Elyria **Active Transportation Plan**

JUNE 2021

OHIO DEPARTMENT OF TRANSPORTATION

Lorain County Public Health
For the Health of Us All

ELYRIA, OHIO
FOUNDED IN 1817
INCORPORATED IN 1833
BY HEMAN ELY

Contents

Information contained in this document is for planning purposes and should not be used for final design of any project. All results, recommendations, concept drawings, cost opinions, and commentary contained herein are based on limited data and information and on existing conditions that are subject to change. Further analysis and engineering design are necessary prior to implementing any of the recommendations contained herein.

Geographic and mapping information presented in this document is for informational purposes only, and is not suitable for legal, engineering, or surveying purposes. Mapping products presented herein are based on information collected at the time of preparation. Toole Design Group, LLC makes no warranties, expressed or implied, concerning the accuracy, completeness, or suitability of the underlying source data used in this analysis, or recommendations and conclusions derived therefrom.

Acknowledgments

City of Elyria

Frank Whitfield, *Mayor*

Ren Flanders, *Assistant Safety Service Director/ Chief of Staff*

Dawn Calvert, *Assistant Safety Service Director*

Kathy McKillips, *Engineer*

Lorain County Public Health

Dave Covell, *MPH, RS, Health Commissioner*

Joyce Davis, *BS, MCHES, Retired Director of Health Promotion and Chronic Disease Prevention*

Erin R Murphy, *MPH, Director of Health Promotion and Chronic Disease Prevention*

Sara Tillie, *MPH, MUPD, Program Manager*

Kat Bray, *MS, CHES, Health Education Specialist, CHC Coordinator*

ODOT

Jeremy Adato, *Transportation Engineer*

Steering Committee

Eric Francis, *Safety Supervisor, Elyria City Schools*

Kate Moening, *Safety Planner, NOACA*

Nicolle Bellmore-Pierse, *Director of Community Services, Horizon Education Centers*

Sharon Pearson, *Lorain County Mobility Manager, United Way*

Bobby Taylor, *Youth Services Coordinator, LCCAA and OUR FAMILY*

Danielle Coward, *Youth Services Coordinator, Elyria Public Library*

Lisa Augustine, *Professor & Program Coordinator of HPER, Lorain County Community College*

Rich Beran, *Housing Developer, BDC Rentals*

Andrea Repko, *Community Member, Ride Elyria*

Parris Smith, *President and CEO, Lorain County Urban League*

Steve Gettis, *Ambassador Brother, Ambassador Brothers*

Kelly Kraus Mencke, *Community Member*

Marty Martinez, *Community Member*

Jim Ziemnik, *Outreach Coordinator, Lorain County Metro Parks*

Kiara Williams, *Outreach Coordinator, Lorain County Metro Parks*

Consultant Team - Toole Design

David Shipps, *AICP, Columbus Office Director*

Katie O'Lone, *AICP, Project Manger*

Arthur Cashwell IV, *Planner*

Tonya Gore, *Planner*

Bonnie Moser, *Landscape Designer*

Theja Putta, *PHD, Analyst*

Michael Blau, *AICP, Senior Planner*

Galen Omerso, *GIS Manager, Toole Design*

THIS PAGE INTENTIONALLY LEFT BLANK

1

Executive Summary

Executive Summary

Lorain County Public Health (LCPH) and the City of Elyria collaborated on the development of the Elyria Active Transportation Plan (ATP) with support from Toole Design. The Ohio Department of Transportation (ODOT) and the Ohio Department of Health (ODH) funded the planning process. This chapter describes the planning process, defines active transportation, provides an overview of proposed projects, and highlights priority projects.

What is Active Transportation?

"Active Transportation" is an umbrella term for all the ways people can get around without using a motorized vehicle – walking or biking, using mobility assistance devices (such as wheelchairs and scooters), skating or skateboarding, and more. Physically active forms of transportation play a crucial role in improving community health. The term active transportation reinforces that bicycling and walking are valid forms of transportation, not just forms of recreation. Active transportation planning involves a comprehensive approach to the transportation system which recognizes the importance of active transportation in accessing public transit, and addresses associated infrastructure like bike racks and wheelchair ramps.

Why is Active Transportation Important?

Supporting walking and biking is one way that communities can help make the active choice the easy choice for their residents, by providing comfortable, activity-friendly routes to everyday destinations. Active transportation can provide many community benefits beyond personal mobility, such as improving public health by reducing chronic disease and obesity, economic development, greater quality of life, and enhanced environmental quality. It is important to invest in the infrastructure and programs that support walking and biking to obtain these benefits; developing an ATP is a first step towards that investment.

Figure 1. Project Timeline

Planning Process and Document Structure

The ATP was created under the leadership of a Steering Committee, described in Chapter 2, to ensure it represents a variety of interests and stakeholders. The process to develop the ATP began in June 2020 with an assessment of existing conditions and a review of other relevant plans and studies. Public input and a technical analysis provided a foundation for proposed projects and prioritization of those recommendations. The final chapter includes guidance for implementation (see Figure 1 for a project timeline). The document is organized into the following sections:

1. Executive Summary
2. Community Engagement
3. Existing Conditions
4. Proposed Projects and Programs
5. Priority Projects
6. Implementation
7. Appendices

Engagement Efforts

The steering committee and project team collected community input through several strategies including: steering committee meetings, community stakeholder interviews, online public meetings, and an online survey. Early engagement identified key barriers to walking and biking, which defined areas of focus for the planning process. These focus areas included Abbe Road, connections from downtown to the west side, south side connections, and near and around the Midway Mall and Lorain County Community College (LCCC). See Chapter 2 for a summary of all engagement efforts.

Existing Conditions

The project team completed an existing conditions analysis to understand the current transportation system and where improvements could be made for people walking and biking. There are high concentrations of bicycle and pedestrian crashes in downtown, Midway Mall area, south of downtown, and Abbe Road. In addition, the project team reviewed volume and speed data as well as ODOT's Demand and Needs Analyses, which identified areas with strong potential for biking and walking. High demand areas in Elyria include the Midway mall area, northeast of Abbe Road, Downtown, Cascade Park area, and southeast. Areas of high need include southwest Elyria and the Midway Mall area. Lastly, LCPH staff conducted a walk audit to identify barriers along key routes. See Chapter 3 for a summary of the existing conditions analysis.

Proposed Projects and Programs

The existing conditions analysis, steering committee meetings, and public input led to the final active transportation network. Infrastructure recommendations include adding:

- 8.3 miles of sidewalks,
- 12 miles of neighborhood greenways,
- 5.7 miles of separated bike lanes,
- 17.5 miles of shared use paths; and
- improvements to 19 intersections.

The plan also proposes establishing supportive programs such as educational campaigns, encouragement programs, policies, and school-related programs. See Chapter 4 for details on the proposed bicycle and pedestrian projects and supportive programs.

Priority Projects

A data-driven prioritization process that included input from the community and steering committee identified projects that should be implemented in the short term. Top projects included:

- Broad Street shared use path (Figure 2)
- Abbe Road sidewalks,
- Lake Avenue separated bike lanes,
- Cleveland Street shared use path,
- Washington Avenue neighborhood greenway,
- Eastern Heights and Garford Avenue neighborhood greenway (Figure 3),
- Leo Bullock Parkway separated bike lanes (mid-term) (Figure 4); and
- Burns Road and Naples Road intersection improvements (Figure 5).

For more information on the method used to prioritize projects and details on priority projects see Chapter 5.

Map 1. Proposed Bicycle and Pedestrian Infrastructure Projects

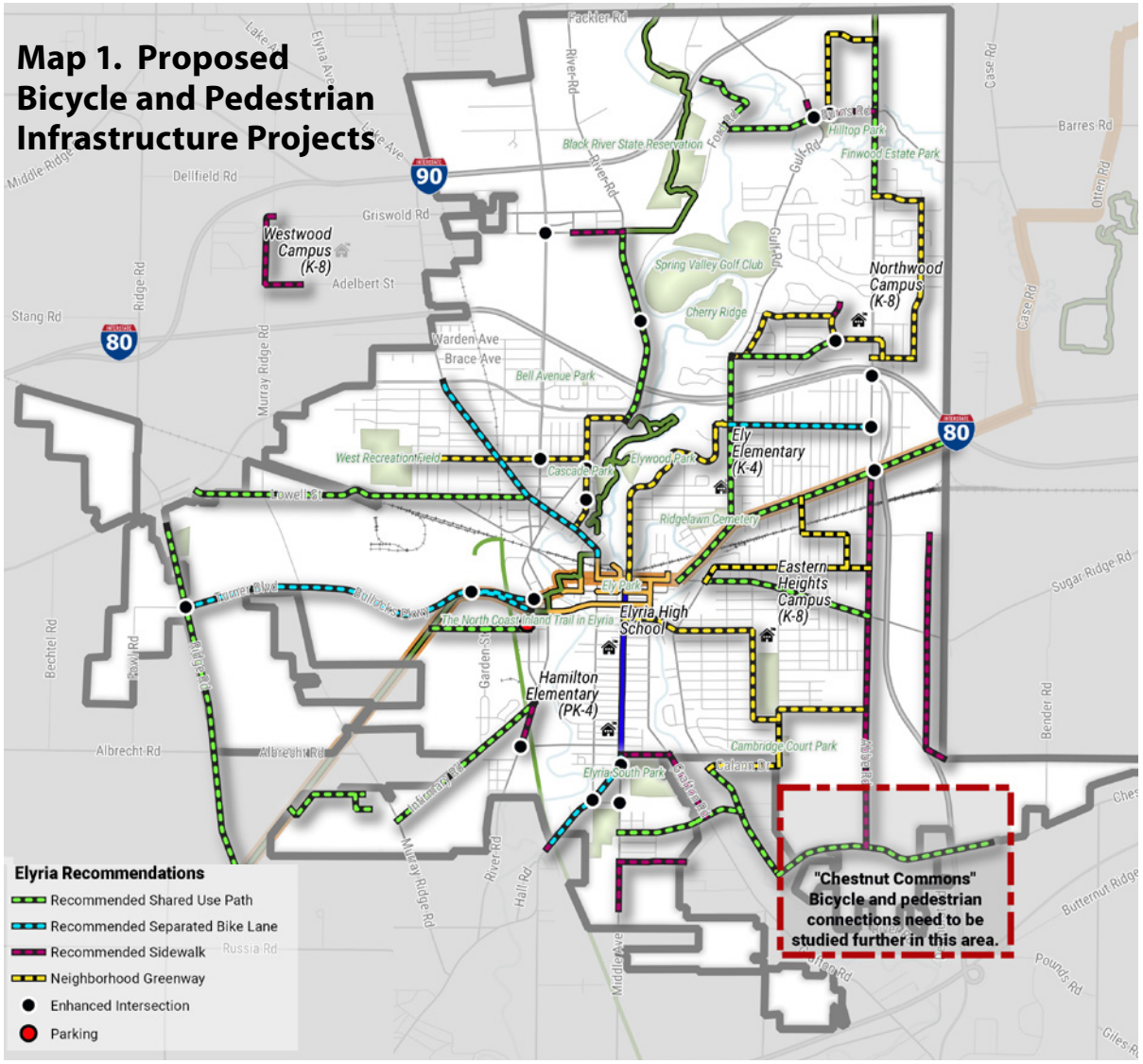


Figure 2. Visualization of Broad Street shared use path

This preliminary concept is for planning purposes only. Field verification, site condition assessments, engineering analysis, and design are necessary prior to implementing recommendations contained herein.

Figure 3. Visualization of Garford Avenue as a neighborhood greenway

This preliminary concept is for planning purposes only. Field verification, site condition assessments, engineering analysis, and design are necessary prior to implementing recommendations contained herein.

Figure 4. Visualization of Leo Bullock Parkway with separated bicycle lanes

This preliminary concept is for planning purposes only. Field verification, site condition assessments, engineering analysis, and design are necessary prior to implementing recommendations contained herein.

Figure 5. Visualization of Burns Road and Naples Road intersection improvements, including crosswalks, a sidewalk along Burns Road, and Rectangular Rapid Flashing Beacon (RRFB).

This preliminary concept is for planning purposes only. Field verification, site condition assessments, engineering analysis, and design are necessary prior to implementing recommendations contained herein.

THIS PAGE INTENTIONALLY LEFT BLANK

THIS PAGE INTENTIONALLY LEFT BLANK

2

Community Engagement

Community Engagement Summary

Community engagement was an essential tool in the plan development process. Involving the public builds trust in the Plan and improves the overall quality of the findings. The project team used several strategies to collect public input: steering committee meetings, community stakeholder interviews, online public meetings, and an online survey.

Figure 6. Community Engagement Timeline

Strategies

Steering Committee Meetings

The Steering Committee comprised of City staff, public health officials, school staff, and local stakeholders guided the development of the Elyria ATP. Steering Committee members are listed under Acknowledgments at the beginning of this document. The Steering Committee met monthly over the course of plan development.

Community Stakeholder Interviews

LCPH conducted ten interviews with stakeholders from the following organizations:

- Elyria Bicycle Education Center
- Parks & Recreation
- Lorain County Community College (LCCC)
- Elyria Public Library
- Horizon Education Center
- Lorain County Urban League
- Lorain County Community Action Agency
- Ride Elyria

Public Meetings

- **Meeting One** kicked off the planning process with the public including a mapping exercise to identify opportunities and challenges.
- **Meeting Two** focused on a review and discussion of the draft network recommendations.
- **Meeting Three** included a review of the revised network and project priorities discussion. Participants voted on which projects they wanted to see built first.

Online Survey

The online survey asked residents to identify high priority projects to be implemented in the short term. This survey covered the same information as public meeting three and responses were combined with votes from the public meeting. LCPH advertised the survey through social media, local media outlets, and emails to stakeholders. 94 people voted on priority projects either through the online survey or by attending public meeting three.

Principal Survey

The principals of nine schools were surveyed to help with future planning goals and strategies. While the majority of schools do not collect yearly student travel information for walking, bicycling, bus, or auto, they were able to identify travel patterns for the students attending their school. Most principals stated that 10-25 percent of their student population either walk or bike to school.

Many of the schools employ adult crossing guards, however safety at intersections and the students lacking a clear understanding of safety skills are still the greatest barriers for children walking and biking. Although there are no policies that limit or prohibit students from walking or biking to school, most schools do not have any activities or strategies currently being implemented to educate or encourage students to actively commute. For individual principal survey responses see Appendix A.

Key Takeaways

The first public meeting and community stakeholder interviews helped determine popular destinations, barriers to walking and biking in Elyria, and key streets that people are currently using to bike or walk.

Destinations

- Lorain County Community College
- Public Parks
- Libraries

Cascade Park

Bike rack at Lorain County Community College

Bike repair station and bike rack at public library

- Midway Mall
- Schools
- Grocery Stores

Top Barriers to Walking

- Concern about violence or crime
- Time of day/night when traveling long distances
- Distance
- Lack of sidewalks/pathways

Top Barriers to Biking

- Speed
- Concern about violence or crime
- Volume of traffic
- Lack of shared use paths/trails
- Time of day/night
- Safety at crossings
- Lack of bike infrastructure

Streets Currently Serving as Key Routes for Bicycling/Walking

- Abbe Road
- Middle Avenue
- Downtown Square
- Metroparks
- W-E River Road

The draft proposed network was presented in the second public meeting and in a steering committee meeting. Feedback from the public lead to the addition of several projects including:

- separated bike lanes on Leo Bullocks Parkway,
- connections near LCCC and Hilltop Park,
- neighborhood greenways on the east side of Elyria; and
- sidewalks on the south side to connect to Colonial Oaks.

The final public meeting and survey allowed residents to vote on which projects they would like to see implemented first. Top priority projects were identified in a data-driven prioritization process (see Chapter 5). Top identified projects included:

- Abbe Road sidewalks,
- Leo Bullock Parkway separated bike lanes,
- Washington Avenue neighborhood greenway,
- Eastern Heights and Garford Avenue neighborhood greenway,
- Abbe Road shared use path; and
- Abbe Road and Route 57 intersection improvements.

Engagement & COVID-19

As a response to the COVID-19 pandemic, the project team adapted and implemented remote public outreach methods, including online surveys and virtual public meetings. The methods aimed to facilitate an inclusive and diverse community engagement process, but not everyone has access to internet. Public meetings occurred at two different times on two different days through Zoom and streamed through Facebook Live.

Paper worksheets were distributed at community centers to provide more opportunities for input. Unfortunately, there were no responses from the paper worksheets. Online engagement during the pandemic proved more successful.

Cascade Park Crossing

THIS PAGE INTENTIONALLY LEFT BLANK

THIS PAGE INTENTIONALLY LEFT BLANK

3

Existing Conditions Analysis

Existing Conditions Analysis

This chapter examines several elements of Elyria's transportation system. It presents a demographic profile of the City, a plan and policy review summarizing existing active transportation and related efforts to date. An infrastructure analysis provides an overview of the transportation system, describing the roadway network, traffic volumes, crash data, and inventorying active transportation facilities. See Appendix B for the City of Elyria Existing Conditions Report.

Demographic Profile

Elyria, Ohio was founded in March 1817. It lies within the Greater Cleveland suburban area and is the county seat of Lorain County. According to the 2010 census, the city's population is 54,533 people, 22,400 households, and 14,093 families. The population density in 2010 was 2,651.1 inhabitants per square mile.

Majority of residents are white (72 percent), followed by 15 percent Black, 7 percent Hispanic, 4 percent two or more races and 1 percent Asian. Approximately one in five Elyrians live at or below the established poverty level.

Employment

The average income is $42,272 compared to the national average of $63,109 and unemployment rate is 7.7 percent, about 4 percent higher than the national average of 3.6 percent in 2019. The employment sector of Elyria is made up of five major industries: Maintenance & Repair (26.07 percent), Sales & Related Work (22.59 percent), Production (20.53 percent), Public Service (18.41 percent), and Management-related positions (5.20 percent).

Schools District

Elyria City School District serves the city. The district is home to approximately 6,053 students and consists of one high school, three junior high schools, nine elementary schools, and three specialized schools. Elyria High School is known for its identity as the first public high school west of the Allegheny Mountains.

It serves 21,971 households. 74.1 percent of households in the district have wireless internet access. Fifty-nine percent of students qualify for free lunch and six percent of students qualify for reduced lunch.

Public Health

Among the 88 counties in Ohio, Lorain County ranks the following in each of the respective categories: #38 in Health Outcomes, #33 in Length of Life, #47 in Quality of Life, #37 in Health Factors, #27 in Health Behaviors, #18 in Clinical Care, #47 in Social and Economic Factors, and #40 in Physical Environment.

Girls in Gear

Commute Data

In Elyria, the average commute time is 21.5 minutes. 9.8 percent of the population does not own a vehicle. Lorain County Transit System (LCT) runs four routes through the city and beyond. Eighty-four percent of Lorain County residents drove alone to work, while nine percent carpooled, two percent walked, two percent worked from home, two percent took another form of transportation, and one percent took public transportation. The average number of cars owned per household is two.

Plan, Policy, and Program Review

Below is a summary of city policies, school policies, and county or city plans that relate to this active transportation planning process.

City Policies

Sidewalks

Elyria Code of Ordinances 901.08-- Except as otherwise provided in Section 1119.04(c), there shall be sidewalks, of one course concrete, four feet in width, constructed on both sides of all new paved streets in the City.

Elyria City School Policies

Crossing Guards

The crossing guard program is now managed by Elyria City Schools who have contracted Whitt Guard Security Services. The crossing guards are all privately employed through this security service.

Transporting Students

The transportation policy for Elyria City Schools is to provide busing for students living greater than two miles from the school campus. Hazard busing is provided for students who would otherwise walk through an industrial district or cross railroad tracks or have a programmatic need.

School Wellness and Active Transportation Efforts

- Several Elyria City schools host Walk/Bike to School Day
- Yearly Safety Town program

School Travel Proposals from Previous Plans

The 2009 Elyria Safe Travel Plan suggested the following safe travel enhancements:

- Increased school zone signing and marking
- Increased school advanced warning assemblies located 150 to 700 feet in advance of school grounds, school crossings, or school speed limit assemblies.
- Increased use of bike racks
- Increased pedestrian flashing signs increased curb ramps on corners
- Improved pedestrian railroad crossings

Healthy Outcomes Zoning Code Audit

The review suggested that the zoning code be updated to support ATP through requirements for connectivity, site design, and site amenities. See Appendix C for the zoning code audit.

Current County/City Plans and Projects

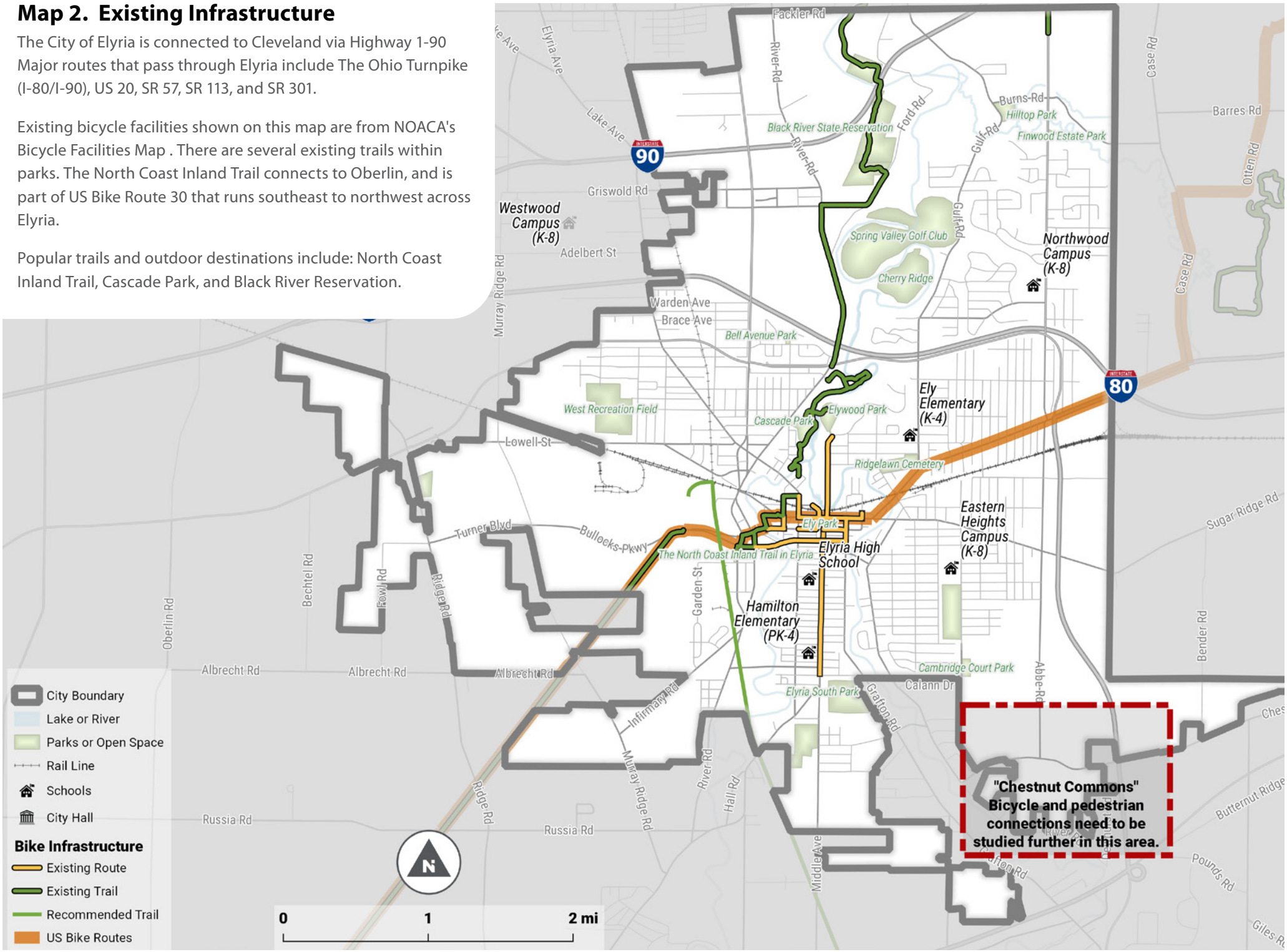
- Jumpstart Elyria Transportation and Business Redevelopment Plan (2015)
- NOACA - AIM Forward 2040 Long Range Transportation Plan (2017)
- NOACA - AIM Forward 2050 Long Range Transportation Plan (ongoing, 2021)
- NOACA Regional Bicycle Plan
- NOACA Complete and Green Streets Policy (2020)
- Lorain County Coordinated Transportation Plan (2019)

Map 2. Existing Infrastructure

The City of Elyria is connected to Cleveland via Highway 1-90 Major routes that pass through Elyria include The Ohio Turnpike (I-80/I-90), US 20, SR 57, SR 113, and SR 301.

Existing bicycle facilities shown on this map are from NOACA's Bicycle Facilities Map . There are several existing trails within parks. The North Coast Inland Trail connects to Oberlin, and is part of US Bike Route 30 that runs southeast to northwest across Elyria.

Popular trails and outdoor destinations include: North Coast Inland Trail, Cascade Park, and Black River Reservation.

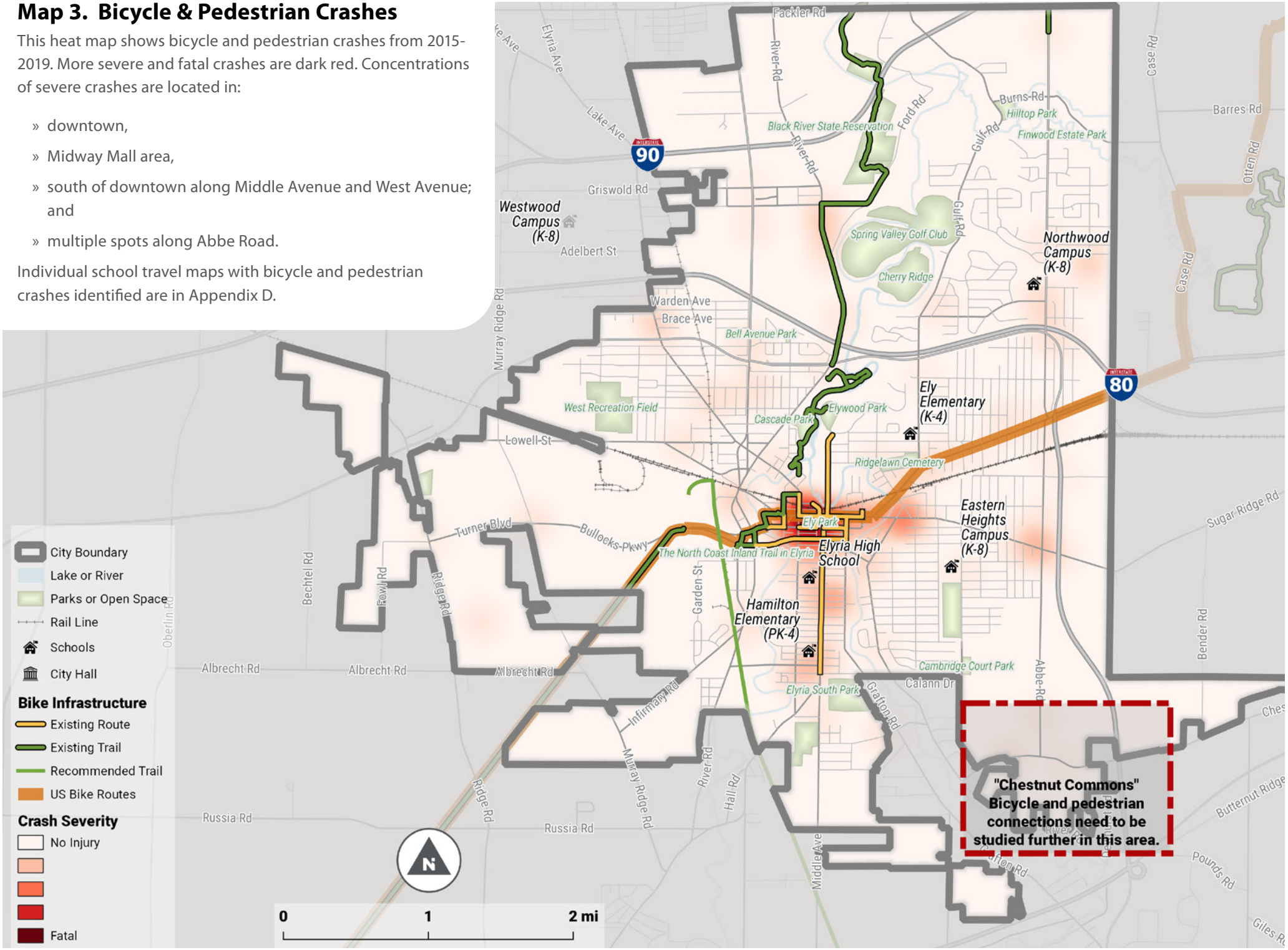


Map 3. Bicycle & Pedestrian Crashes

This heat map shows bicycle and pedestrian crashes from 2015-2019. More severe and fatal crashes are dark red. Concentrations of severe crashes are located in:

- downtown,
- Midway Mall area,
- south of downtown along Middle Avenue and West Avenue; and
- multiple spots along Abbe Road.

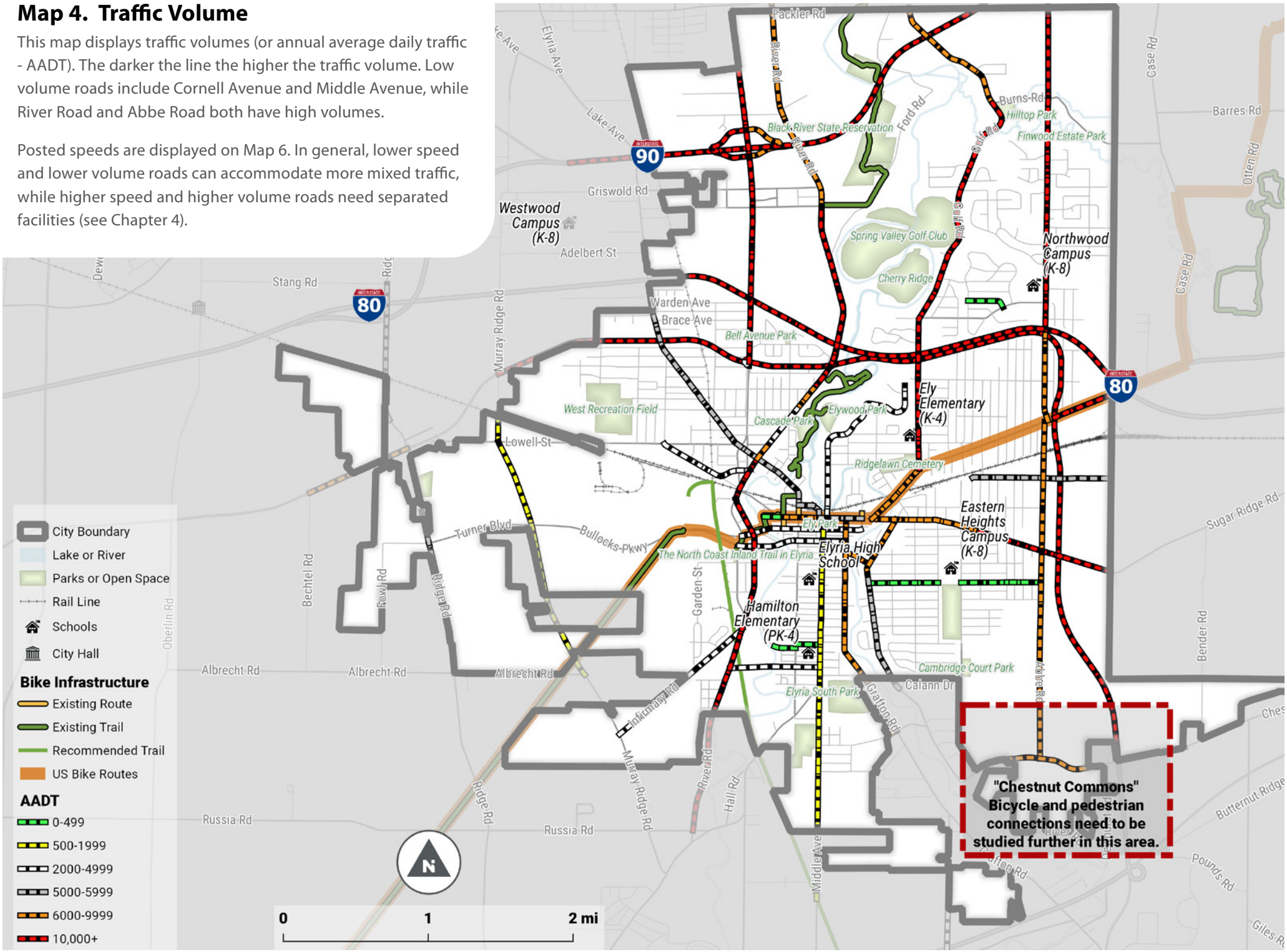
Individual school travel maps with bicycle and pedestrian crashes identified are in Appendix D.



Map 4. Traffic Volume

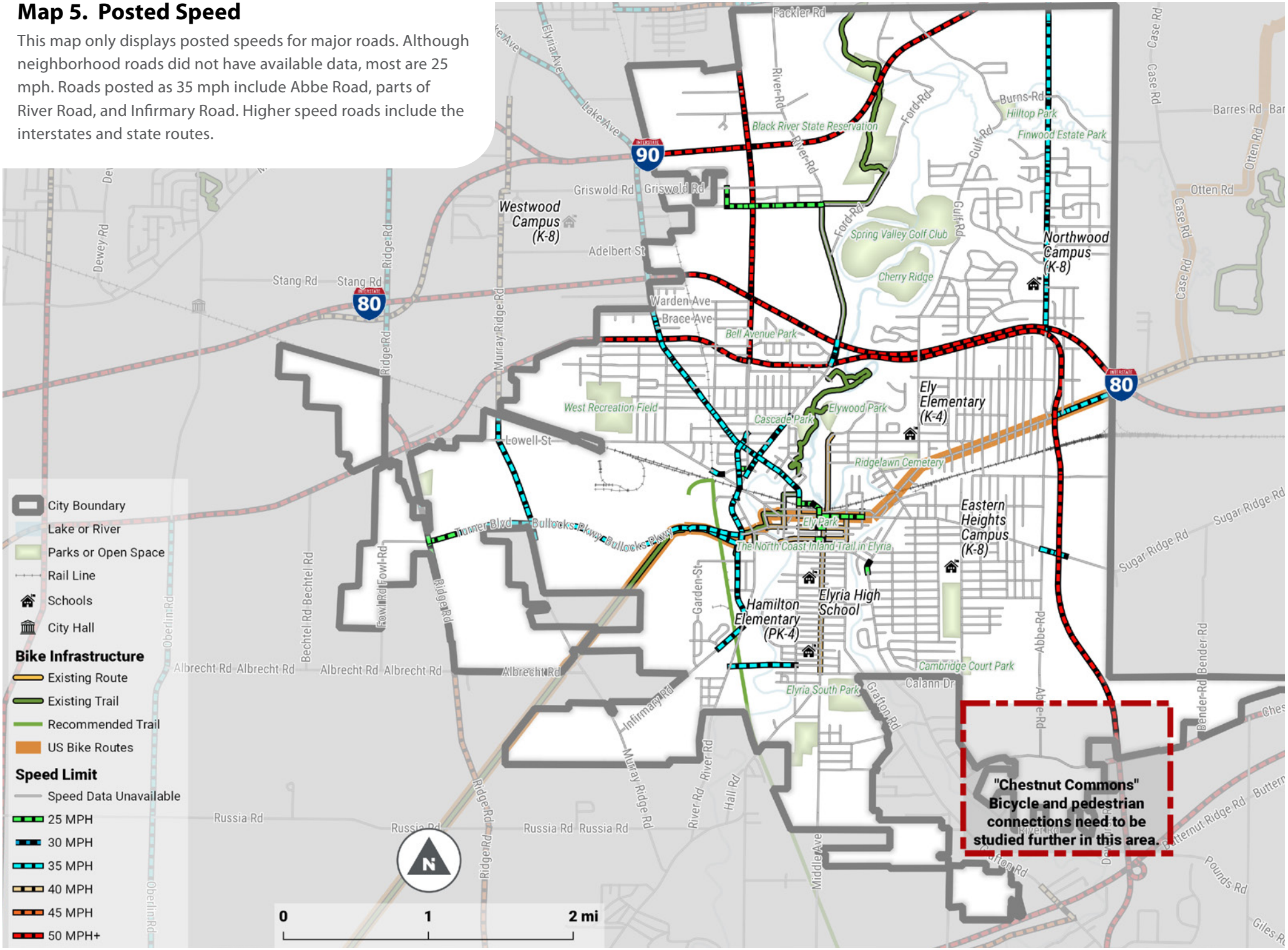
This map displays traffic volumes (or annual average daily traffic - AADT). The darker the line the higher the traffic volume. Low volume roads include Cornell Avenue and Middle Avenue, while River Road and Abbe Road both have high volumes.

Posted speeds are displayed on Map 6. In general, lower speed and lower volume roads can accommodate more mixed traffic, while higher speed and higher volume roads need separated facilities (see Chapter 4).



Map 5. Posted Speed

This map only displays posted speeds for major roads. Although neighborhood roads did not have available data, most are 25 mph. Roads posted as 35 mph include Abbe Road, parts of River Road, and Infirmary Road. Higher speed roads include the interstates and state routes.

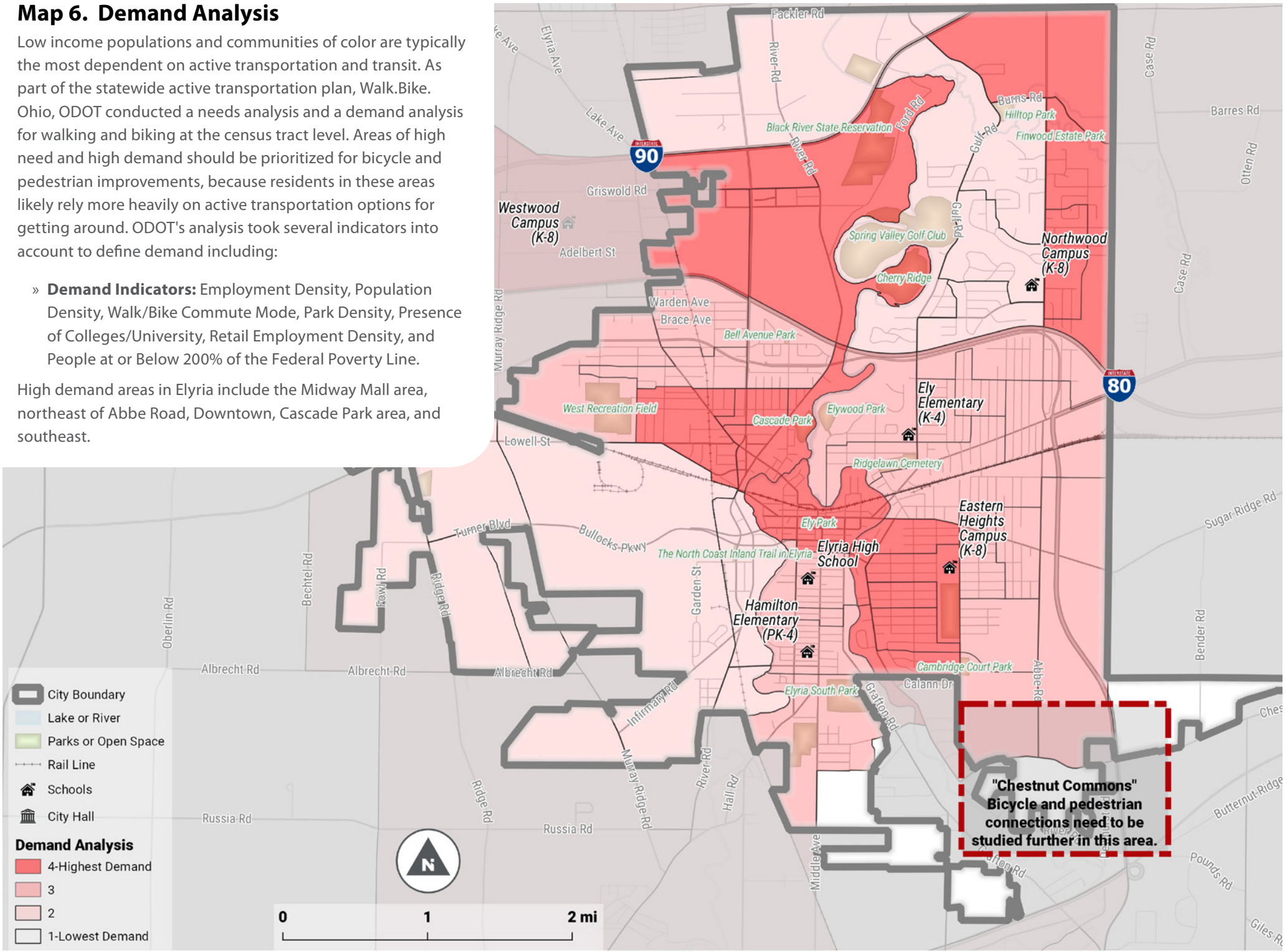


Map 6. Demand Analysis

Low income populations and communities of color are typically the most dependent on active transportation and transit. As part of the statewide active transportation plan, Walk.Bike. Ohio, ODOT conducted a needs analysis and a demand analysis for walking and biking at the census tract level. Areas of high need and high demand should be prioritized for bicycle and pedestrian improvements, because residents in these areas likely rely more heavily on active transportation options for getting around. ODOT's analysis took several indicators into account to define demand including:

» **Demand Indicators:** Employment Density, Population Density, Walk/Bike Commute Mode, Park Density, Presence of Colleges/University, Retail Employment Density, and People at or Below 200% of the Federal Poverty Line.

High demand areas in Elyria include the Midway Mall area, northeast of Abbe Road, Downtown, Cascade Park area, and southeast.

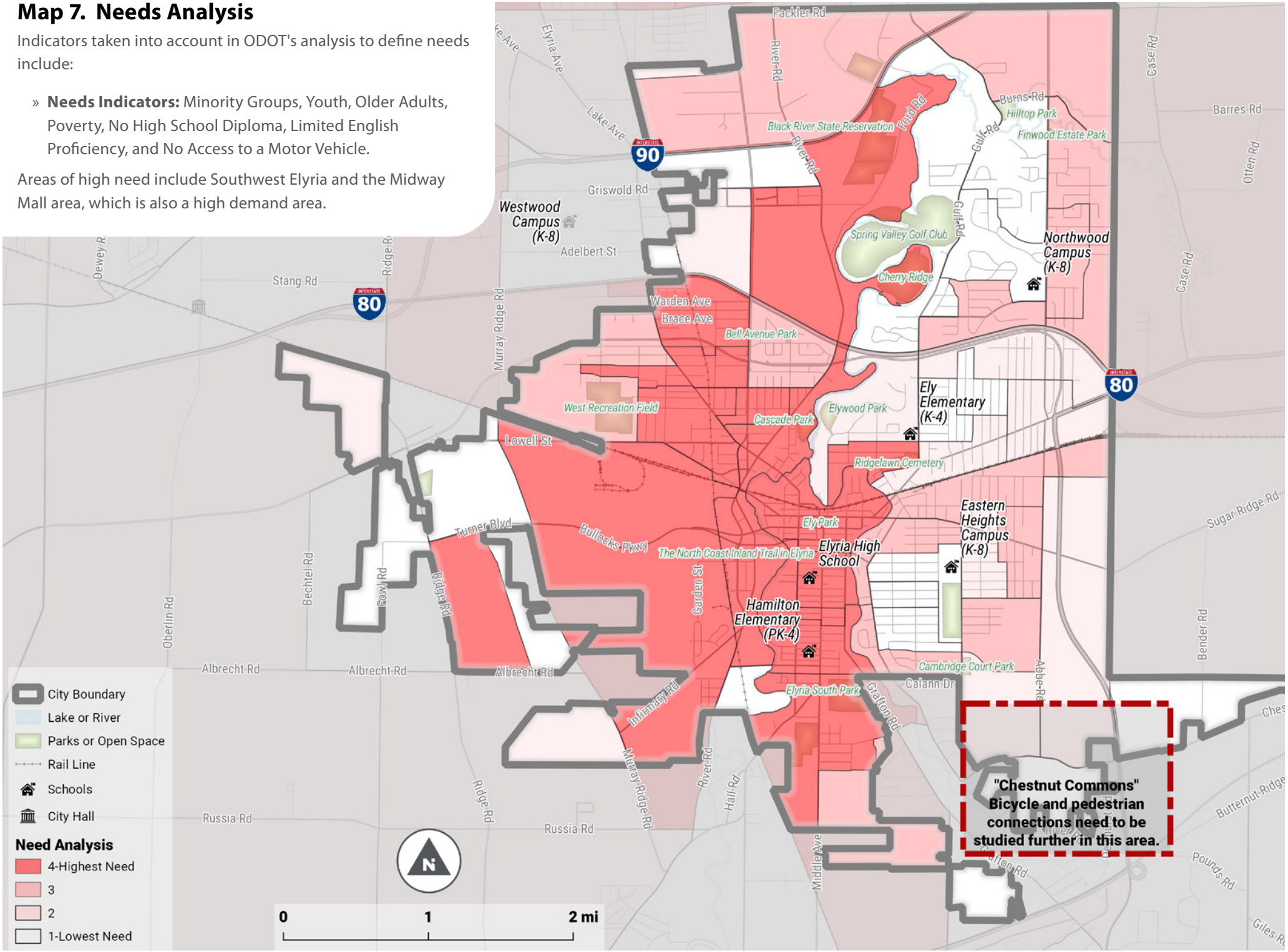


Map 7. Needs Analysis

Indicators taken into account in ODOT's analysis to define needs include:

» **Needs Indicators:** Minority Groups, Youth, Older Adults, Poverty, No High School Diploma, Limited English Proficiency, and No Access to a Motor Vehicle.

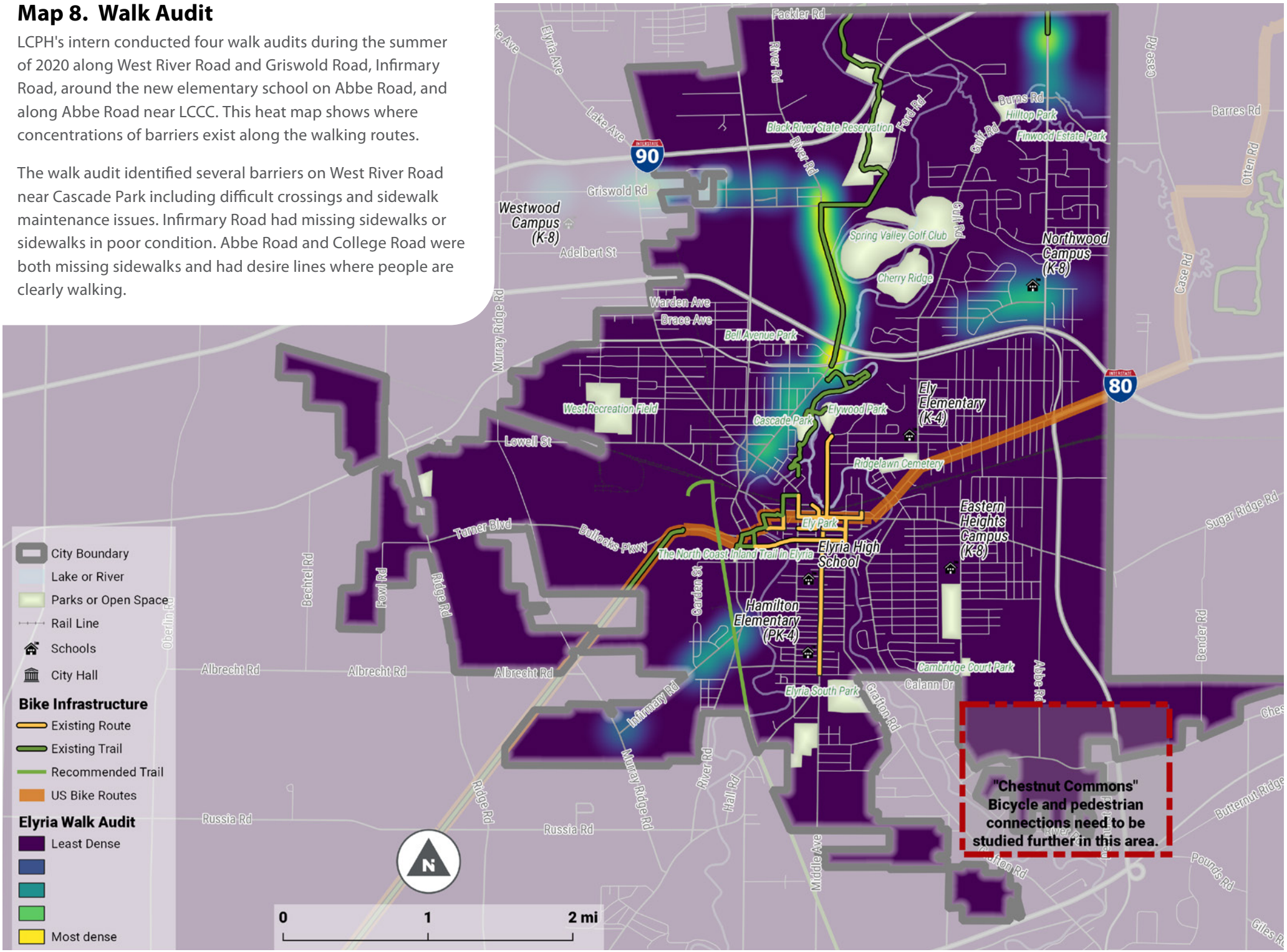
Areas of high need include Southwest Elyria and the Midway Mall area, which is also a high demand area.



Map 8. Walk Audit

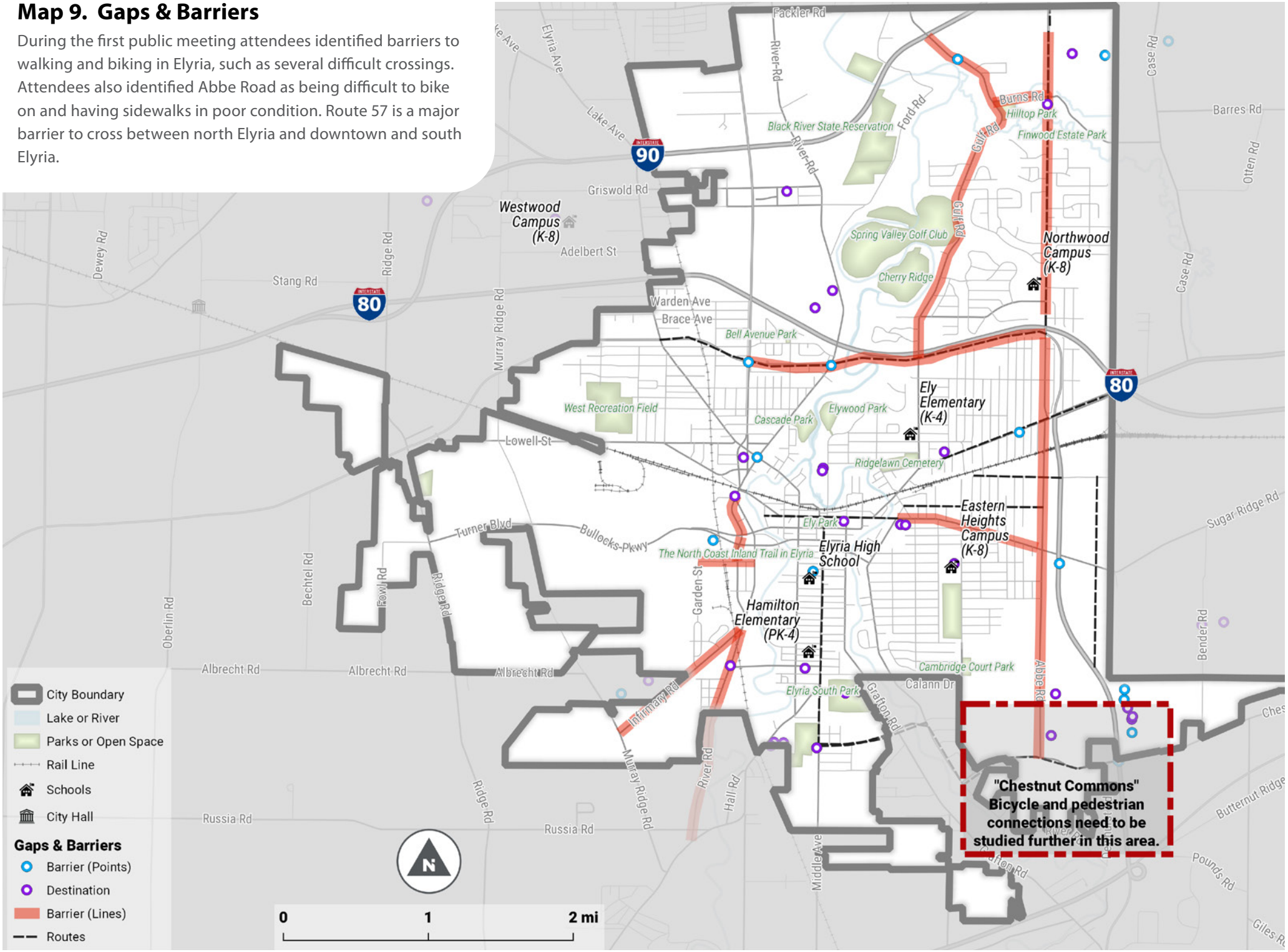
LCPH's intern conducted four walk audits during the summer of 2020 along West River Road and Griswold Road, Infirmary Road, around the new elementary school on Abbe Road, and along Abbe Road near LCCC. This heat map shows where concentrations of barriers exist along the walking routes.

The walk audit identified several barriers on West River Road near Cascade Park including difficult crossings and sidewalk maintenance issues. Infirmary Road had missing sidewalks or sidewalks in poor condition. Abbe Road and College Road were both missing sidewalks and had desire lines where people are clearly walking.



Map 9. Gaps & Barriers

During the first public meeting attendees identified barriers to walking and biking in Elyria, such as several difficult crossings. Attendees also identified Abbe Road as being difficult to bike on and having sidewalks in poor condition. Route 57 is a major barrier to cross between north Elyria and downtown and south Elyria.



THIS PAGE INTENTIONALLY LEFT BLANK

4

Proposed Projects and Programs

Proposed Projects and Programs

This plan makes recommendations that will promote and support active transportation through a combination of infrastructure projects, policies, and programs. Infrastructure recommendations refer to physical, built projects that will change how roadways are configured to provide space for all roadway users. Policy and program recommendations aim to re-prioritize walking and bicycling and to change the culture around active transportation and help increase its use through engagement, education, encouragement, and evaluation.

Infrastructure Projects

Recommended infrastructure projects include shared use paths, separated bike lanes, neighborhood greenways, and enhanced intersections (Map 10). The following section describes the process for selecting bicycle and pedestrian facility types and specific facility types proposed for Elyria.

Pedestrian Facility Recommendations

Sidewalks and shared use paths are the proposed pedestrian infrastructure. The presence of sidewalks along a roadway corresponds to a 65 to 89 percent reduction in walking along road pedestrian crashes.* Additional treatments implemented along roadways or at crossing locations would improve the bicycling and walking experience, encourage more walking, and decrease the number of crashes that occur.

Bicycle Facility Recommendations

Local infrastructure and routes will help riders of varying abilities access their daily destinations such as schools, grocery stores, parks, and work.

Design Users

There are several important factors to consider during bicycle facility selection, but the final decision depends in large part on the types of bicyclists that are expected on a particular route. Understanding which types of bicyclists feel comfortable using a given facility is key to building a safe, convenient, and well-used network.

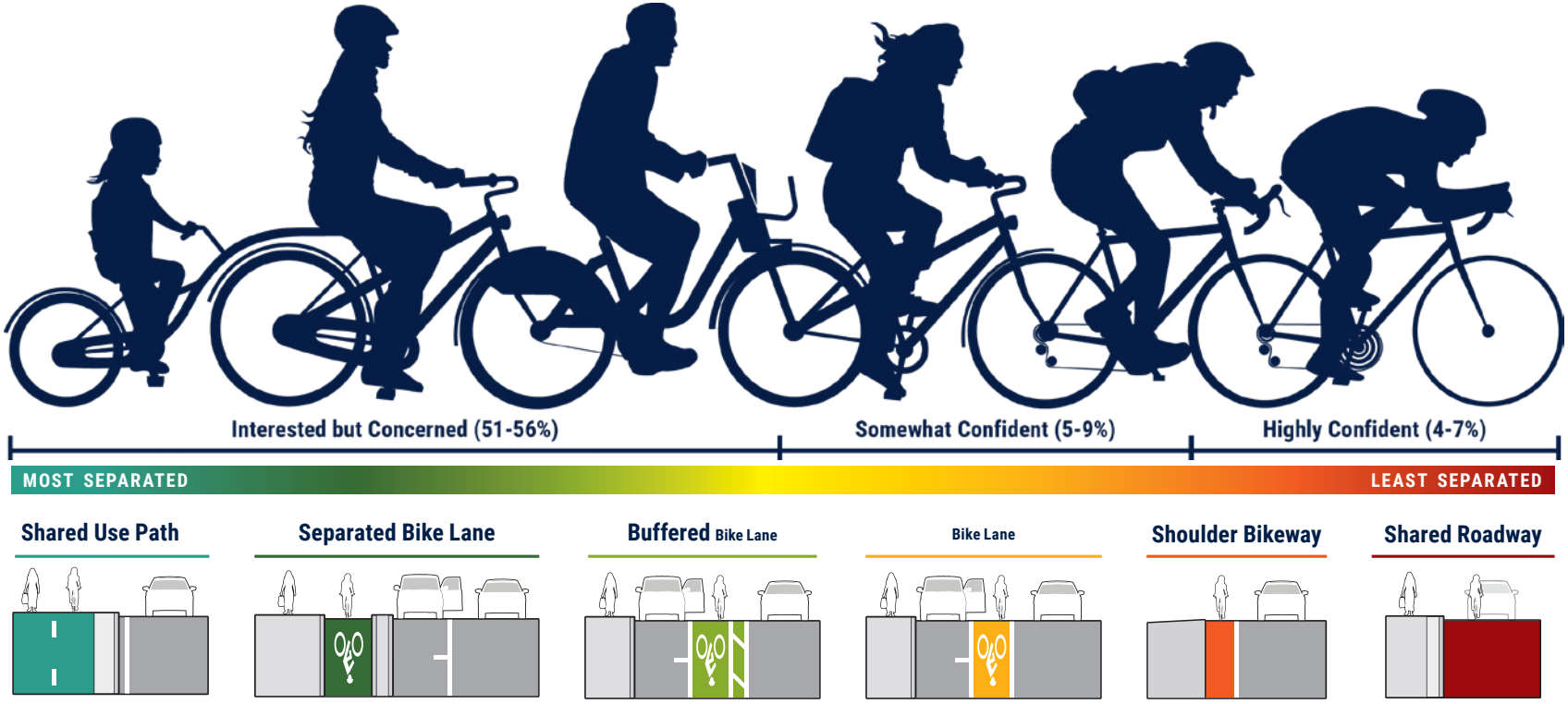
Bicyclists are most commonly classified according to their comfort level, bicycling skill and experience, age, and trip purpose. These characteristics can be used to develop profiles of various bicycle users and trips, also known as "design users," which inform bicycle facility design. Comfort, skill, and age may affect bicyclist behavior and preference for different types of bicycle facilities. Selecting a design user profile is often the first step in assessing a street's compatibility for bicycling. The design user profile should be used to select a preferred type of bikeway treatment for different contexts.

People who bicycle are influenced by their relative comfort operating with or near motor vehicle traffic. Many people are interested in bicycling for transportation, but are dissuaded by the potential for stressful interactions with motor vehicles. Of adults who have stated an interest in bicycling, research has identified three types of potential and existing bicyclists,** which are explained in the sidebar and shown in Figure 7.

* FHWA (2017). Desktop Reference for Crash Reduction Factors, FHWA-SA-08-011, Table 11. Referenced in https://safety.fhwa.dot.gov/provencountermeasures/walkways/

** Schultheiss, B., Goodman, D., Blackburn, L., Wood, A., Reed, D., and Elbech, M. (2019). Bikeway Selection Guide. Federal Highway Administration. https://safety.fhwa.dot.gov/ped_bike/tools_solve/docs/fhwa-sa18077.pdf

Figure 7. Design user types and preferred facility types



Interested but Concerned Bicyclist (~51-56%)

- Largest group.
- Lowest tolerance for traffic stress.
- Avoid bicycling except with access to networks of separated bikeways or very low-volume streets with safe roadway crossings, which suppresses cycling.
- Tends to bicycle for recreation but not transportation.
- Generally the recommended design user profile to maximize potential for bicycling.

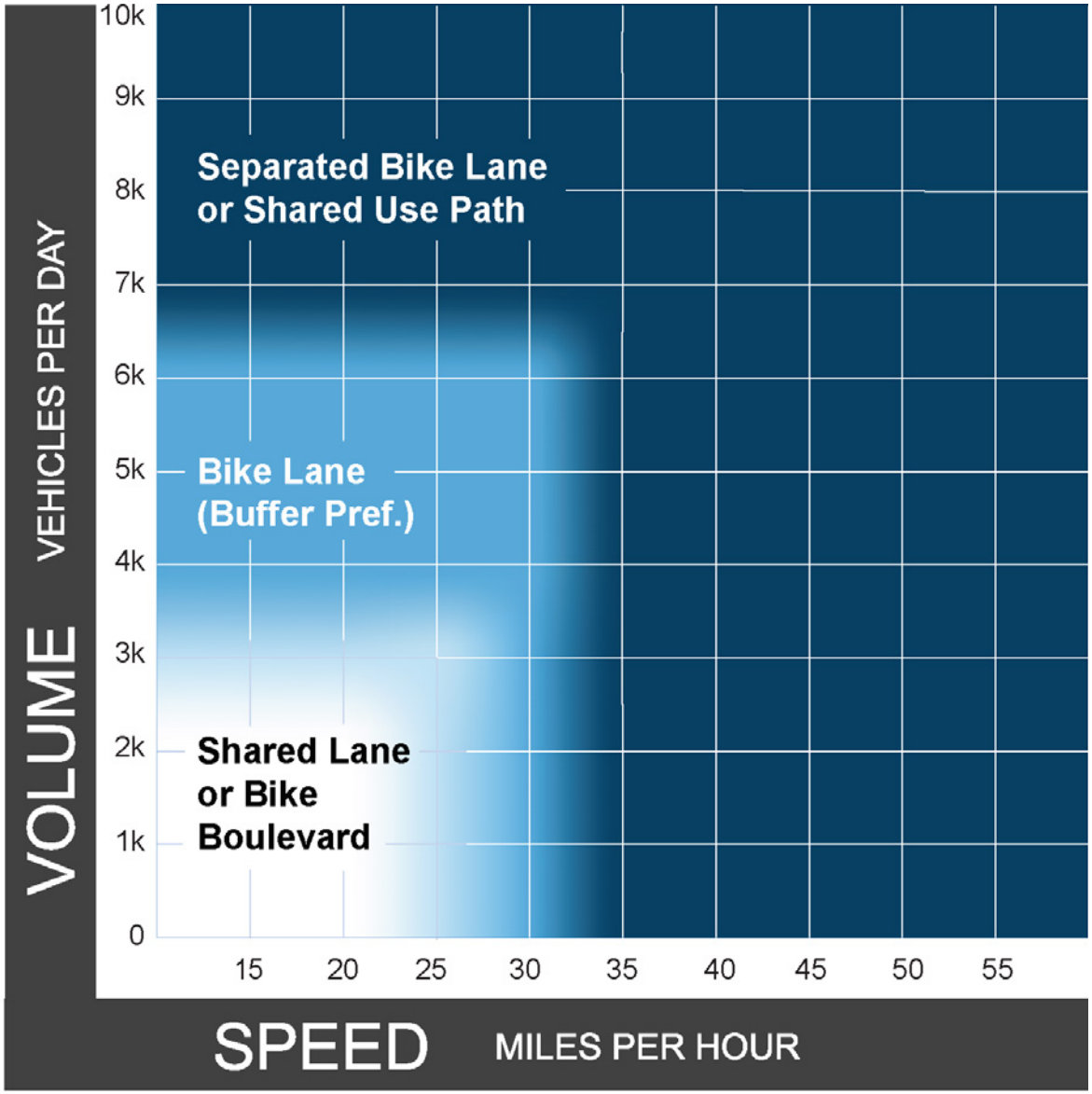
Somewhat Confident Bicyclist (~5-9%)

- Comfortable on most types of facilities.
- Lower tolerance for traffic stress, prefer striped or separated bike lanes on major streets and low-volume residential streets.
- Willing to tolerate higher levels of traffic stress for short distances.

Highly Confident Bicyclist (~4-7%)

- Smallest group.
- Prefer direct routes and will operate in mixed traffic, even on roadways with higher motor vehicle operating speeds and volumes.
- Many also enjoy separated bikeways.
- May avoid bikeways perceived to be less safe, too crowded with slower moving users, or requiring deviation from their preferred route.

Figure 8. Urban Bicycle Facility Selection Matrix



Source: FHWA 2019

Children were not included in the research and require special consideration in the design of bicycle facilities. In order to achieve a significant increase in numbers of people biking, the "Interested but Concerned" rider should be the primary user type that facilities are designed for.

Network Rationale and Facility Selection Methodology

Bicycle networks should be continuous, connect seamlessly across jurisdictional boundaries, and provide access to destinations. Anywhere a person would want to drive to for utilitarian purposes, such as commuting or running errands, is a potential destination for bicycling. As such, planning connected low-stress bicycle networks is not achieved by simply avoiding motor vehicle traffic. Rather, planners should identify solutions for lowering stress along higher traffic corridors so that bicycling can be a viable transportation option for the majority of the population.

The bicycle network recommendations made in this plan considered the "interested but concerned" rider as the design user for most recommendations. Potential routes were identified and recommended facility types were selected by following guidance from the Federal Highway Administration (FHWA)'s Bikeway Selection Guide.*** Figure 8 is excerpted from those guidelines.

*** FHWA (2019). Bikeway Selection Guide. https://safety.fhwa.dot.gov/ped_bike/tools_solve/docs/fhwasa18077.pdf

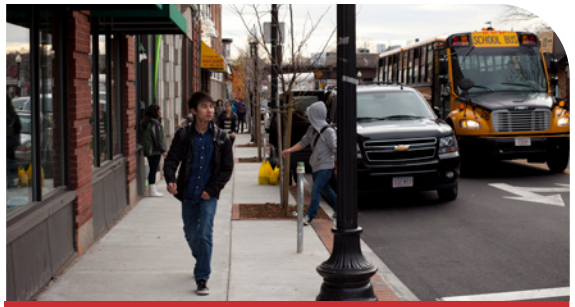
Facility Toolkit

Bicycle infrastructure recommendations include neighborhood greenways, separated bike lanes, and shared use paths to accommodate riders of varying ability and in different riding environments. Research shows that the provision of low-stress, connected bicycle networks improves bicyclist safety and encourages bicycling for a broader range of user types. Sidewalks and shared use paths are the proposed pedestrian infrastructure.

All facility types are described in Table 1.

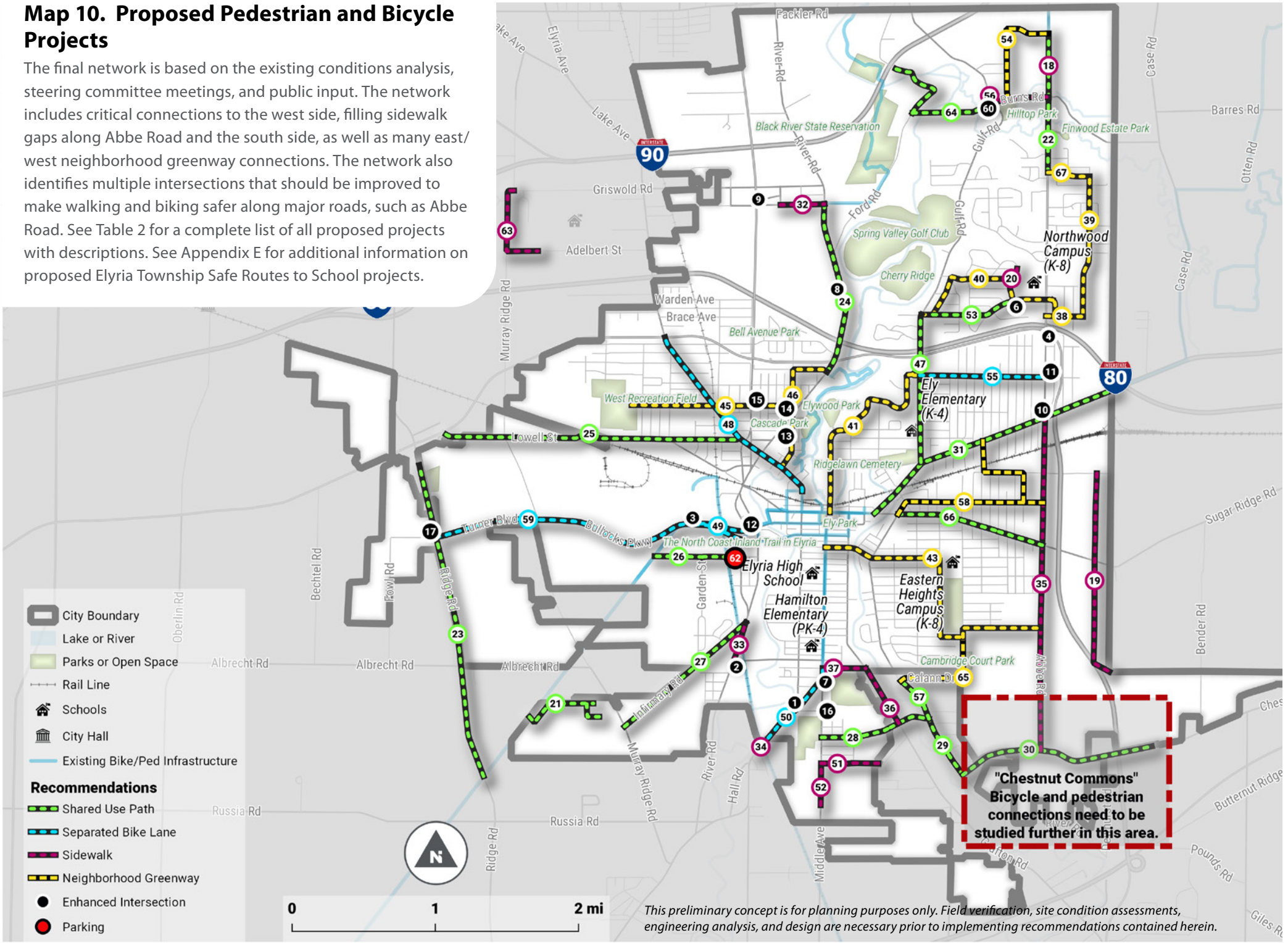
Table 1. Facility Toolkit

	 **Neighborhood Greenways**	 **Separated Bicycle Lane**
Description	Where traffic volumes and speeds are low, many bicyclists can comfortably share lanes with motor vehicles. Shared lane markings and signs are added to inform people driving that bicyclists may operate in the lane and where to expect bicyclists. Wayfinding signage and traffic calming can help increase user comfort and prioritize bicycle travel.	One- or two-way facilities within the roadway and physically separated from adjacent travel lanes with vertical elements such as a curb, flex posts or on-street parking. Such facilities reduce the risk of injury and can increase bicycle ridership due to perceived and actual safety and comfort.
Intended Users	Bicyclists	Bicyclists
Context	Urban and Urban Periphery	Urban
Posted Speed Limit	25 mph or lower (preferred) 35 mph or lower (acceptable)	Any speed (typically 30 mph or higher)
Motor Vehicle Traffic Volume	3,000 ADT or lower (preferred) 5,000 ADT or lower (acceptable)	Any volume (typically 15,000 ADT or greater)
Other Considerations	May be used in conjunction with wide outside lanes. Explore opportunities to provide parallel facilities for less confident bicyclists. Where motor vehicles are allowed to park along shared lanes, place markings to reduce potential conflicts with opening car doors. On low speed (<25 mph) low traffic (<3,000 ADT) streets, traffic calming and diversion can be used to slow traffic or create a bicycle boulevard.	Intersection designs should promote visibility of bicyclists and raise awareness of potential conflicts. Separation may be provided through temporary measures such as planters or removable bollards as an interim and low-cost design.

	 Shared Use Path and Sidepath	 Sidewalk	 Intersection Enhancements
Description	Typically designed as two-way facilities physically separated from motor vehicle traffic and used by bicyclists, pedestrians, and other non-motorized users, shared use paths provide a low-stress and comfortable travel environment for users of all confidence levels. They are used for recreational opportunities in addition to transportation. Shared use paths that run parallel to roads are referred to as sidepaths.	Sidewalks are intended for exclusive use by pedestrians. They are adjacent to but separated from the roadway by a curb and/or buffer, such as a tree lawn. As roadway speeds and volumes increase, more separation is needed to maintain a safe and comfortable walking environment for pedestrians. Common in urban areas, they may also be necessary in rural areas with pedestrian generators, such as schools and businesses. May notably increase levels of walking in areas with high traffic speeds/volumes.	A variety of solutions can be employed to make intersections and mid-block crossings safer and more convenient for people walking. These treatments range from painted facilities, such as high-visibility crosswalks, to lights and signals, such as rectangular rapid flashing beacons (RRFB). Painted crosswalks delineate the safest pathway for pedestrians, and RRFBs enhance user safety and convenience at crossing points when full signalization is not warranted.
Intended Users	Bicyclists and Pedestrians	Pedestrians	Bicyclists and Pedestrians
Context	Urban and Rural	Urban	Urban and Rural
Posted Speed Limit	Urban: Any speed (typically 30 mph or higher) Rural: Any speed (typically 55 mph or higher)	30 mph or lower (preferred) 50 mph (acceptable)	Any Speed (appropriate treatment will vary)
Motor Vehicle Traffic Volume	Urban: Any volume (typically 15,000 ADT or greater) Rural: Any volume (typically 6,500 ADT or greater).	12,000 ADT or lower (preferred)	Any Volume (appropriate treatment will vary)
Other Considerations	Sidepaths should be at least 10 feet wide (wider where higher bicycle and pedestrian traffic is expected, e.g., urban areas). Special consideration must be given to the design of roadway crossings to increase visibility, clearly indicate right-of-way, and reduce crashes. Alternative accommodations should be sought when there are many intersections and commercial driveway crossings per mile.	N/A	Treatments may include: •High visibility markings •Advance yield lines and signage •Curb extensions •Raised crosswalk •RRFB •Textured intersection pavement

Map 10. Proposed Pedestrian and Bicycle Projects

The final network is based on the existing conditions analysis, steering committee meetings, and public input. The network includes critical connections to the west side, filling sidewalk gaps along Abbe Road and the south side, as well as many east/west neighborhood greenway connections. The network also identifies multiple intersections that should be improved to make walking and biking safer along major roads, such as Abbe Road. See Table 2 for a complete list of all proposed projects with descriptions. See Appendix E for additional information on proposed Elyria Township Safe Routes to School projects.



This preliminary concept is for planning purposes only. Field verification, site condition assessments, engineering analysis, and design are necessary prior to implementing recommendations contained herein.

Table 2. Proposed Pedestrian and Bicycle Projects

Map ID	Facility Type	Location	Extents	Description	Potential Funding
1	Enhanced Intersection	Oberlin Rd and West Ave	-	Add pedestrian signals and high visibility crosswalks.	TA, HISP
2	Enhanced Intersection	W. River Rd and Mussey Ave	-	Add high visibility crosswalks and potential RRFB to cross W River Rd. Connects residents to amenities, such as library, South Park, Stadium.	TA, HISP
3	Enhanced Intersection	Leo Bullock Pkwy and North Coast Inland Trail	-	Option 1: Pedestrian Hybrid Beacon (or HAWK), would need to be warranted. Option 2: High Visibility Crosswalk w/ median refugee Island and RRFB.	TA, HISP
4	Enhanced Intersection	Abbe Rd N and John F. Kennedy Memorial Pkwy	-	Check signal phasing, prioritize pedestrians.	TA, HISP
6	Enhanced Intersection	Hilliard Rd and Rosealee Ave	-	Add school crossing signage, ADA ramps, high visibility crosswalk.	TA, HISP, SRTS
7	Enhanced Intersection	17th St and Middle Ave and Oberlin Rd	-	Add bike box (giving priority to bicycles going through intersection). Discuss possible removal of travel lane.	TA, HISP
8	Enhanced Intersection	W. River Rd and David Dr	-	Add high visibility crosswalk markings and pedestrian signals heads to all legs of intersection to better connect shared use path to Elyria Public Library and bike fix it station.	TA, HISP
9	Enhanced Intersection	Lorain Blvd and Midway Blvd	-	Add high visibility crosswalks and median refuge island. Potentially add crosswalks to all legs of intersection.	TA, HISP
10	Enhanced Intersection	Abbe Rd N and Cleveland St	-	Add pedestrian signal heads, high visibility crosswalks.	TA, HISP
11	Enhanced Intersection	Abbe Rd N and Poplar St	-	Add pedestrian signal heads and high visibility crosswalks.	TA, HISP
12	Enhanced Intersection	W. 2nd St and Gateway Blvd	-	Add high visibility crosswalks and pedestrian signals to cross Gateway Blvd S to access Bicycle lane on W. 2nd St.	TA, HISP
13	Enhanced Intersection	Furnace St and Hillsdale Court	-	Enhance pedestrian connection to Cascade Park by adding a raised crossing and/or RRFB.	TA, HISP
14	Enhanced Intersection	W. River Rd and Furnace St	-	High visibility crossings, potential RRFB location. Realignment of crosswalks.	TA, HISP
15	Enhanced Intersection	Lorain Blvd and Foster Ave	-	Add high visibility crosswalks and pedestrian signal heads to all legs of intersection. Add median refuge islands.	TA, HISP

Funding Source Acronyms
TA: Transportation Alternatives Program
SRTS: Safe Routes to School
HSIP: Highway Safety Improvement Program
RTP: Recreational Trails Program
COTF: Clean Ohio Trails Fund
GSCP: Green Space Conservation Program
See Chapter 6 for full details on funding opportunities.

Table 2. Proposed Pedestrian and Bicycle Projects

Map ID	Facility Type	Location	Extents	Description	Potential Funding
16	Enhanced Intersection	Middle Ave and Maple St	-	Add high visibility crosswalk and potential RRFB across Middle Ave to connect residential area to stadium and commercial uses on Oberlin Rd (Family Dollar, Aldi, and Dollar General).	TA, HISP
17	Enhanced Intersection	W. Ridge Rd and Turner Blvd	-	Add high visibility crosswalks and pedestrian signals to all legs of intersection when shared use path is added.	TA, HISP
18	Sidewalk	Abbe Rd	Antioch Dr to Burns Rd	Fill sidewalk gaps to connect commercial and residential areas, and LCCC.	TA, HISP
19	Sidewalk	Ternes Ln (goes off-street)	Taylor St to Sugar Ridge Rd (then continues off-street) connecting to N. Ridgeville Trail (near Walmart)	Add sidewalk to new road when constructed.	TA, HISP
20	Sidewalk	Rosealee Ave	Randall Rd to Hilliard Rd	Fill sidewalk gaps to connect to school.	TA, HISP, SRTS
21	Shared Use Path	Off-Road Path (Behind Lorain County Services & Support)	N. Coast Inland Trail to Lorain County Services & Support and Murray Ridge School	Connect Murry Ridge School and LCPH to NCIT.	TA, RTP, COTF, GSCP
22	Shared Use Path	Abbe Rd	College Drive to Sandalwood Dr	Extend shared use path from LCCC to connect to residential area and park.	TA, HISP
23	Shared Use Path	Ridge Rd	Open Door Christian Schools to N. Coast Inland Trail	Connect west residential neighborhoods to NCIT.	TA, HISP
24	Shared Use Path	W. River Rd	Midway Blvd to Louisiana Ave	Upgrade sidewalk to shared use path/trail to accommodate bikes, connect to shopping and parks.	TA, HISP
25	Shared Use Path	Lowell St	Lake ave to Old Sr 113 Rd	Add shared use path and expand existing sidewalks to shared use path to connect to Parks & Rec, West Park, and Open Door Christian Schools.	TA, HISP
26	Shared Use Path	Woodford Ave (portion connecting to N. Coast Inland Trail)	Gateway Blvd to N. Coast Inland Trail	Connect to NCIT via a shared use path and Woodford Ave.	TA, RTP, COTF, GSCP
27	Shared Use Path	Infirmary Rd	Murray Ridge Rd to W. River Rd S	Add shared use path to connect bicyclists and pedestrians to services.	TA, HISP
28	Shared Use Path	Fuller Rd	Middle Ave to E. River Rd	To connect bikes and pedestrians add shared use path or upgrade sidewalk to shared use path. Add pedestrian lighting.	TA, HISP
29	Shared Use Path	E. River Rd	Fuller Rd to Chestnut Ridge Rd	To connect bikes and pedestrians add shared use path or upgrade sidewalk to shared use path. Add pedestrian lighting.	TA, HISP

Funding Source Acronyms
TA: Transportation Alternatives Program
SRTS: Safe Routes to School
HSIP: Highway Safety Improvement Program
RTP: Recreational Trails Program
COTF: Clean Ohio Trails Fund
GSCP: Green Space Conservation Program
See Chapter 6 for full details on funding opportunities.

Table 2. Proposed Pedestrian and Bicycle Projects

Map ID	Facility Type	Location	Extents	Description	Potential Funding
30	Shared Use Path	Chestnut Ridge Rd	E. River Rd to Stillwater Blvd	To connect bikes and pedestrians to Chestnut Commons add shared use path or expand sidewalk to shared use path. Add pedestrian lighting. Enhance crossing of 57 to access Chestnut Commons.	TA, HISP
31	Shared Use Path	E.Bridge St/Cleveland St/Center Ridge Rd	Broad St/Gulf Rd/near Ohio turnpike	Add shared use path to connect commercial corridor to downtown. Part of US/State Bike Route System.	TA, HISP
32	Sidewalk	Midway Blvd	Tillotson St to W. River Rd	Fill sidewalk gaps to connect commercial area and Midway Blvd shared use path.	TA, HISP
33	Sidewalk	W. River Rd	Infirmary Rd to Mussey Ave	Fill sidewalk gaps to connect residents.	TA, HISP
34	Sidewalk	Oberlin Rd	Middle Ave to Hadaway St	Fill sidewalk gaps on south side of Oberlin Rd. Connect to destinations. Add pedestrian lighting.	TA, HISP
35	Sidewalk	S. Abbe Rd	Cleveland St to Chestnut Ridge Rd	Fill sidewalk gaps and add pedestrian lighting. Connect residential to parks, destinations, Chestnut Commons.	TA, HISP
36	Sidewalk	East Ave	16th St to Fuller Rd	Fill sidewalk gaps and add pedestrian lighting.	TA, HISP
37	Sidewalk	16th St	Middle Ave to East Ave	Fill sidewalk gaps and add pedestrian lighting.	TA, HISP
38	Neighborhood Greenway	Duffey St	Abbe Rd to Georgetown Ave	Signage, striping, potential traffic calming.	Local
39	Neighborhood Greenway	Georgetown Ave	Sandalwood Dr to Duffey St	Signage, striping, potential traffic calming.	Local
40	Neighborhood Greenway	Bon Air Ave/Hilliard Rd/ Rosealee Ave/Berkshire Rd/Valley Blvd/	Gulf Rd/Valley Rd/Berkshire Rd/ Rosealee Ave/Hilliard Rd/Duffey St	Striping, wayfinding, potential traffic calming.	Local
41	Neighborhood Greenway	Washington Ave (portion on Poplar St)	Gulf Rd to Broad St	Striping, wayfinding, potential traffic calming.	Local
42	Neighborhood Greenway	4th St/Eastern Heights/ Garford Ave/Colgate Ave/Prospect St/ Baldwin Ave/	S.Abbe Rd/Prospect St/Colgate Ave/garford Ave/Eastern Heights Blvd/E. River St/Middle Ave	Signage, striping, potential traffic calming.	Local

Funding Source Acronyms
TA: Transportation Alternatives Program
SRTS: Safe Routes to School
HSIP: Highway Safety Improvement Program
RTP: Recreational Trails Program
COTF: Clean Ohio Trails Fund
GSCP: Green Space Conservation Program
See Chapter 6 for full details on funding opportunities.

Table 2. Proposed Pedestrian and Bicycle Projects

Map ID	Facility Type	Location	Extents	Description	Potential Funding
43	Neighborhood Greenway	4th St/Eastern Heights/ Garford Ave/Colgate Ave/Prospect St/ Baldwin Ave/	S.Abbe Rd/Prospect St/Colgate Ave/garford Ave/Eastern Heights Blvd/E. River St/Middle Ave	Signage, striping, potential traffic calming.	Local
44	Neighborhood Greenway	4th St/Eastern Heights/ Garford Ave/Colgate Ave/Prospect St/ Baldwin Ave/	S.Abbe Rd/Prospect St/Colgate Ave/garford Ave/Eastern Heights Blvd/E. River St/Middle Ave	Signage, striping, potential traffic calming.	Local
45	Neighborhood Greenway	Foster Ave	West Recreation Field (Foster Ave Entrance) to Furnace St	Striping, wayfinding, potential traffic calming.	Local
46	Neighborhood Greenway	Furnace St (portion on Louisiana Ave/portion on Lake Ave)	River Rd- Furnace/Louisiana-Lake/ Furnace-Elm St	Striping, wayfinding, potential traffic calming.	Local
47		Gulf Rd	Hilliard Rd to E.Bridge St	Add separated bike lane to connect people to downtown. Alternative: upgrade sidewalk to shared use path.	TA, HISP, SRTS
48	Separated Bike Lane	Lake Ave	John F. Kennedy Memorial Pkwy to Elm St	Add a separated bike lane to connect people downtown.	TA, HISP, Local
49	Separated Bike Lane	W. 2nd St/3rd St	Gateway Blvd S. to NCIT	Add buffer and vertical separation (ex: flexible delineator, curb) to existing bike lane.	TA, HISP, Local
50	Separated Bike Lane	Oberlin Rd (Portion on Middle Ave)	Middle Ave to Hadaway St	Add separated bike lane to connect to existing bike lane and several destinations, such Aldi, Dollar General and future proposed trail. Recommend repaving.	TA, HISP, Local
51	Sidewalk	Wood St	Middle Ave to Pratt Blvd	Fill sidewalk gaps to connect Middle Ave to residential area.	TA, HISP
52	Sidewalk	Middle Ave	Wood St to Pennsylvania Ave	Add sidewalks to connect Colonial Oaks, which currently has no pedestrian access.	TA, HISP
53	Shared Use Path	Hillard Rd	Gulf Rd to Abbe Rd	Expand sidewalk to shared use path to connect downtown to new school to neighborhood	TA, HISP
54	Neighborhood Greenway	Antioch Dr/Naples Dr	On Antioch (Abbe Rd to Naples Dr); On Naples Dr (Antiock Dr to Burns Rd)	Connect LCCC, Abbe Rd, and residents to Hilltop Park.	Local

Funding Source Acronyms
TA: Transportation Alternatives Program
SRTS: Safe Routes to School
HSIP: Highway Safety Improvement Program
RTP: Recreational Trails Program
COTF: Clean Ohio Trails Fund
GSCP: Green Space Conservation Program
See Chapter 6 for full details on funding opportunities.

Table 2. Proposed Pedestrian and Bicycle Projects

Map ID	Facility Type	Location	Extents	Description	Potential Funding
55	Bike Lane	Poplar St	Gulf Rd to Abbe Rd	Add bike lanes to connect neighborhood, schools, to downtown.	TA, HISP
56	Sidewalk	Burns Rd	Abbe Rd to Gulf RD	Add sidewalk to connect Abbe Rd. to LCCC, and neighborhood to Hilltop Park.	TA, HISP
57	Shared Use Path/ Neighborhood Greenway	E River Rd, Calann Dr, Prospect St	On E River Rd (Fuller Rd to Calann Dr); On Calann Dr (E River Rd to Prospect St); On Prospect St (Calann Dr to Colgate Ave)	Add shared use path in combination with neighborhood greenway to connect South Park to neighborhood and schools.	TA, HISP
58	Neighborhood Greenway	Clark St, Logan St, Taylor St, Olive St	On Clark St (E Broad St to Abbe Rd); On Logan St (Clark St to Taylor St); On Taylor (Olive St to Abbe Rd); On Olive St (Taylor to Cleveland)	Connect downtown to Abbe Rd and Cleveland Ave via neighborhood greenways.	Local
59	Separated Bike Lane	Leo Bullock Pkwy	W Ridge Rd to NCIT	Connect west side residents to downtown. Most direct route, but may have challenges with ROW.	TA, HISP
60	Enhanced Intersection	Burns Rd & Gulf Rd	-	Crosswalk with RRFB to access Hilltop Park.	TA, HISP
61	Enhanced Intersection	Burns Rd & Naples Dr	-	Crosswalk with RRFB to access Hilltop Park.	TA, HISP
62	Trailhead Parking	West of Gateway Blvd	-	Add parking for NCIT trailhead. Exact location TBD (ex: expand parking lot, add on-street parking, etc.)	RTP, Local
63	Sidewalk	Griswold Rd, Murray Ridge Rd, Adelbert St	Griswold Rd to Adelbert St	Close sidewalk gap to connect residents to Crestwood Elementary, Westwood School, and the Administration/Kindergarten Village.	TA, HISP, SRTS
64	Shared Use Path	Ford Rd, Black River Reservation Park	Ford Rd to Gulf Rd	Connect to metro parks. Exact alignment TBD.	TA, RTP, COTF, GSCP
65	Neighborhood Greenway	E River Rd, Calann Dr, Prospect St	On E River Rd (Fuller Rd to Calann Dr); On Calann Dr (E River Rd to Prospect St); On Prospect St (Calann Dr to Colgate Ave)	Add shared use path in combination with neighborhood greenway to connect South Park to neighborhood and schools.	Local
66	Shared Use Path	Broad St	East River to Abbe Rd	Connect residents to businesses along Broad St.	TA, HISP
67	Neighborhood Greenway	Sandalwood Dr	Abbe Rd to Georgetown Ave	Signage, striping, potential traffic calming.	Local

Funding Source Acronyms
TA: Transportation Alternatives Program
SRTS: Safe Routes to School
HSIP: Highway Safety Improvement Program
RTP: Recreational Trails Program
COTF: Clean Ohio Trails Fund
GSCP: Green Space Conservation Program
See Chapter 6 for full details on funding opportunities.

General Infrastructure Recommendations

In addition to location-specific recommendations identified in the maps, there are several general infrastructure recommendations to support the walking and bicycling recommendations on the previous pages. Consider these general recommendations when roadways are repaved, signals are replaced, or in conjunction with the implementation of the other facilities recommended in this plan.

Signage

- Add wayfinding to major destinations and new neighborhood greenway routes.
- Add Bikes May Use Full Lane Signage where applicable.
- Add wayfinding near South Park & Ely Stadium.

Pedestrian Lighting

- Should be considered when adding new pedestrian facilities.
- Add pedestrian lighting near South Park & Ely Stadium.

Bike Parking

Bike parking should be incorporated at major destinations:

- parks,
- downtown,
- schools,
- libraries,
- Midway Mall (potential covered parking); and
- employment centers (pair with Active Commute Program).

Also, consider programs that encourage private businesses to install bike racks. The City could consider providing incentives like removing one to two vehicular spaces per the zoning code requirement if bike parking is added.

Existing bike racks in Cascade Park

Programs and Policies

Establishing safe and convenient active transportation infrastructure is critical to improving walking and bicycling conditions. But without programs and policies in place to support active transportation, infrastructure projects can only go so far. A variety of non-infrastructure tools can increase pedestrians' and bicyclists' safety by establishing a culture of walking and biking and creating a friendly regulatory and political environment for active transportation. Tables 3 through 6 list proposed programs in Elyria.

Table 3. Proposed Community Educational Programs

Strategy	Lead Agency	Timeframe
Community walking maps	LCPH City	short-term
Campaigns (focused on motorists, speeding, driving near bicyclists and pedestrians)	LCPH	short-term
Wayfinding to parks and other community locations	City Parks LCPH	short-term
Bicycle Nights and adult cycling instruction		short-term

Table 4. Proposed Community Encouragement Programs

Strategy	Lead Agency	Timeframe
Bicycle Friendly Business (Bicycle benefits program)	Visitor's Bureau Kiwanis Elyria Rotary	short-term
GOhio Commute	NOACA	medium-term
Community exercise supports (United We Sweat, 5K, LCMP hikes)	LCPH LCCC LCMP	medium-term
Afterschool bicycle education programming (i.e. Girls in Gear, Black Girls Bike, bicycle clubs)	LCMP Horizon Education Centers	short-term
Temporary demonstrations for potential future projects (using the NOACA Street Supplies Program)	City Engineering LCPH	short-term
Bicycle tune-ups	Bicycle Education Center LCCC	short-term
Active commute supports at local worksites (flex policies, bike supports, etc.)	LCPH	medium-term

Table 5. Proposed Policies

Strategy	Lead Agency	Timeframe
Complete Streets policy	City, LCPH	medium-term
Zoning Code and Land Use policy updates	City, LCPH	short-term
Vision Zero Policy	City, LCPH	medium-term
Sidewalk Improvement Cost-Sharing Program	City	long-term
Mobility design standards	City	medium-term

Table 6. Proposed School Programs

Strategy	Lead Agency	School(s)	Timeframe
Arrival/dismissal policies to reduce emissions and crashes	ECSD	All buildings	long-term
Walk and bike to school route maps	LCPH	All buildings	short-term
School Pool (carpooling)	NOACA, LCPH ECSD	All buildings	medium-term
Campaign: website presence, school newsletter inclusion, in-building promotional items	ECSD, LCPH	All buildings	short-term
Bicycle education curriculum during physical education (think of it like a Safety Town booster)	ECSD	Grades 3-5	long-term
Classroom integrated student engagement: use tech. to identify issues and concerns, conduct walk audits, share results with decision makers, connect to ENV studies and STEM.	LCPH, ECSD	Grades 5-8	medium-term
Walk and Bike to School Day	Ctiy, ECSD, LCPH	Grades K-8	short-term
Annual parent surveys	ECSD, LCPH	Grades K-8	short-term
Annual student travel tallies	ECSD, LCPH	Grades K-8	short-term
Crossing guard training	LCPH, ODOT	Grades K-8	short-term
Walkin' Wednesdays	ECSD, LCPH	Grades K-8	short-term

THIS PAGE INTENTIONALLY LEFT BLANK

5

Priority Projects

Priority Projects

The infrastructure recommendations in the previous chapter are conceptual routes, meant to show the potential of a comprehensive active transportation system in Elyria. The recommendations are planning level in scope and are not necessarily constrained by existing challenges. Funding, land use, property rights, terrain, and other project specific factors may make certain recommendations less practicable than others. Project prioritization uses measurable data to determine which projects are both feasible, given real-world constraints, and align with stakeholders' priorities.

Prioritzation Methodology

As with most municipalities, Elyria, has a limited amount of funding with which to build bicycle and pedestrian infrastructure. Because of this, it is important that the projects providing the most benefit be prioritized over others. The prioritization process included two steps:

1. A data-driven process that uses source GIS datasets to score and rank projects based on conditions in their relative locations (see Table 7).
2. Input from the Steering Committee and City.

Table 7. Weighted Categories for Data-Driven Prioritization

Category	Weight	Variable	Description
Safety	**30**	Volume (AADT)	Weighted average AADT value among the street segments which make up a project.
		Speed	Weighted average speed limit among the streets segments which make up a project.
		Crashes	Bicycle and pedestrian crashes within 200 feet of each project weighted by severity.
Synergy	**10**	Synergy	Overlap with ODOT District Work Plan projects or city-identified project.
Connections	**10**	Connections to Existing	Counts the number of connections to existing and proposed projects.
Public Engagement	**15**	Public Engagement	Number of votes for a project from the third public meeting and online survey.
Equity	**25**	Needs	Based on ODOT's Walk.Bike.Ohio efforts (see Map 6).
		Demand	Based on ODOT's Walk.Bike.Ohio efforts (see Map 5).
Cost	**10**	Cost	Relative cost of facility recommendation based on construction cost and prioritizes less-expensive projects.

Prioritized Infrastructure Project List

Table 8 identifies high and medium priorities and all remaining projects are lower priority. Implementation will require working with a larger number of partners, as well as building public support for priority projects. Whenever possible, recommendations in this plan should be incorporated into other roadway projects. Every year Elyria should re-evaluate the priority list to track which projects have been implemented and to make adjustments as needed.

Since many active transportation projects can take years to go from concept to completion, Elyria may choose to implement some demonstration projects. Demonstration projects, or temporary installations of the proposed changes, are a low-cost way to test and refine a proposed concept long before permanent construction. These projects can also educate residents how to use new facility types and get people excited about upcoming changes. Additional resources for planning demonstration projects:

- NOACA's Street Supplies Community Guidance
- Tactical Urbanist's Guide
- Pop-Up Projects: A Community Guide for Fort Worth

**See Table 2 for more detail for locations and descriptions.*

Table 8. Priority Projects

	Map ID	Facility Type	Location*	Description*
High	66	Shared Use Path	Broad St.	Connect residents to businesses along Broad St.
	18	Sidewalk	Abbe Rd	Fill sidewalk gaps to connect to LCCC.
	48	Separated Bike Lane	Lake Ave	Add a separated bike lane to connect people downtown.
	31	Shared Use Path	Cleveland St	Add shared use path to connect commercial corridor to downtown. Part of US/State Bike Route System.
	41	Neighborhood Greenway	Washington Ave	Striping, wayfinding, potential traffic calming.
	43	Neighborhood Greenway	Eastern Heights/ Garford Ave	Signage, striping, potential traffic calming.
	47	Shared Use Path	Gulf Rd	Add separated bike lane to connect people to downtown.
	24	Shared Use Path	W. River Rd	Upgrade sidewalk to shared use path/trail to accommodate bikes, connect to shopping and parks.
	22	Shared Use Path	Abbe Rd	Extend shared use path from LCCC to connect to residential area and park.
	46	Neighborhood Greenway	Furnace St	Striping, wayfinding, potential traffic calming.
Medium	50	Separated Bike Lane	Oberlin Rd	Add separated bike lane to connect to existing bike lane and several destinations, such Aldi, Dollar General and future proposed trail. Recommend repaving.
	45	Neighborhood Greenway	Foster Ave	Striping, wayfinding, potential traffic calming.
	56	Sidewalk	Burns Rd	Add sidewalk to connect Abbe Rd to LCCC, and neighborhood to Hilltop Park.
	35	Sidewalk	S. Abbe Rd	Fill sidewalk gaps and add pedestrian lighting. Connect residential to parks, destinations, Chestnut Commons.
	59	Separated Bike Lane	Leo Bullock Pkwy	Connect west side residents to downtown.
	55	Separated Bike Lane	Poplar St	Add bike lanes to connect neighborhood, schools, to downtown.
	49	Separated Bike Lane	W. 2nd St/3rd St	Add buffer and vertical separation to existing bike lane.
	28	Shared Use Path	Fuller Rd	To connect bikes and pedestrians add shared use path or upgrade sidewalk to shared use path. Add pedestrian lighting.
	58	Neighborhood Greenway	Clark St/ Taylor St	Connect downtown to Abbe Rd and Cleveland Ave via neighborhood greenways.
	39	Neighborhood Greenway	Georgetown Ave	Signage, striping, potential traffic calming.

THIS PAGE INTENTIONALLY LEFT BLANK

6

Implementation

Implementation

This chapter describes major factors involved in implementation including the roles of key stakeholders, funding and maintenance strategies. The implementation of this plan is a long-term investment in maintaining and expanding the use of active transportation in Elyria.

Roles & Responsibilities

Collaboration is the first step towards successful implementation of the Elyria Active Transportation Plan. Stakeholders involved in the planning process will be collectively responsible for the design, funding, construction, maintenance, monitoring, and/or evaluation of the network. Primary stakeholders include:

- City of Elyria
- Lorain County Public Health
- ODOT
- School District
- NOACA
- Community organizations
- Local businesses

Funding Strategies

Active transportation projects comprise a fraction of overall transportation network construction and maintenance. While pedestrian and bicycle infrastructure generally does not serve as many users as highways, bridges, and other critical infrastructure, it can have a substantial positive effect on local economies. Additionally, providing opportunities for active living promotes public health and may reduce the burden on tax-payer funded healthcare systems over time. In this light, active transportation infrastructure is a critical component of a complete transportation network and results in a positive return on investment for communities that fund such projects.

Several state and federal funding sources can be used to supplement local funding sources to build out the active transportation network and fund related programming efforts. Table 9 lists the primary funding sources for active transportation projects in Ohio; click on the name of each funding source to access web pages with further information. In addition, ODOT and the Ohio Department of Health (ODH) have developed an Active Transportation Funding Matrix. Communities may use this tool to search for additional potential funding sources to support infrastructure and non-infrastructure projects that advance walking and bicycling. As part of the statewide Walk.Bike.Ohio Plan, ODOT published a Funding Overview Report that provides more details on types of funding available, schedules, and eligibility requirements. For information on funding for public transit, visit the ODOT Office of Transit's website.

Table 9. Primary Active Transportation Funds in Ohio

Funding Source	Distributed by	Eligible Project Examples	Eligible Project Sponsor
Transportation Alternatives	Metropolitan Planning Organization (if applicable), or Ohio Department of Transportation (ODOT) if not	Bicycle & pedestrian facilities Safe routes for non-drivers Conversion & use of abandoned railroad facilities Overlooks & viewing areas	Local governments
Safe Routes to School	ODOT	Infrastructure Non-Infrastructure School Travel Plan assistance	Local governments (infrastructure) Local governments, school or health district, or non-profit (non-infrastructure)
Highway Safety Improvement Program	ODOT (Coordinate with local ODOT District to submit a safety study)	Signalization Turn lanes Pavement markings Traffic signals Pedestrian signals/crosswalks Bike lanes Road diets	Local governments
Recreational Trails Program	Ohio Department of Natural Resources (ODNR)	New recreational trail construction Trail maintenance/restoration Trailside and trailhead facilities Purchase/lease of construction & maintenance equipment Acquisition of easements Educational programs	Local governments State and federal agencies Park districts Conservancy districts Soil and water conservation districts Non-profits
Clean Ohio Trails Fund	ODNR	New trail construction Land acquisition for a trail Trail planning/engineering and design (must include construction)	Local governments Park districts Conservancy districts Soil and water conservation districts Non-profits
Clean Ohio Green Space Conservation Program	Ohio Public Works Commission (OPWC)	Open space acquisition including easements Bike racks Kiosks/Signs Hiking/Biking trails Pedestrian bridges Boardwalks	Local governments Park districts Conservancy districts Soil and water conservation districts Non-profits

Maintenance Strategies

The long-term performance of bicycle and pedestrian networks depends on both the construction of new facilities and an investment in continued maintenance. Maintaining bicycle and pedestrian facilities is critical to ensuring those facilities are accessible, safe, and functional.

Frequency

The first step to approaching maintenance is to understand how often maintenance should be performed. Many activities, such as signage updates or replacements, are performed as needed, while other tasks such as snow removal are seasonal (see Table 10). Creating a winter maintenance approach is important to encourage year-round travel by walking and biking. One key component of this approach should be identifying priority routes for snow removal. More information on winter maintenance such as types of equipment needed for different facility types and how to consider snow removal in the design of facilities can be found in Toole Design's Winter Maintenance Resource Guide.

Existing sidewalk in downtown

Table 10. Maintenance Activity Frequency

Frequency	Maintenance Activity
As Needed	Tree/brush clearing and mowing
	Sign replacement
	Map/signage updates
	Trash removal/litter clean-up
	Replace/repair trail support amenities (parking lots, benches, restrooms, etc.)
	Repair flood damage: silt clean-up, culvert clean-out, etc.
	Patching/minor regrading/concrete panel replacement
	Sweeping
Seasonal	Snow and Ice Control
	Planting/pruning/beautification
	Culvert/drainage cleaning and repair
	Installation/removal of seasonal signage
Yearly	Surface evaluation to determine need for patching/regrading/re-striping of bicycle facilities
	Evaluate support services to determine need for repair/replacement
	Perform walk audits to assess ADA compliance of facilities
5-year	Repaint or repair trash receptacles, benches, signs, and other trail amenities, if necessary
	Sealcoat asphalt shared use paths
10-year	Resurface/regrade/re-stripe shared use paths
20-year	Assess and replace/reconstruct shared use paths/ sidewalks

Plan for Maintenance

Creating a strong maintenance program begins in the design phase. The agency that will eventually own the completed project should collaborate with partners to determine the infrastructure placement, final design, and life cycle maintenance cost. Maintenance staff should help identify typical maintenance issues, such as areas with poor drainage or frequent public complaints. They may have suggestions for design elements that can mitigate these issues or facilitate maintenance activities and can provide estimates for ongoing maintenance costs for existing and proposed facilities.

Coordination & Responsibility Between Agencies

Many jurisdictions struggle with confusion around which entity – city, village, township, county, or state – is responsible for the maintenance of trails and other active transportation facilities. Frequently there is no documentation showing who is responsible for maintenance of existing facilities, which can prolong unsafe conditions for trail users. Coordination between the government agencies is key for effective maintenance programs. Intergovernmental agreements (IGAs) are used to codify the roles and responsibilities of each agency regarding ongoing maintenance. For example, a local government may agree to conduct plowing, mowing, and other maintenance activities on trails in its jurisdiction that were built by another agency. Clarifying who is responsible for maintenance costs and operations ensures that maintenance problems are resolved in a timely manner.

Maintenance Activities

Different facility types require different types of strategies to be maintained. Table 6 breaks down maintenance activities and strategies for each by facility type.

Table 11. Maintenance Activities

Facility Type	Maintenance Activity	Strategy
Shared Use Paths/ Separated Bike Lanes	Pavement Preservation	Develop and implement a comprehensive pavement management system for Elyria's shared use path network.
	Snow and Ice Control	Design shared-use paths to accommodate existing maintenance vehicles.
	Drainage Cleaning/ Repairs	Clear debris from all drainage devices to keep drainage features functioning as intended and minimize trail erosion and environmental damage.
		Check and repair any damage to trails due to drainage issues.
	Sweeping	Implement a routine sweeping schedule to clear shared-use paths of debris.
		Provide trail etiquette guidance and trash receptacles to reduce the need for sweeping.
	Vegetation Management	Implement a routine vegetation management schedule to ensure user safety.
		Trim or remove diseased and hazardous trees along trails.
		Preserve and protect vegetation that is colorful and varied, screens adjacent land uses, provides wildlife habitats, and contains prairie, wetland and woodland remnants.
	ADA Requirements	Conduct walk and bike audits to assess accessibility of new, proposed, and existing shared-use paths.
		Ensure that ADA compliance is incorporated into the design process for new facilities.
Paved Shoulders/ Bike Lanes	Pavement Markings	Explore approaches to routinely inspect pavement markings for bicycle infrastructure and replace as needed.
		Consider preformed thermoplastic or polymer tape on priority bikeways (identified in this Plan) adjacent to high-volume motor vehicle routes (preformed thermoplastic or polymer tape are more durable than paint and requires less maintenance).
	Snow and Ice Control	Clear all signed or marked shoulder bicycle facilities after snowfall on all state-owned facilities that do not have a maintenance agreement with a local governmental unit in place.
	Sweeping	Implement a routine sweeping schedule to clear high-volume routes of debris.
Neighborhood Greenways/ Shared Lanes	Sign Replacement	Repair or replace damaged or missing signs as soon as possible.
Sidewalks	Pavement Preservation and Repair	Conduct routine inspections of high-volume sidewalks and apply temporary measures to maintain functionality (patching, grinding, mudjacking).
		Consider using public agency staff or hiring contractors for sidewalk repairs, rather than placing responsibility on property owner (property owner can still be financially responsible).
	Snow and Ice Control	Educate the public about sidewalk snow clearance.
		Require sidewalk snow clearance to a width of five feet on all sidewalks.
		Establish required timeframes for snow removal.
		Implement snow and ice clearing assistance programs for select populations.

On-Going Monitoring and Evaluation

Measuring the performance of active transportation networks is essential to ongoing success. Bicycle and pedestrian counts, crash records, and other data contribute to a business case for continued improvement of and investment in multimodal infrastructure. As recommendations are implemented, Elyria must be able to measure whether these investments are paying active transportation dividends (i.e. more people walking and bicycling). An affirmative answer reinforces the Plan's legitimacy and provides evidence that future investments will also yield positive results. The performance measures in Table 12 are suggested to chart progress towards making walking and bicycling safe, connected, and comfortable. Elyria should establish baseline targets and revisit these metrics as new plans and priorities occur. Data on these measures should be documented and published for public review annually. A robust performance measures program includes establishing baseline measurements, performance targets, data collection frequency, and data collection and analysis responsibility.

Additional Performance Measure Resources:

- Federal Highway Administration: Guidebook for Developing Pedestrian and Bicycle Performance Measures
- Fehr and Peers: Active Transportation Performance Measures

Table 12. Performance Measures

Performance Measure	Goal
Active Transportation Infrastructure	Increase miles of pedestrian network built annually – target __% increase per year.
	Increase miles of bicycle network built annually – target __% increase per year.
	Increase miles of shared use path built annually – target __% increase per year.
	Increase amount of bicycle parking facilities annually.
Semi-Annual Pedestrian and Bicycle Counts	After developing a baseline of pedestrian and bicycle activity, aim for year over year increases.
	Update student travel tallies for all schools and identify a baseline percentage of students who walk and bike. Conduct travel tallies annually and measure the change in the number of students walking and bicycling.
Education Programming	Track the number of children and adults who participate in pedestrian and bicycle education programming every year.
	Track public education campaigns and programs that include targeted efforts for students, traditionally underserved populations and other key stakeholders with target outreach goals set for 2025 and 2030.
Safety	Track the number of crashes that occurs every year, including whether bicyclists or pedestrians were involved and the level of severity, if injuries occurred.
	Reduce rate of bicycle/pedestrian and motor vehicle crashes – target __% decrease per year.
Public Opinion	Conduct an annual active transportation survey to gauge resident comfort and opinion about active transportation in Elyria.
Mode Share	Establish citywide bicycle and pedestrian mode share goals– set milestones for 2025 and 2030. (Current commute mode share is 2% for pedestrians and bicyclists.)
	Increase bicycle and pedestrian mode share target __% per year.

THIS PAGE INTENTIONALLY LEFT BLANK