6,200,000	Developer
20	Buss Grove	Main St to Timnath Parkway	Reconstruct to 2-Lane Major Collector Cross Section	0.8	\$6,400,000	Developer
14	Folsom Pkwy	Yellowtail St to Colorado Blvd	Extension of Urban Major Collector	0.4	\$2,700,000	Developer
101	Kechter Rd	I-25 to Main St	Reconstruct to Rural 2-Lane Arterial Cross Section	0.5	\$4,400,000	Developer
26	Main St	Timnath Parkway to Prospect Rd	Reconstruct to Urban 2-Lane Arterial Cross Section	1.8	\$15,800,000	Timnath/Developer
148	Main St	Poudre River Bridge	Widen Bridge to 4 Lanes		TBD	Timnath
11	Prospect Rd	Main St to Larimer Ridge Pkwy	Reconstruction to Rural 2-Lane Arterial Cross Section (south half of roadway)	0.5	\$2,200,000	Timnath/Developer
18	Timnath Parkway	Buss Grove north to Main St	New 2-Lane Rural Arterial	0.4	\$3,700,000	Timnath
Long Term Projects (2031–2045)						
138	Buss Grove	McLaughlin Ln to Main St	Pave and upgrade to Major Collector	0.5	\$3,500,000	Developer
8	Colorado Blvd	Harmony Rd to Buss Grove	Reconstruct to Rural 2-Lane Arterial Cross Section (west half of roadway)	1.0	\$4,350,000	Developer



Project ID	Name	Location	Description	Length	Cost Estimate	Primary Responsibility
10	Colorado Blvd	Wildwing frontage	Reconstruct to Rural 2-Lane Arterial Cross-Section (east half of road)	0.6	\$2,800,000	Developer
31	Colorado Blvd	Wildwing to CO 14	Reconstruct to Rural 2-Lane Arterial Cross Section	1.5	\$13,100,000	Developer
102	Colorado Blvd	Harmony Rd to South GMA	Reconstruct to Urban 2-Lane Arterial Cross Section	2.0	\$17,800,000	Timnath/Developer
158	Colorado Blvd	Buss Grove to Wildwing	Reconstruct to Rural 2-Lane Arterial Cross Section	0.9	\$8,000,000	Timnath/Developer
16	Harmony Rd	I-25 to Colorado Blvd	Widen to Urban 6-Lane Arterial Cross Section	2.5	\$10,000,000	Timnath
12	Kechter Rd	I-25 to Main St	Widen to Rural 4-Lane Arterial Cross Section	0.5	\$5,000,000	Timnath
36	LCR 50	I-25 to LCR 3	Reconstruct to Rural 2-Lane Arterial Cross Section	2.0	\$17,400,000	Developer
13	Main St	Poudre River Bridge to Kechter Rd	Widen to Rural 4-Lane Arterial Cross Section	1.8	\$17,400,000	Timnath/Developer
149	Main St	Kechter Rd to South GMA	Widen to Rural 4-Lane Arterial Cross Section	1.0	\$9,900,000	Timnath
128	New Connection	Wildwing to Prospect	Extension of Urban Major Collector	0.5	\$4,000,000	Developer
136	McLaughlin Ln	Buss Grove to Prospect	Improve/Extend as Urban Major Collector	2.0	\$15,200,000	Developer
133	Prospect Rd	Main St to LCR 3	Widen to Rural 4-Lane Arterial Cross Section	1.0	\$9,900,000	Timnath
21	Prospect Rd	West GMA to Main St	Widen to Urban 4-Lane Arterial Cross Section (south half of road)	0.6	\$3,350,000	Timnath
28	Prospect Rd	Three Bell Pkwy to WCR 15	Reconstruct to Rural 2-Lane Arterial Cross Section	2.0	\$17,400,000	Developer
144	Stable Ln	I-25 Frontage Rd to Main St	New Urban Major Collector	0.7	\$5,700,000	Developer



Project ID	Name	Location	Description	Length	Cost Estimate	Primary Responsibility
19	Timnath Parkway	Harmony to Main St	Widen to 4-Lane Urban Arterial Cross Section	1.5	\$16,100,000	Timnath
147	Vine Dr	I-25 to Colorado Blvd	Widen to 4-Lane Urban Arterial Cross Section	3.0	\$29,700,000	Developer
134	Wildwing Dr	LCR 3E to Wildview Ln	Extension of Urban Major Collector	0.7	\$5,200,000	Developer
135	LCR 42E	McLaughlin Ln to LCR 3E	Construct to Urban Major Collector Cross Section	1.0	\$7,600,000	Developer
Future Projects (Beyond 2045)						
15	Colorado Blvd	Harmony Rd to South GMA	Widen to Urban 4-Lane Arterial Cross Section	2.0	\$21,400,000	TBD
151	Colorado Blvd	CO 14 to LCR 56	Reconstruct to Rural 2-Lane Arterial Cross Section	5.0	\$43,500,000	TBD
156	Colorado Blvd	Harmony Rd to Buss Grove	Widen to Rural 4-Lane Arterial Cross Section	1.0	\$9,900,000	TBD
30	LCR 3	Prospect Rd to LCR 52	Reconstruct to Rural 2-Lane Arterial Cross Section	4.0	\$34,800,000	TBD
37	LCR 50	LCR 3 to Colorado Blvd	New Rural 2-Lane Arterial	1.0	\$8,700,000	TBD
39	LCR 52/WCR 88	I-25 to WCR 15	Reconstruct to Rural 2-Lane Arterial Cross Section	4.0	\$34,800,000	TBD
40	LCR 54	I-25 to LCR 5 Alignment	Reconstruct to Rural 2-Lane Arterial Cross Section	1.0	\$8,700,000	TBD
42	LCR 56	I-25 to Colorado Blvd	Reconstruct to Rural 2-Lane Arterial Cross Section	3.0	\$26,100,000	TBD
145	Main St	CO 14 to LCR 50	Reconstruct to 2-Lane Arterial Cross Section	2.0	\$17,400,000	TBD
146	Main St	Prospect Rd to CO 14	Reconstruct to Rural 2-Lane Arterial Cross Section	1.0	\$8,700,000	TBD

Project ID	Name	Location	Description	Length	Cost Estimate	Primary Responsibility
154	Main St	Timnath Parkway to Prospect Rd	Widen to Urban 4-Lane Arterial Cross Section	1.8	\$18,900,000	TBD
155	Main St	Prospect Rd to CO 14	Widen to Rural 4-Lane Arterial Cross Section	1.0	\$9,900,000	TBD
153	Prospect Rd	LCR 3 to Colorado Blvd	Widen to Rural 4-Lane Arterial Cross Section	1.0	\$9,900,000	TBD
152	Vine Dr	Colorado Blvd to WCR 15	Reconstruct to Rural 2-Lane Arterial Cross Section	0.9	\$8,000,000	TBD
35	WCR 15	WCR 78 to WCR 92	Reconstruct to Rural 2-Lane Arterial Cross Section	7.5	\$65,300,000	TBD
38	WCR 86	Colorado Blvd to WCR 15	Reconstruct to Rural 2-Lane Arterial Cross Section	1.0	\$8,700,000	TBD
41	WCR 90	Colorado Blvd to WCR 15	Reconstruct to Rural 2-Lane Arterial Cross Section	1.0	\$8,700,000	TBD

Intersection Projects

Major intersections will typically be improved as a part of the roadway improvement projects (**Table 7**). Six intersections have been identified as likely candidates for signalization in the future. The Town should monitor traffic volumes to determine if/when the intersection warrants signalization. When intersection control improvements are needed at these and other locations in Timnath, the Town should evaluate whether a roundabout might be a preferable intersection treatment rather than a signal. The costs shown in **Table 8** are for signalization (\$400,000) and/or the design and construction of a roundabout, which can cost \$1.5 million to \$2 million for a single lane roundabout, depending on the size and design parameters.

Considerations for the Selection of Roundabout vs. Traffic Signal

Although the initial capital cost of a roundabout is considerably more than that of a traffic signal, the maintenance and lifecycle cost of a roundabout is less than that of a traffic signal. Roundabouts also offer significant safety benefits compared to traffic signals (or stop sign controlled intersections. The Insurance Institute for Highway Safety (IIHS) documents a 35 to 47 percent reduction in all

crashes and a 72 to 80 percent reduction in injury crashes with conversion to roundabouts.¹ Roundabouts reduce the number of conflict points from 32 at a traditional 4-leg signalized intersection to 8 conflict points for a single lane roundabout. Roundabouts remove the most severe head-on and broadside crash types, and the conflict types typically result in low-severity (fender-bender) type of crashes. The Town should complete a traffic and safety analysis and feasibility assessment prior to the selection of a roundabout or traffic signal at any of Timnath's intersections. Items to consider include the available right-of-way, traffic flows (existing and future), crash history, and bicycle and pedestrian activity.

Table 8. Intersection Projects

Project ID	Name	Location	Description	Cost Estimate	Primary Responsibility
Near Term Projects (2024–2030)					
22	Kechter Rd	Main St	Signalize Intersection	\$600,000	Developer
Long Term Projects (2030–2045)					
24	Buss Grove	Colorado Blvd	Roundabout or Signal (when warranted)	\$600,000 – \$2,000,000	Developer
29	Prospect Rd	Colorado Blvd	Roundabout or signal (when warranted)	\$600,000 – \$2,000,000	Developer
132	River Pass Rd	Three Bell Pkwy	Roundabout or signal (if warranted)	\$600,000 – \$2,000,000	Developer
23	Twin Bridge Dr	Colorado Blvd	Roundabout or signal (when warranted)	\$600,000 – \$2,000,000	Developer
34	Vine Dr	Colorado Blvd	Roundabout or signal (when warranted)	\$600,000 – \$2,000,000	Developer

Bicycle and Pedestrian Projects

Most of the community trails, sidewalks, and low stress bike network identified in **Chapter 6** will be built when the adjacent land is developed. Likewise, the sidewalks, roadside trails, and arterial street bike lanes will be constructed as a part of roadway improvement projects included in **Table 7**. Timnath's adopted cross sections (as detailed in **Chapter 6**) include bike lanes and sidewalks; much of the bicycle and pedestrian network will be built in conjunction with the roadway improvements. However, some

¹ <https://www.iihs.org/topics/roundabouts#safety-benefits>

specific bicycle and pedestrian projects are unique and will require special attention from the Town to be constructed; these projects are listed in **Table 9**.

The Poudre River Trail crossing of I-25, a high priority for the Town of Timnath, is included with the Regional Projects in **Table 11**. Three potential grade-separated pedestrian crossings are identified for the Long Term or Beyond 2045. These locations should be considered for at-grade crossing treatments such as rapid rectangular flashing beacons (RRFB) as an interim improvement.

Table 9. Bicycle and Pedestrian Projects

Project ID	Name	Location	Description	Length	Cost Estimate	Primary Responsibility
Near Term Projects (2024–2030)						
51	Harmony Rd	Main Street to Colorado Blvd	Add Missing Sidewalk Sections on South Side	2.0	TBD	Developer
49	Main St	Timnath Elementary School to Outlook Avenue	Connect Sidewalk on West Side	0.2	TBD	Timnath
131	Three Bell Pkwy	Harmony Rd south	Complete Missing Sidewalk Connections	0.2	TBD	Timnath/Developer
Long Term Projects (2031–2045)						
58	Colorado Blvd	South of Harmony Road	Grade Separated Pedestrian Crossing	-	TBD	TBD
57	Main St	North of Buss Grove	Grade Separated Pedestrian Crossing	-	TBD	TBD
54	Poudre River Trail	Connection to Old Town	Pedestrian Bridge and Trail Connection	0.1	TBD	Timnath
Future Projects (Beyond 2045)						
59	Colorado Blvd	north of Vine Drive	Grade Separated Pedestrian Crossing	-	TBD	TBD
55	Poudre River Trail	Stone Fly Dr to River Pass and Summerfield Pkwy to South GMA	Construct This Segment of Poudre River Trail	3.9	TBD	TBD

Railroad Crossing Projects

There are currently five at-grade railroad crossings within the Timnath GMA. The GWR crosses Main Street, Harmony Road, Three Bell Parkway, Summerfields Parkway, and Colorado Boulevard. When the Parkway is constructed between Harmony Road and Buss Grove, a new at-grade railroad crossing will be included; the Main Street at-grade crossing will remain. **Table 10** summarizes the recommended railroad crossing improvements, both of which are near term projects.



Table 10. Railroad Crossing Projects

Project ID	Name	Location	Description	Cost Estimate	Primary Responsibility
Near Term Projects (2024–2030)					
43	Main St Railroad Crossing	North of Harmony Road	Enhance Pedestrian Crossing and Incorporate Quiet Zone	TBD	Timnath
44	Parkway Railroad Crossing	North of Harmony Road	New Railroad Crossing; Install Quiet Crossing Infrastructure; Gates and Signs	TBD	Timnath

Regional Projects

Several transportation improvement projects have been identified either through this Transportation Planning effort or through previous regional planning efforts that will require considerable regional coordination. The projects listed in **Table 11** are regional projects with scopes and costs well beyond the means of the Town of Timnath. All of these projects are important to Timnath's transportation system (as well as to the region as a whole), but implementation of these projects will not be the primary responsibility of the Town. Rather, the Town will partner with the appropriate agencies to support implementation of these important regional projects. The regional projects are categorized by project type. The Poudre River Trail underpass of I-25 has committed funding and will be constructed in the near future.

Table 11. Regional Projects

Project ID	Name	Location	Description	Length	Primary Responsibility
Projects with Committed Funds					
113	Poudre River Trail	I-25	Underpass	–	Fort Collins
Roadway Projects					
111	CO 14	I-25 to CO 257	Widen to 4 Lanes	5.0	CDOT/NFRMPO
112	CO 257	CO 14 to CO 392	Widen to 4 Lanes	7.0	CDOT/NFRMPO
115	Colorado Blvd	South GMA to CO 392	Widen to 4 Lanes and Realign North of LCR 32e	1.0	Windsor/Weld County
114	Harmony Rd	WCR 15 to CO 257	Widen to 4 Lanes	1.0	Windsor/Weld County
105	I-25	CO 14 to CO 1	Reconstruction (North I-25 EIS)	8.5	CDOT
106	I-25	Harmony Rd	Reconstructed Diamond Interchange (North I-25 EIS)	–	CDOT
107	I-25	Prospect Rd	Reconstructed Diamond Interchange (North I-25 EIS)	–	CDOT
108	I-25	CO 14	Reconstructed Diamond Interchange (North I-25 EIS)	–	CDOT
109	I-25	Mountain Vista	Reconstructed Diamond Interchange (North I-25 EIS)	–	CDOT
104	I-25	CO 66 to CO 14	Widen to 6 Lanes + Express Lanes (North I-25 EIS)	24.0	CDOT
110	Kechter Rd	I-25	Widen Bridge to 4 Lanes	–	CDOT/Timnath/Fort Collins
116	Main St	South GMA to CO 392	Widen to 4 Lanes	1.3	Windsor/Weld County
25	WCR 78	Colorado Blvd to WCR 15	Reconstruct to Rural 2-Lane Arterial Cross Section	0.9	Severance



Project ID	Name	Location	Description	Length	Primary Responsibility
Intersection Projects					
32	CO 14	Colorado Blvd	Signalize Intersection	–	CDOT
123	CO 14	Main St	Signalize Intersection (West Intersection)	–	CDOT/Fort Collins
Railroad Crossing Projects					
48	Colorado Blvd Railroad Crossing	North of Folsom Pkwy	Install Gates and Signs	–	Larimer County/Timnath

Funding

Like most other municipalities along Colorado's Front Range, Timnath faces the challenge of how to fund transportation improvements. Not only are future needs significant in monetary terms, but the Town must consider resident concerns that new development pay for the transportation infrastructure demands it imposes on the community. New development in the Town will generate new vehicle trips and associated new demands on the Town's street network. The impacts of different developments vary from a small number of trips for a single new home to a large number of trips for a major residential subdivision or commercial development. Major developments should submit a traffic impact study, estimating the number of trips expected to be generated, the expected distribution of those trips onto the surrounding road network, and major road improvements needed to accommodate the traffic.

The following section summarizes financing options that the Town of Timnath may consider, individually or in combination, to fund these improvements to the major road system to address existing deficiencies or needs created by new development.

Timnath Capital Improvement Program – Much of the funding for improvements to existing roads is currently funded using general Town funds through a CIP. These funds are limited by the size of the anticipated Town revenues through the annual budgeting process.

Street Impact Fees – Impact fees are development exactions, which many local governments use as common devices to impose charges on new development to generate revenues for funding off-site road expansion necessitated by new development. These fees allow developer contributions to be pooled so that road improvements can be implemented on a community-wide basis. These fees cannot legally be applied to existing deficiencies or to improvements that would result from traffic passing through Timnath. It is important to regularly update impact fees to keep pace with rising construction costs.

Street Maintenance Fees – A street maintenance fee is a way to recoup a portion of ongoing street maintenance costs by way of a fee paid through residents' utility bills.

Federal/State Funding – State highways are the primary responsibility of CDOT, in coordination with the NFRMPO. The decision to improve these facilities is based on state and regional funding considerations. Timnath should monitor this process closely and may need to be prepared to provide local matching funds to leverage money on regionally significant corridors. Partnerships between communities and CDOT can be an effective way of pooling resources to implement regionally important projects. Funding sources that might be applicable to some of Timnath's projects include Transportation Alternatives Program, Safe Routes to School, Congestion Mitigation and Air Quality Improvement Program, and Surface Transportation Program.

Grants – Several federal, state, and local grant funding opportunities can provide supplemental funding for transportation improvement projects and increase the number of completed projects. Many grants/funding sources provide funding for a range of projects and/or for large projects that can consist of a group of smaller projects (e.g., corridor projects that combine elements of roadway design, bicycle and pedestrian facilities, transit elements, and stormwater components).

Bond Programs/Borrowing – Timnath can use long-term financing programs to allow capital improvements to proceed sooner than would be possible with a “pay-as-you-go” approach. This approach is most common for capital improvements in entities with an expanding tax base. Again, voter approval would be required.

Special Service Districts – Special districts are another option to link specific transportation improvements to funding generated from the development associated with the demand for, or benefiting from, the improvements. The Timnath Development Authority is an example of an urban renewal district. Under Colorado law, there are several forms of special service districts. One form, a tax increment district, can be applicable for a commercial development. The incremental tax revenues generated by the development are dedicated to either fund public costs to serve the area or to rebate developer-incurred costs expended on public improvements for the project.

Energy and Mineral Impact Assistance Fund – The Colorado Department of Local Affairs Energy and Mineral Impact Assistance Fund provides funds generated from the state’s severance tax to assist local governments that are socially and/or economically impacted by the development, processing, or energy conversion of minerals and mineral fuels. The grant can fund a variety of projects, including road improvements, construction/improvements to recreation centers, and local government planning.

Great Outdoors Colorado (GOCO) – This state funding program uses a portion of lottery proceeds for projects that protect and enhance Colorado’s trails and open space.

Action Plan

The intent of this Transportation Plan is to ensure that the Town of Timnath has a plan in place to effectively upgrade the transportation system. The Transportation Plan includes roadway and intersection improvements projects, railroad crossing improvements, shared use trails, sidewalk improvements, and on-street bike facilities. The transportation improvement projects are divided into three time periods based on input from the public, Town staff and Council members, anticipated development patterns, and projected travel demand:

- ▶ Near Term (2024–2030)
- ▶ Long Term (2030–2045)
- ▶ Future (Beyond 2045)

The projects associated with each time horizon are depicted on **Figure 37** through **Figure 39**. Project ID #s correspond to **Table 7** through **Table 10**. These projects are primarily the responsibility of the Town, often in conjunction with private development.

The Town of Timnath also supports the regional transportation improvements listed in **Table 11** and shown on **Figure 40**. The regional projects will require coordination with CDOT, the NFRMPO and/or surrounding jurisdictions.

Figure 37. Near Term Projects (2024 – 2030)

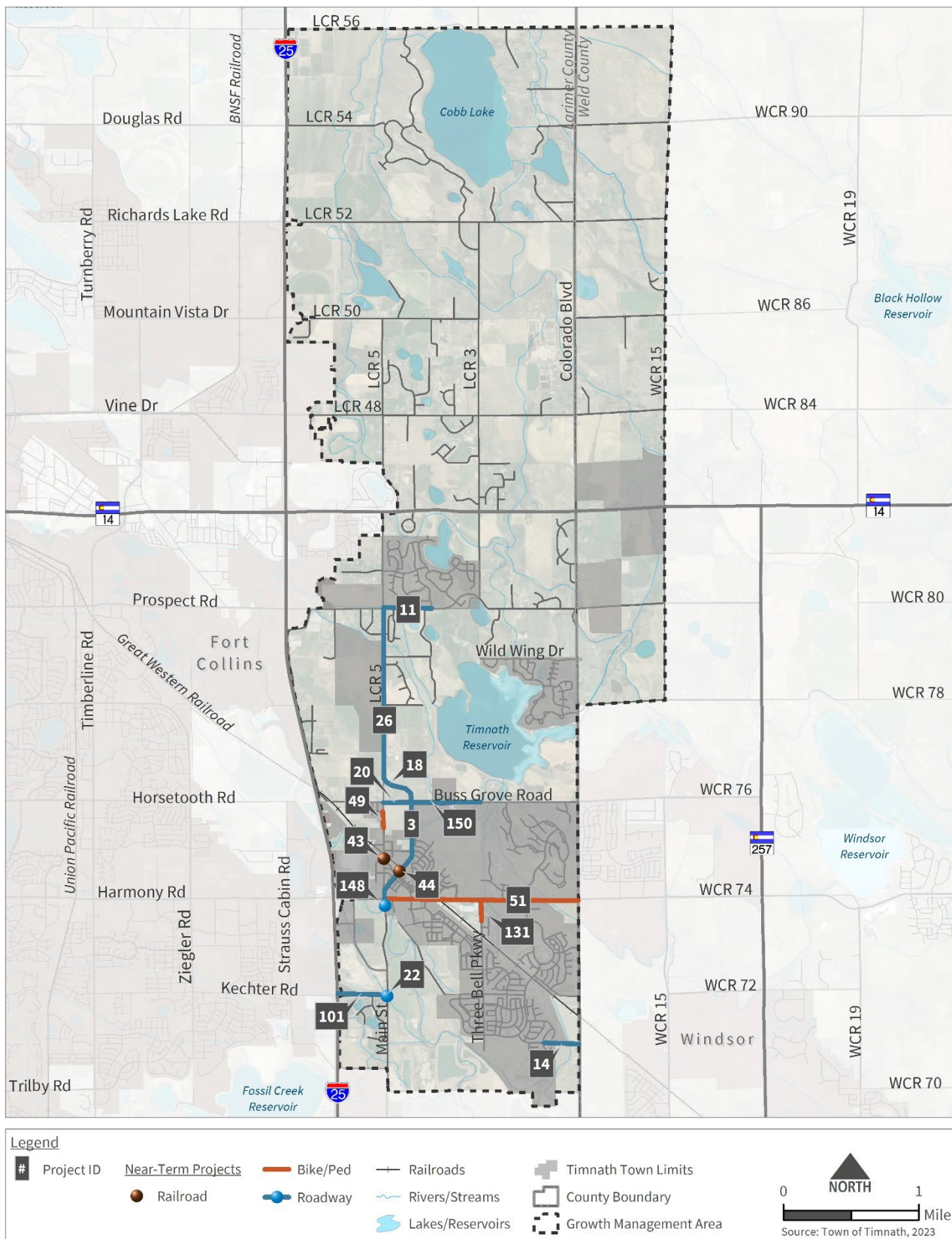


Figure 38. Long Term Projects (2031 – 2045)

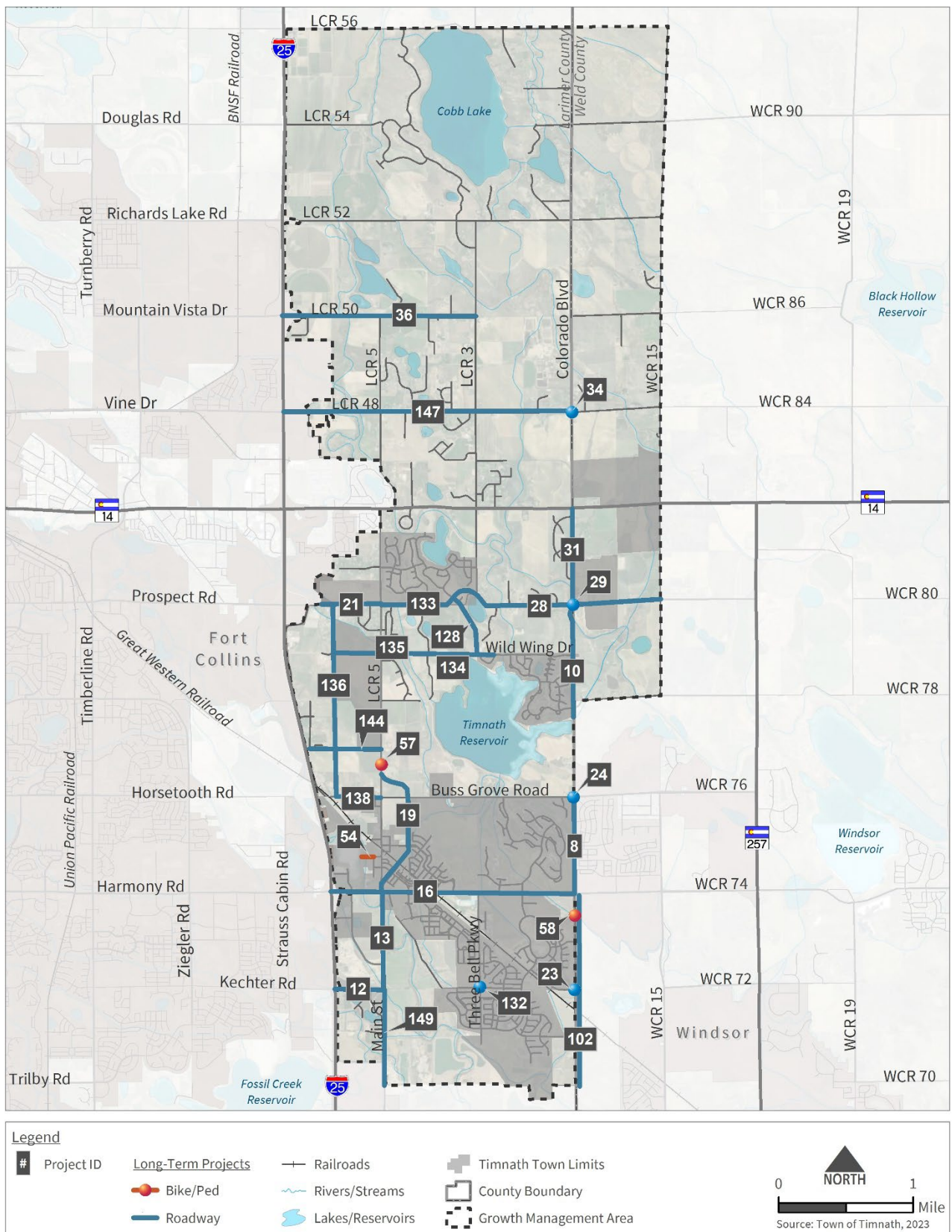


Figure 39. Future Projects (Beyond 2045)

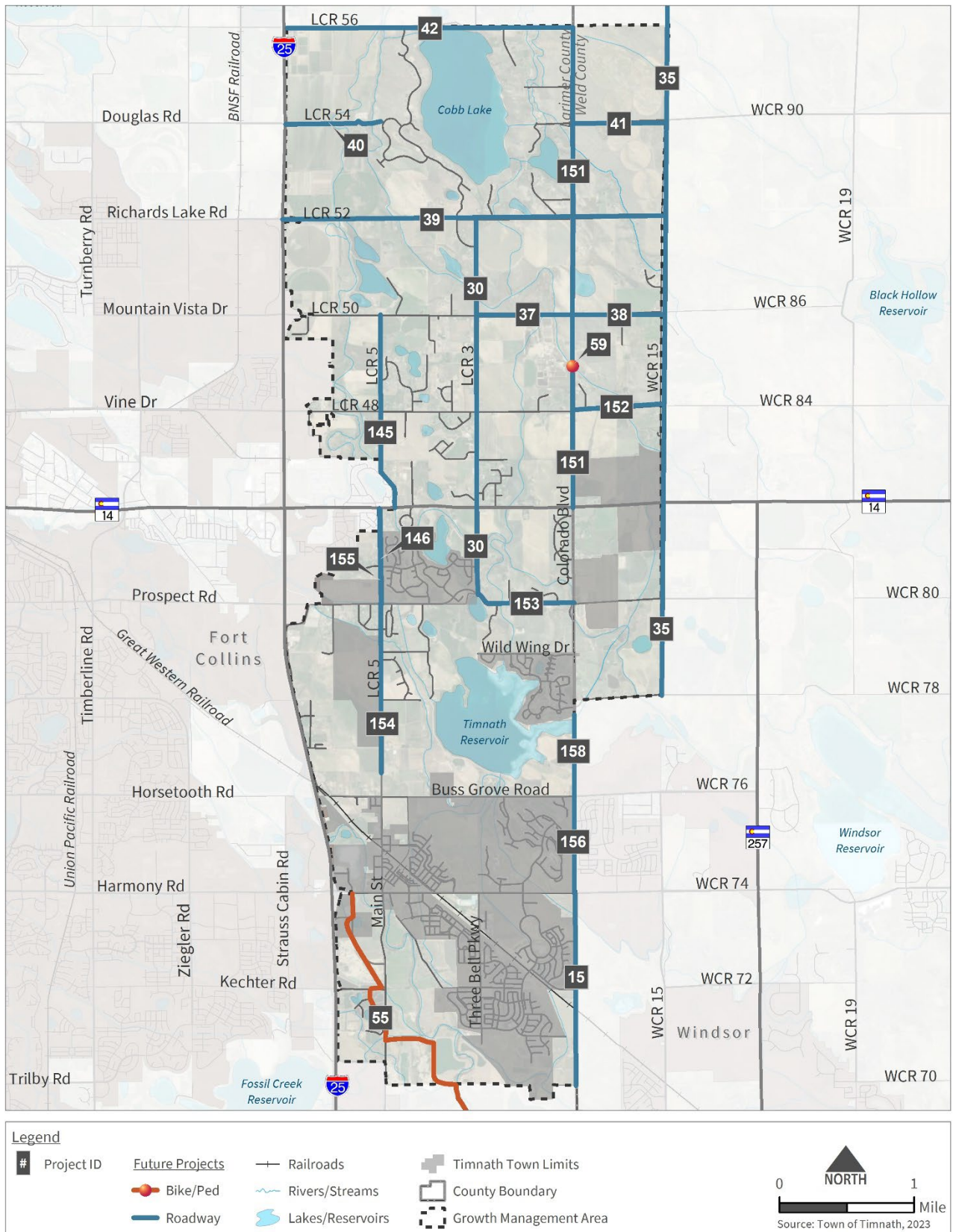
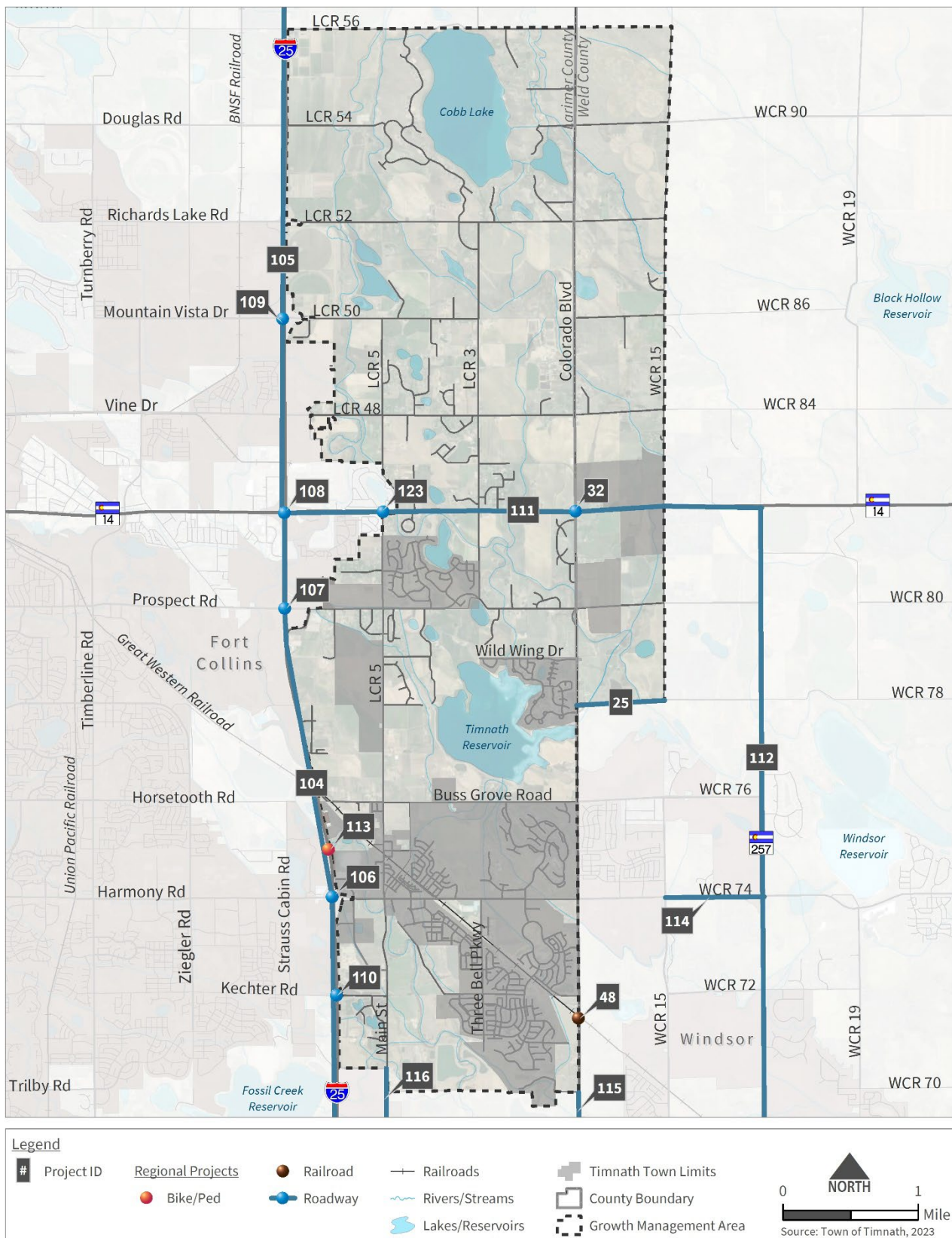


Figure 40. Regional Projects



Appendix A. Timnath Travel Patterns

Appendix A. Timnath Travel Patterns

The Town of Timnath requested additional analysis to understand travel trends and pass-through traffic in Town, specifically along East Harmony Road. This information will support the development of the Town's Transportation Plan Update. Specifically, the Town would like to understand the percentage of regional traffic on Harmony Road (through traffic without an origin or a destination in Timnath).

The project team proposed and recommended StreetLight data as the best platform for understanding traffic patterns. StreetLight is a technology company that uses location-based services (LBS) to gather mobility patterns. LBS data is created by smartphone applications based on the device's geographic location. Data is captured using algorithmic-processing techniques to link data points to trips. Trip data is then calibrated using data from the U.S. Census Bureau and permanent counter data.

The following summarizes the results of several analyses performed to understand travel patterns within Timnath. All travel patterns were calculated for the period between January 1, 2021, and August 30, 2021.

- ▶ **Annual Average Daily Traffic (AADT) Locations on East Harmony Road and surrounding Roads:** StreetLight AADT counts are lower than previous traffic counts collected by the Town (on average, 13 percent lower). On East Harmony Road east of Weitzel Street, 2021 AADT was 27,649 on StreetLight, compared to the AADT traffic count of 30,629 collected by the Town (September 2021). Traffic count data collected by the Town is recommended for a more conservative approach. Nonetheless, StreetLight data is valid and will be used to calculate the share of all vehicle traffic.
- ▶ **Timnath Pass-Through Analysis:** Overall pass-through traffic (fully external) – trips without an origin or a destination within the town of Timnath – was determined to vary between 26.2 percent (mid-day, weekend) and 36.9 percent (AM peak hour, weekday) of all traffic. Values vary by time and day of the week.
- ▶ **East Harmony Road Travel Patterns:** On average, almost half (48.3 percent) of all weekday traffic on East Harmony Road, measured on East Harmony Road just east of Weitzel Street, represents vehicles passing through Timnath. The share of trips varies from 46.1 percent (for daily eastbound traffic) to 56.0 percent (for AM peak traffic).

Almost 3 percent (2.9 percent) of all trips using East Harmony Road just east of Weitzel Street originated in Timnath Ranch and head south on I-25. The share of vehicles varies from 1.7 percent (PM, weekday) to 3.9 percent (AM, weekday) at different times of the day. On average, this represents approximately 29 percent (or about 900 vehicles per day) when applied to the AADT for that segment.

Annual Average Daily Traffic at Select Locations

StreetLight AADT values were referenced at several locations to compare with current traffic counts collected in the area.

StreetLight data was collected for the year 2021 for roads connecting to and using East Harmony Road. The Town of Timnath data was collected between September 22, 2021, and September 30, 2021. Differences in the available data are constant, with traffic from StreetLight having AADT data that is on average 87 percent of the Timnath AADT count. **Figure A** shows the location of StreetLight gates (traffic counters), and **Table A** shows the comparison between counts.

Figure A. StreetLight Gates (Traffic Counters) Locations

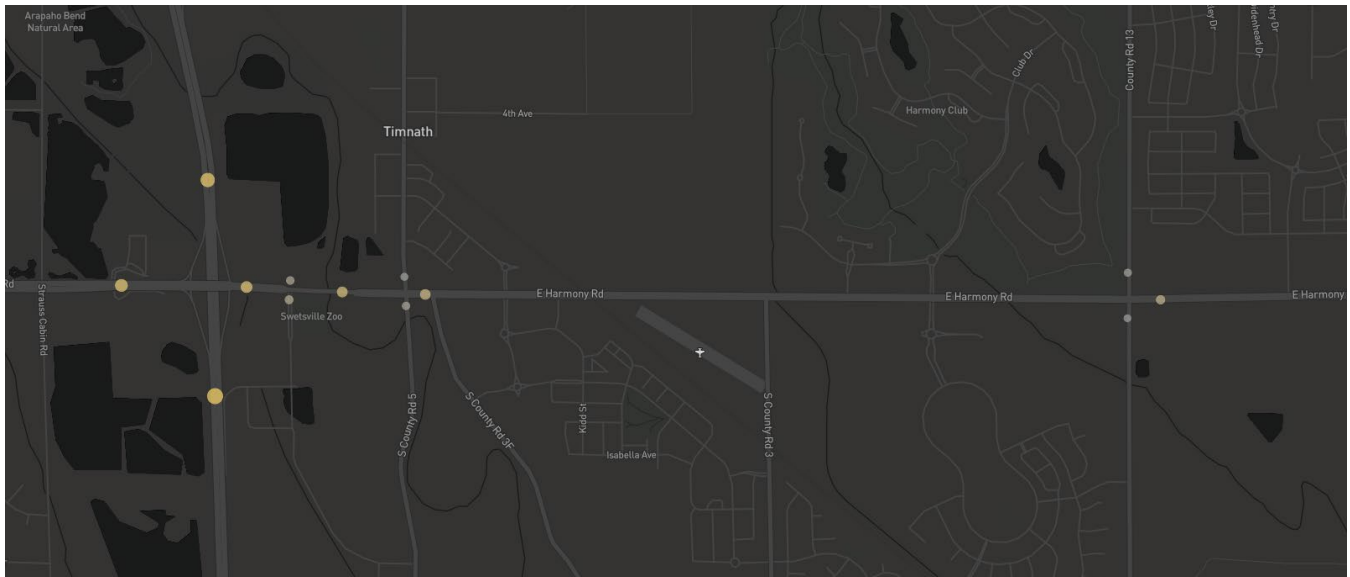


Table A. AADT Data Comparison

Locations	StreetLight Estimated 2021 AADT	Timnath 2021 AADT Traffic Count	Difference
East Harmony Rd – West of I-25	44,952	–	–
I-25 – North of E Harmony interchange	58,157	–	–
I-25 – South of E Harmony interchange	71,957	–	–
East Harmony Rd – East of I-25	35,399	44,744	79%
Weitzel St – North of E Harmony (Walmart)	8,579	–	–
Weitzel St – South of E Harmony (Costco)	11,508	–	–
East Harmony Rd – East of Weitzel St	27,649	30,629	90%
Main St – North of Harmony Rd	4,058	4,774	85%
S County Road 5 – South of Harmony Rd	6,971	8,025	87%

Locations	StreetLight Estimated 2021 AADT	Timnath 2021 AADT Traffic Count	Difference
East Harmony Rd – East of Main St	26,626	31,800	84%
Colorado Boulevard – North of Harmony Rd	4,737	5,492	86%
Colorado Boulevard – South of Harmony Rd	2,163	2,260	96%
East Harmony Rd – Colorado Blvd	15,071	–	–

Timnath Pass-Through Analysis

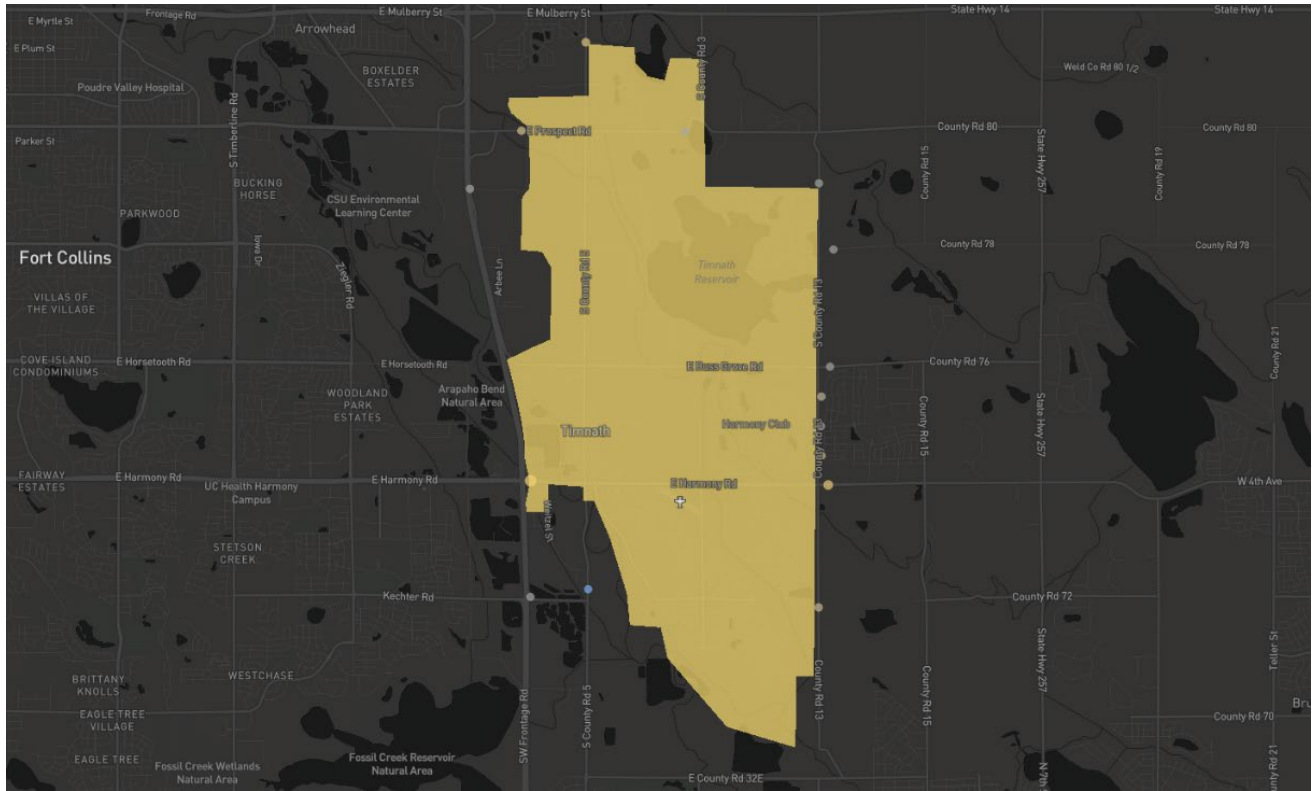
A pass-through analysis was performed for Timnath. The analysis included defining the town boundaries, or area of influence, and calculating trips that enter and exit this defined area. Gates were used to calculate vehicles that entered or exited this area of influence. This type of analysis enables determining the share of trips in a zone that are:

- ▶ **Fully internal:** Trips that start within the defined boundary and end within the defined boundary internal to internal (II). These trips are local trips within Timnath.
- ▶ **Fully external:** Trips that start outside the defined area and finish outside the defined boundary but do enter the boundaries. These trips are cut-through and are called external to external (EE).
- ▶ **Inbound:** Trips that start outside the defined area but finish within the area. These trips are called external to internal (EI), for example, visitors to commercial establishments within Timnath.
- ▶ **Outbound:** Trips that start within the defined area but end outside the area. These trips are called internal to external (IE), for example, commuter trips to other areas in the region.

Methodology

Timnath was defined using the jurisdiction boundary, and for simplicity purposes, certain locations outside the town were included within the area of influence. These locations do not have significant development but are between town boundaries. **Figure B** shows the defined boundary.

Figure B. Timnath Analysis Area



This analysis was performed for the specific timeline between January and August 2021, as requested by the Town, due to recent road improvements that could have affected the results and the share of vehicles passing through Timnath. Major roads that provide access to the town were analyzed using gates (or directional vehicle counters) to account for vehicles entering and exiting the town.

Fifteen gates were included in the analysis:

- ▶ East Harmony Road (East of I-25)
- ▶ Weld County Road 76
- ▶ Frontage Road I-25
- ▶ Weld County Road 78
- ▶ S County Road 5
- ▶ S County Line Road
- ▶ Colorado Boulevard
- ▶ E Prospect Road (East of Timnath)
- ▶ Harmony Road – East of Timnath
- ▶ S County Road (North of Timnath)
- ▶ Rycroft Drive (Windsor, Colorado)
- ▶ E Prospect Road (West of Timnath)
- ▶ Goslar Drive (Windsor, Colorado)
- ▶ SE Frontage Road
- ▶ Longbourne Drive (Windsor, Colorado)

Results

More than one-third (36.9 percent) of all trips occurring in Timnath during a normal weekday AM peak hour (6 AM to 10 AM) are pass-through traffic. The share of trips drops to 31.67 percent when all daily weekday trips are accounted for. Weekend trips have a lower share of the trips, varying from 26.21 percent at mid-day to 28.81 percent in PM hours (3 PM to 7 PM). More than 60 percent of all trips start or end in Timnath while ending or starting elsewhere (outbound and inbound trips). Only 7.73 percent of all trips are internal local traffic that stays within the town boundaries. **Table B** provides a full breakdown of all trips by time and day of the week.

When data is calculated and compared to that of a previous year, the share of trips that start or end within Timnath has grown and pass through-traffic has decreased. Pass-through daily weekday traffic was 35.69 percent in 2019 and 31.67 percent in 2021. The biggest percentage changes are seen in the AM peak hour, where the share has also decreased. **Table C** shows the full breakdown for year 2019.

Table B. Distribution of all Timnath Trips by Time and Day of the Week (January to August 2021)

Trip Type	2021 Weekday (M-Th)				2021 Weekend (Sa-Su)			
	Daily	AM	Mid	PM	Daily	AM	Mid	PM
EE	31.67%	36.93%	27.64%	32.33%	28.77%	28.51%	26.20%	28.81%
EI	29.49%	23.60%	30.86%	30.05%	30.98%	27.22%	32.51%	30.83%
IE	31.05%	31.55%	32.67%	30.58%	32.57%	34.78%	33.72%	32.78%
II	7.78%	7.92%	8.83%	7.04%	7.68%	9.49%	7.56%	7.58%

Table C. Pre-pandemic Distribution of all Timnath Trips by Time and Day of the Week (January to August 2019)

Trip Type	2019 Weekday (M-Th)				2019 Weekend (Sa-Su)			
	Daily	AM	Mid	PM	Daily	AM	Mid	PM
EE	35.69%	43.18%	30.06%	36.77%	30.47%	32.76%	27.43%	30.23%
EI	28.89%	21.25%	31.66%	29.54%	31.81%	28.01%	34.10%	30.57%
IE	29.20%	29.83%	31.17%	28.11%	31.42%	31.15%	32.38%	33.14%
II	6.22%	5.74%	7.11%	5.58%	6.30%	8.07%	6.10%	6.06%

East Harmony Road Travel Patterns

A more detailed analysis was performed to understand trips along East Harmony Road. Gates were used to understand traffic coming into town (westbound) from the nearby communities, passing through East Harmony Road on the segment just east of Weitzel Street, and continuing west on East Harmony Road or getting onto I-25. The opposite scenario (eastbound) was also calculated. The analysis includes all trips for different times of the day for weekday travel.

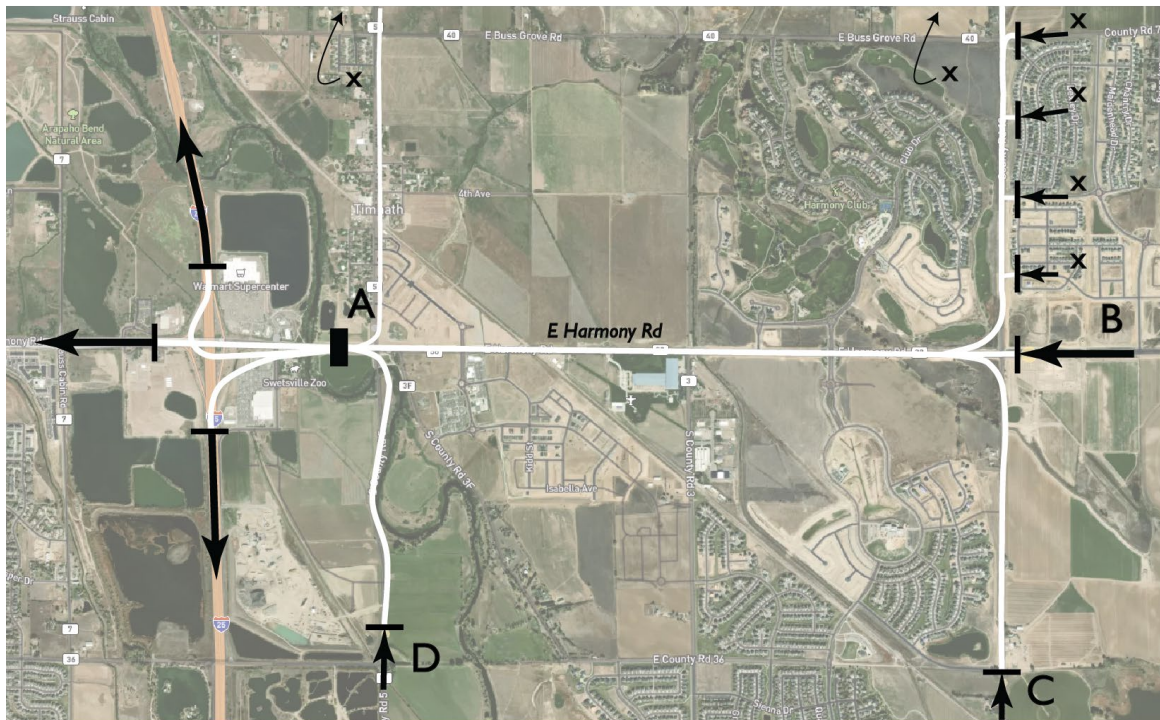
Methodology

The following gate locations (**Figure C** and **Figure D**) were determined as the most useful for understanding pass-through traffic (not all gates are shown on the figures). StreetLight's Origin-Destination (OD) through Middle filter analysis type was used for this analysis, allowing a better understanding of OD data by filtering trips to only those that use East Harmony Road. It is important to understand that StreetLight functions as a sampling tool, and sometimes when using this detailed analysis tool, not all trips are captured. Nonetheless, the share of trips from the sampling capabilities is considered an accurate estimation of trips.

The gates used include:

- ▶ **A:** All trips passing through East Harmony Road just east of Weitzel Street and exiting/entering the town boundary either by coming/going south or north on I-25, or by continuing on East Harmony Road
- ▶ **B:** All trips entering or exiting East Harmony Road East of Colorado Boulevard
- ▶ **C:** All trips entering or exiting Colorado Boulevard (South of Timnath)
- ▶ **D:** All trips entering or exiting S County Road 5 (South of Timnath)
- ▶ **X (all other gates):** All other trip gates entering or exiting Timnath, excluding Gates A, B, C and D

Figure C. Westbound Trips Passing Through E Harmony Road West of Main Street



Note: "X" includes all other trips entering the area.

Figure D. Eastbound Trips Passing Through E Harmony Road West of Main Street



Note: "X" includes all other trips exiting the area.

Results

Overall, the data shows that almost half of all trips (50.8 percent westbound and 46.1 percent eastbound) using East Harmony Road are pass-through traffic, meaning half of the trips using East Harmony Road start and finish outside town boundaries (fully external). These values vary throughout the day, from 46.1 percent to 56 percent. As shown in **Table D**, most pass-through traffic uses East Harmony Road east of Colorado Boulevard (34 to 44 percent), compared to County Road 5 (2.4 to 4.1 percent) and Colorado Boulevard south of Harmony Road (1.2 to 2.1 percent). All other roads labeled as "X" include gates surrounding Timnath and receive 5.5 to 8.3 percent of the pass-through traffic using Harmony Road.

Table D. All Weekday Trips Using E Harmony Road by Direction (Westbound and Eastbound)

Westbound Trips Passing Through E Harmony Road				Eastbound Trips Passing Through E Harmony Road			
Origin	Daily	AM	PM	Destination	Daily	AM	PM
Internal	49.2%	44.0%	52.2%	Internal	53.9%	50.4%	51.1%
External	50.8%	56.0%	47.8%	External	46.1%	49.6%	48.9%
Gate B	38.9%	44.0%	36.4%	Gate B	34.0%	39.4%	35.8%

Gate C	1.3%	1.2%	1.4%	Gate C	1.7%	1.3%	2.1%
Gate D	3.7%	2.4%	4.1%	Gate D	3.4%	3.4%	3.6%
Gates X	6.9%	8.3%	5.8%	Gates X	7.0%	5.5%	7.3%

Appendix B. Land Use Forecasts


Appendix B. Land Use Forecasts


Household and Employment Forecasts by Transportation Analysis Zone

TAZ	Households			Employment		
	2015	2045 NFRMPO	2045 Timnath TP	2015	2045 NFRMPO	2045 Timnath TP
107	67	77	77	18	17	17
108	12	17	17	56	50	50
139	28	34	34	0	0	0
140	48	81	81	0	157	157
141	44	128	128	29	304	304
171	33	236	54	42	199	199
174	32	751	751	21	200	200
175	14	501	501	9	122	122
199	61	268	425	94	306	306
200	30	336	336	13	12	12
201	19	1004	1004	0	0	0
226	17	708	300	2	3	3
227	6	449	449	0	29	29
255	29	1077	250	148	418	418
256	39	293	293	53	201	201
257	24	400	175	28	249	249
258	23	1511	400	96	335	335
259	52	602	602	68	396	396
300	9	11	600	17	500	500
301	1	0	0	2	500	500
302	0	200	0	0	299	299
303	39	334	334	18	40	40
304	6	456	750	72	238	238
306	21	655	655	122	330	330
331	5	100	100	0	0	0
332	352	1043	1043	97	169	169
2109	1	200	200	0	0	0
2110	57	477	1075	0	0	0
2111	37	198	270	2	15	15
2112	11	12	12	1	2	2
2113	18	22	22	1	2	2
2114	16	22	22	11	10	10


TAZ	Households			Employment		
	2015	2045 NFRMPO	2045 Timnath TP	2015	2045 NFRMPO	2045 Timnath TP
2115	229	555	460	6	13	13
2116	1	3	3	0	17	250
2117	1	2	2	3	36	250
2118	4	4	4	0	0	0
2119	20	24	24	53	50	50
2120	53	56	56	24	23	23
2122	5	5	5	1	1	1
2123	3	3	3	0	0	0
2124	2	11	11	0	0	0
2125	13	20	20	6	5	5
2369	2	10	10	12	25	25
2460	54	632	632	17	317	317
2461	13	600	700	148	421	421
2462	12	862	600	15	74	74
2487	10	18	18	0	177	177
2488	9	581	581	0	269	269
2489	13	329	329	0	150	150
TOTAL	1,595	15,918	14,418	1,305	6,681	7,128
	= TAZ Household or Employment forecast adjusted for Timnath TP to better reflect Timnath's Comprehensive Plan and anticipated development by 2045					


Appendix C. Cost Estimates

Timnath Transportation Plan					 Timnath TRANSPORTATION PLAN	
Estimate of Conceptual Costs						
Urban Major Collector (1.00 Mile)					Date Prepared:	December 18, 2023
Item			Unit Cost	Quantity	Extended Cost	Notes
1	Earthwork	CY	\$35.00	19,556	\$684,444	
2	Aggregate Base Course (Class 6)	TON	\$50.00	14,747	\$737,352	12-inch depth
3	Hot Mix Asphalt (Grade S)(100)(PG 64-22)	TON	\$105.00	10,842	\$1,138,368	8-inch depth
4	Curb and Gutter	LF	\$45.00	10,560	\$475,200	C&G on both sides
5	Concrete Sidewalk	SY	\$100.00	7,040	\$704,000	6 foot (min) walk on each side
6	Landscaping	SF	\$2.00	63,360	\$126,720	6' zone btwn bike lane and walk
Total Major Items					\$3,867,000	
					% of Major Item Cost	
Total Major Items					\$3,867,000	A
Drainage / Utilities		% of A		8.0%	\$310,000	B-1
Environmental		% of A		5.0%	\$194,000	B-2
Miscellaneous		% of A		1.5%	\$59,000	B-3
Mobilization		% of A		9.3%	\$360,000	B-4
Removals / Resets		% of A		3.7%	\$144,000	B-5
Roadway		% of A		0.4%	\$16,000	B-6
Signing and Striping		% of A		2.1%	\$82,000	B-7
Traffic / Lighting / ITS		% of A		3.0%	\$117,000	B-8
Traffic Control / Detour		% of A		9.6%	\$372,000	B-9
Structural - Minor Structures / Walls		% of A		1.0%	\$39,000	B-10
Bid Force Accounts		% of A		1.4%	\$55,000	B-11
Total of Bid Construction Items					\$5,615,000	B
Force Account - Misc.		% of B		2.6%	\$146,000	C-1
Minor Contract Revisions		% of B		4.0%	\$225,000	C-2
Total of Bid Construction Items & Force Account Items					\$5,986,000	C
Design Engineering		% of C		8.0%	\$479,000	D-1
Construction Engineering		% of C		17.0%	\$1,018,000	D-2
Total Design & Construction Cost					\$7,483,000	D
Utilities		% of D		1.0%	\$75,000	E-1
Total Project, Design & Construction Cost					\$7,558,000	E
Contingency (Engineering & Utilities Only)		% of D1, D2, E1		2.0%	\$32,000	F
Total Project Cost Estimate					\$7,600,000	G

<div>Timnath Transportation Plan</div> <div>Estimate of Conceptual Costs</div> <div>2 Lane Urban Arterial</div> <div>(1.00 Mile)</div>					<div><div></div><div>Timnath TRANSPORTATION PLAN</div></div>	
					Date Prepared:	December 18, 2023
Item			Unit Cost	Quantity	Extended Cost	Notes
1	Earthwork	CY	\$35.00	23,467	\$821,333	
2	Aggregate Base Course (Class 6)	TON	\$50.00	18,258	\$912,912	12-inch depth
3	Hot Mix Asphalt (Grade S)(100)(PG 64-22)	TON	\$105.00	13,423	\$1,409,408	8-inch depth
4	Curb and Gutter	LF	\$45.00	10,560	\$475,200	C&G on both sides
5	Concrete Sidewalk	SY	\$100.00	7,040	\$704,000	6 foot (min) walk on each side
6	Landscaping	SF	\$2.00	105,600	\$211,200	10' zone btwn bike lane and walk on both sides
Total Major Items					\$4,535,000	
					% of Major Item Cost	
Total Major Items					\$4,535,000	A
Drainage / Utilities		% of A		8.0%	\$363,000	B-1
Environmental		% of A		5.0%	\$227,000	B-2
Miscellaneous		% of A		1.5%	\$69,000	B-3
Mobilization		% of A		9.3%	\$422,000	B-4
Removals / Resets		% of A		3.7%	\$168,000	B-5
Roadway		% of A		0.4%	\$19,000	B-6
Signing and Striping		% of A		2.1%	\$96,000	B-7
Traffic / Lighting / ITS		% of A		3.0%	\$137,000	B-8
Traffic Control / Detour		% of A		9.6%	\$436,000	B-9
Structural - Minor Structures / Walls		% of A		1.0%	\$46,000	B-10
Bid Force Accounts		% of A		1.4%	\$64,000	B-11
Total of Bid Construction Items					\$6,582,000	B
Force Account - Misc.		% of B		2.6%	\$172,000	C-1
Minor Contract Revisions		% of B		4.0%	\$264,000	C-2
Total of Bid Construction Items & Force Account Items					\$7,018,000	C
Design Engineering		% of C		8.0%	\$562,000	D-1
Construction Engineering		% of C		17.0%	\$1,194,000	D-2
Total Design & Construction Cost					\$8,774,000	D
Utilities		% of D		1.0%	\$88,000	E-1
Total Project, Design & Construction Cost					\$8,862,000	E
Contingency (Engineering & Utilities Only)		% of D1, D2, E1		2.0%	\$37,000	F
Total Project Cost Estimate					\$8,900,000	G

<div>Timnath Transportation Plan</div> <div>Estimate of Conceptual Costs</div> <div>2 Lane Rural Arterial (1.00 Mile)</div>				<div><div><div></div></div><div>Timnath TRANSPORTATION PLAN</div></div> <div>Date Prepared: December 18, 2023</div>		
Item		Unit Cost	Quantity	Extended Cost	Notes	
1	Earthwork	CY	\$35.0024,249	\$848,711		
2	Aggregate Base Course (Class 6)	TON	\$50.0018,960	\$948,024	12-inch depth	
3	Hot Mix Asphalt (Grade S)(100)(PG 64-22)	TON	\$105.0013,939	\$1,463,616	8-inch depth	
4	Curb and Gutter	LF	\$45.0010,560	\$475,200	C&G on both sides	
5	Concrete Sidewalk	SY	\$100.007,040	\$704,000	6 foot (min) walk on each side	
				% of Major Item Cost		
Total Major Items					\$4,440,000	A
Drainage / Utilities		% of A		8.0%	\$356,000	B-1
Environmental		% of A		5.0%	\$222,000	B-2
Miscellaneous		% of A		1.5%	\$67,000	B-3
Mobilization		% of A		9.3%	\$413,000	B-4
Removals / Resets		% of A		3.7%	\$165,000	B-5
Roadway		% of A		0.4%	\$18,000	B-6
Signing and Striping		% of A		2.1%	\$94,000	B-7
Traffic / Lighting / ITS		% of A		3.0%	\$134,000	B-8
Traffic Control / Detour		% of A		9.6%	\$427,000	B-9
Structural - Minor Structures / Walls		% of A		1.0%	\$45,000	B-10
Bid Force Accounts		% of A		1.4%	\$63,000	B-11
Total of Bid Construction Items					\$6,444,000	B
Force Account - Misc.		% of B		2.6%	\$168,000	C-1
Minor Contract Revisions		% of B		4.0%	\$258,000	C-2
Total of Bid Construction Items & Force Account Items					\$6,870,000	C
Design Engineering		% of C		8.0%	\$550,000	D-1
Construction Engineering		% of C		17.0%	\$1,168,000	D-2
Total Design & Construction Cost					\$8,588,000	D
Utilities		% of D		1.0%	\$86,000	E-1
Total Project, Design & Construction Cost					\$8,674,000	E
Contingency (Engineering & Utilities Only)		% of D1, D2, E1		2.0%	\$37,000	F
Total Project Cost Estimate					\$8,700,000	G

<div>Timnath Transportation Plan</div> <div>Estimate of Conceptual Costs</div> <div>4 Lane Rural Arterial (1.00 Mile)</div>				<div><div>Timnath TRANSPORTATION PLAN</div></div> <div>Date Prepared: December 18, 2023</div>		
Item		Unit Cost	Quantity	Extended Cost	Notes	
1	Earthwork	CY	\$35.00	28,160	\$985,600	
2	Aggregate Base Course (Class 6)	TON	\$50.00	22,472	\$1,123,584	12-inch depth
3	Hot Mix Asphalt (Grade S)(100)(PG 64-22)	TON	\$105.00	16,521	\$1,734,656	8-inch depth
4	Curb and Gutter	LF	\$45.00	10,560	\$475,200	C&G on both sides
5	Concrete Sidewalk	SY	\$100.00	7,040	\$704,000	6 foot (min) walk on each side
				% of Major Item Cost		
Total Major Items					\$5,024,000	A
Drainage / Utilities		% of A		8.0%	\$402,000	B-1
Environmental		% of A		5.0%	\$252,000	B-2
Miscellaneous		% of A		1.5%	\$76,000	B-3
Mobilization		% of A		9.3%	\$468,000	B-4
Removals / Resets		% of A		3.7%	\$186,000	B-5
Roadway		% of A		0.4%	\$21,000	B-6
Signing and Striping		% of A		2.1%	\$106,000	B-7
Traffic / Lighting / ITS		% of A		3.0%	\$151,000	B-8
Traffic Control / Detour		% of A		9.6%	\$483,000	B-9
Structural - Minor Structures / Walls		% of A		1.0%	\$51,000	B-10
Bid Force Accounts		% of A		1.4%	\$71,000	B-11
Total of Bid Construction Items					\$7,291,000	B
Force Account - Misc.		% of B		2.6%	\$190,000	C-1
Minor Contract Revisions		% of B		4.0%	\$292,000	C-2
Total of Bid Construction Items & Force Account Items					\$7,773,000	C
Design Engineering		% of C		8.0%	\$622,000	D-1
Construction Engineering		% of C		17.0%	\$1,322,000	D-2
Total Design & Construction Cost					\$9,717,000	D
Utilities		% of D		1.0%	\$98,000	E-1
Total Project, Design & Construction Cost					\$9,815,000	E
Contingency (Engineering & Utilities Only)		% of D1, D2, E1		2.0%	\$41,000	F
Total Project Cost Estimate					\$9,900,000	G

Timnath Transportation Plan					 Timnath TRANSPORTATION PLAN	
Estimate of Conceptual Costs						
4 Lane Urban Arterial (1.00 Mile)					Date Prepared:	December 18, 2023
Item			Unit Cost	Quantity	Extended Cost	Notes
1	Earthwork	CY	\$35.00	26,596	\$930,844	
2	Aggregate Base Course (Class 6)	TON	\$50.00	21,067	\$1,053,360	12-inch depth
3	Hot Mix Asphalt (Grade S)(100)(PG 64-22)	TON	\$105.00	15,488	\$1,626,240	8-inch depth
4	Curb and Gutter	LF	\$45.00	21,120	\$950,400	C&G on both sides, plus median
5	Concrete Sidewalk	SY	\$100.00	7,040	\$704,000	6 foot (min) walk on each side
6	Landscaping	SF	\$2.00	105,600	\$211,200	10' zone btwn bike lane and walk
Total Major Items					\$5,477,000	
					% of Major Item Cost	
Total Major Items					\$5,477,000	A
Drainage / Utilities		% of A		8.0%	\$439,000	B-1
Environmental		% of A		5.0%	\$274,000	B-2
Miscellaneous		% of A		1.5%	\$83,000	B-3
Mobilization		% of A		9.3%	\$510,000	B-4
Removals / Resets		% of A		3.7%	\$203,000	B-5
Roadway		% of A		0.4%	\$22,000	B-6
Signing and Striping		% of A		2.1%	\$116,000	B-7
Traffic / Lighting / ITS		% of A		3.0%	\$165,000	B-8
Traffic Control / Detour		% of A		9.6%	\$526,000	B-9
Structural - Minor Structures / Walls		% of A		1.0%	\$55,000	B-10
Bid Force Accounts		% of A		1.4%	\$77,000	B-11
Total of Bid Construction Items					\$7,947,000	B
Force Account - Misc.		% of B		2.6%	\$207,000	C-1
Minor Contract Revisions		% of B		4.0%	\$318,000	C-2
Total of Bid Construction Items & Force Account Items					\$8,472,000	C
Design Engineering		% of C		8.0%	\$678,000	D-1
Construction Engineering		% of C		17.0%	\$1,441,000	D-2
Total Design & Construction Cost					\$10,591,000	D
Utilities		% of D		1.0%	\$106,000	E-1
Total Project, Design & Construction Cost					\$10,697,000	E
Contingency (Engineering & Utilities Only)		% of D1, D2, E1		2.0%	\$45,000	F
Total Project Cost Estimate					\$10,700,000	G

Estimate of Conceptual Costs

6 Lane Arterial from I-25 to County Line Road

(2.50 Miles)



Timnath TRANSPORTATION PLAN

Date Prepared: | **January 19, 2023**

Item			Unit Cost	Quantity	Extended Cost	Notes	
1	Earthwork	CY	\$35.00	27,022	\$945,778		
2	Removal of Curb and Gutter	LF	\$15.00	10,560	\$158,400	C&G from I-25 to RR.Approx 1 Mile.	
3	Aggregate Base Course (Class 6)	TON	\$50.00	18,194	\$909,720	12-inch depth	
4	Hot Mix Asphalt (Grade S)(100)(PG 64-22)	TON	\$105.00	13,376	\$1,404,480	8-inch depth	
5	Curb and Gutter	LF	\$45.00	26,400	\$1,188,000	C&G on outsides for entire length	
6	Landscaping	SF	\$2.00	228,000	\$456,000	10' parkway (min) of each side	
Total Major Items					\$5,063,000		
					% of Major Item Cost		
Total Major Items						\$5,063,000	A
Drainage / Utilities		% of A			8.0%	\$406,000	B-1
Environmental		% of A			5.0%	\$254,000	B-2
Miscellaneous		% of A			1.5%	\$76,000	B-3
Mobilization		% of A			9.3%	\$471,000	B-4
Removals / Resets		% of A			3.7%	\$188,000	B-5
Roadway		% of A			0.4%	\$21,000	B-6
Signing and Striping		% of A			2.1%	\$107,000	B-7
Traffic / Lighting / ITS		% of A			3.0%	\$152,000	B-8
Traffic Control / Detour		% of A			9.6%	\$487,000	B-9
Structural - Minor Structures / Walls		% of A			1.0%	\$51,000	B-10
Bid Force Accounts		% of A			1.4%	\$71,000	B-11
Total of Bid Construction Items						\$7,347,000	B
Force Account - Misc.		% of B			2.6%	\$192,000	C-1
Minor Contract Revisions		% of B			4.0%	\$294,000	C-2
Total of Bid Construction Items & Force Account Items						\$7,833,000	C
Design Engineering		% of C			8.0%	\$627,000	D-1
Construction Engineering		% of C			17.0%	\$1,332,000	D-2
Total Design & Construction Cost						\$9,792,000	D
Utilities		% of D			1.0%	\$98,000	E-1
Total Project, Design & Construction Cost						\$9,890,000	E
Contingency (Engineering & Utilities Only)		% of D1, D2, E1			2.0%	\$42,000	F
Total Project Cost Estimate						\$9,900,000	G



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