LUCAS COUNTY

Active Transportation Plan

LUCAS COUNTY
ACTIVE TRANSPORTATION PLAN

December 2021

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Ohio Department of Health
Toledo-Lucas County Health Department
YMCA of Greater Toledo
Live Well Greater Toledo

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CHAPTER 1
INTRODUCTION

ACTIVE TRANSPORTATION

"Active Transportation" is an umbrella term for all the ways people can get around without using a motorized vehicle – walking, biking, using a kick scooter or skateboard, and more. It includes people who move around using mobility assistance devices such as wheelchairs and seated scooters. The term active transportation reinforces that these activities are valid forms of transportation enabling people to reach school, jobs, shopping, and other services, and not merely forms of recreation.

These physically active forms of transportation play a crucial role in improving community health and quality of life. Being able to walk, bike, or roll for transportation is important since a large proportion of the population who cannot drive or afford vehicular transportation—including children, people with disabilities, senior citizens, and low-income populations—depend on alternative modes of transportation. In addition, walking, biking, and rolling provide individuals with the many benefits of regular physical activity including better quality sleep, lower blood pressure, reduced anxiety, and stronger immune systems.[1] At the community level, widespread use of active transportation improves public health outcomes, reduces tailpipe emissions, and alleviates traffic congestion.

To obtain these benefits, communities must invest in the infrastructure and programs that support active transportation; developing an Active Transportation Plan is an important step towards coordinating that investment. Active transportation planning involves a comprehensive approach to the transportation system, recognizes the importance of active transportation in accessing public transit, and addresses associated infrastructure like bike racks and wheelchair ramps.

ABOUT LUCAS COUNTY

Lucas County is located in northwest Ohio bordered by Lake Erie to the east, the Maumee River to the south, and the state of Michigan to the north. The County encompasses approximately 341 square miles and has a population of 428,348.[1]

Within Lucas County there are five independent cities, three villages, and eleven townships. The City of Toledo is the county seat, and largest with a population of 272,778. Toledo is the fourth largest city in Ohio.

[1] Centers for Disease Control and Prevention. "Health Benefits of Physical Activity for Adults." https://www.cdc.gov/physicalactivity/basics/adults/health-benefits-of-physical-activity-for-adults.html

PLANNING PROCESS

The Toledo Lucas County Health Department and Live Well Greater Toledo led the development of this plan with input and support from the Active Transportation Steering Committee and Toole Design Group. This plan is the first county-wide Active Transportation Plan for Lucas County, but it builds on many previous planning efforts led by local jurisdictions, park systems, and the regional planning agency. The Steering Committee is made up of representatives from these organizations as well as advocates, non-profit organizations, Safe Routes to School programs, and large employers. A full list of members can be found in the Acknowledgements page at the beginning of the plan.

Timeline

2017 - The desire for a county-wide active transportation plan began in 2017 when the Health Department and Live Well Greater Toledo assembled a multi-disciplinary team and applied to participate in the Ohio Action Institute hosted by the Ohio Department of Transportation and the Ohio Department of Health. The Action Institute was a two-day training and networking opportunity for Ohio cities, counties, or regions interested in making their communities safer and more accessible for walking, bicycling, and transit.

2018 - Following the Action Institute, the Lucas County team established a Steering Committee that met regularly and worked to advance in active transportation initiatives in four areas: Education, Infrastructure, Plans and Policies, and Data and Evaluation.

The Health Department leveraged state contracts to bring in subject matter experts from Toole Design for additional local workshops. The first workshop took place in spring 2018. Titled "Best Practices in Active Transportation," the workshop brought the content of the Action Institute to a broader audience of local stakeholders, including elected officials. The workshop covered planning, policy, design, and an overview of current efforts.

2019 - A second workshop held in summer 2019 focused on the process of developing an Active Transportation Plan and included exercises to develop the plan's vision and goals. Steering Committee members continued to advance initiatives within their own organizations and met regularly to share progress.

2020 – Toole Design performed an assessment of the active transportation planning work to date and identified potential next steps. The assessment identified a need for broader public engagement in the planning process and a lack of capacity on the Steering Committee needed to finish the draft plan document.

2021 – Armed with the recommendations from the assessment memo, the Toledo-Lucas County Health Department leveraged Building Resilient Communities (BRIC) funding to contract with Toole Design to complete the draft plan. The draft plan was completed in December 2021.

Figure 1: Participants work in small groups during the 2018 workshop on best practices for active transportation.

VISION & GOALS

The active transportation vision and plan goals presented here were developed collaboratively by the Steering Committee and guided the development of the plan recommendations. They are central to evaluating plan implementation and metrics for each goal are listed in Chapter 5.

VISION:

In 2040 Lucas County will be an accessible community where people of all ages and abilities, including children, can conveniently, comfortably, affordably, and safely walk, bicycle, or use public transit as part of their everyday travel behaviors.

GOALS:

1	**HEALTH & SAFETY:** Encourage the development of a safe and context-appropriate bikeway and pedestrian system for all users in Lucas County including special populations. • Reduce the amount of vehicular traffic by providing opportunities to utilize alternative modes of transportation. • Improve the overall well-being of Lucas County residents and minimize health care costs by promoting an active lifestyle that will serve to improve the resident's physical and mental health. • Reduce the number and severity of crashes involving pedestrians and bicyclists.
2	**LIVABILITY:** Create a framework for a comprehensive, community-driven, transportation network for all users, of all ages. • Increase opportunities for physical activity with well-designed sidewalks, on-street bicycle facilities, and multiuse trails.
3	**EQUITY:** Create a more accessible community for all through development of interconnected pedestrian and bicycle facilities. • Increase connectivity of active transportation facilities to improve access to job opportunities, medical care, and local commercial services.
4	**SUSTAINABILITY:** Reduce per capita energy consumption and promote alternative fuel resources to increase affordability and resilience of regional energy supplies.

CHAPTER 2 EXISTING CONDITIONS

This chapter provides an overview of relevant demographic, health, and safety data; current and previous planning efforts; existing and planned biking and walking infrastructure; and active transportation programs in Lucas County. It also identifies gaps and challenges that the recommendations in this plan seek to address.

WALK.BIKE.OHIO ANALYSES

In 2020, the Ohio Department of Transportation (ODOT) completed its first statewide bicycle and pedestrian plan, Walk.Bike.Ohio. During the two-year planning process, ODOT documented existing conditions across the state and developed resources to support the development of local active transportation plans like this one. The safety, need, and demand analyses completed as part of Walk.Bike.Ohio help illustrate why this plan is needed.

HEALTH AND SAFETY

Health and safety (crash) data illustrate the necessity of this Plan. Lucas County ranks in the bottom 25% of counties in Ohio for overall health outcomes. Compared to the rest of Ohio, Lucas County has a higher adult obesity rate and slightly higher rate of physical inactivity, which can lead to chronic diseases. Lucas County also ranks slightly higher than the state average for air pollution levels and motor vehicle crash deaths, which both contribute to premature deaths.[2] Safe, accessible active transportation facilities can help more people incorporate physical activity into their daily lives and drive less, improving health outcomes.

Table 1 summarizes the total number of fatal and serious pedestrian- and bicyclist-involved crashes in Lucas County from 2009-2018. The data is from the Ohio Strategic Highway Safety Plan, which also identifies the most common crash types affecting pedestrians and bicyclists in Lucas County. For pedestrian fatalities, the most common crash types are midblock crossings, walking along the roadway, and conflicts with through vehicles at intersections. Most bicyclist fatalities happen at night and are due to motorist failure to detect the bicyclist, a bicyclist riding out into an intersection, and wrong way riding.

[2] Lucas County, OH 2020, County Health Rankings. https://www.countyhealthrankings.org/app/ohio/2020/rankings/lucas/county/outcomes/overall/snapshot

Table 1: Total Bicycle- and Pedestrian-involved Crashes, 2009-2018

Travel Mode	Fatal Crashes, 2009-2018	Serious Injury Crashes, 2009-2018
Pedestrian-involved crashes[3]	61	317
Bicyclist-involved crashes[4]	12	120

The pedestrian and bicyclist safety analyses performed as part of the Walk.Bike.Ohio planning process looked at average crash rates to generate a ranked list of all 88 counties in Ohio. Lucas County is the only county to be listed among the top five for both pedestrian- and bicycle-involved crashes (see Table 2 and Table 3). For severe injury and fatal pedestrian crashes, Lucas County ranks higher than other counties with large cities. This is not a distinction to be celebrated and indicates there is much work to be done to provide safer facilities for walking and bicycling and educate all road users about safe behaviors.

Table 2: Fatal and Serious Injury Pedestrian Crash Rates by Population, 2009-2018

Rank	Name	Average Crash Rate (per 100,000 residents, 2009-2018)[5]
1	Hamilton	9.6
2	Lucas	8.4
3	Franklin	7.9
4	Montgomery	7.9
5	Scioto	7.2

Table 3: Fatal and Serious Injury Bicyclist Crash Rates by Population, ,2009-2018

Rank	Name	Average Crash Rate (per 100,000 residents, 2009-2018)[6]
1	Holmes	4.3
2	Defiance	3.7
3	Van Wert	3.7
4	Lucas	3.0
5	Sandusky	2.7

[3] Pedestrian Fact Sheet, Ohio Strategic Highway Safety Plan. https://www.transportation.ohio.gov/wps/portal/gov/odot/programs/highway+safety/dashboard-tests/04-strategic-highway-safety-plan-dashboards
[4] Bicycle Fact Sheet, Ohio Strategic Highway Safety Plan. https://app.powerbigov.us/view?r=eyJrIjoiM2QyZDI5NGEtNjg0Ny00NzcyLWFkZGUtZTllZTRiNGRiMDNkIiwidCI6IjUwZjhmY2M0LTk0ZDgtNGYwNy04NGViLTM2ZWQ1N2M3YzhhMiJ9
[5] Bicyclist Safety Analysis Walk.Bike.Ohio. https://transportation.ohio.gov/static/Programs/WalkBikeOhio/Walk.Bike.Ohio.BicyclistSafetyAnalysis.pdf
[6] Bicyclist Safety Analysis Walk.Bike.Ohio. https://transportation.ohio.gov/static/Programs/WalkBikeOhio/Walk.Bike.Ohio.BicyclistSafetyAnalysis.pdf

NEED

The Walk.Bike.Ohio needs assessment identifies **locations with concentrations of vulnerable populations that rely most heavily on bicycling, walking, and taking transit** to help prioritize bicycling and walking infrastructure where it could have the greatest impact on the lives of Ohio residents. The needs assessment identifies 7 demographic indicators that make populations vulnerable to unsafe or incomplete active transportation networks: people of color, youth, older adults, people living in poverty, adults with no high school education, residents with limited English proficiency, and households with no access to a motor vehicle.

The assessment uses Census data to determine the number of residents in each demographic indicator separately and creates a composite need map by assigning equal weighting to each indicator. In the Toledo-Lucas County area, approximately 196,000 residents, or almost half of the county's population, live in areas with high needs. The Census tracts with very high need are mostly found in the City of Toledo, but there are other tracts with high needs elsewhere in the county as well (see Figure 2). A more detailed explanation of the needs analysis methods and rationale is available in the Walk.Bike.Ohio Needs Analysis report.

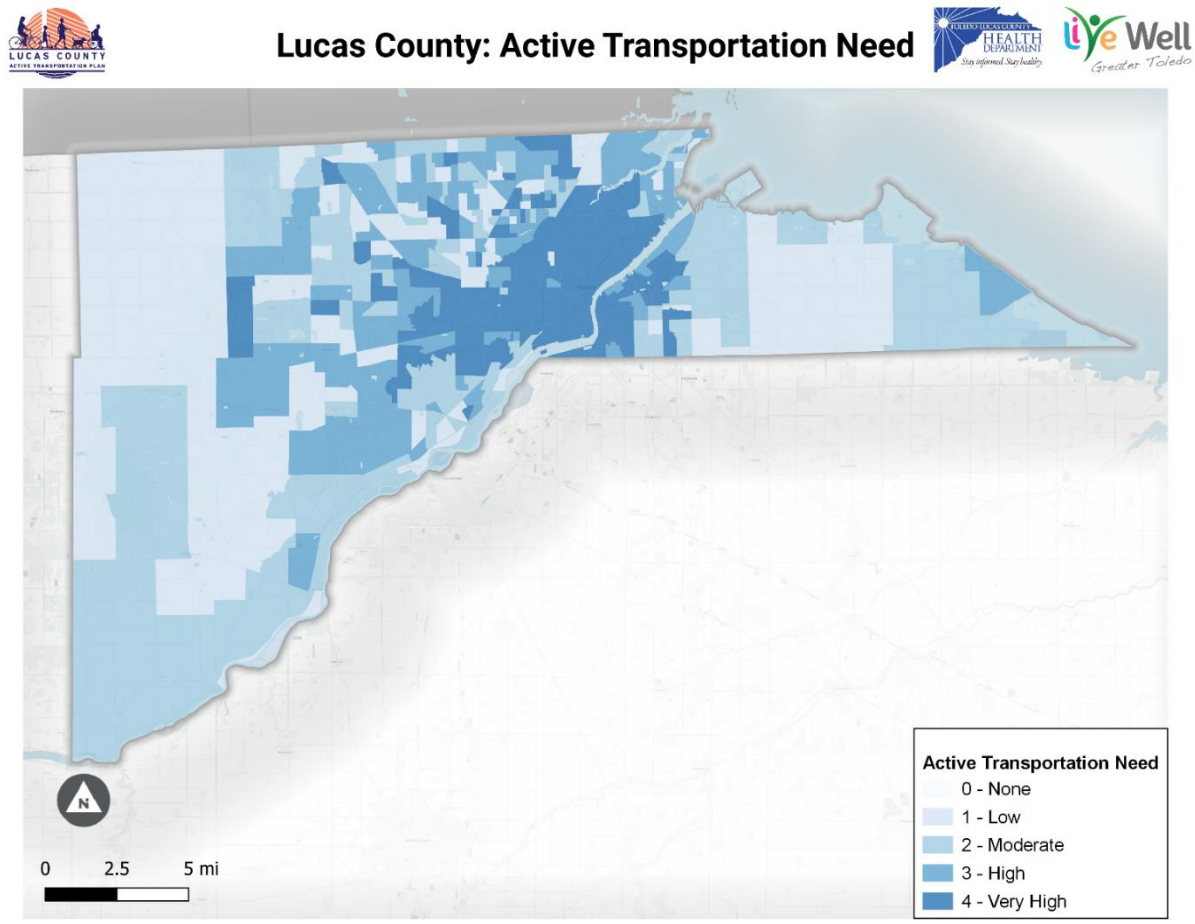


Figure 2: Composite Need Map. Darker areas have concentrations of populations with multiple demographic need indicators.

DEMAND

The Walk.Bike.Ohio demand analysis is "an objective, data-driven process that estimates the **cumulative demand for active transportation and recreation depending on where people live, work, play, shop, learn, and access transit**." Demand for walking and biking is generally higher in areas with higher residential and employment density, as well as near retail, educational institutions, parks, and other attractors. As Figure 3 shows, there are multiple clusters of high demand in Lucas County associated with the density of retail, housing, and employment found along the riverfront and in the business districts of neighboring suburbs. For an explanation of the demand analysis methods and data sources, see the Walk.Bike.Ohio Demand Analysis report.

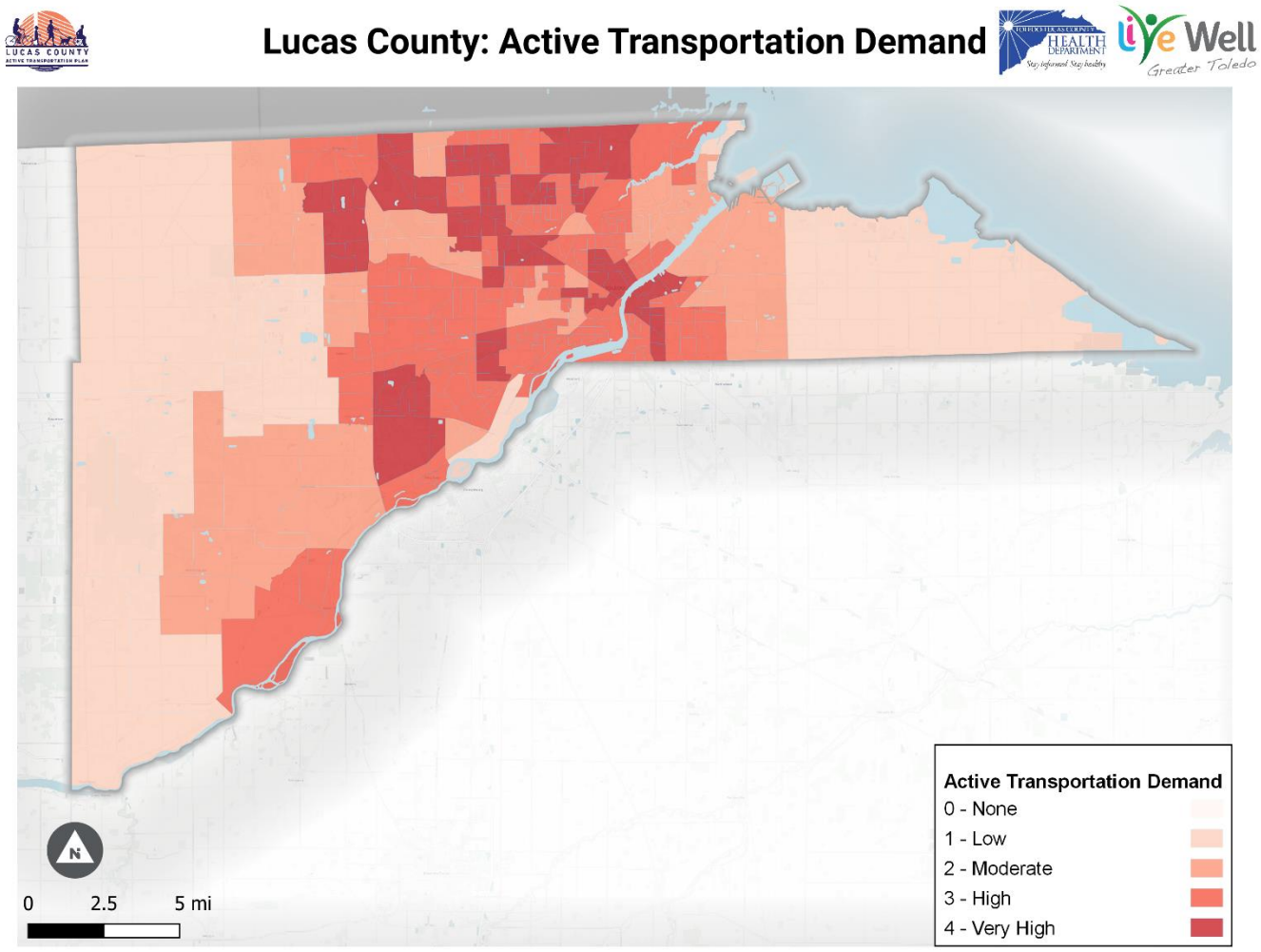


Figure 3: Composite Demand Map. Darker areas have greater demand for walking and bicycling opportunities.

Figure 4: Students and caregivers walk to Hawkins Elementary School from a remote drop-off location on Walk to School Day.

EXISTING PLANS & POLICIES

The current walking and bicycling environment in Lucas County is the result of numerous local plans and policies developed and implemented over time. Table 4 provides an overview of the types of plans developed by Lucas County and others that relate to active transportation. Challenges to fully implementing these plans and realizing a connected active transportation network include differing priorities, standards and policies among local jurisdictions, and resource limitations such as staff capacity and available funding for new projects. This Plan attempts to bridge some of the gaps between existing local plans and policies by providing a coordinated vision and recommendations for a better-connected active transportation network county-wide.

Table 4: Overview of local plans related to active transportation

Plan Type	Examples
Bicycle Plans	City of Oregon 2035 Master Bikeway Plan City of Toledo Bike Plan (2015) City of Sylvania Bike Network (2009)
Complete Streets Policy, Ordinance, or Resolution	City of Toledo Lucas County City of Sylvania Toledo Metropolitan Area Council of Governments (TMACOG)
Comprehensive Plans & Land Use Plans	City of Oregon 2025 Master Plan City of Sylvania Land Use Plan City of Toledo 2020 Plan (2011) City of Toledo Master Plan (2017)
County plans with relevant goals	Toledo-Lucas County Sustainability Plan (2014) Lucas County Health Improvement Plan (2018)
Metropolitan Planning Organization (MPO) Long Range Transportation Plan	TMACOG On the Move: Transportation Plan - Update 2020
Neighborhood / Corridor Plans (City of Toledo)	Downtown Toledo Master Plan & Downtown Toledo Transportation Plan Middle Grounds District Plan (2015) Old South End Master Plan (2017) Vistula Neighborhood Plan (2020)
Parks Districts, Shared-Use Path, or Trails Plan	Metroparks Toledo Vision Plan (2015)
Safe Routes to School Plans	Maumee City Schools Oregon City Schools (2008) Sylvania City Schools (2010) Toledo Public Schools (updated 2019) Washington Local Schools
Transit Agency Short- or Long-Range Plan (Toledo Area Regional Transit Authority)	Transforming TARTA Strategic Plan (2021)
Vision Zero Commitments	City of Toledo (2021)

EXISTING & PLANNED INFRASTRUCTURE

SIDEWALKS

As shown in Figure 5, sidewalks are present on many streets in Lucas County, especially in more urban areas. However, not all sidewalks meet the Americans with Disability Act (ADA) accessibility standards for width, smooth surfaces, cross slope or curb ramps at every corner. Along major arterial roads, sidewalks are often located immediately adjacent to moving traffic and are frequently interrupted by multiple driveways that provide access to parking lots, creating safety conflicts between drivers and pedestrians.

Sidewalks are just one component of the pedestrian network and overall walkability. When asked about gaps and barriers that affect the pedestrian experience, members of the Steering Committee cited:

- Lack of ADA accessible curb ramps at many intersections,
- Missing pedestrian signal heads at many traffic signals,
- Not enough pedestrian scale lighting or wayfinding,
- Land use policies where large commercial parcels are far from residential areas, and
- Poor sidewalk connectivity across the region.

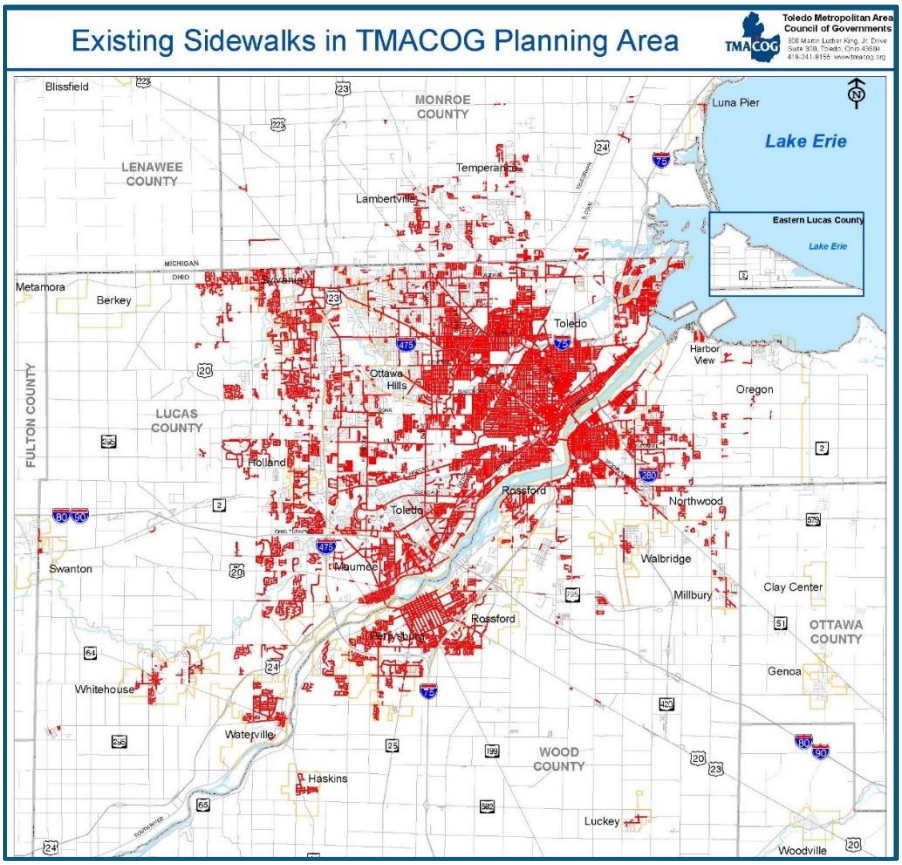


Figure 5: TMACOG Regional Sidewalk Map with red lines indicating the presence of sidewalks

BICYCLE FACILITIES

The existing network of bicycle facilities in Lucas County consists of both off-street trails and on-street routes. The trail network is one of Lucas County's key active transportation strengths, as trails are comfortable facilities for a wide range of bicyclists and pedestrians. Many of the previously planned facilities expand and connect the existing trail network (see Figure 6).

Beyond the gaps in the existing bike network, the Steering Committee and public survey respondents cited the following conditions as negatively affecting bicycling in Lucas County:

- A lack of bicycle parking,
- Maintenance issues with existing bicycle facilities,
- A limited number of river crossings, and
- High speeds and high volumes of motor vehicle traffic.

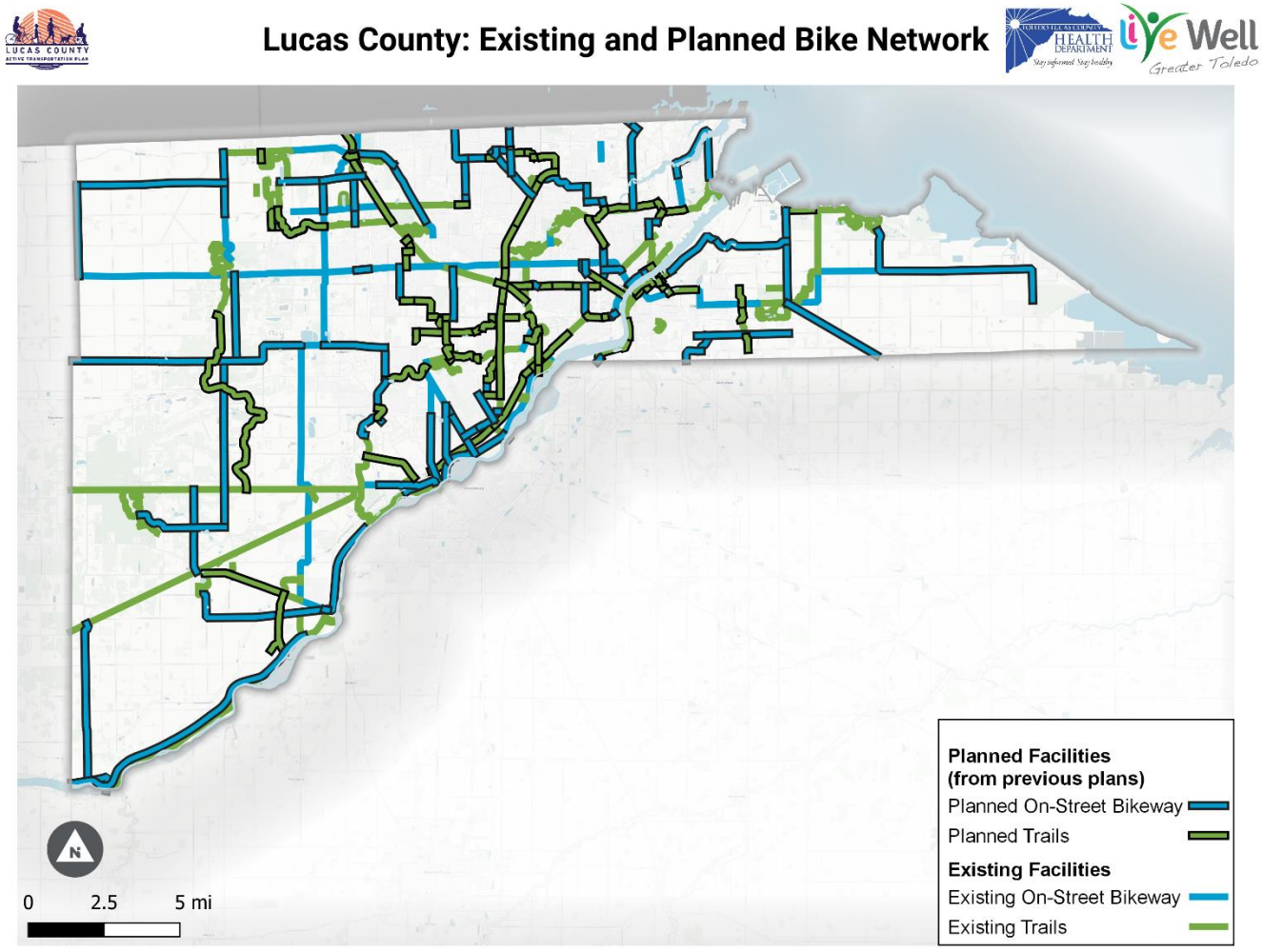


Figure 6: Existing and planned bicycle facilities in Lucas County

EXISTING PROGRAMS

Multiple existing active transportation education and encouragement programs are another of Lucas County's greatest strengths. Programs are run and supported by a variety of organizations and try to reach residents of all ages and travel preferences.

Key programs include:

- **Safe Routes to School** – Safe Routes to School supports safe active transportation for students. The most active Safe Routes to School (SRTS) programs in Lucas County are in City of Toledo (Toledo Public Schools) and Washington Local Schools. A paid coordinator works with schools and local governments to implement ODOT-approved SRTS plans, develop education programs, and provide incentives for students that walk and bike to school. For the 2021-2022 school year, SRTS is working to establish walking school bus routes at multiple schools to improve student attendance and academic performance. A walking school bus is an adult-supervised group of students that walk along a designated route to get to school.

Figure 7: Glendale-Feilbach Elementary School in Toledo is a proud participant of Safe Routes to School.

- **We Are Traffic** – We Are Traffic is a bicycling advocacy organization that teaches safe bicycling skills, leads group bike rides, and works with local governments to improve bicycle facilities throughout Lucas County.
- **Bike Month** – Bike Month is an annual event that celebrates bicycling. A multi-disciplinary committee, led by TMACOG, plans and leads a variety of Bike Month promotions and activities designed to get more people on bikes every May.
- **Toledo Area Bicyclists** – Toledo Area Bicyclists has been promoting cycling in northwest Ohio since 1981 and organizes recreational group rides.
- **Toledo Bikes** – Toledo Bikes works to promote safe bicycle transportation in the public, provide education on bicycle maintenance and safety, and make reused and recycled bicycles available to the community, including those who could not otherwise afford one. They offer open shop hours and earn-a-bike programs.

- **Bikeshare and Scooters** – The City of Toledo launched its first bikeshare program in March 2018, and in 2021 switched providers in order to provide an all-electric shared bicycle and scooter fleet. The 100 electric bikes and 400 scooters are part of a 10-month pilot program aiming to give Toledoans and visitors another healthy and climate-friendly transportation option.[7]

Steering Committee members and survey respondents cited the following gaps and barriers to walking and biking in Lucas County:

- A general sense that more education for all road users is needed,
- A car-centric culture,
- Unequal access to affordable, reliable bicycles, and
- Inclement weather.

SUMMARY OF EXISTING CONDITIONS

Ongoing investment in active transportation planning, education, and facility construction has the potential to improve the quality of life for Lucas County residents. The Walk.Bike.Ohio analyses show where investments are most needed, and existing plans and policies lay the foundation for the recommendations in this Plan.

Despite the common challenges the county faces – routes that cross jurisdictional boundaries, a car-centric culture and built environment – it also has exciting opportunities not found in other communities – miles of recreational trails, a redeveloping riverfront, and a broad coalition of supportive stakeholders led by Toledo-Lucas County Health Department and Live Well Greater Toledo.

The next chapter summarizes public feedback on these existing active transportation conditions and how to take advantage of these opportunities to improve walking and bicycling for all people.

[7] Bike Share and Scooter Share Announcement, August 20, 2021. https://toledo.oh.gov/news/2021/08/10/bike-share-and-scooter-share-announcement

CHAPTER 3 COMMUNITY ENGAGEMENT

The project team conducted extensive community outreach for this plan in the summer of 2021. There were several goals of the community engagement: first, the project team wanted to introduce people to the concept of an Active Transportation Plan and show how the plan will lead to healthier outcomes. Second, the project team wanted to understand the needs and wants of people who live, work, and visit Lucas County. A high degree of participation in the planning process ensures that the resulting recommendations reflect local needs, and that the community will support the implementation of the recommendations.

This chapter describes the community engagement strategies used and key themes that emerged from the input received.

STRATEGIES

STEERING COMMITTEE

A Steering Committee comprised of a variety of stakeholders with interest in active transportation helped guide the development of the Active Transportation Plan. Steering Committee members are listed under Acknowledgments at the beginning of this document. The Steering Committee met bi-monthly over the course of the plan development and provided feedback on:

- Community engagement,
- Bicycle network recommendations,
- Pedestrian countermeasures and policies, and
- Program and policy recommendations.

The Steering Committee also informed the project team of ongoing initiatives and upcoming projects related to active transportation.

SURVEY AND MAP

A public survey was created to understand travel habits of Lucas County residents and how people would like to see active transportation improved. The survey was available both online and on paper. The survey asked how often respondents walk or bike, why they walk or bike, and how to improve walking and biking in Lucas County. The survey also included demographic questions that

enabled the project team to compare responses to county demographics and adjust outreach strategies to get more representative responses.

The project team also used an interactive mapping tool to understand which streets and intersections are commonly used by people walking and bicycling and/or need improvements (see Figure 8). Participants could add routes where they wish they could ride or routes they use now to access their desired destinations. Participants could also draw points to indicate places that they have difficulty walking or bicycling. This information helped the project team develop the proposed bicycling network and other recommendations.

After about a month of promoting the online map and survey, the project team presented a summary of responses to the date to the Steering Committee. The majority of responses to the online survey were from a white audience and not representative of the county's population.

To reach more people of color, the project team provided paper surveys at libraries, farmer's markets, and other local destinations. This effort increased the reach of the survey and ensured that diverse voices were captured by the survey. The map was available online May through September 2021, and as a poster at several tabling events in July and August 2021.

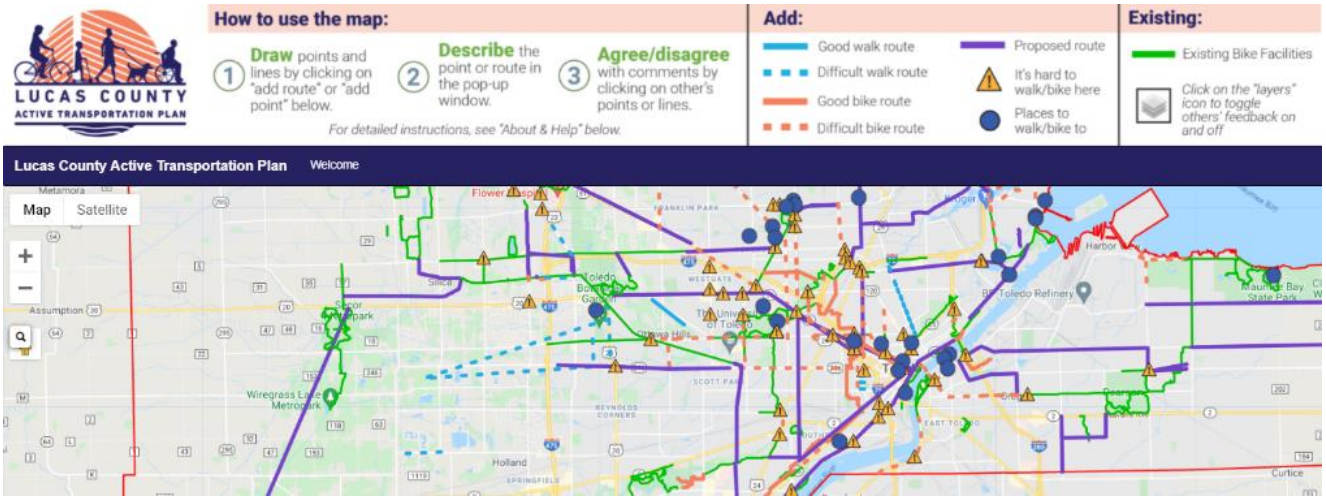


Figure 8: Screenshot of the online interactive map. Visitors completed a welcome survey and could draw lines or place points to provide feedback on walking and biking routes and conditions.

The table and images below describe various methods used to promote the survey and interactive map from May to September 2021.

Table 5: Survey Promotion Methods

Engagement Tool	Location	Purpose
Online Survey	Webpage on Live Well Toledo site (livewelltoledo.org/local-active-transportation)	Webpage shared information about the Plan, including the schedule, goals, and other updates. The webpage also included a link to the online survey.
	Social Media Posts	Messages from Live Well Greater Toledo and other partners encouraged people to take the online survey and learn about the ATP.
Paper Surveys	West Toledo YMCA	Paper surveys made available to parents attending a bike fix-it/helmet fitting event.
	Toledo Public Libraries: Birmingham, Oregon, South Toledo, Point Place, LaGrange, West Toledo, Kent, Locke	Paper surveys made available to library visitors.
	Art Loop Event	Paper surveys made available.
Pop Up Events/Tabling	Farmer's Market	Table set up where patrons could talk to staff and fill out paper surveys. Patrons could also use the poster map to pinpoint areas where they have trouble walking or bicycling.
	TARTA Transit Center	
	Safe Kids Day	
Print Ads	Metroparks A-Frame Signs at trailheads	Signs promoted the online survey and map on 10 different trailheads throughout the County.
	Time Based Bus Messages Interior Bus Signs	Advertisements promotes the online survey and map to bus riders.

Figure 9: A-Frame sign promoting the online survey at Glass City Metropark.

Figure 10: Tabling at the TARTA Transit Hub in Downtown Toledo.

Figure 11: Interior bus advertisement

SURVEY RESPONDENTS

This Plan would be incomplete without the contributions of a wide cross section of community members. More than 650 people responded to the online and in-person surveys, which shows that people are interested in improving conditions and walking and biking for everyday trips. The project team received 387 online responses and 266 in-person responses.

Geography - Many responses came from central Lucas County (see

Figure 12). Zip codes 43612, 43614, 43609, 43606, and 43615 each represented at least 7% of survey respondents.

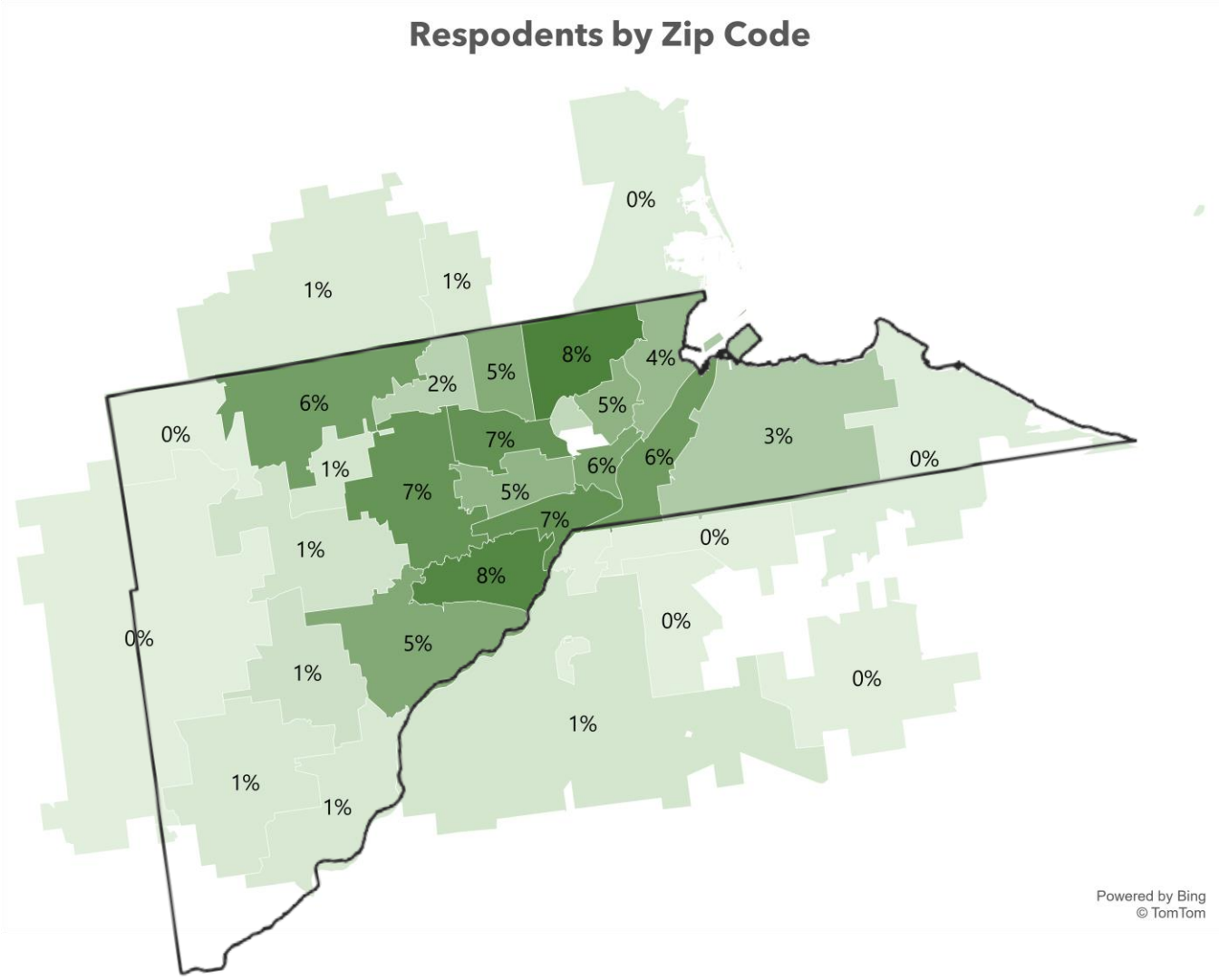


Figure 12: Survey respondents by zip code

Gender and Age - Of those who responded to the survey, 49% identified as female, 46% identified as male, 2% identified as gender non-conforming, and 3% preferred not to answer. The majority (67%) of respondents were between 25 and 54 years of age.

Race - Figure 13 shows the stark differences in the distribution of race among online and paper survey respondents. Using a combined approach of both online and in-person engagement resulted in an overall response that more closely mirrors the County's demographics:

- 63% of survey respondents identified as white, (68% of county population)
- 20% identified as Black or African American, (19% of the county population)
- 5% identified as multi-racial,
- 2% identified as American Indian or Alaska Native,
- 2% identified as Asian, and
- 8% did not list a racial category.

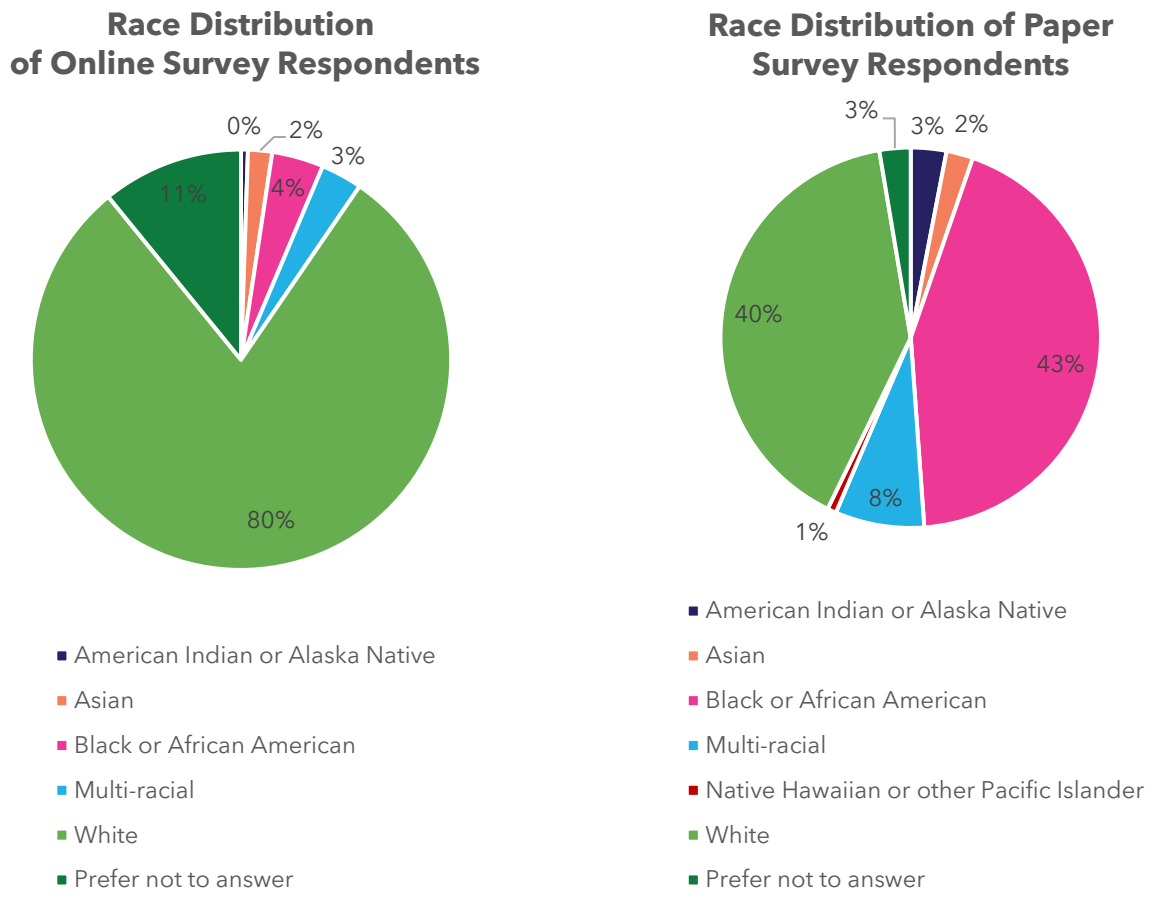


Figure 13: Comparison of the race distribution of respondents from the online and paper survey

Disability - This Plan seeks to create a transportation network that better serves people of all abilities, so the input of these populations is especially valuable. The distribution of respondents by disability is shown in Figure 14. Approximately 20% of respondents reported having a disability that made it difficult to get around. Of those respondents who did list a disability, 10% were low vision/blind, 5% were hard of hearing/deaf, 2% used a wheelchair or walker, and 5% listed another disability.

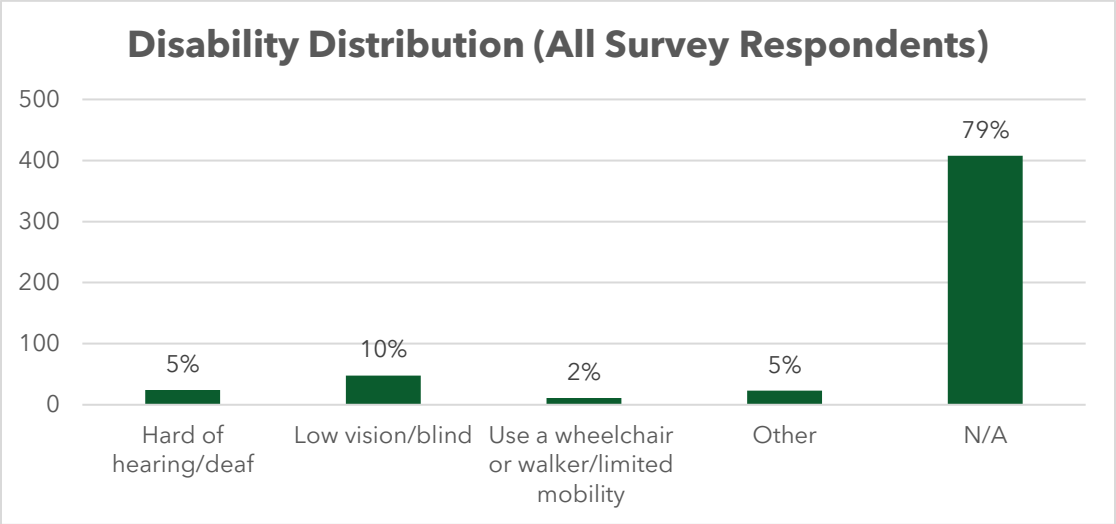


Figure 14: Distribution of survey respondents by disability

Access to a car - The project team also wanted to hear from people who may depend on walking, biking, and/or transit for transportation. Figure 15 shows nearly 20% of survey respondents do not have access to a household vehicle.

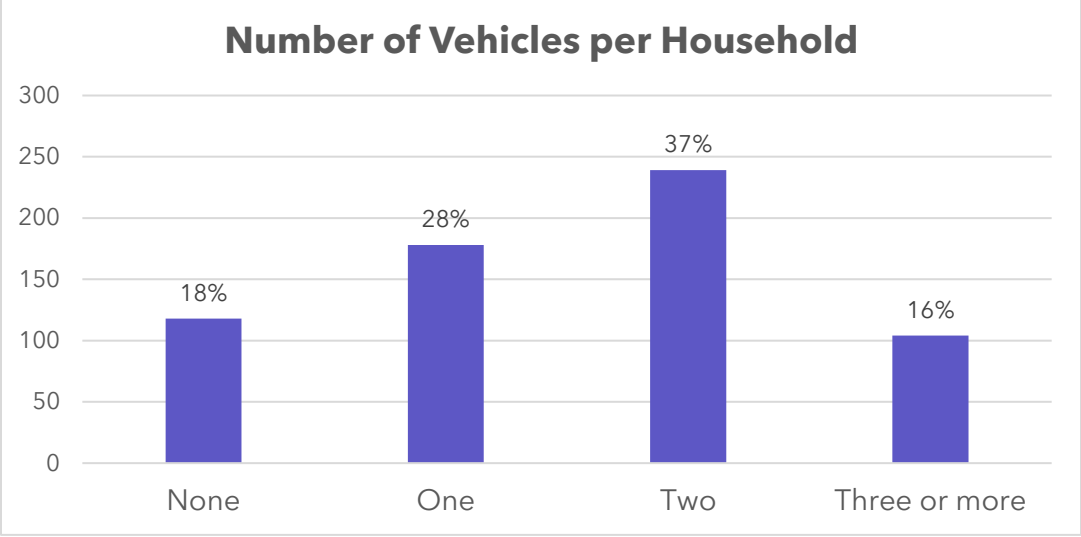


Figure 15: Distribution of survey respondents by household vehicle ownership or rental

WHAT WE HEARD

SURVEY RESPONSES

In the survey, respondents shared their experiences walking or bicycling in Lucas County. The following is a summary of what they said, which later shaped the Active Transportation Plan network and recommendations.

Active Transportation Frequency – Thirty-nine percent (39%) of survey respondents reported walking most days for transportation, and 21% of respondents reported bicycling most days to get to their destination. On the other hand, 42% of respondents walk less than once a month for transportation, and 51% bike less than once a month for transportation (see Table 6).

Table 6: Frequency of walking and biking for transportation

	How often do you WALK for transportation?	How often do you BIKE for transportation?
Most days	39%	21%
Once a week	12%	18%
Once a month	8%	10%
Less than once a month	42%	51%

Bicyclist Level of Comfort - While the survey reached many experienced and recreational cyclists who ride mostly on trails, the survey also showed that a fifth of the survey respondents (21%) would bike if they felt safer doing so (see Figure 16).

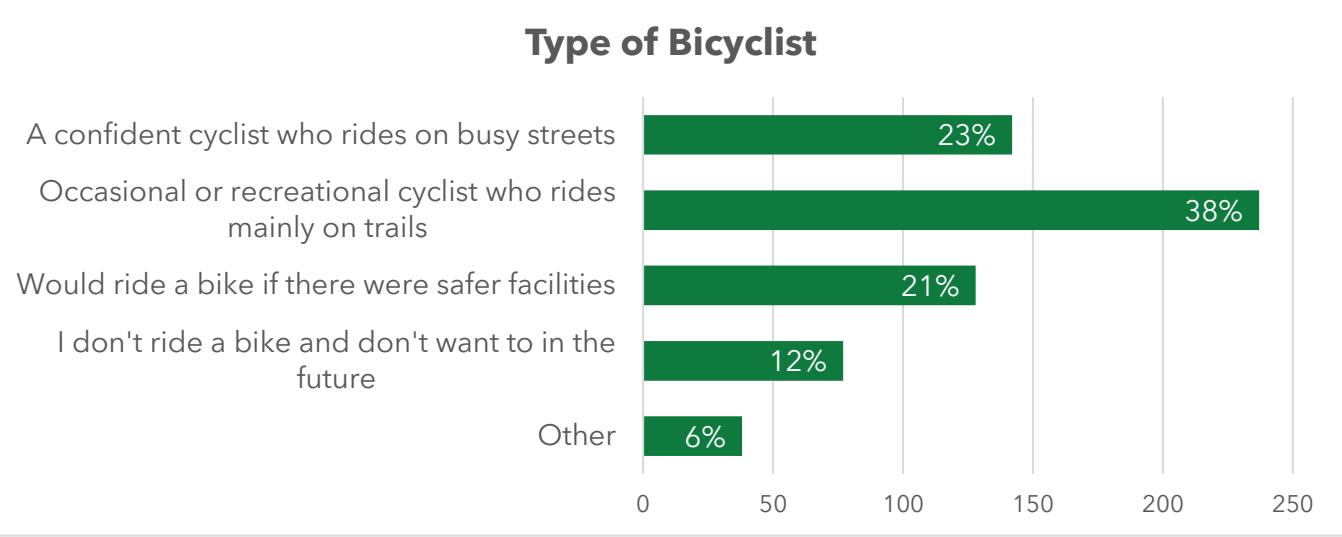


Figure 16: Type of bicyclist

Trip Purpose - Most survey respondents reported walking or biking for recreation, health, or exercise. The percentage of people who walk and bike to access destinations, such as stores, school, or work, is smaller. People also walk or bike for entertainment or errands. Other reasons for walking and biking included accessing bus stops and taking their dog outside (see Table 7).

Table 7: Reasons behind walking and biking

	Why do you WALK?	Why do you BIKE?
Recreation, health, or exercise	44%	45%
Shopping or errands	17%	14%
Commute to school or work	9%	11%
Social or entertainment	18%	18%
I don't walk/bike	2%	11%
Other	10%	1%

Desired Improvements - The online survey asked respondents what would encourage them to walk more for transportation (see Figure 17). The most common responses were better maintained sidewalks, new sidewalks where there are none, and improved crossings.

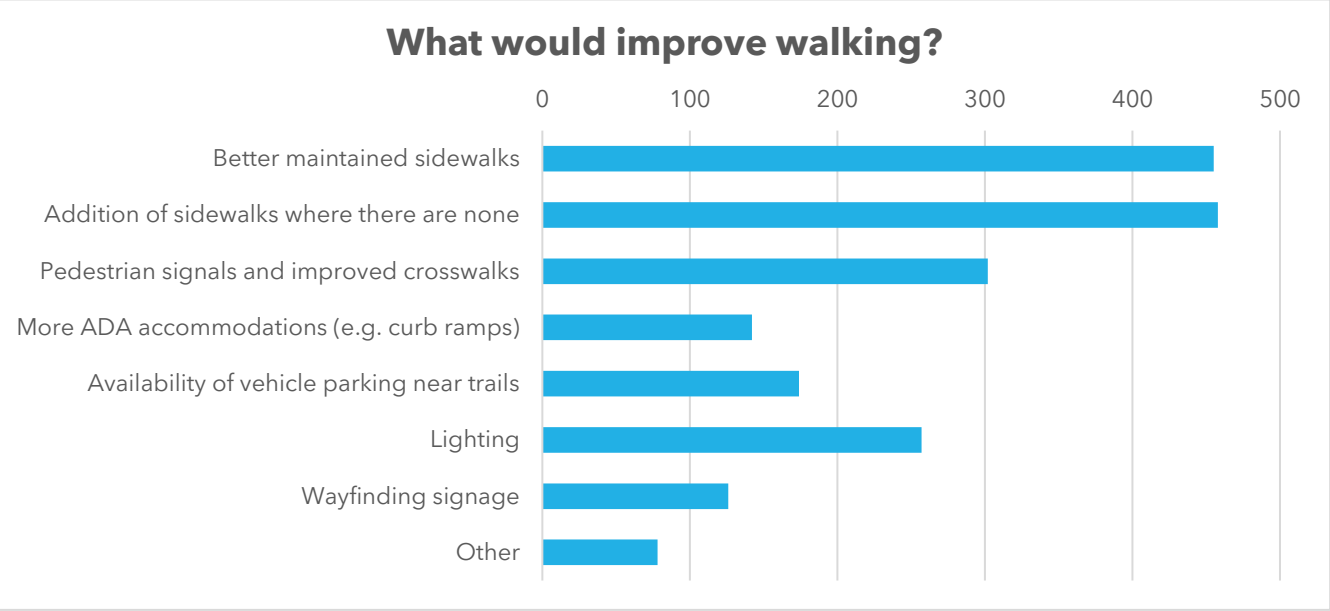


Figure 17: Walking improvements

When asked about what would improve bicycling in Lucas County (see Figure 18), survey respondents most often selected continuous bike routes that connect to destinations, designated bike lanes, and protected bike lanes.

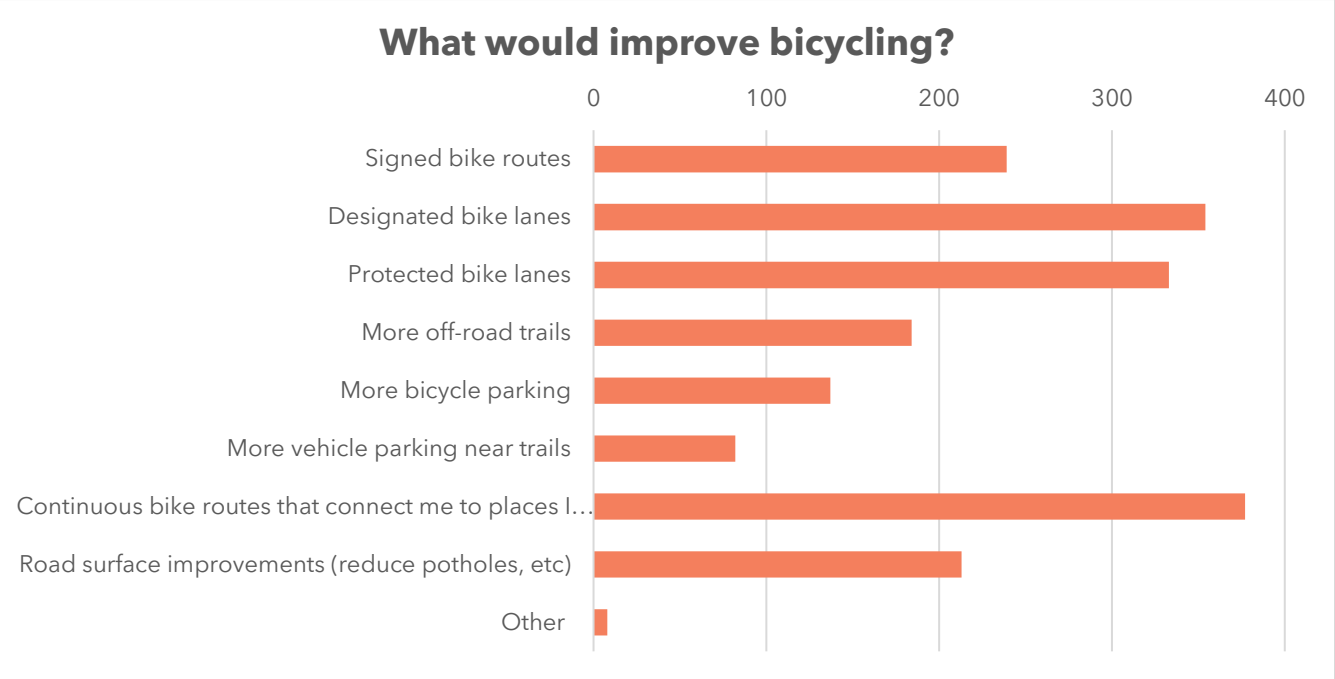


Figure 18: Biking improvements

Figure 19: Bicycle parking and bicycle repair stand along the Chessie Circle Trail.

LOCATION-BASED INPUT

The online map received close to 300 comments relating to popular destinations, good routes for walking and bicycling, and opportunities for improvement (see Figure 20).

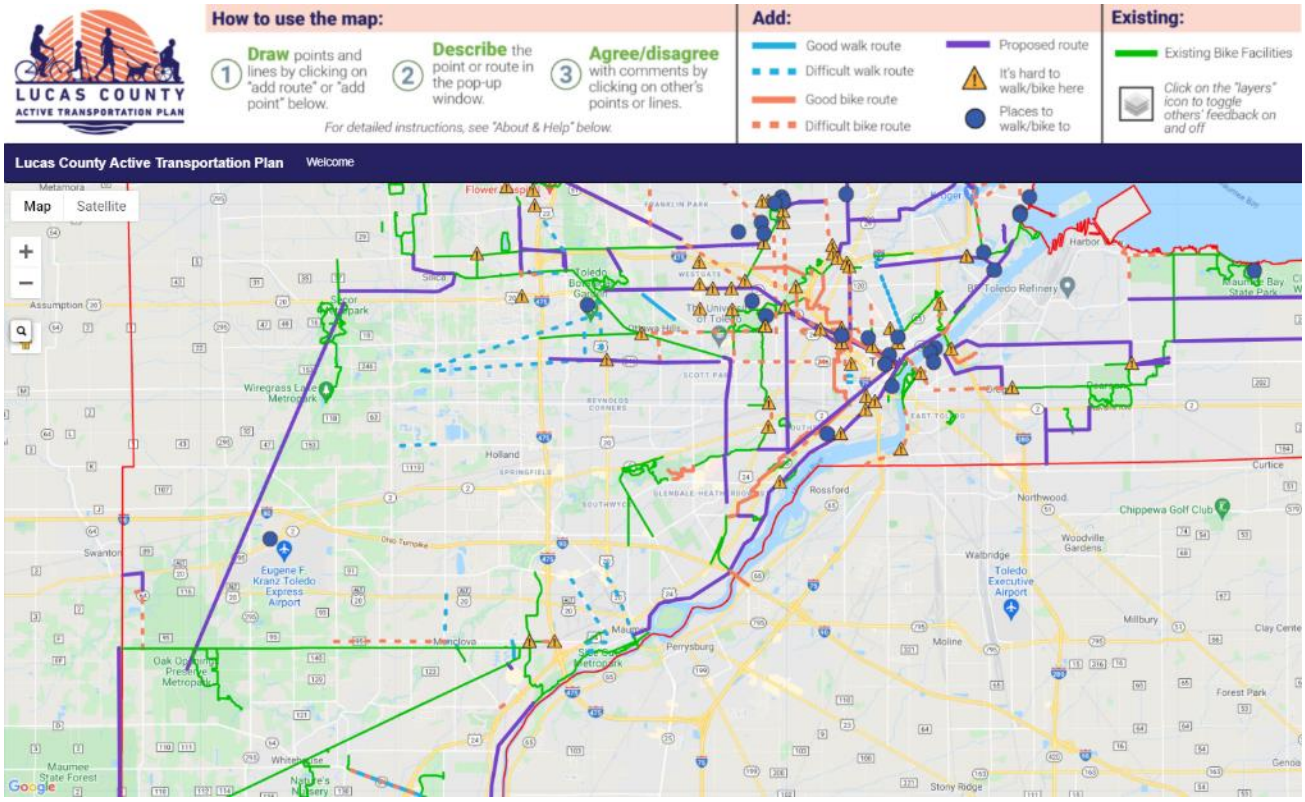


Figure 20: Screenshot of online map comments

Comments on the online map focused on safety, connectivity, and access. In general, public comments pointed towards the need for bicycle facilities that were protected from vehicle traffic, as well as the need for more signs and wayfinding. Public input also indicated where existing facilities were not adequate, such as parts of Bancroft Street.

Many commenters requested that the Active Transportation Plan connect the county's existing trail system and parks to create a more complete network. Other priorities included: ensuring that bicyclists can access Toledo from the suburbs; providing safe walking and biking access to commercial areas along arterial roads, the Toledo Zoo and Toledo Museum of Art; and giving students at the University of Toledo and other colleges affordable travel options.

PUTTING IT ALL TOGETHER

Information from the existing conditions assessment and community engagement process informed the development of a draft bicycle network, a pedestrian safety toolkit, and recommendations for programs and policies to support active transportation. These are described in the next chapter.

CHAPTER 4
RECOMMENDATIONS

Lucas County will be an accessible community where people of all ages and abilities, can conveniently, comfortably, affordably, and safely use active transportation as part of their everyday travel behaviors. This Plan calls for a connected, low-stress network for people walking, bicycling, using micromobility devices, and accessing transit.

The first section presents proposed projects for on-street bicycle facilities and shared use paths. The second section presents a pedestrian safety toolkit, and the third section presents program and policy recommendations that can support a cultural shift in how people travel and improve the regulatory environment to further promote walking and bicycling.

PROPOSED BICYCLE NETWORK

This section describes a proposed future bicycle network, which will provide low-stress routes within neighborhoods and connecting destinations throughout Lucas County. The proposed network fills in gaps between existing and previously planned bicycle facilities, which both eliminates barriers and leverages previous investments to significantly improve access. The proposed network also creates new routes and recommends upgrades to existing routes that currently only appeal to very confident bicyclists.

NETWORK RATIONALE

To develop the proposed bicycle network for this Plan, the project team revisited the Plan's vision and goals. To meet the goals of the Plan, the proposed bicycle network needs to improve access and mobility and be safe and comfortable for a wide range of users.

- To improve access and mobility, the network should cover the entire county.
- Safe and comfortable requires more separation between modes as traffic speeds and volumes increase.

In addition to feedback from the public and steering committee detailed in Chapter 3, the project team assessed the presence and condition of existing infrastructure through Google Street View, satellite imagery, and data provided by TMACOG. The project team focused on developing small systems within the larger network to connect local destinations, as well as identifying cross-county connections for longer trips or recreation. The proposed bicycle network is continuous, connects seamlessly across jurisdictional boundaries, and provides improved access to everyday destinations.

The **proposed bicycle network**, comprised of existing routes (blue and green solid lines), previously planned routes (blue and green solid lines with black casing), and new routes identified during this Active Transportation (AT) Plan process (magenta lines) is shown in Figure 22.

Many of the streets in the network are large thoroughfares that provide important connections allowing people to travel between neighborhoods, to access daily needs, and to commute to work or school. These connections are also important for bicyclists, too. 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, the recommended **facility types** for the proposed bike network are designed to lower stress along higher traffic corridors so that bicycling can be a viable transportation option for more people. Strategies to reduce the amount of stress felt by people riding bicycles include traffic calming infrastructure, lowering the speed limit, and bicycle facilities that are physically separated from moving vehicles.

This network largely does not include recommendations for smaller neighborhood streets, which may have lower speeds that are more comfortable for walking and bicycling or are circuitous and do not provide through-connections.

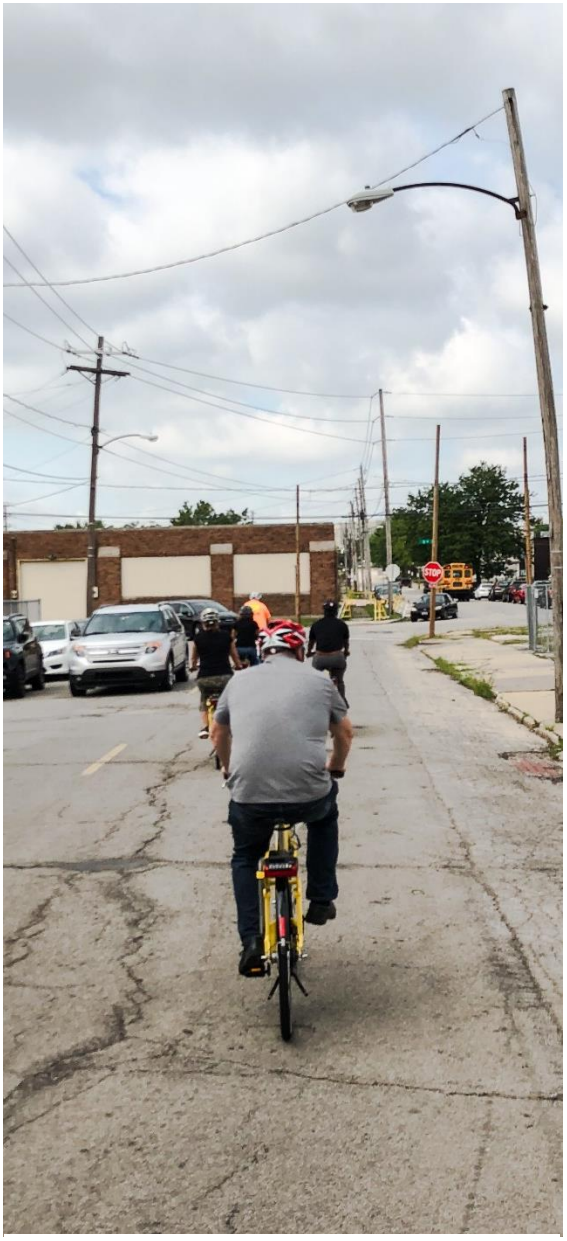


Figure 21: The proposed bicycle network recommends that some existing bicycle facilities be upgraded to provide separation from motor vehicles.

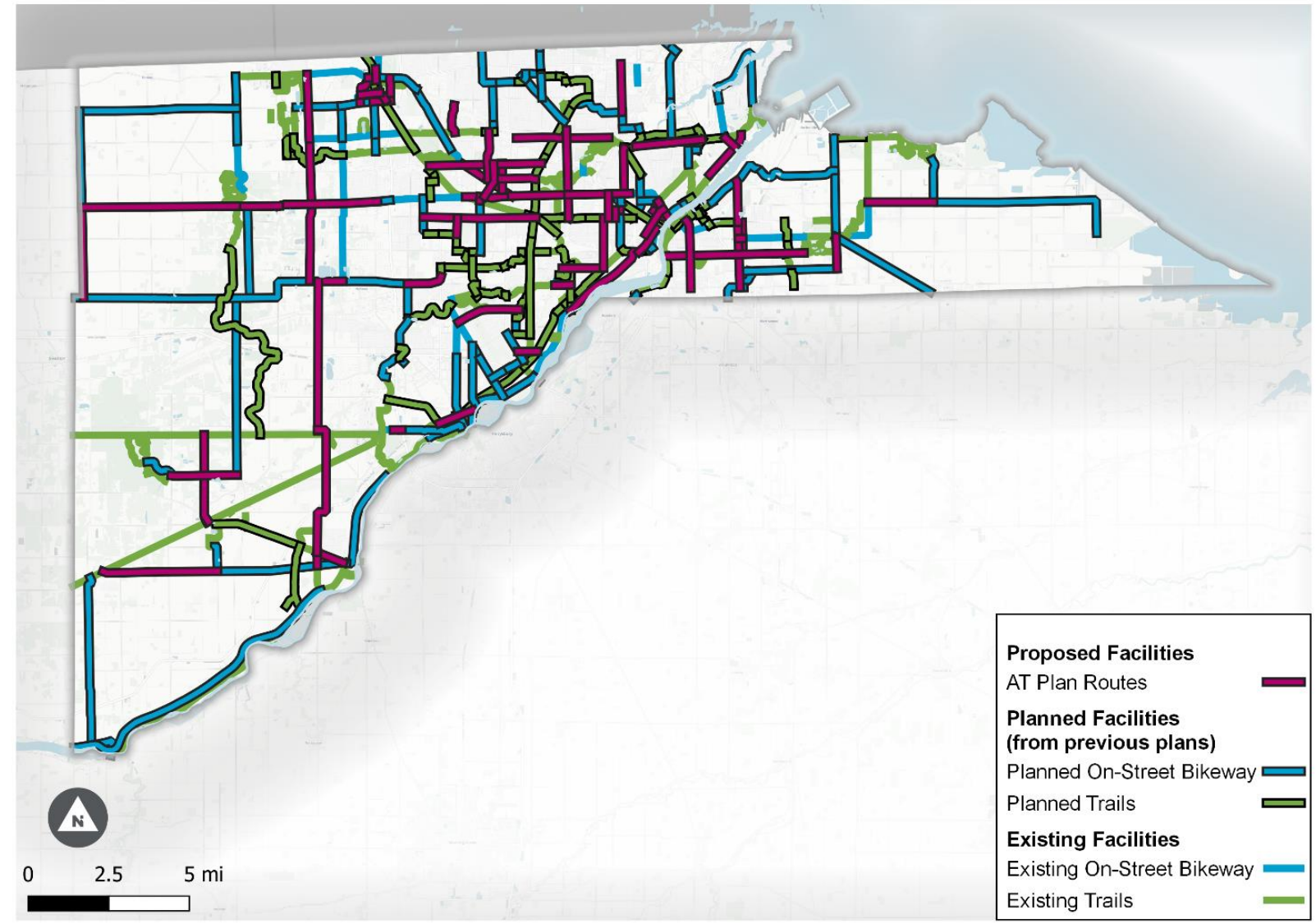


Figure 22: Proposed Bicycle Network

TYPES OF BICYCLISTS

Understanding which types of bicyclists feel comfortable using a given facility is key to building a safe, convenient, and well-used network. Comfort, skill, and age affect bicyclist behavior and preference for different types of bicycle facilities. Of adults who have stated an interest in bicycling, researchers have identified three types of potential and existing bicyclists: Interested but Concerned, Somewhat Confident, and Highly Confident (see Figure 23). Around 56% of all adults fall into the category of Interested but Concerned – they are interested in bicycling for transportation but are dissuaded by the potential for stressful interactions with motor vehicles.[8] They generally prefer bicycle facilities that are more separated from motor vehicle traffic. To achieve a significant increase in numbers of people biking in Lucas County, the project team aimed to identify routes and choose facility types that would be comfortable for this population. In some contexts, such as rural roadways in the eastern and western parts of the County, the Somewhat Confident or Highly Confident rider is the most relevant design user.

According to the public survey, 38% of Lucas County residents are occasional or recreational cyclists who ride mostly on trails and 21% of residents would be interested in riding a bicycle if there were safer facilities. This is more than half of the adult population that would bicycle more if facilities were comfortable and abundant.

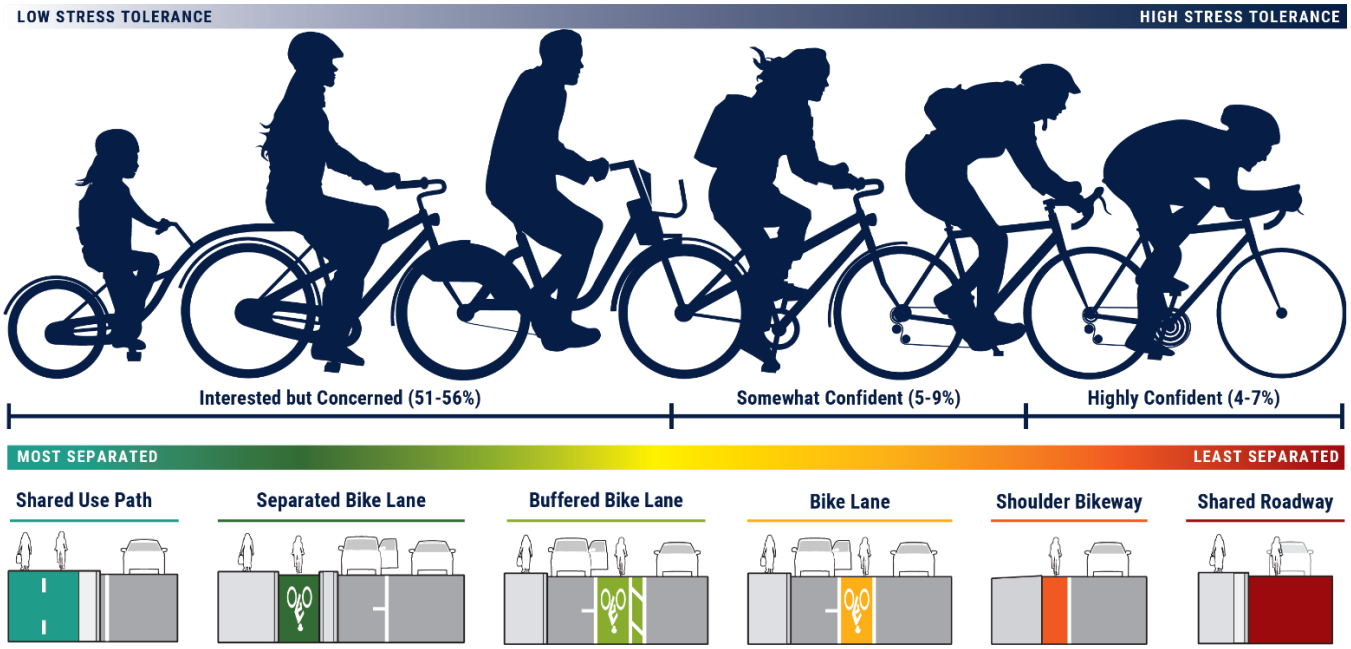


Figure 23: Types of Bicyclists and Facility Types

[8] Schultheiss, B., Goodman, D., Blackburn, L., Wood, A., Reed, D., and Elbech, M. (2019). Bicycleway Selection Guide. Federal Highway Administration. https://safety.fhwa.dot.gov/ped_bicycle/tools_solve/docs/fhwasa18077.pdf

BICYCLE FACILITY TYPES

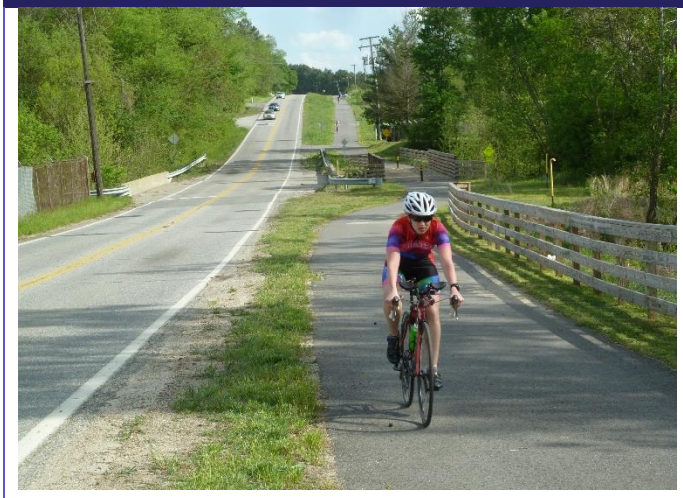
Once the proposed routes were identified and vetted by members of the Steering Committee, the project team identified recommended facility types for each new connecting route by identifying the anticipated design user and following guidance on context, speed, and volume found in the FHWA Bikeway Selection Guide. The proposed AT Plan routes shown in Figure 22 and detailed in the project tables include:

- 47 miles of Shared Use Paths
- 5 miles of Buffered or Separated Bicycle Lanes
- 21 miles of Bicycle Lanes
- 11 miles of Bicycle Boulevards
- 20 miles of Wide Shoulders

The following pages show examples and describe each recommended facility type.

Figure 24: The Active Transportation Plan routes and facility types were selected with a wide variety of users in mind, including younger bicyclists.

Shared Use Path



A shared use path is a facility physically separated from traffic but intended for shared use by a variety of groups, including pedestrians, bicyclists, and joggers. They may be built independent from the road network or alongside a roadway.

Design User: Interested but Concerned

One-way Separated Bicycle Lane

A one-way separated bicycle lane is a bicycle facility along a roadway that is vertically separated from motor vehicle traffic by a curb, flex-posts, and/or parking. May be at sidewalk level, street level or intermediate height.

Design User: Interested but Concerned

Two-way Separated Bicycle Lane

A two-way separated bicycle lane is a bicycle facility along a roadway that is vertically separated from motor vehicle traffic by a curb, flex-posts, and/or parking. May be at sidewalk level, street level or intermediate height.

Design User: Interested but Concerned

Buffered Bicycle Lane

A buffered bicycle lane has a painted buffer to increase space between bicycle riders and hazards, such as passing traffic and car doors.

Design User: Interested but Concerned

Bicycle Lanes

A standard bicycle lane is on-street bicycle facility designated by striping, signing, and pavement markings. Bicycle lanes are separated from travel lane by a solid white line.

Design User: Somewhat Confident

Bicycle Boulevard

A bicycle boulevard is a street with low motorized traffic volumes and speeds, designated and designed to give bicyclists travel priority. Usually include traffic calming features to reduce speeds.

Design User: Somewhat Confident

Wide Shoulders

A wide shoulder is a paved space adjacent to vehicle travel lanes provide a space for bicyclists. Common on rural roads.

Design User: Highly Confident

PROPOSED PROJECTS

Table 8 through Table 12 provide locations and descriptions of facilities for the proposed AT Plan Routes.

Table 8: Proposed Shared Use Path Projects

Name/Location	Description	Miles
Navarre Ave from Miami St to S Lallendorf Rd	Long term; needs to be more separated moving east, especially east of I-280	2.3
S Wheeling St from Brown Rd to Seaman Rd		2.0
Michigan Ave from Waterville Monclova Rd to S 5th St	Replace south sidewalk with SUP, very wide buffer	0.9
Waterville Monclova Rd from Farnsworth Rd to Michigan Ave	Widen sidewalk to SUP	0.4
Angola Rd from Albon Rd to S King Rd	Connecting proposed facilities on Angola	0.7
Albon Rd from Monclova Rd to Angola Rd	Connected Holland to Monclova and rail trail	4.6
S Centennial Rd from Angola Rd to W Bancroft St		2.4
N Centennial Rd from W Bancroft St to Sylvania Ave		2.0
W Bancroft St from N Crissey Rd to N McCord Rd	Access to restaurants and neighborhood	3.0
Monroe St from Siliva Dr to Main St	In 2009 Sylvania Bicycle Network Plan. Long-term.	0.1
N Fulton-Lucas Rd from Old State Line Rd to W Bancroft St		2.8
N Centennial Rd from Sylvania Rd to Erie St	Connect to existing and proposed facilities. Long-term.	2.0
Harroun Rd from Brint Rd to Monroe St	In 2009 Sylvania Bicycle Network Plan. Long-term.	0.7
Brint Rd from N McCord Rd to Harroun Rd	In 2009 Sylvania Bicycle Network Plan. Long-term.	0.5
Bennett Rd from Eleanor Ave to W Alexis Rd	To North Towne	1.5
Upton Ave from Dorr St to W Sylvania Ave		2.7
W Bancroft St from University Parks Trail to Secor Rd	Existing gap in current bicycle lane - investigate existing facilities	1.4
Arlington Ave from S Detroit Ave to Woodsdale Ave		0.5
Angola Rd from S Holland-Sylvania Rd to S Reynolds Rd	Widen sidewalk	1.1
W Central Ave from University Parks Trail to Douglas Rd	Proposed route on online map	3.4
Dorr St from Olympia Rd to Douglas Rd	Widen sidewalk. Proposed route on online map	3.5
S Ave from S Detroit Ave to S Hawley St	Eligible for road diet for bicycle lane. Speed limit 35 mph, will need traffic calming	1.3
W Bancroft St from Secor Rd to Upton Ave		1.7
W Bancroft St from Upton Ave to Lawrence Ave	May be eligible for road diet	1.3
W Bancroft St from Lawrence Ave to Ashland Ave	Existing facilities do not provide enough separation	0.6

Name/Location	Description	Miles
Spielbusch Ave from Jackson St to Cherry St	Spielbusch Ave sidepath	0.3
Trail between Nebraska Ave and Dorr St	Trail between Nebraska Ave and Dorr St	0.5
Jackson St from Spielbusch Ave to N Summit St	Jackson Street bicycle lane. Long Term	0.4
Cherry St from Water St to Spielbusch Ave	Cherry St sidepath	0.5
Waterville-Monclova Rd from Michigan Ave to Monclova Rd	Existing/committed facility 2045 On the Move-Update 2020	1.2

Table 9: Proposed Buffered Bicycle Lane and Separated Bicycle Lane Projects

Name/Location	Type	Description	Miles
Manhattan Blvd from Windemere Blvd to Chrysler Dr	Buffered Bicycle Lane	Proposed route on Online map	2.0
Lawrence Ave from Dorr St to W Bancroft St	Buffered Bicycle Lane	Lawrence Ave bicycle lanes	0.7
Oakwood Ave from Lawrence Ave to W Grove Place	Separated Bicycle Lane	Cross 75, access to art museum. Two-lane, one-way road. Convert one travel lane to two-way bicycle lanes	0.4
N Summit St from Cincinnati St to E Manhattan Blvd	Separated Bicycle Lane	Summit St separated bicycle lane	1.6

Table 10: Proposed Bicycle Lane Projects

Name/Location	Description	Miles
Navarre Ave from Miami St to S Lallendorf Rd	Long term; needs to be more separated moving east, especially east of 280	2.0
S Wynn Rd from Pickle Rd to Starr Ave	Connecting proposed facilities	1.0
Starr Ave from S Wheeling St to S Whittlesey Ave	Connect Starr Ave existing bicycle lane to proposed facility on Wheeling	0.1
E Broadway from Oakdale Ave to Front St	Need traffic calming or lower speed limit	2.1
W Bancroft St from Secor Metropark to N Crissey Rd	Bicycle lane for recreational access	1.3
Main St from Brint Rd to Convent Boulevard	Extension of Main St Bicycle lane	0.4
Main St from south of Monroe St to Erie St	Extend facilities on Main St north to Erie	0.3
Berdan Ave from Rohr Dr to Baltimore St	May need to lower speed limit at parts, some parking removal	2.8
Indian Rd from W Bancroft St to W Central Ave	Connect University of Toledo with Wildwood Park	1.8
Monclova Rd gap west of I-475	Fill in gap on Monclova Rd	0.3
Broadway from Harvard Blvd to Emerald Ave via Maumee Ave	Road diet / bicycle lanes for zoo access	2.9
Collingwood Blvd from W Bancroft St to Cherry St	Connection between the adjacent neighborhoods and downtown. Need crossing infrastructure at Bancroft and Delaware	1.4
Broadway Ave and S Summit St from Emerald Ave to Monroe St	Entrance to downtown. Eligible for road diet	0.9
Glendale Ave from Eastgate Rd to Charmaine Dr	Long-term road diet. Potential pilot project	2.0

Name/Location	Description	Miles
Copland Blvd from S Byrne Rd to Anthony Wayne Trail	May need to remove on-street parking	0.6
Richards Rd from University Parks Trail to W Bancroft St	Access to University Parks Trail	0.1
N Huron St from Market St to Cherry St		0.9
Suder Ave from N Summit St to E Manhattan Blvd	Traffic calming needed	0.4

Table 11: Proposed Bicycle Boulevard Projects

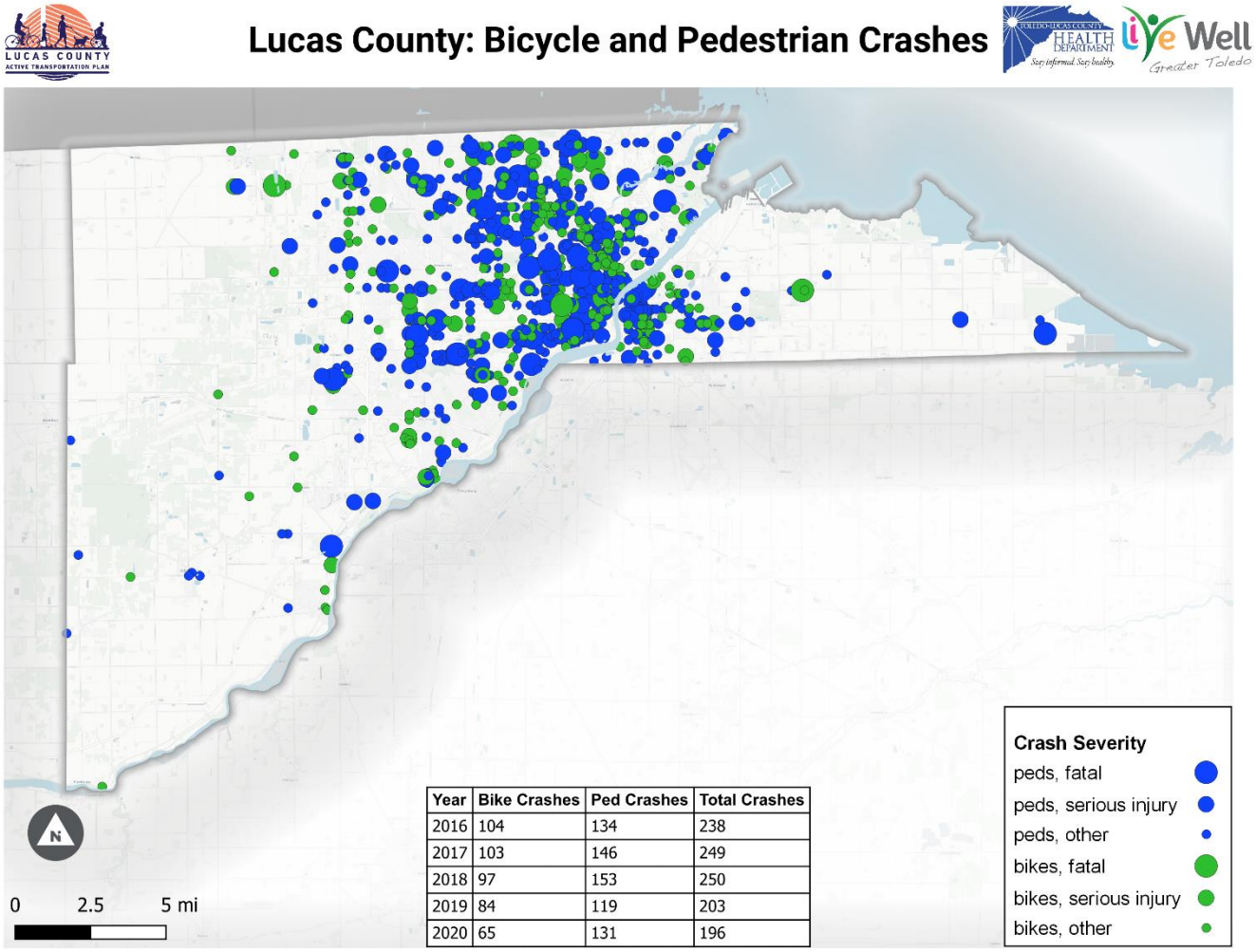
Name/Location	Description	Miles
S Whittlesey Ave from Luverne Ave to Seaman Rd	Short-term, low stress alternative to Wheeling	0.9
Maple Dr and Silica Dr from Brint Rd to Monroe St	Signed route in Sylvania 2009 Bicycle Network Plan and 2035 TMACOG Bicycle Plan, Near school	0.9
Convent Boulevard from Silica Dr to Main St		0.6
Manchester Boulevard from Indian Rd to W Central Ave	Access to Westgate	0.8
Kenwood Blvd from Indian Rd to Douglas Rd	Traffic calming needed	1.5
E William St from Ford St to River Rd	Access to library, park. Alternative to facility on Anthony Wayne Trail	1.1
S Hawley St from S Ave to Dorr St	Access to Community Center, Library. Signed bicycle route. Current speed limit 35 mph, needs traffic calming	1.5
Wells St from Dorr St to Oakwood Ave		0.2
Nantucket Dr from W Sylvania Ave to Monroe St		0.9
Woodley Rd from Van Dusen Way to W Sylvania Ave		1.5
Evergreen Rd from W Bancroft St to W Central Ave		1.1

Table 12: Proposed Wide Shoulder Projects

Name/Location	Description	Miles
Corduroy Rd from North Stadium Rd to N Curtice Rd	Connect existing facilities	2.0
N Wheeling St from Seaman St to Front St		1.3
N Texas St from St Louis Ave to Wabash Cannonball Trail	Confirm proposed route; long-term should be more protected facility	2.7
Obee Rd from S Berkey-Southern Rd to S Eber Rd	Recommend more separated facility long-term	2.0
Neapolis Waterville Rd from Manore Rd to Schadel Rd	Wider shoulders, potential for lane	3.6
W Bancroft St from N Fulton-Lucas Rd to Secor Metropark		4.8
Waterville-Monclova Rd from Michigan Ave to Monclova Rd		3.1

PEDESTRIAN INFRASTRUCTURE

Along the roadway, pedestrian infrastructure is primarily provided in the form of sidewalks or shared use paths. The presence of sidewalks along a roadway corresponds to a 65 to 89% reduction in "walking along road" pedestrian crashes.[9] Additional treatments can also be implemented along roadways or at crossing locations to improve the pedestrian experience, encourage more walking, and reduce the number of serious and fatal crashes that occur. As demonstrated in Chapter 2, Lucas County has one of the highest rates of serious injury and fatal pedestrian crashes in the state of Ohio. The map in Figure 25 shows where pedestrian crashes occurred from 2016-2020.



Year	Bike Crashes	Ped Crashes	Total Crashes
2016	104	134	238
2017	103	146	249
2018	97	153	250
2019	84	119	203
2020	65	131	196

Figure 25: 2016 – 2020 Bicycle and Pedestrian Crashes

Pedestrian safety, and road safety in general, should be viewed as a shared responsibility between policymakers, transportation planners/designers and road users. System designers and policymakers are responsible for the safe design and operation of the road system. Road users are

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

responsible for following the rules for the safe use of the road system. However, all humans are prone to make mistakes, and approaching road safety as a shared responsibility instead of putting the onus on individual users to behave in a safe way can save lives.

SAFE SYSTEM APPROACH

The Safe System approach is a holistic method to eliminate fatal and serious injuries for all road users. The Safe System approach helps agencies improve transportation safety by considering conditions and risk factors, instead of purely relying on crash history, when deciding where to make safety improvements.

By understanding roadway conditions that are unsafe for pedestrians, such as lack of sidewalks, high speeds, or long crossing distances, Lucas County can make informed decisions on where to improve safety for people walking. The Need and Demand maps in Chapter 2 can also inform where to make pedestrian infrastructure investments with the most benefit. This maximizes safety benefits for pedestrians while minimizing costs.

The City of Toledo is making pedestrian safety improvements at 76 intersections with high-risk characteristics though ODOT's Pedestrian Safety Improvement Program (PSIP). These locations are shown in Figure 26 and more information about the project is available on ODOT's website.

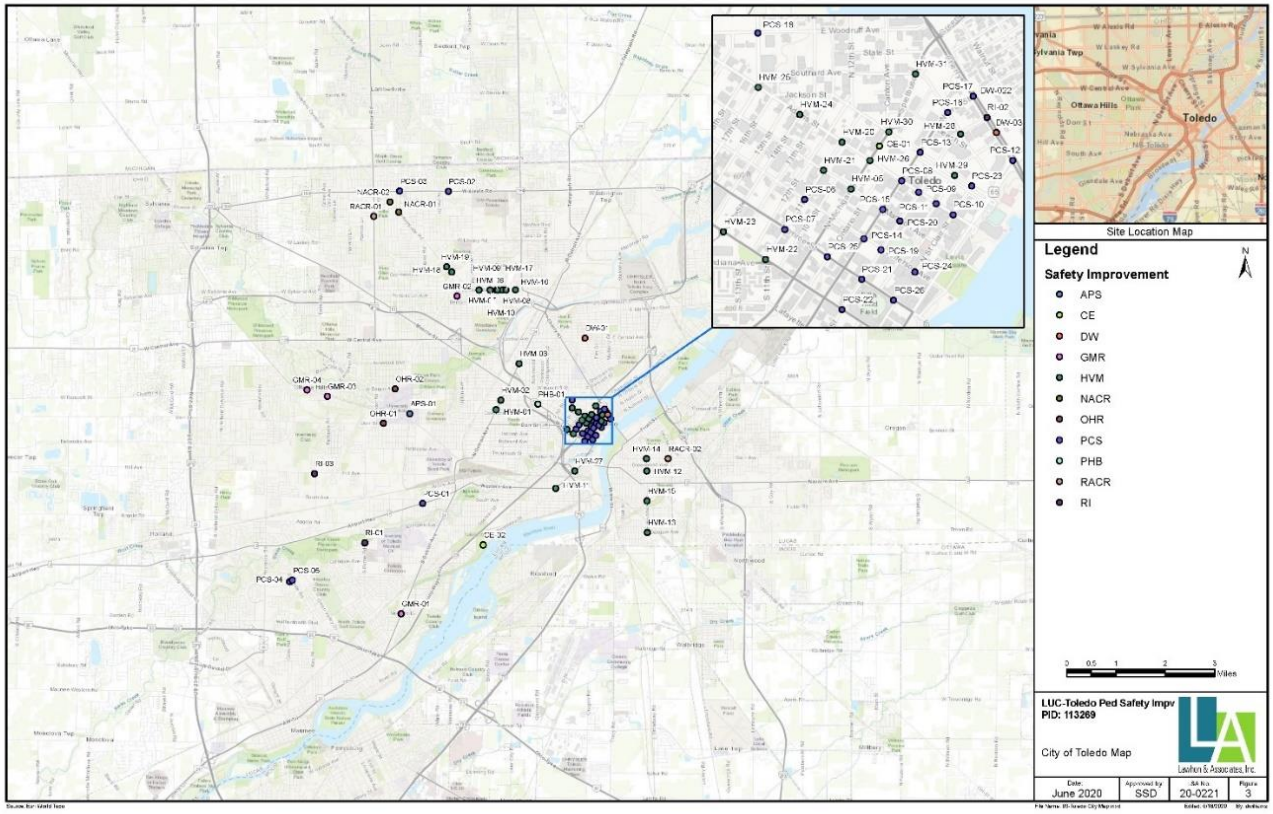
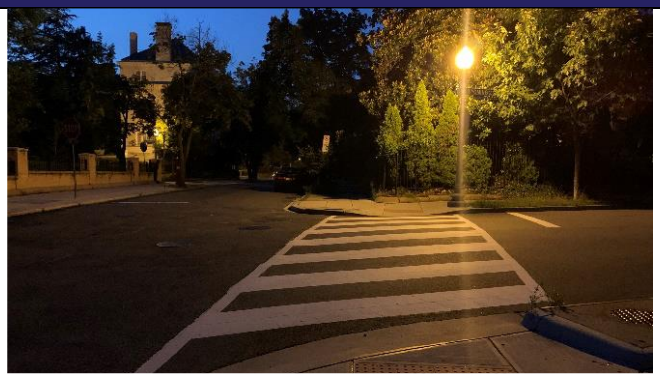


Figure 26: 2019 PSIP improvement locations in Toledo

To improve pedestrian safety and increase the number of people walking, Lucas County would benefit from a coordinated analysis to identify other high-risk locations and work quickly to install pedestrian safety treatments like the ones in the toolkit below. These treatments improve safety at intersections and along roads by slowing drivers and improving pedestrian visibility. Implementation of these treatments will help pedestrians of varying abilities access their daily destinations such as schools, jobs, grocery stores, parks, and social gatherings. Strengthening existing policies and development standards to include these treatments would ensure new projects support walking from the start and avoid the cost of retrofitting facilities later on.

PEDESTRIAN SAFETY TOOLKIT

Sidewalks	**High Visibility Crosswalk**
	
Sidewalks are pedestrian paths. Sidewalks should be 5+ feet wide and be connected to provide continuous routes to destinations.	High-visibility crosswalks use parallel markings that motorists see more easily compared to traditional crosswalk markings.
Raised Crosswalk	**Pedestrian-Scale Lighting**
	
A raised crosswalk is a crosswalk on top of a speed hump. They improve visibility and calm traffic.	Lighting illuminates crossings and pathways to improve comfort and safety for people walking in low light hours.

Pedestrian Countdown Signal	Audible Pedestrian Signals
	
Pedestrian countdown signals at signalized crossings indicate how many seconds remain to cross the street before the signal changes.	Audible pedestrian signals vibrate and create a sound to help people with vision disabilities know when to cross the street.
Curb Ramps	**Curb Extensions**
	
Curb ramps are sloped areas at crossings that connect the street to the sidewalk. The ADA requires curb ramps to have level landings and detectable warning surfaces.	Curb extensions extend into the street, shorten crossing distances, and improve visibility for both drivers and pedestrians. A curb extension creates additional space for curb ramps.
Rectangular Rapid Flashing Beacons	**Pedestrian Refuge Island**
	
A rapid flashing beacon is a warning device used at mid-block crossings. Pedestrians activate flashing lights to warn drivers that they are crossing the street.	Refuge islands in the middle of the road calm traffic, increase pedestrian visibility, and provide people walking with a waiting area, allowing them to cross the street in stages.

PROGRAM RECOMMENDATIONS

Establishing safe and convenient active transportation infrastructure is critical to improving the walking and bicycling environment. But without programs and policies in place to support active transportation, infrastructure projects will likely only attract those who already walk and bike. A variety of programs and policies can help establish a culture of walking and biking at all levels. Cross jurisdictional coordination is essential for active transportation to improve, and the following recommendations listed in Table 13 encourage municipalities to integrate efforts.

Table 13: Education Recommendations

Category	Program Name	Program Lead	How does this program support active transportation?
Education	Increase opportunities for driver and bicyclist education across the County, emphasizing the rights of bicyclists and pedestrians as well as safe practices	We Are Traffic, YMCA	Teaching people of all ages about their transportation options and the benefits of walking and bicycling makes them more aware of their transportation habits. Education also encourages safe behaviors as a driver, bicyclist, and/or pedestrian. Group bicycle rides, classes, workplace trainings, and online resources are all opportunities to educate Lucas County residents. See an example from Fort Collins, CO.
Education	Establish a program that teaches bicycling skills in all elementary schools	Safe Routes to School, School Districts, Safe Kids Greater Toledo	Teaching students to ride a bicycle and the rules of the road creates a generation that is more confident in bicycling for recreation and transportation. This program could be modeled off a similar program implemented in Washington, DC called Biking in the Park.

Category	Program Name	Program Lead	How does this program support active transportation?
Education	Continue to incorporate bicycle and pedestrian education into school curricula	Safe Routes to School, School Districts, Safe Kids Greater Toledo	When young people receive training on how to safety bicycle and walk while interacting with other road users, they become empowered to use active transportation regularly. Safe Routes to School concepts can be used during physical education or integrated with other classroom topics.
Education	Ensure walking and bicycling information is easily available on city and county websites	YMCA, TARTA, County and local jurisdictions	Routes, safety tips, and other information helps to bring awareness about transportation options for residents and visitors.

Table 14: Policy Recommendations

Category	Program Name	Program Lead	How does this program support active transportation?
Policy	Adopt a county-wide Safe System approach to road safety.	County Commissioners, Public Works and Transportation Department Leadership, City and County Engineers	A Safe System Approach assumes shared responsibility for road safety and assesses risk factors to eliminate serious and fatal crashes. Installing or improving pedestrian and bicyclist facilities based on a Safe System approach will help to address safety at locations with a high risk for crashes, whether or not those locations have a history of crashes. The Safe System approach is central to Vision Zero. The City of Toledo signed a Vision Zero commitment in 2021 and is pursuing a Vision Zero Action Plan. Similar strategies can be applied elsewhere in the county to create safer places to walk and bike and enable more people to use active transportation.

Category	Program Name	Program Lead	How does this program support active transportation?
Policy	Establish guidance on county-wide signed bicycle routes, to be used by all jurisdictions	TMACOG, We Are Traffic, City and County Engineers	Signed bicycle routes use wayfinding to guide bicyclists along the route. Because Lucas County is made up of many local jurisdictions, signed bicycle routes may be inconsistent. Establishing a County-wide guide on signed bicycle routes and their design, funding, and implementation will improve these facilities for long-time riders and new visitors alike.
Policy	Establish thresholds for road diets	TMACOG, City and County Engineers	Wide roads with fast speeds are uncomfortable for pedestrians and bicyclists. Pursuing road diets on these roads can reallocate space for protected bicycle facilities and reduce speeding. Developing guidance and identifying roads that are eligible for road diets would help prepare jurisdictions to make changes during routine repaving projects.
Policy	Establish micromobility regulation to protect riders and other road users	City of Toledo, TMACOG	Scooters and bicycle share provide additional mobility options and new challenges for active transportation. Regulation of operations will help to determine success of micromobility in Lucas County. Regulation may include: ▪ Designate parking areas for scooters. Improper scooter parking disrupts the pedestrian pathways and impedes access. ▪ Implement "no-park" zones, especially areas with high pedestrian activity. ▪ Require micromobility operators to share data to understand usage trends.

Category	Program Name	Program Lead	How does this program support active transportation?
Policy	Continue to advocate for changes to the state vehicle code to clarify bicyclist rights and responsibilities and protect bicyclists in crosswalks	We Are Traffic, TMACOG	Although classified as vehicles, bicyclists are much more vulnerable road users. Currently, bicyclists using crosswalks are not afforded the same protections as pedestrians using crosswalks. Changes to the code would help protect the rights of bicyclists using crosswalks.
Policy	Implement additional policies that support pedestrian infrastructure	TMACOG, Local jurisdictions	Current design guidance provides information on how to build the pedestrian network, but a set of pedestrian network policies will help the city know what, when, and where to make those investments. Policies may cover: • Sidewalk standards for areas with high pedestrian volumes, especially to allocate more space for pedestrians from the right-of-way. • Curb extensions on streets with on-street parking to better define on-street parking, reduce crossing distances, and make pedestrian more visible to motorists. • Maximum distance between pedestrian crossings to encourage pedestrians to cross at designated locations. • Mid-block crossing decision process and criteria.

Table 15: Community Support Recommendations

Category	Program Name	Program Lead	How does this program support active transportation?
Community Support	Continue to recruit members for the Active Transportation Plan Steering Committee	Health Department, YMCA	Work to increase diverse representation on the Steering Committee to match county demographics.
Community Support	Strengthen relationships with elected officials	Health Department, YMCA	Elected officials can support policies and programs that support active transportation. Community events, such as Walk to School Day, a bicycle ride, or a walk audit, are opportunities to develop relationships and demonstrate need to elected officials.
Community Support	Increase publicity and events for Bike Month	TMACOG, Metroparks, YMCA, Health Department, Safe Kids Greater Toledo, City of Toledo, Worksites	Bike to Work Day and Bike Month are annual campaigns, usually held in May, to encourage people to bicycle to work and for other trips. These campaigns often include highly publicized rides with elected officials, stations with information about bicycle commuting and giveaways. Bicycle repair stations, an annual bicycle ride or race, educational activities, and virtual communications can bolster the County's existing Bicycle Month activities.
Community Support	Demonstration Project	Health Department, Public Works, and Transportation Departments	Leverage Creating Healthy Communities funding to plan and implement a demonstration project of one of the recommendations in this plan. The demonstration project is a way to introduce changes on a temporary basis and see the effects. They can build popular support for more permanent changes.

Table 16: Data Recommendations

Category	Program Name	Program Lead	How does this program support active transportation?
Data	Perform a county-wide risk analysis to identify roadways and intersections in need of pedestrian safety improvements.	TMACOG, ODOT	Building on the policy recommendation to adopt a Safe System approach, the risk analysis can identify locations for improvements before crashes occur, saving lives and making streets and intersections safer for walking and bicycling.
Data	Collect county-wide bicycle and pedestrian counts	TMACOG, Local jurisdictions, Metroparks	A growing number of cities, counties, and states conduct bicycle and pedestrian counts to track ridership, usage of facilities, and other purposes. Best practices recommend installing the permanent counter in a visible, high-use location, such as along a trail or on a bicycle facility.
Data	Continue to publicize the City of Toledo's Service Request Dashboard.		Toledo residents can report traffic concerns, report sidewalk condition concerns, and other walking- or biking-related issues. The Dashboard is a centralized place for these concerns and helps to keep the City accountable for safety issues.

CHAPTER 5 IMPLEMENTATION

The implementation of this Plan is a long-term investment in maintaining and expanding the use of active transportation in Lucas County. As the County and local governments work together to implement the plan, they need to consider available resources, concurrent construction projects and planning efforts, and public support. This chapter describes the priorities, funding options, and performance measures that will help the community implement and monitor the success of this Plan over time.

PROJECT PRIORITIZATION

The recommended projects in this Plan range from signage costing a few hundred dollars to produce, to longer shared use paths that will cost millions of dollars and take many years to implement. It can be difficult to accurately compare the potential costs and benefits of such different projects. A data-informed project prioritization process can determine which projects align with stakeholder and community priorities and are best suited to move forward given limited resources.

A data-informed project prioritization process identifies common **factors** (broad themes related to walking and bicycling) and **variables** (measurable characteristics related to each factor) to calculate a score for each recommended project. Through this planning process, members of the Steering Committee assigned **weights** to six prioritization factors shown in Table 17. The factors Safety and Connectivity both ranked high and taken together would account for almost 50% of a project's score. These weights also reflect the responses from the public survey, where top response for improving bicycling was more continuous facilities and the top responses for improving walking were more and better maintained sidewalks, crosswalks, and lighting.

Many of the previously planned active transportation projects in Lucas County have already been prioritized by the implementing agency or TMACOG, and prioritization scores alone do not accurately reflect the order in which projects will be implemented. Projects may be implemented with routine street resurfacing, in coordination with development/redevelopment, or based on safety concerns. As the Plan is implemented, local priorities may change as new opportunities become available or conditions change. Plan priorities should be revisited and reconfirmed on a regular basis.

Table 17: Prioritization Factors and Weights

Factor	Guiding Question	Data Source	Steering Committee Weight
Safety	Where are the roads and intersections that pose the greatest risk?	Road centerline data, Crash Data	27%
Connectivity	What projects augment connectivity for our current network?	• Online and paper map comments • Existing and planned projects	20%
Stakeholder Input	Where did we receive the most comments?	Online and paper map comments	15%
Need/Equity	What areas have the highest need?	Walk.Bike.Ohio Needs Analysis	14%
Demand/Trip Potential	What areas have the highest demand?	Walk.Bike.Ohio Demand Analysis	14%
Ease of Implementation	What can we implement most quickly? What funding opportunities are most accessible?	• Project type • Planned / committed projects	10%

To perform a full, data-driven prioritization of all bicycle and pedestrian projects in Lucas County, all projects could be assessed using the Active Trans Priority Tool. This tool is published by the National Cooperative Highway Research Board (NCHRP) and includes a guidebook and programmable spreadsheet for ranking projects.

DEMONSTRATION PROJECTS

Active transportation projects can take many years to go from concept to completion. Many of them require repurposing existing elements of the streetscape in new ways, which can cause concerns among the street users, adjacent residents and businesses, and the agencies that own and maintain the roadway. 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.

Demonstration Projects vary in size and complexity, from taking over a single parking space with café tables for a weekend to striping a temporary bike lane for several blocks over the entire summer. They can be part of a larger community event or stand

Additional resources for planning demonstration projects:

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

on their own. Common materials used for demonstration projects include traffic cones, duct tape, chalk, and cardboard signs. For the best outcomes, Demonstration Projects should secure permission from the appropriate agency, notify community members in advance, and collect baseline data (i.e., bicycle and pedestrian counts, traffic speeds) before, during and after the demonstration.

Funding for Demonstration Projects can come from a variety of sources, including many non-transportation sources such as Creating Healthy Communities grants and partnerships with local business that donate supplies or volunteer time to help with set up and take down. Table 18 includes potential Demonstration Projects to consider from the recommendations in this plan. Pedestrian recommendations from local Safe Routes to School plans should also be considered.

Table 18: Potential Demonstration Projects

Location	Project Type	Basic Description
Glendale Avenue **Toledo**	Separated Bike Lanes	Repurpose outside travel lanes for people biking and rolling. Use plastic delineator posts and temporary pavement markings, leaving gaps at bus stops.
Main Street (Brint Rd to Convent St) **Sylvania**	Bike Lanes	Narrow travel lanes to 10 ft wide. Use plastic delineator posts and temporary pavement markings, leaving gaps at bus stop.
William St (Ford St to River Rd) **Maumee**	Bike Boulevard	Use signs and temporary pavement markings. Flex posts or rubber wheel stops may be used as temporary traffic circles at intersections.

Figure 27: Bike fix-it/helmet fitting event at Greenwood Elementary (Washington Local School District).

FUNDING STRATEGIES

Active transportation projects comprise a fraction of overall transportation network construction and maintenance costs. While active transportation 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 and quality of life. 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 proposed bicycle network, apply the tools in the pedestrian safety toolkit, and fund related programming efforts. Table 19 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 to the funding sources listed below, TMACOG also distributes Congestion Mitigation and Air Quality Program (CMAQ) and Surface Transportation Block Grant Program (STBG) funds; projects with shared use paths score well under CMAQ, and projects with Complete Streets elements score well under STBG. 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.

Table 19: Primary Active Transportation Funds in Ohio

Funding Source	Distributed By	Eligible Project Examples	Eligible Project Sponsor
Transportation Alternatives	Metropolitan Planning Organization	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 Closing sidewalk gaps	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

Figure 28: Walking school buses are a fun and safe strategy to encourage students to walk to school.

PERFORMANCE MEASURES

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, Lucas County 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. A robust performance measures program includes establishing baseline measurements, performance targets, data collection frequency, and data collection and analysis responsibility.

The performance measures in Table 20 have been identified to chart progress towards this Plan's goals of making walking and bicycling safe, connected, and comfortable. Lucas County should adopt 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.

Table 20: Performance Measures

HEALTH & SAFETY: Encourage the development of a safe and context-appropriate bikeway and pedestrian system for all users in Lucas County including special populations.				
Subgoal	**Performance Measure**	**Data Source**	**Trend over time**	**Baseline**
Reduce the amount of vehicular traffic by providing opportunities to utilize alternative modes of transportation.	Traffic counts	ODOT	Decrease	Need to identify locations for counts
	Non-motorized counts	TMACOG	Increase	Need to identify locations for counts
	Mode Split (% of people walking, biking, taking transit)	American Community Survey, US Census	Increase in walking, biking, taking transit	• 2.5% walking • 0.4% biking • 1.3% taking transit (2019, 1-year estimates)
Improve the overall well-being of Lucas County residents and minimize health care costs by promoting an active lifestyle that will serve to improve the resident's physical and mental health.	Health Care Costs	Ohio State Health Assessment, 2019	Decrease	$9,993 Standardized Risk-Adjusted Costs per Medicare Beneficiary
	Levels of physical activity	Lucas County Community Health Assessment, 2019-2020	Increase	55% of adults engaged in some type of physical activity or exercise for at least 30 minutes 3 or more days per week.
Reduce the number and severity of crashes involving pedestrians and bicyclists.	Severe and fatal bicycle and pedestrian crashes	ODOT	Decrease	• Bicyclists: 10 serious injuries, 1 fatality (2019) • Pedestrians: 25 serious injuries, 6 fatalities (2019)

LIVABILITY: Create a framework for a comprehensive, community-driven, transportation network for all users, of all ages.				
Subgoal	**Performance Measure**	**Data Source**	**Trend over time**	**Baseline**
Increase opportunities for physical activity with well-designed sidewalks, on-street bicycle facilities, and multiuse trails.	Network miles	• TMACOG • Local government GIS layers	Increase	167 miles
	Percent of previously planned bicycle network that is constructed	• TMACOG • Local government GIS layers	Increase	57.4% previously planned routes 42.4% total planned, including AT Plan routes
	Level of Traffic Stress	• TMACOG	Increase in low stress routes	TBD

EQUITY: Create a more accessible community for all through development of interconnected pedestrian and bicycle facilities.				
Subgoal	**Performance Measure**	**Data Source**	**Trend over time**	**Baseline**
Increase connectivity of active transportation facilities to improve access to job opportunities, medical care, and local commercial services.	% of population that lives within ¼ mile of bicycle facilities	• TMACOG • Local government GIS layers	Increase	26.2% of population
	Network connectivity	• Bicycle Network Analysis (BNA) Score, People for Bikes	Increase	17 out of 100 (for City of Toledo, 2021)

ADOPTING AND UPDATING THE PLAN

While this Plan is ultimately to be adopted by the Lucas County Commissioners, its successful implementation will be dependent on the continued cooperation and resources of many other organizations, including:

- City of Toledo
- TMACOG
- Toledo Lucas County Health Department
- TARTA
- School Districts
- Ability Center
- YMCA

Many of these organizations were directly involved in the development of this plan, and its implementation will help them achieve their shared goals of a healthier, more prosperous Lucas County. Signed endorsement letters can be found in the Appendix.

This Active Transportation Plan is designed to be flexible, providing sufficient direction while also encouraging the County, local governments, and other stakeholders to respond as opportunities arise and conditions change over time. For this reason, the Plan should be viewed as a "living document" that is re-revaluated and expanded over time. A formal review and progress update is recommended in five years, with a particular focus on updating the recommended bicycle network and priority projects.

Figure 29: The Active Transportation Plan will be most successful through continued collaboration of organizations across Lucas County.