ACTIVE TRANSPORTATION PLAN

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Lima-Allen County Regional Planning Commission

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FOREWORD

The Lima-Allen County Regional Planning Commission, designated by the Governor of the State of Ohio as the Metropolitan Planning Organization (MPO) for the Lima Urbanized Area, prepared this report to serve as a policy document and modal element supporting the Allen County 2040 Regional Transportation Plan. This document works to provide the rational, justification, and guidance necessary to adopt those policies and undertake those strategies that collectively will serve active transportation options, creating a healthier, more equitable, and more sustainable transportation system for the region. This document embraces human powered active transportation options, based on history and the human experience, as an integral part of the transportation system.

The planning efforts herein were intended to shape and improve the future safety and efficiency of the community's transportation infrastructure in order to meet everyone's travel needs. Active transportation planning targeted the needs of the young, the elderly, the frail, people with disabilities, the poor, the disadvantaged, as well as those who simply choose to use non-motorized modes of transportation whenever possible without deference to income, age, physical ability, race, or gender. The efforts herein work to support the principle that walking and bicycling must be treated as an equal mode of transportation alongside autos, motorcycles, buses, and trucks.

The document argues that walking and bicycling are efficient transportation modes for most short trips and, where convenient intermodal systems exist, these non-motorized trips can easily be linked with transit to significantly increase trip distance. Because of the benefits they provide, transportation agency officials are working to ensure that walking and bicycling receive the same consideration and deference as other motorized modes. Active transportation planning looks to identify and integrate pedestrian and bicycling in roadway design from the initial planning stages, rather than as an afterthought.

Planning and constructing accommodations for bicyclists and pedestrians requires developing a non-motorized network composed of on- and off-street facilities, as well as end-trip amenities/facilities. This Active Transportation Plan (ATP) looks to integrate accommodations for bicyclists and pedestrians in such a way as to allow residents significant mode choices and to make bicycling, walking, and transit a more attractive and viable option to meet residents' travel needs. The Lima-Allen County Regional Planning Commission completed the Active Transportation Plan based on a shared long-term vision for a system of interconnected and shared road rights of way, inclusive of bicycle and pedestrian facilities, to guide area transportation decisions as they relate to bicycle, pedestrian, and public transit travel, planning, and facility development.

EXECUTIVE SUMMARY

The Lima-Allen County Regional Planning Commission, designated by the Governor of the State of Ohio as the Metropolitan Planning Organization (MPO) for the Lima Urbanized Area, prepared this report to serve as a policy document and supporting element to the Allen County 2040 Regional Transportation Plan. The Active Transportation Plan (ATP) is a countywide framework to improve infrastructure and provide the supporting policies and programs that encourage healthy lifestyles, economic growth, environmental sustainability, social equity and safety throughout Allen County.

- A dedicated group of elected and appointed officials, public employees, and the general public, spearheaded by the Bike/Pedestrian Taskforce have helped to shape the ATP. Web surveys, interactive maps, walking tours and stakeholder meetings were used to engage the public and ensure that the ATP reflects a shared vision supported by the community.

- The adoption rate of Active Transportation (AT) in U.S. communities has skyrocketed since the early 2000's with a national increase of 61.0 percent in commuting by bike and a 20 percent increase in walking commutes as of 2013. Over 1,500 people in Lima and over 2,500 throughout the County commute to work via an AT mode. These numbers only take into account those commuting to work, and do not include travels to other locations or recreational use of AT modes.

- Currently there are some 13.7 miles of on-road bike facilities, including bike lanes and bike routes, and 63.2 miles of off-road paths, including shared use and unpaved paths, for a total of 76.9 miles of bike facilities throughout the County. The majority of the on-road facilities are found in the City of Lima, which was recently designated as a Bronze Level Bicycle Friendly City by the American League of Bicyclists.

- The pedestrian facility network, while more comprehensive than the current bike facility network, still includes gaps and missing connections. Over 50 percent of roadways are missing sidewalks in the Lima, Delphos and Bluffton Urban Areas, as well as within the RTA Service Area.

- Only 3 out of the 12 local school districts within Allen County have adopted a Safe Routes to School Travel Plan. These plans would help local school districts facilitate the planning, design, and implementation of projects and programs that advocate safe and comfortable AT trip making for students.

- Partly due to a lack of comprehensive AT facilities, both Allen County and the City of Lima rank 1st to 3rd in all crash statistics for similarly sized jurisdictions. In the last 5 years (2012 – 2016) the total number of crashes involving an AT user was 221; 36 of those involved at least one serious injury, and 6 of the crashes involved a fatality.

- The societal costs (i.e. tax payer dollars, medical costs, loss of wages, etc.) of crashes involving AT mode users over the last 5 years totaled nearly $60 million ($58.5). In 2016, communities incurred on average a $5.8 million burden from a singular fatal crash. The disproportionately high representation of AT modes in serious injury and fatal crashes and the relatively inexpensive nature of AT facilities make targeting reducing AT mode crashes a cost efficient strategy for reducing overall crashes and injuries.

- The Plan proposes policies, programs and projects that reflect the five E's of building an AT culture: Engineering, Encouragement, Education, Enforcement and Evaluation. One such proposal is to introduce Bikeshare, which aims to increase ridership, as well as increase motorists' awareness of cyclists.

- The extension of and connection to regional corridors (USBR 44, USBR 25, Miami-Erie Canal, SR 65, Ottawa Riverwalk, etc.) were prioritized in the Plan in order to support countywide economic growth through workforce mobility and ecotourism as well as to provide recreational opportunities for the local and regional population. Likewise, AT projects that remedy gaps in urban networks (Lima CBD, RTA Service Area, etc.) were prioritized in the Plan in order to provide continuous and safe transportation alternatives between residential neighborhoods and key destinations including work, school, church and recreational activities.

- Proposed projects, through the year 2040, include 283.2 miles of on-road bike facilities, 47.7 miles of off-road bike/pedestrian facilities and 64.5 miles of new sidewalks. In total established project costs reach $50 million.

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SECTION 1
INTRODUCTION

The Lima Allen County Regional Planning Commission, designated by the Governor of the State of Ohio as the Metropolitan Planning Organization (MPO) for the Lima Urbanized Area, prepared this report to serve as a policy document and modal element supporting the Allen County 2040 Regional Transportation Plan. As an integral component of the County's Transportation Plan, the Active Transportation Plan (ATP) is a document intended to support the region and local communities in their effort to develop and enhance pedestrian and bicycle networks in a connected and comprehensive manner. The ATP analyzes and presents pertinent information relative to roadway conditions, traffic, crash data, activity generators and accessibility by mode. The ATP works to identify critical policies and programs, as well as, those projects deemed eligible for federal funding. The ATP provides the rational and justification for local policy, programming and project inclusion in the MPOs short range Transportation Improvement Program (TIP). The ATP is intended to be updated periodically based on the implementation of projects, changing conditions and new opportunities. The ATP also provides the basis upon which community stakeholders can benchmark and monitor the levels of investment and commitment to active transportation.

"Active Transportation (AT) is human powered transportation that engages people in healthy physical activity while they travel from place to place."

"The Active Transportation Plan is a document intended to support the region and local communities in their effort to develop and enhance pedestrian and bicycle networks in a connected and comprehensive manner."

1.1 WHAT IS ACTIVE TRANSPORTATION?

Active Transportation (AT) is human powered transportation that engages people in healthy physical activity while they travel from place to place. People walking, bicycling, using strollers, wheelchairs and other mobility devices, skateboarding, and rollerblading are all modes of AT. Transit use is also often associated with AT as the first and last leg of transit-oriented trips are traversed using another AT mode.

Across Ohio and across the nation communities are implementing projects aimed at encouraging a shift from motor-vehicle-based transportation to an AT mode. Active transportation projects have the potential to increase quality of life across a community and region. Some of the most common project types found in communities of all sizes include:

1.1.1 Sidewalks

Sidewalks connect residential and commercial areas to amenities within and beyond neighborhood boundaries. Whether they're connecting a child's home to a school or park, a place of work to a lunch spot or quick errand, or a wheelchair bound person to a transit stop or grocery store, a connected network of ADA compliant sidewalks open opportunities for healthy, self-reliant and low-emission travel throughout the community for both residents that choose this mode and for those who rely on walking and/or transit as a means of transportation.

1.1.2 Curb Ramps & Count-Down Signal Heads

The addition of curb ramps and count-down signal heads to a pedestrian network acknowledges that not all users of that network are able-bodied, due to age, disability or injury. For those that take longer to cross the intersection or struggle to traverse steps, the absence of these features across a network is prohibitive to use.

1.1.3 Bike Lanes, Bike Routes & Shared-Use Paths

Bike facilities, like sidewalks connect communities and amenities, but on a larger scale that can span regions. Such facilities provide opportunities for utilitarian and recreational AT within local communities as well as for regional tourism, connecting residents to other communities and boosting local businesses and services.

1.1.4 Multi-Modal Connectivity

The idea of capping a transit or motor vehicle trip with two legs of AT is referred to as First and Last Mile solutions. This practice allows AT modes to be considered for much longer trips then traditionally thought. Communities support this type of travel by promoting multi-modal trip making through the installation of comprehensive sidewalk networks, bike facility networks, bike racks, etc. in areas that surround parking garages or are serviced by transit. This concentration and variation in AT infrastructure supports seamless mode shifts allowing AT users to increase efficiency by transitioning from transit to bike to foot depending on the type of trip and their final destination.

1.2 WHY ACTIVE TRANSPORTATION?

The rate at which local communities have adopted AT has skyrocketed since the early 2000s with a national increase in commuting by bike of 61 percent and walking of 20 percent as of 2013.[1] Large cities have seen the quickest rate of adoption with hikes in bike commuting exceeding 400 percent in both Portland, OR and Washington, DC. Map 1-1 shows the increase in the number of bike commuters by state between 2005 and 2013.[2] The increases seen across the country in both biking and walking commutes have not been by chance but instead reflect the work of both grass-roots advocacy groups as well as top-down policy makers from national transportation, public health and environmental agencies including the Federal Highway Administration (FHWA), the US Department of Transportation (USDOT), the US Department of Health and Human Services (HHS) and the Environmental Protection Agency (EPA). While the primary goals vary agency to agency, from lowering obesity rates, decreasing the number of fatal/serious injury crashes, improving air and water quality, to increasing the equity and accessibility of public infrastructure, each of these agencies have outlined goals and strategies to increase AT across the country (Table 1-1).

[1] Strategic Agenda for Pedestrian and Bicycle Transportation, September 2016
[2] Bicycle Commuting Data, http://www.bikeleague.org/commutingdata

MAP 1-1
ADOPTION OF COMMUTING BY BIKE BY STATE

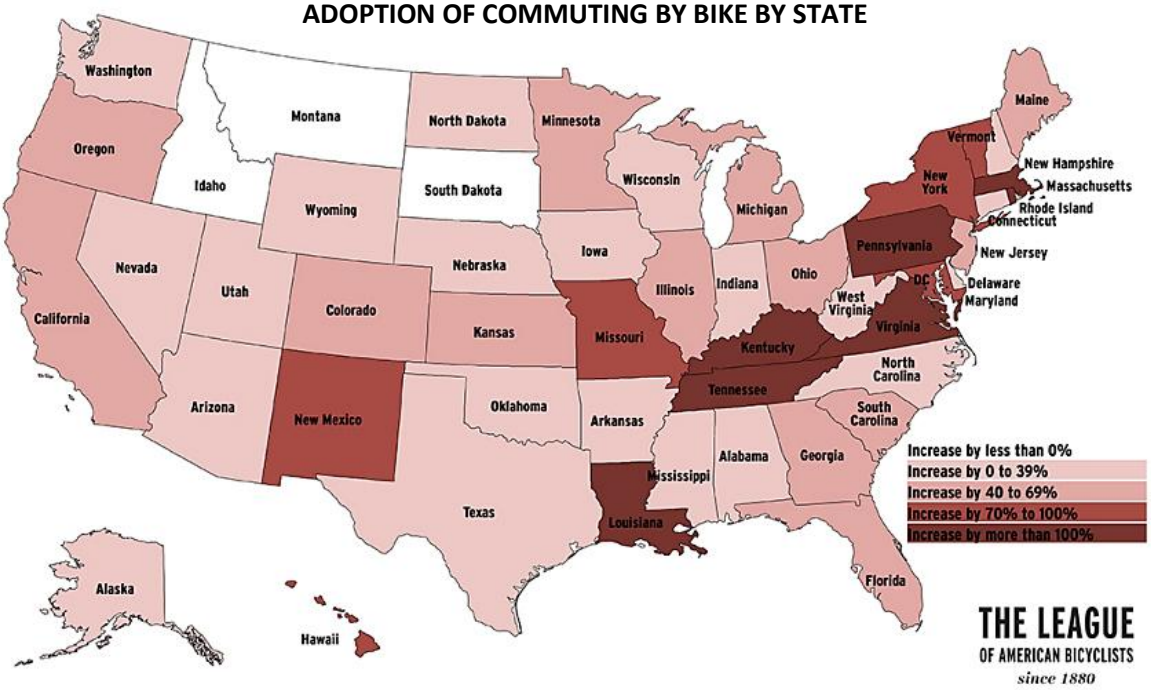


TABLE 1-1 FEDERAL & STATE AGENCY ACTIVE TRANSPORTATION REPORTS & GOALS	
Agency/Report	**Goals**
Agency: FHWA Report: Strategic Agenda for Pedestrian and Bicycle Transportation, 2016	*Goal 1: Networks – Achieve safe, accessible, comfortable and connected multi-modal networks in communities.* *Goal 2: Safety – Improve safety for people walking and bicycling.* *Goal 3: Equity – Promote equity throughout transportation planning, design, funding, implementation and evaluation.* *Goal 4: Trips – Get more people walking and bicycling.*
Agency: FHWA Report: Strategic Agenda for Pedestrian and Bicycle Transportation, 2016	*Goal 1: Networks – Achieve safe, accessible, comfortable and connected multi-modal networks in communities.* *Goal 2: Safety – Improve safety for people walking and bicycling.* *Goal 3: Equity – Promote equity throughout transportation planning, design, funding, implementation and evaluation.* *Goal 4: Trips – Get more people walking and bicycling.*
Agency: US Department of Health & Human Services Report: STEP IT UP! – The Surgeon General's Call to Action to Promote Walking and Walkable Communities, 2015	*Goal 1: Make walking a national priority.* *Goal 2: Design communities that make it safe and easy to walk for people of all ages and abilities.* *Goal 3: Promote programs and policies to support walking where people live, learn, work and play.* *Goal 4: Provide information to encourage walking and improve walkability.* *Goal 5: Fill surveillance, research and evaluation gaps related to walking and walkability.*
Agency: Ohio DOT Report: Ohio's Strategic Highway Safety Plan – Special Vehicles and Roadway Users, 2013	*Goal 1: Reduce the number of bicyclist fatalities by 2% each year.* *Goal 2: Reduce the number of bicyclist serious injuries by 2% each year.* *Goal 3: Reduce the number of pedestrian fatalities by 2% each year.* *Goal 4: Reduce the number of pedestrian serious injuries by 2% each year.*

The widespread consensus between local advocacy groups and governing agencies is indicative of the diverse and numerous benefits that the adoption of AT can have on a community or an individual. In Allen County mode shift campaigns and AT projects have been targeted as a priority response in five major fields:

1.2.1 Health

According to a comprehensive health assessment published in 2016, Ohio is the 16th most overweight/obese state in the U.S., with an adult obesity rate of 29.8 percent and a childhood obesity rate of 17.4 percent.[3] A 2017 assessment in Allen County revealed the County to be above the state average with obesity determined for 1 in 3 adults (35%).[4] These are extremely alarming numbers, considering that obesity has been linked to serious medical conditions, including diabetes, heart disease, stroke, and numerous forms of cancer. On average an obese person spends 42 percent more in medical care costs annually.[5] Along with poor diet, a lack of physical activity is a leading cause of skyrocketing obesity rates among both adults and children. Replacing just one short daily vehicle trip with an AT trip can help community members meet The Cleveland Clinic's prescribed physical activity minimum of at least 30-45 minutes of moderate exercise per day.

"On average an obese person spends 42 percent more in medical care costs annually."

Asthma and other respiratory diseases that are exacerbated by air-pollutants emitted by motor-vehicles effect nearly 250 million people world-wide and account for nearly five percent of global deaths. Cases of, and deaths due to respiratory disease are concentrated in low-income urban areas where air pollution due to motor-vehicle travel tends to be heavily concentrated. Reducing vehicle miles traveled in these urban areas has the ability to relieve some of the health care burden faced by these populations.[6] On top of that trading motor-vehicle trips for AT trips has the ability to improve mood and help improve some mental health symptoms as exercise and time spent outdoors have both been shown to increase personal well-being.[7]

1.2.2 Economy

AT facilities and their regular use can transform a declining city center or aging neighborhood. Walkable/bikeable communities have been shown to attract employers,[8,9,10] increase housing and property values,[11,12,13,14] and spur economic

[3] http://stateofobesity.org/files/stateofobesity2016.pdf
[4] 2017 Allen County Health Risk & Community Assessment, Hospital Council of Northwest Ohio, http://www.hcno.org/community/reports.html
[5] http://stateofobesity.org/healthcare-costs-obesity/
[6] "The Economic Costs of Physical Activity, Obesity and Overweight in California Adults During the Year 2000: A Technical Analysis," David Chenworth for the Cancer Section and Nutrition Section of the California Department of Health Services, 2005, p. 27-29.
[7] A pilot study of aerobic exercise as an adjunctive treatment for drug dependence. Brown, R.A., Abrantes, A.M., Read, J.P., Marcus, B.H., Jakicic, J., Strong, D.R., Oakley, J.R., Ramsey, S.E., Kahler, C.W., Stuart, G.L., Dubreuil, M.E., and Gordon, A.A. Mental Health and Physical Activity, Volume 3, Issue 1, June 2010, Pages 27-34.
[8] "Industry Overview 2009," National Bicycle Dealers Association, 2010.
[9] "The Active Outdoor Recreation Economy," *Outdoor Industry Foundation, 2006.*
[10] "The Economic Impact of the Nature Valley Bicycle Festival: A pilot study of the Stage 5 Menomonie, WI road race," University of Wisconsin—Whitewater, Department of Economics, Kashian, R., and Kasper, J., 2010.

investments in aging commercial properties.[15,16] Local AT corridors that connect neighborhoods to each other and to city or village centers increase job access and opportunity, supporting both individual and community economic growth. At the same time AT facilities built to connect to regional systems that span counties or states also spur economic growth by advancing tourism-based spending at local places of businesses (meals, lodging, rentals, shopping trinkets, sales tax income, etc.).[17,18,19] Not only do communities with healthy AT cultures attract more tourism based spending but residents of the community who have transitioned from multi-car households to single or no car households, relieving the household of some proportion of car ownership costs, have increased the disposable income available to them for spending at local business supporting the growth of the local economy.

1.2.3 Environment

The regions historical reliance on heavy industry and its dependency upon the motor-vehicle has led to the exceedance of the established for ozone pollutants as required under the Clean Air Act and monitored by the US EPAs National Ambient Air Quality Standards. As of 2013 Allen County was deemed in full-attainment and much of that can be attributed to lowered industrial emissions, a decline in manufacturing and decreased vehicle miles traveled. To ensure the County maintains its status, as attainment thresholds continue to lower, continuing to reduce motor-vehicle miles on the roads is vital and transitioning to a higher proportion of AT trips is an obvious solution.

"Walking and bicycling are both environmentally neutral modes of transportation."

Motor-vehicles, while an essential component of our economy and transportation system; are unfortunately a primary source of the community's air, water and noise pollution. Walking and bicycling are both environmentally neutral modes of transportation - no tailpipe emissions, no evaporative emissions, no emissions from gasoline pumping or oil refining, contributing to air and water pollution or global climate uncertainty.

[11] "Valuing The New Urbanism, The Impact of the New Urbanism on Prices of Single Family Homes," Mark Eppli and Charles Tu, Urban Land Institute, 1999, p 73.
[12] "The Economic and Social Benefits of Off-Road Bicycle and Pedestrian Facilities," National Bicycle and Pedestrian Clearinghouse, No. 2, Sept. 1995.
[13] "Consumer's Survey on Smart Choices for Home Buyers," National Association of Realtors and the National Association of Home Builders, April 2002.
[14] Don Hopey, "Prime Location on the Trail," Rails-to-Trails, Fall/Winter 1999, p. 18.
[15] "The Economic Benefits of Walkable Communities," by the Local Government Commission for the California Department of Health Services.
[16] "Recreational Trails, Crime and Property Values: Brown County's Mountain-Bay Trail and the Proposed Fox River Trail", Brown County Planning Commission, Green Bay, July 6, 1998.
[17] Enhancing America's Communities: A Guide to Transportation Enhancements, National Transportation Enhancements Clearinghouse, November 2002, p. 11.
[18] "Pathways to Prosperity: Economic Impact of Investing in Bicycle Facilities: A Case Study," North Carolina Department of Transportation Division of Bicycle Transportation, 2004, p. 39.
[19] "Trail Users Study: Little Miami Scenic Trail," Ohio-Kentucky-Indiana Regional Council of Governments, 1999, p. 15-32.

Most commutes and errands made in the community are short enough in distance to travel by foot or bike. Even short motor-vehicle trips produce significant air-polluting emissions as the first few miles driven are the least efficient due to what's called a "cold start" where there's a high rate of emissions during the first few miles of driving because the catalytic converter does not function well when a car is first started. Therefore even just walking or cycling for short trips within your community to a grocery store or bus stop helps reduce vehicle emissions.

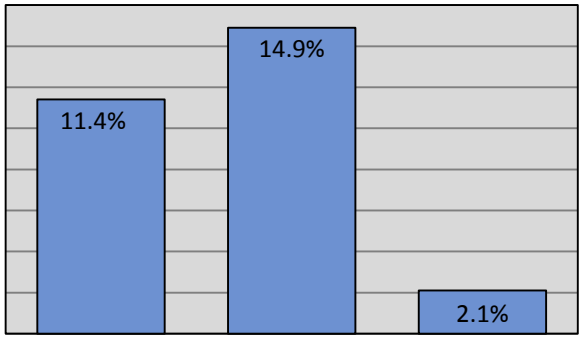
1.2.4 Safety

A major responsibility of all jurisdictions is to create safe roadway experiences for all users. The positive relationship between motor-vehicle miles of travel and the number of motor-vehicle related injuries and fatalities means that by taking vehicles off the road and replacing these trips with bike, pedestrian or transit trips traffic congestion and the probability of serious injury or fatal crashes occurring decline as well. Encouraging AT in itself can help lower the rate of fatal or serious injury crashes. However, to support the mode shift to AT well planned and well maintained bike and pedestrian facilities are vital.

1.2.5 Social Equity

Across the County billions of dollars are spent every year to improve the road network and allowing safe and convenient travel. In comparison a small amount of funds every year are dedicated to improving sidewalks and bike facilities (Figure 1-1). When most transportation funds have been dedicated to motor-vehicle specific roadway work, those living in households with no motor-vehicles (7.8% Allen County and 14.8% City of Lima) are left behind as the only transportation network accessible to them falls into decline cutting them off from grocery stores, health care and employment opportunities. By prioritizing AT modes, jurisdictions can work to more equitably distribute resources that enhance all transportation options, especially those that serve vulnerable populations including the poor, the elderly, people who have disabilities and children.

FIGURE 1-1
BICYCLE/PEDESTRIAN CRASH & FUNDING STATISTICS



11.4% of **all trips** are taken by bicycle or on foot

14.9% of roadway **fatalities** are pedestrian or bicyclists

Only **2.1%** of federal transportation **funding** goes to bicycling or pedestrian projects

Source: US Data, ABW 2014

1.3 WHAT IS AN ACTIVE TRANSPORTATION PLAN?

An Active Transportation Plan (ATP) is a document that establishes: (1) a vision for local and regional bicycling and pedestrian behaviors and amenities; (2) strategies and actions needed to achieve the vision; and, (3) objectives to measure progress toward accomplishing the priorities laid out in the ATP. The Allen County ATP supplements the 2040 Regional Transportation Plan with specific policies, programs and projects targeting bicycle and pedestrian modes. The Plan establishes strategies that upon implementation will promote increased mode shift and roadway safety in Allen County communities. The Plan focuses on the existing facilities as well as the proposed regional network, encompassing roadways, sidewalks, mixed use trails and paths. The Active Transportation Plan is not a static document but rather a blueprint - a working document that will morph as conditions allow and resources permit.

1.4 PLAN VISION, GOALS, OBJECTIVES & PERFORMANCE MEASURES

A vision for Allen County was laid out in order to better illustrate the ideal future of transportation options in Allen County as envisioned by Allen County residents and leaders:

"In 2040 Allen County will be an accessible community where people of all ages and abilities, including children, can conveniently, comfortably, and safely walk, bicycle, or use public transit as part of their everyday travel behaviors. Building a strong active transportation network lays the foundation for a healthy future found in the improved health of community residents, its workforce, its environment, and its economy. Active transportation facilities synergistically work to improve residents' quality of life by reducing obesity-related health conditions, ease social isolation, promote civility, and provide transportation mode choices that improve the budgets of residents and employers alike. Reduced vehicle miles traveled contributes to clean air and water by reducing automobile emitted air and water pollutants. As a community we choose attractive alternative transportation amenities that support and encourage new economic development leading to a better quality of life for all residents. Because Allen County is committed to active transportation as an essential and integrated part of its complete transportation system, the future promises a healthier, more livable, and more productive community."

This vision is supported by five goals (Figure 1-2) including:

FIGURE 1-2
ATP GOALS

1) Improve Safety – *Reduce the number and severity of crashes involving pedestrians and bicyclists.*
2) Enhance Equity – *Create a more accessible community for all through development of interconnected pedestrian and bicycle facilities.*
3) Grow a Strong Economy – *Increase access to employment and local businesses through AT networks and tourism.*
4) Increase Local Sustainability – *Provide alternatives to motor vehicle travel, reduce automobile emitted pollutants from our air and water, and reduce stormwater runoff from the overall transportation system.*
5) Relieve Healthcare Burden – *Improve overall well-being of Allen County residents and minimize health care costs by promoting an active lifestyle that will serve to improve resident's physical and mental health.*

Table 1-2 outlines strategic objectives that were identified as strategies for working towards each of the five outlined goals.

TABLE 1-2 ATP GOALS & STRATEGIC OBJECTIVES
Improve Safety – *Reduce the number and severity of crashes involving pedestrians and bicyclists.*
• Investigate intersections or corridors with high concentrations of crashes involving AT modes and recommend warranted and appropriate safety countermeasures.
• Encourage Law Enforcement to participate in educational opportunities that cover local AT mode laws and enforcement strategies.
• Initiate and support public campaigns to increase awareness and obedience of traffic laws concerning AT modes.
• Install dedicated AT facilities along major corridors and areas with large volumes of traffic or high speeds to ensure safe access to services by all road-users.
Enhance Equity – *Create a more accessible community for all through development of interconnected pedestrian and bicycle facilities.*
• Upgrade all roadway components to be ADA compliant in order to allow equal access to AT facilities for children, elderly and disabled populations.
• Increase connectivity of AT facilities to improve access to job opportunities, medical care and local commercial services by those living in households with low motor-vehicle ownership.
• Improve AT facilities, including those associated with transit, adjacent to all school buildings in in order to provide the opportunity for students and other community members to walk, bike or bus to school and other community events.
• Increase proportion of MPO transportation funding allocated to improving AT (Pedestrian, Bicycle and Transit) facilities 3 percent per annum over the 2010 expenditure.
Grow a Strong Economy – *Increase access to employment as well as spending at local businesses through AT networks and tourism.*
• Complete AT corridors that connect residential neighborhoods to employment opportunities in order to establish a healthier local workforce.
• Establish comprehensive AT networks in urban areas to promote spending at local businesses.
• Establish distinct and clear wayfinding signage that directs local and regional AT traffic to local establishments.
• Grow the local network of off-road trails in order to promote local recreational and agro-tourism.
Increase Local Sustainability – *Provide alternatives to motor vehicle travel, reduce automobile emitted pollutants from our air and water, and reduce stormwater runoff from the overall transportation system.*
• Encourage and support AT mode shift in order to decrease the number or daily motor-vehicle miles driven.
• Increase convenience of transit system (larger range/more frequent trips) to encourage use.
• Support establishment of transit and shared mobility modes (i.e. Bikeshare, Carshare, Rideshare, etc.)
• Transform unused or under-used parking lots in urban centers into parks or stormwater retention areas with available bike parking, in order to draw AT user downtown as well as decrease impervious surface coverage.
Relieve Healthcare Burden – *Improve overall well-being of Allen County residents and minimize health care costs by promoting an active lifestyle that will serve to improve resident's physical health.*
• Promote adoption of Safe Routes to School Travel Plan in all Allen County school districts.
• Prioritize AT networks and corridors that connect residents to medical care facilities, schools, parks and transit facilities.
• AT options as part of workplace wellness strategies.
• Develop a comprehensive AT network throughout the county to encourage physical activity through both recreational and utilitarian AT trips.

The ATP uses goals and strategic objectives to develop a framework for public and private sector action. Taken collectively the ATP framework works to identify goals and strategies for integrating public policy into the transportation planning and project development processes. Communities must recognize that public investments in transportation infrastructure will have implications for their built environment especially in economic, environmental and health attributes. And that policies coupled with recommended project investments can be used to implement wide systemic changes in the overall transportation system and the community's quality of life.

It is critically important that the ATP document, measure, track, and report its progress. The Plan relies on certain indicators of the transportation network as well as the built environment to establish baseline conditions; subsequent measurements will be used to track progress or change over time. Collectively, the impact of using policy and specific indicators will provide quantifiable performance measures and the basis upon which public policy and political decisions are to be assessed (Appendix A).

1.5 STATEMENT OF INTENT

Allen County recognizes the necessity of promoting pedestrian, bicycle and public transportation travel as an alternative to the private automobile in order to: protect all road users, reduce negative environmental impacts, promote healthy living, support employment and educational opportunities, and advance the well-being of commuters regardless of age or physical ability. As a result, Allen County communities will: (1) plan for, design, construct, operate, and maintain appropriate facilities for pedestrians, bicyclists, transit vehicles, transit riders, children, the elderly, and people with disabilities in new construction and retrofitting roadway reconstruction/rehabilitation projects; (2) develop appropriate public programming and information to educate and raise public awareness of the benefits, rights, and responsibilities associated with travel within public road rights-of-way; (3) improve data collection and establish necessary performance measures to allow for the effective monitoring of safety, use and performance; and, (4) cause an annual assessment be prepared that details the year's accomplishments and progress.

SECTION 2
OVERVIEW OF ACTIVE TRANSPORTATION PLANNING

Over the last several decades various plans effecting bicycle and pedestrian facilities/travel have been developed by the Regional Planning Commission (RPC), the Metropolitan Park District and local governments. The development of such plans and related infrastructure has provided a rich foundation on which this Plan and its updates will build upon.

The RPC, as the MPO, is working to better incorporate AT into its planning process and develop the tools and expertise to support the integration of AT options into traffic/transit operations.

Today, given the Federal mandates, MPOs are more often requested to participate in such planning efforts based on their access to data, modeling capabilities, collaborative orientation, policy development, familiarity with alternative transportation modes and available discretionary funding. Because of Federal transportation legislation the Regional Planning Commission, as the MPO, is working to better incorporate active transportation (AT) into its planning process and develop the tools and expertise to support the integration of AT options into traffic/transit operations. The remainder of this section looks to provide the regulatory framework effecting the delivery of AT options before reviewing the role of the MPO and relationship between the various MPO planning documents/requirements.

2.1 ACTIVE TRANSPORTATION'S REGULATORY FRAMEWORK

There is a long history of federal legislation and executive orders effecting the integration of active transportation options including: The Fixing America's Surface Transportation (FAST) Act (2015); The Moving Ahead for Progress in the 21st Century Act (2012); The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (2005); The Transportation Equity Act for the 21st Century (1998); The Intermodal Surface Transportation Efficiency Act (1991); Executive Order 12898 & Environmental Justice (1994); The American with Disabilities Act as amended (1990); the Clean Air Act as amended (1970); and, the National Environmental Policy Act as amended (1969). An examination of the legislation passed in the last several years however, provides enough depth to establish the parameters and direction of this report.

On March 15, 2010, the United States Department of Transportation (USDOT) issued its Policy Statement on Bicycle and Pedestrian Accommodation and its "Bicycle and Pedestrian Accommodation Regulations and Recommendations".[1,2] The purpose of the Policy Statement was to support interconnected bicycling and walking networks to increase bicycle and pedestrian safety. As a home rule state, ODOTs Bicycle and Pedestrian Accommodation policy was compartmentalized to reflect state owned or maintained facilities and off-state or local facilities. Transportation projects on local roadways were guided to develop their projects with respect to local design criteria or MPO bicycle and pedestrian plans.

In July 2012, Congress passed and President Obama signed into law P.L. 112-141, the Moving Ahead for Progress in the 21st Century Act (MAP-21).[3] MAP-21 was adopted to finance and further the efficiency of the existing transportation system by continuing to fully integrate

[1] http://www.fhwa.dot.gov/environment/bicycle_pedestrian/guidance/policy_accom_memo.cfm
[2] http://www.fhwa.dot.gov/environment/bicycle_pedestrian/guidance/guidance_2015.cfm#bp1
[3] https://www.govtrack.us/congress/bills/112/s1813/text

existing transportation modes rather than implementing new, expensive and fragmented infrastructure. MAP-21 provisions are to be implemented in conjunction with other federal regulatory acts, previous Transportation Bills (SAFETEA-LU, TEA-21, ISTEA), the Clean Air Act Amendments of 1990 and the Americans with Disabilities Act of 1990. Collectively these regulations provide a complicated framework from which to rebuild our nation's transportation infrastructure. This framework, however cumbersome, provides direction to build a truly accessible, truly intermodal transportation system. A transportation system designed to addresses the needs of industry and commerce. A system which addresses the needs of the poor, the elderly, the frail and the mobility impaired. A transportation system that provides an equitable distribution of infrastructure, investment, services and modal choice across geographic and socio-economic communities. A transportation system that protects the environmental and advances local health conditions within our neighborhoods. And, a transportation system that serves the needs of the local community far into the future.[4]

"This framework, however cumbersome, provides direction to build a truly accessible, truly intermodal transportation system."

Within United States Code (USC), Title 23 – Highways, Chapter 2, Section 217, (g) Planning and Design several specific references to Active Transportation Plan (ATP) development are identified:

- In General - Bicyclists and pedestrians shall be given due consideration in the comprehensive transportation plans developed by each metropolitan planning organization and State in accordance with sections 134 and 135, respectively. Bicycle transportation facilities and pedestrian walkways shall be considered, where appropriate, in conjunction with all new construction and reconstruction of transportation facilities, except where bicycle and pedestrian use are not permitted.

- Safety Considerations - Transportation plans and projects shall provide due consideration for safety and contiguous routes for bicyclists and pedestrians. Safety considerations shall include the installation, where appropriate, and maintenance of audible traffic signals and audible signs at street crossings. Moreover, Title 23 – Highways, Chapter 2, Section 217, (j) specifically identifies the term "bicycle transportation facility" as a new or improved lane, path, or shoulder for use by bicyclists and a traffic control device, shelter, or parking facility for bicycles. [5,6]

The MAP-21 legislation worked to establish Section 23 U.S. Code § 134 defined and changed the scope of the metropolitan transportation planning process. And although MAP–21 continued many of the provisions of earlier surface transportation acts, it included some changes and new provisions. The thrust of these changes and new provisions was to mandate a performance-based approach to state and metropolitan transportation planning processes. The MPOs were to establish a performance-based approach to transportation decision making in order to support the national goals. And it changed the planning process by requiring States, MPOs, and providers of public transportation to link investment priorities to the achievement of performance targets. Essentially MAP-21 and federal legislation required the MPO to support a planning process that would develop a collaborative working relationship not only with local

[4] https://www.fhwa.dot.gov/MAP21/summaryinfo.cfm
[5] https://www.law.cornell.edu/uscode/text/23/217
[6] http://www.fhwa.dot.gov/environment/bicycle_pedestrian/legislation/sec217.cfm

community stakeholders, but integrate FHWA, FTA, ODOT, and AASHTO goals, policies and guidance into its long range transportation plans and projects.

On December 4, 2015, President Obama signed into law, the Fixing America's Surface Transportation Act (FAST Act). Like previous legislation the FAST Act builds on previous transportation legislation and makes certain amendments.[7] The Act worked to integrate performance goals, measures and targets within the fabric of the transportation planning and the project selection processes. The FAST Act requires transportation plans prepared by MPOs to: address performance measures and targets that States and MPOs use in assessing system performance and progress in achieving the performance targets; Additionally, the FAST Act requires the planning process to consider projects/strategies to: improve the resilience and reliability of the transportation system, stormwater mitigation; [23 U.S.C. 134(h)(1)(I)]; and, include transportation and transit enhancement activities including strategies and investments that preserve and enhance intercity bus systems [23 U.S.C. 134(i)(2)(H)].

"The FAST Act worked to integrate performance goals, measures and targets within the fabric of the transportation planning and the project selection processes."

In sum, the MPO has the task of using data and model results to identify and integrate AT opportunities within the existing transportation system, pending highway projects and future projects when possible. The integration of these opportunities especially in the suburban and rural regions is now as pervasive as it is challenging especially with the limited funding available. The availability of Federal and state DOT monies albeit limited is crucial; especially as communities continue to seek out AT investments. However, the availability of other funding streams is considered essential and collaboration with other public and private sector stakeholders a necessity.

2.2 MPO TRANSPORTATION PLANNING RESPONSIBILITIES

The MPO is charged with the responsibility of transportation planning and decision making within an urbanized area. The MPO is a membership organization comprised of local elected officials, public transit operators, ODOT and other transportation stakeholders accountable for the region's overall transportation planning process. The MPO has the responsibility of collecting population and employment data, land use information, and documenting existing traffic as well as transportation system characteristics and crash data in order to employ travel demand models to establish current and future operational conditions governing the movement of people and goods in the region. With this data an assessment of possible alternatives to alleviate deficient levels of service is regularly conducted. Based on an adopted public involvement process, public input is sought on the evaluated alternatives and thereafter, the tiered committee structure of the MPO works to adopt (and maintain) a long range (20+ years) transportation plan and short range (4 year) Transportation Improvement Program (TIP) of recommended projects previously identified in the long range plan. While the long range plan publicly identifies a need, a project's inclusion in the TIP serves to commit funding to the project in order to correct existing conditions.

"The MPOs current 2040 Transportation Plan identifies needs in the MPO's bridge, highway, transit, bicycle and pedestrian networks."

[7] http://uscode.house.gov/view.xhtml?req=granuleid:USC-prelim-title23-section217&num=0&edition=prelim

The MPOs current 2040 Transportation Plan identifies the region's bridge, highway, transit, bicycle and pedestrian network needs. The current short range plan (TIP - FY 2018-2021), identifies MPO funding for bridge replacements, highway improvements, transit rolling stock and new pedestrian sidewalks. While the current 2040 Transportation Plan does identify deficiencies in the AT network, provides an overview of existing and proposed bicycle and pedestrian facilities, and commits funding to address specific projects it does not offer the specific goals, policies, or programs needed to rectify specific conditions in a more all-inclusive manner and integrate AT options into the overall transportation project development process. The current Transportation Plan fails to meet all the new federal planning mandates. As such, the MPO is working to better incorporate AT into its planning process and develop the tools and expertise to support the integration of AT (bicycle and pedestrian) options into highway/transit operations.

2.3 RELATIONSHIP BETWEEN THE ATP & OTHER MPO TRANSPORTATION PLANS/PROGRAMS

As previously identified, federal legislation expects AT planning as an integrated component of the MPOs Long Range Transportation Plan and programming efforts. This document works to provide the modal crashes, usage, network, concepts, and policies to help define, identify and prioritize investments in policies, programs and projects. The ATP supports and builds upon those same elements in the 2040 Long Range Transportation Plan.

Recognizing the changing nature of the built environment, the ATP policies herein should be considered an opportunistic tool to advance projects not specifically identified in the current 2040 Transportation Plan. The ATP will offer direction and recommendations for projects, policies and programs that will serve not only the pedestrian and bicycle modal components but also public transportation. The ATP will support the following elements of the current 2040 Transportation Plan: Chapter 5 - Hike/Bike Constraints, Chapter 5 - Hike/Bike Network and Chapter 7 - System Improvements. At the same time the ATP supports the following basic tenets developed by the MPO:

"The ATP will function as a guidance document and supplemental plan to the pending 2040 Regional Transportation Plan."

- Develop a safe, secure and efficient transportation system serving the community inclusive of all persons, all modes.
- Grow a transportation system that will support and strengthen the economic vitality of the community by furthering economic development initiatives that enables global competitiveness, productivity, and efficiency.
- Target transportation investments that encourage the development of healthy, livable communities – healthy in terms of both physical health and economical health, livable in terms of providing safe, walkable and affordable living conditions.
- Create an equitable transportation system which is accessible and that will provide adequate mobility and mode choice for all persons regardless of economic, physical and emotional limitations.
- Develop a transportation system that will minimize adverse environmental impacts to the environment and respect community values.

The implementation of the ATP will be evaluated for progress on the basis of the benchmarks and measure set out in the 2040 Transportation Plan Hike/Bike Component:

1. **Increase the level of public awareness of the economic, health, and environmental benefits associated with the reduced use of motor vehicles and increased walking and bicycling.**
   Measures/Benchmarks: Develop and post public information to local websites; public information presentations; media coverage/exposure; website hits.

2. **Increase the number of residents walking and bicycling on the existing system (2010) by 2% per annum thru 2040.**
   Measures/Benchmarks: Annual pedestrian/bicycle counts will reflect usage rate increases; the number of hike/bike events undertaken will be tracked; event participation in terms of participants will be tracked.

3. **Improve bike/pedestrian safety education program funding by 50% over 2010 rates and reduce bicycle and pedestrian crash rates by 5% per annum thru 2040.**
   Measures/Benchmarks: Diversify and increase the funding for bike safety programming by 50% over 2010 rates. Pedestrian/Bicycle crash rates will be established, assessed, ranked and published based on Ohio communities of similar size. Bicycle rodeo events/attendees will be promoted, monitored and tracked. Safety city investments and program attendees will be tracked as will the number of child helmet program recipients.

4. **Double the existing (2010) hike/bike infrastructure thru 2040 with expenditures increasing by 3% per annum.**
   Measures/Benchmarks: Assemble a prioritized list of bicycle and pedestrian projects to promote and develop a fully integrated multi-modal transportation system reflective of necessary amenities. Increase funding for hike/bike projects by 3% per annum over 2010 expenditures. Adopt new supportive policies reflecting adoption of complete street guidelines.

The ATP and its updates will function as a guidance document and supplemental plan to all future Regional Transportation Plans.

SECTION 3
PLAN DEVELOPMENT

Federal, State and local actions have led the Regional Planning Commission to undertake the development of an ATP that addresses the implementation, use and safety of a multi-modal AT network. Towards this goal a Bicycle and Pedestrian Task Force was established in September 2013 by the Board of the Allen County Commissioners. The Task Force included various stakeholders from local and state government agencies as well as local health and safety advocates. Members of the Task Force represented ODOT, Allen County Public Health, the YMCA, the Metropolitan Park District, the RPC and local political subdivisions. The Task Force has met quarterly from 2013 through 2017 to discuss the goals and objectives of an ATP and to propose a comprehensive AT network that would best service Allen County residents. The Task Force looked to connect both local and regional attractions and to support programs, events and policies to promote the growth of an AT culture throughout the County. The final network orientation was guided by a Technical Advisory Group (TAG) with extensive local knowledge and design/engineering expertise.[1]

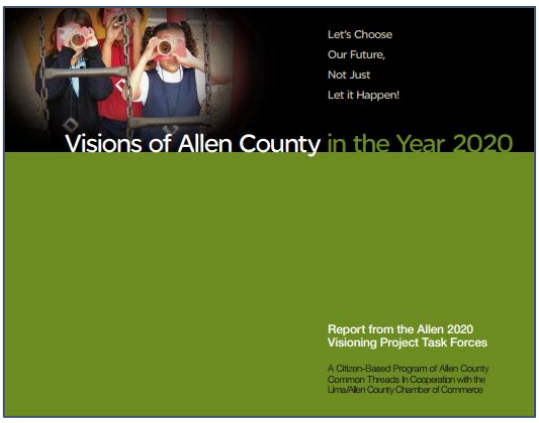
"The development of the proposed ATP was guided by the task force but relied heavily on input from local residents about their goals and hopes for AT in their local community."

The development of the proposed ATP was guided by the task force but relied heavily on input from local residents about their goals and hopes for AT in their local community. The full development process included creating a vision statement and determining goals and objectives for achieving said vision, evaluating the existing network and policy environment, recommending projects, programs and policies to fill current gaps in the system and then prioritizing the recommendations based on cost, support and regional connectivity.

"The first responsibility for the Task Force along with local stakeholders was to develop a vision statement for the ATP that would guide AT planning, policy making and project development well into the future."

3.1 VISION STATEMENT DEVELOPMENT

The first responsibility for the Task Force along with local stakeholders was to develop a vision statement for the ATP that would guide AT planning, policy making and project development well into the future. The vision statement adopted for the ATP was predicated upon the work of Allen County Common Threads and the "Visions of Allen County in the year 2020" document previously published by the Lima Area Chamber of Commerce. The visionary document was compiled based on the involvement of 12 Task Force teams representing the input of more than 150 stakeholders. These task force teams targeted government operations, land use, urban/rural development, economic development, community safety, recreation and leisure, and infrastructure.[2] The collective efforts resulted in several visionary statements and strategies pertinent to the ATP including:



[1] Technical Advisory Group representatives - RPC, Delphos, Spencerville, Lima, Allen County, ODOT, JAMPD, YMCA, Public Health, Greenway Collaborative, and Poggemeyer Design Group.

[2] Visions of Allen County in the Year 2020. Allen County Common Threads and Lima/Allen County Chamber of Commerce; 2008.

- Plan together for vibrant neighborhoods and appealing housing
  - Recognize the values of mixed use neighborhoods with appropriate amenities
  - Create neighborhoods that provide safe, habitable and affordable homes for all residents
- Improve connectivity among Allen County communities
  - Develop green infrastructure
  - Expand scope of entranceway improvements through the community
  - Create a network of bike paths, as open space corridors to connect existing parks thru Allen County

The adopted vision statement found in section 1.4 of this plan addresses the above goals by focusing on accessibility, connectivity, affordability and quality of life. In order to work towards the outlined vision, five goals were established to bring the vision to fruition. Such goals looked to: improve safety, enhance equity, grow a strong economy, increase local sustainability and relieve healthcare burden. It was then the job of the Task Force to outline strategic objectives (Table 1-1) that aligned with the adopted vision statement and goals and that most importantly would support changes in mode shift choices made by Allen County residents.

"Strategic objectives were identified that aligned with the adopted vision statement and goals and that most importantly would support changes in mode shift choices made by Allen County residents."

3.2 SYSTEM INVENTORY

Before any planning for the future could take place the Task Force and TAG spent significant time to document and understand the current AT environment. The Task Force and TAG examined existing data as well as collected new data in order to evaluate standing plans and policies, current and planned infrastructure, usage, crash statistics, local demographics and locations of major trip generators (Table 3-1). The collection of this information was vital to the groups' ability to analyze the current system and propose sound policies, programs and projects to support a comprehensive AT system.

TABLE 3-1
EXISTING CONDITIONS DATA & DATA SOURCES

Data	Description	Source
Adopted Plans	Previously adopted regional or local plans identifying active transportation goals or projects	- Local Jurisdictions - RPC - ODOT
Current Policy	Policies affecting land use, roadway design and roadway use	- Local Jurisdictions - ODOT
Current Infrastructure	The current active transportation network including the location of fixed route transit lines, on-road bike facilities, off-road bike facilities and sidewalks	- Local Jurisdictions - ODOT
Modal Use Data	Data on bike and pedestrian roadway and pathway use	- RPC - ACS
Demographics	Statistics on age, race, disability, poverty and motor vehicle ownership	- ACS
Trip Generators	Locations of activity centers (shopping, restaurants, etc.) and areas of high density residential or employment	- Local Jurisdictions
Crash Data	Location and severity of crashes involving a bicyclist or pedestrian	- RPC - ODOT - ODPS

3.2.1 System Audits

Sidewalk inventories were conducted in the cities of Delphos and Lima and the villages of Bluffton, Cairo, Elida, Harrod, Lafayette and Spencerville. Areas adjacent to the City of Lima in American, Bath, Perry and Shawnee townships were also inventoried. The sidewalk inventory reflects the presence of sidewalks (one or both sides) and the quality of sidewalks (surface conditions, separation from traffic, accessibility, etc.). Bike Paths and trails were also inventoried in the cities of Delphos and Lima and the villages of Bluffton and Spencerville, as well as those outside the incorporated areas including facilities maintained by Johnny Appleseed Metropolitan Park District, and the Ohio Department of Natural Resources (ODNR). At the same time roadway conditions were inventoried to reflect their: federal functional classification, average daily traffic, type of traffic, number and width of lanes, posted/prima facie speed limits, pavement conditions, surrounding development and the presence of medians, traffic signals, marked crosswalks, shoulders, curb ramps and bike lanes. The fixed route transit service was also inventoried for connectivity and its ability to meet/support pedestrian and bicycle travel.

System Components Inventoried:
Sidewalks
On Road Bike Facilities
Off-Road Bike Facilities
Roadways

Participating Jurisdictions:
Cities: Lima & Delphos
Villages: Bluffton, Spencerville, Elida, Harrod & Lafayette
Townships: American, Bath, Perry & Shawnee

Depending on the area or type of facility one of two types of system audits were performed. Informal audits were conducted in 2014 and 2015 by local stakeholders including neighborhood associations to identify pedestrian and bicycle concerns related to the safety, directness, connectivity and convenience of the respective facility. The informal audits were prepared in the field, using a Walkability Checklist promoted by the Federal Highway Administration, National Highway Traffic Safety Administration, the USEPA, National Center for Safe Routes to School, and the Bicycle and Pedestrian Information Center[3]. These audits were primarily restricted to City of Lima neighborhoods where schools, government buildings, parks and other recreational facilities were located. Audits were also conducted at certain sites along the Transit Authority's fixed routes where higher than average usage was documented or from where complaints stemmed. In addition to identifying problem areas, the audits were used to identify potential solutions (such as engineering treatments, policy changes, or education and enforcement measures).

Formal audits were conducted more sparingly at specific intersections or along vital corridors when the need arose. Project engineers typically facilitated the audits supported by a multi-disciplinary team of interested parties reflecting highway, transit, education and health professionals. Audit team members brought with them their own training and perspective of motor vehicle operations, bicyclists, young students,

[3] http://www.saferoutesinfo.org/program-tools/education-walkability-checklist

pedestrians especially older pedestrians, and law enforcement. These audits help illustrate what the current conditions of the intersection or corridor were and what types of solutions may exist to increase level or service and safety for all road-users.

An inventory of plans and policies related to AT was also conducted in order to better understand the historical and current positions held by local, regional and state officials in terms of supporting AT development by way of time, effort and funding.

3.2.2 System Usage

Collecting data on walking and biking trips has been promoted as one of the best ways to improve transportation networks and optimize investments.[4] Local stakeholders have worked to develop, with certain acknowledged shortcomings, a fairly comprehensive count program to help document existing usage and "make the case" for additional/enhanced active transportation options and amenities. The "Bike/Ped Counts Program" was initiated in an effort to: identify and measure trends in facility use and to provide baseline measures required to establish use and crash rates. The counts program also allowed transportation and safety representatives to identify at-risk behaviors of pedestrians, bicyclists and motorists and identify potential strategies to mitigate negligent behaviors.

The count programming put in place within Allen County follows the general standards and guidelines of the National Bicycle and Pedestrian Documentation Project.[5] Bicycle and pedestrian counts are collected manually by field data collectors who use standardized forms at specific sites on pre-determined dates (currently May and September) during specific time periods. Current programming reflects 45 different count locations reflecting intersections, roadway segments and paths/trails scattered across: Lima's parks, Central Business and Hospital districts; Bluffton's village center, parks, and college campus; Delphos's city center and parks; the Johnny Appleseed Metropolitan Parks, the city reservoirs, the Miami-Erie Canal and the OSU Campus in Bath Township. Data is collected to reflect work and education-related commutes during the AM peak (7:00 AM - 9:00 AM), Noon peak (11:30 AM - 1:30 PM), and PM peak periods (3:30 PM - 5:30 PM) as well as the early evening (5:30 PM - 7:00 PM) and weekend (12:00 PM - 2:00 PM) recreational peak periods.

"The bicycle and pedestrian counts were noted and compared with transit ridership data to identify opportunities to enhance ATP options especially for longer commutes."

The bicycle and pedestrian counts were noted and compared with transit ridership data to identify opportunities to enhance ATP options especially for longer commutes. Fixed route boarding and alighting data identified the origin and destination of fixed route passengers. Such locations were subsequently inventoried to identify warranted sidewalk, shelter, lighting, and crossing improvements. Passenger surveys conducted in

[4] http://www.fhwa.dot.gov/environment/bicycle_pedestrian/guidance/policy_accom.cfm
[5] http://bikepeddocumentation.org/

May 2015[6] and September 2016[7] identified both trip characteristics and ridership characteristics. While time consuming the counts programming will remain a necessary and ongoing exercise to document and support a better understanding of active transportation needs and behaviors and support further development of warranted infrastructure. Generally speaking the low counts should not be used as a justification for minimizing or dismissing deficiencies at a particular intersection or along an existing corridor because existing conditions may be hindering users who would, under better circumstances, benefit from travelling through that intersection or corridor by means of an AT mode.

3.2.3 System Performance

All pedestrian and bicycle related crashes for the period of 2011 thru 2015 were identified and subsequently classified by crash type, crash severity and characteristics of the bicycle and pedestrians involved before being located and mapped. This data is predicated upon OH-1 crash reports completed by local law enforcement personnel and collected and distributed by the Ohio Department of Public Safety. These reports provided the insights as to the 5-Ws who, what, when, where, and why, each crash occurred.

State and local agencies collect and maintain data on crashes involving bicyclists and pedestrians. The data is limited however to only those crashes that involve at least one motorized vehicles and often do not include non-injury or minor injury crashes involving a bicyclist or pedestrian. Moreover, the loss of relevant data due to the extent of hit and run crashes, where motorists do not stop or flee after a crash, precludes an exhaustive assessment.

Local elected officials, engineers, planners and policy analysts should not assume that reported crashes, and their respective locations are the only locations with safety problems. Local stakeholders would be best served to work with local law enforcement, emergency medical responders and hospital Emergency Room personnel to acquire additional information and improve the reporting of crashes/injuries involving bicyclists and pedestrians and reflect actual conditions.

When analyzing the level of service (LOS) for motorized traffic, engineers and planners tend to focus on speed, delay, and space. However, these factors aren't as important for roadway users traveling by foot or by bike or even transit. A more appropriate LOS model for the ATP focuses upon incorporating "quality of service" by accounting for measures like comfort, safety, and ease of mobility. A LOS model can help determine areas where bicycle and pedestrian levels of service are insufficient and identify possible safety problems.

"A more appropriate LOS model for the ATP focuses upon incorporating "quality of service" by accounting for measures like comfort, safety, and ease of mobility."

3.2.4 Demand on System

Demand placed on any segment of the AT network is due in part to the adjacent land use and development as well as the demographic composition of the area. To determine

[6] http://www.lacrpc.com/pdfs/2015%20Annual%20Report.pdf

[7] Ridership survey data was collected by Regional Planning Commission staff over the September and October 2016 timeframe. Data remains unpublished; DRAFT release pending February 2017.

where current land use and development patterns would place a large demand on any potential AT infrastructure major trip generators were identified based on density of residential, commercial and recreational development as well as employment. Local and regional generators evaluated included:

- Village & City Centers
- Schools/Universities
- Shopping Centers
- Hospitals/Medical Professional Complexes
- High-Density Neighborhoods
- Parks & Trails

Aside from relying solely on land use to estimate potential demand, population demographics of an area were included in the assessment as different characteristics of a population can potentially increase the proportion of AT trips. The following three population characteristics are known to have the most direct impact on AT demand:

- Median Household Income
- Average Vehicles per Household
- Percentage of Population that cannot Drive
  - Elderly/Youth
  - Disabled
  - No License

3.3 COMPREHENSIVE ACTIVE TRANSPORTATION SYSTEM

The most important aspect of growing an AT network is to do so in a well thought out, planned and comprehensive manner, not project by project. Comprehensive networks emphasize connectivity between projects increasing efficiency and convenience of the entire system. The Task Force, after reviewing the system inventory, demand, usage and performance, with guidance from the Technical Advisory Group, compiled a comprehensive list of policies, programs and projects that would boost connectivity by filling in identified gaps and support mode shift towards AT options. The final network orientation was chosen to address demand stemming from both residential and commercial land use, and demographics. Some of the proposals were identified as jurisdictionally specific and others as county-wide efforts. These proposals were predicated upon regional best practices and case studies as well as state and federal guidance.

"Comprehensive networks emphasize connectivity between projects increasing efficiency and convenience of the entire system."

3.4 PROJECT ASSESSMENT

In order to offer a more succinct list of recommended projects all of the proposed policies, programs and projects were assessed for cost, complexity and impact and subsequently prioritized accordingly.

3.4.1 Costs

Total estimated project costs were assessed by how easily a project could be funded by available local, state, federal, and private sources through grants or incorporation into current and proposed transportation projects. The feasibility of funding was assessed for all projects, including the costs of maintenance.

3.4.2 Complexity

The complexity addressed how difficult and time consuming a project would be to complete. Factors included surveying results, materials needed, and inconvenience during construction, among other complications which may arise during the duration of the project.

3.4.3 Impact

The impact of each proposal was determined by the type of trip it would support, the demand for AT in the area, its ability to improve safety and its ability to connect local and regional amenities as well as multiple transportation modes.

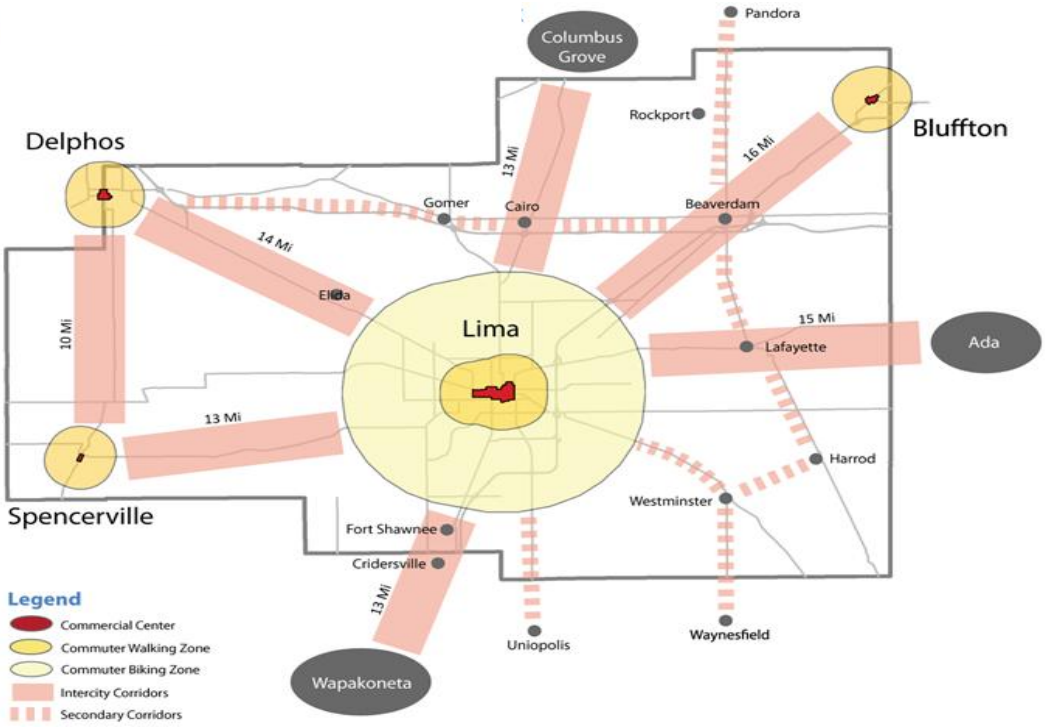
- Type: While this Plan supports all bicycle and pedestrian activity, both recreational and utilitarian, the main focus of this plan is transportation and the use of AT modes in place of motor vehicles for utilitarian trips. In consideration of this the Task Force embraced the prospect of improving the local and regional roadway system to complement the integration of an extensive AT network and identified areas where road diets or lane/shoulder extensions would be feasible for both bicyclists and motorists.

- Demand: Activity Centers and areas with dense residential or employed populations were identified as major generators by their ability to both produce AT users as well as to draw said users to them. Demographics were also used to estimate demand regarding age, ability, poverty and ownership of a vehicle as well as the possession of a valid driver's license due to their ability to impact demand for AT modes.

- Safety: Policies, programs and projects with the ability to improve conditions concerning fatal and serious injury crashes were considered high priority projects.

- Connectivity: Two types of priority connections were identified by the task force, physical connectors and inter-modal connectors. The physical connections were those connecting Allen County villages and cities to each other and to Lima Neighborhoods and CBD in order to promote safe transportation between political jurisdictions for all County residents and employees. Map 3-1 shows the framework of major connecting corridors that the proposed network was built upon. The inter-modal connectors were those projects that eased the burden of transferring from pedestrian to bike to transit, etc.

MAP 3-1
ALLEN COUNTY ACTIVE TRANSPORTATION FRAMEWORK



3.5 SUMMARY OF PUBLIC PARTICIPATION

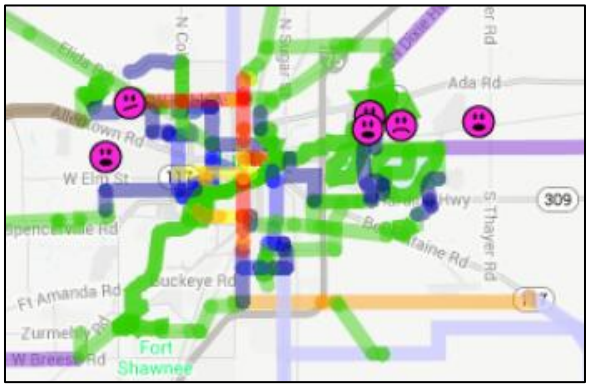
In order for the Plan to reflect the needs and values of the local population public participation was a key component in determining the proposed policies, programs and projects which determined the orientation of the final proposed active transportation network. The Task Force implemented several different methods to collect feedback and ideas from the public. These included neighborhood audits, an interactive online map, public workshops, web-based surveys, and self-assessment worksheets.

3.5.1 Neighborhood Audits

Neighborhood audits were conducted by neighborhood residents as a way to collect information about AT facilities and deficiencies through the perspective of neighborhood residents.

3.5.2 Online Map

FIGURE 3-1
ONLINE INTERACTIVE MAP



The Activate Allen County website posted a map featuring Allen County and its surrounding regions for website visitors to add comments and concerns about the current or proposed bicycle facilities in the Allen County region (Figure 3-2). Users could identify specific locations in which they see benefits and/or drawbacks of the bicycle and

pedestrian facilities. This new technology was able to provide an outlet for the public to participate in a direct way at their convenience. More than 200 comments were posted.

3.5.3 Workshops

In the fall of 2013, workshops were held in Lima, Delphos, Bluffton, and Spencerville at community centers where participants analyzed the current bicycle facilities in their local jurisdiction. Hopes, concerns, and opportunities were discussed with the participants and maps were provided to them for locating their high priority areas. The Task Force took this information and implemented it into the proposed AT Network.

3.5.4 Surveys

A survey of the most common concerns identified during the community workshops was then developed and made accessible for all community members and visitors to fill out. Survey takers ranked concerns by their perceived level of importance. The survey was available via the web and had over 200 recommendations. Survey answers can be found in Appendix B.

3.5.5 Self-Assessment

Officials of the City of Lima, City of Delphos, Village of Bluffton, Village of Spencerville, Bath Township, Shawnee Township, and Allen County completed self-assessment worksheets where they could voice their concerns and opinions on current bicycle and pedestrian policies and programs in their communities.

SECTION 4
CURRENT ACTIVE TRANSPORTATION ENVIRONMENT

As a result of the planning process a better understanding of the current AT system components is held by local officials and stakeholders. The ATP documents the current status of local and regional AT plans and policies as well as the location and condition of existing bicycle, pedestrian and transit facilities.

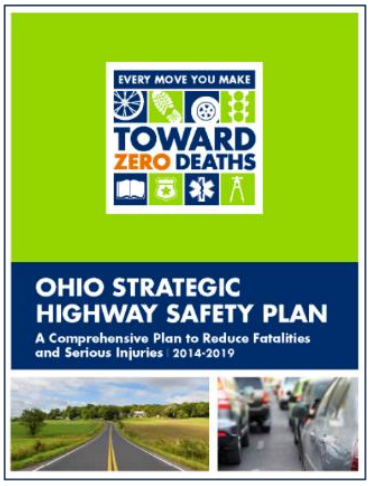
4.1 PLANS, POLICIES & PROGRAMS

While the presence or absence of physical infrastructure in a community plays a large role in promoting a strong active transportation culture it alone rarely succeeds. The plans, policies and programs being adopted and supported by local and regional governing bodings and community groups influence ease of access, safety and awareness that collectively impact active transportation mode shift decisions.

4.1.1 Current Planning Framework

Examining local existing land use and transportation plans none of them were found to address AT modes in a manner consistent with federal mandates. Looking back at land use or transportation plans adopted locally, regionally or state-wide in the last 10 years few of them were found to address AT modes in any significant way. In recent years the publication rate of active transportation plans has risen significantly across the country. This, due in large measure to the consensus reached by professionals in the economic, health, transportation and public safety fields; who espouse that active transportation improves the quality of life in both small and large communities. Summaries of the state, regional and local plans addressing active transportation in Allen County are described below:

- **Ohio Strategic Highway Safety Plan –** Adopted in 2013, in support of the statewide goal of "Toward Zero Deaths" by a multi-agency partnership including ODOT, FHWA and NHTSA, the SHSP is a comprehensive statewide plan that identifies the greatest causes of serious injuries and deaths on Ohio roads. The plan establishes common goals, priorities and strategies using data; identifies and tracks investments across organizations; and helps Ohio leverage and maximize its resources to prevent injuries and save lives. The plan was developed in collaboration with local, state, federal and private sector organizations from a variety of traffic safety disciplines, including engineering, education, enforcement and emergency response. These stakeholders developed a comprehensive plan that focuses on existing and emerging crash trends, and safety for all road users, including cars, trucks, trains, motorcyclists, pedestrians and bicyclists. Specific goals relating to active transportation include an annual reduction of 2% in both bicycle and pedestrian serious injury/fatal crashes.



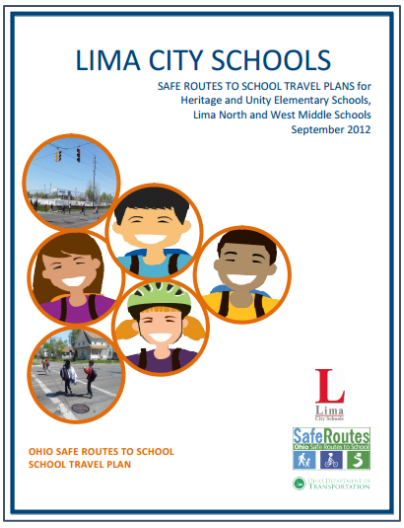
"The SHSP establishes common goals, priorities and strategies using data; identifies and tracks investments across organizations; and helps Ohio leverage and maximize its resources to prevent injuries and save lives."

- **2040 Long Range Transportation Plan –** The only currently adopted regional plan that address active transportation modes in any significant way is the MPO's 2040 Long Range Transportation Plan adopted in October 2018. The plan is a federally regulated and required document that the MPO updates every five years (next update in 2023). The document builds upon federal regulations to develop an accessible, intermodal transportation system. A transportation system designed to addresses the needs of industry and commerce. A system which addresses the needs of the poor, the elderly, the frail and the mobility impaired. A transportation system that provides an equitable distribution of infrastructure, investment, services and modal choice across geographic and socio-economic communities. A transportation system that minimizes environmental impacts and advances local health conditions within our neighborhoods. And, a transportation system that serves the needs of the local community far into the future. The plan includes a system overview of existing bike/pedestrian infrastructure (Section 5.1.5), system constraints (Section 5.2.6) and five active transportation related targets as components of the plan (Section 7.3.3) including:

  – Increase the level of public awareness of the economic, health, and environmental benefits associated with the reduced use of motor vehicles and increased walking and bicycling.
  – Ensure that a regional system of interconnected pedestrian paths, mixed use trails, on-road bicycle facilities and amenities at community facilities are designed, constructed, and maintained in an effective, efficient, safe, and secure manner.
  – Increase the number of residents walking and bicycling on the existing system by 2% per annum thru 2040.
  – Double the existing (2010) hike/bike infrastructure thru 2040 with expenditures increasing by 3% per annum.
  – To reduce bicycle and pedestrian crash rates by 5% per annum thru 2040.

  The current Long Range Transportation Plan outlines 137 projects planned out thru 2040 as key to maintaining and improving Allen County's transportation system. Of these projects 37 (27%) included AT provisions like sidewalks or designated bike facilities while 15 (11%) were solely AT projects.

- **Safe Routes to School –** A School Travel Plan (STP) is a written document that outlines a community's intentions for enabling students to engage in active transportation (i.e. walking or bicycling) as they travel to and from school. A comprehensive STP is created through a team-based approach that involves key community stakeholders and members of the public in both identifying barriers to active transportation and strategies for addressing them. Since the 2009 school year three Allen County school districts have adopted and begun implementing Safe Routes to School Travel Plans. In the hopes of reversing the nationwide decline in students walking or biking to school, three school



districts (Elida Local, Spencerville Local and Lima City) placed an emphasis on sidewalk connectivity as well as education and awareness for students, parents and other motorists.

> Elida Local School District, June 2009 – "Our community has chosen to write a School Travel Plan (Bulldogs Bicycling and Walking to School Plan) to attempt to address some of the factors that prevent so many of our students from walking or bicycling to school. Also, travel to/from the two buildings involved in this plan (the elementary and the middle school buildings) will no doubt be affected by the construction of a new high school."
>
> Spencerville Local School District, May 2011 – "The Bearcat Community has determined that a school travel plan be completed to identify deficiencies in the current routes to school and to create strategies that will lead to the elimination of said deficiencies, thus providing safer and more functional travel routes. Furthermore, we feel that it is in the community's best interest to encourage our youth to engage in alternative modes of transportation other than motorized transportation. In order to meet our goal of providing safer routes for students to walk and/or bicycle to school, the SRTS Team Members will be charged with the task of establishing a comprehensive plan that addresses all facets of a successful School Travel Plan: education, enforcement, encouragement, evaluation and engineering."
>
> Lima City School District, September 2012 – "The vision for the Lima City Schools Safe Routes to School travel plan is to create safe, walkable communities. The school travel plan will result in increasing the number of school children safely walking and bicycling to school, resulting in a healthier school-age population, an improved environment and an enhanced quality of life in our communities."

- **ADA Transition Plans** – On July 26, 1990, President George H.W. Bush signed into law the Americans with Disabilities Act (ADA), a comprehensive civil rights law prohibiting discrimination on the basis of disability. The ADA broadly protects the rights of individuals with disabilities in employment, access to State and local government services, places of public accommodation, transportation, and other important areas of American life. The ADA also requires newly designed and constructed or altered State and local government facilities, public accommodations, and commercial facilities to be readily accessible to and usable by individuals with disabilities. Title II of the ADA relating to nondiscrimination on the basis of disability in State and local government services. Title II requires all political subdivisions within the United States to have an adopted plan outlining the process in which all of their assets will be upgraded to comply with ADA regulations. The plan must:

    1. Identify physical and programming obstacles
    2. Describe methods to make facilities and programs assessable
    3. Specify schedule for achieving compliance
    4. Identify official responsible to implementation of plan
    5. Estimated costs of each modification
    6. A method of tracking progress and project completion dates

  While the US Department of Justice (DOJ) has been lenient on the adoption of transition plans since the adoption of the ADA in 1990, recent months have seen an increase in pressure from the DOJ on all public entities to draft and adopt a plan. Even though all jurisdictions within Allen County have been making upgrades to local public facilities over the last three decades only four of the nine incorporated

places within the County have at least draft ADA Transition Plans written (Lima, Elida, Beaverdam and Lafayette), with only two of those four plans having been formally adopted (Beaverdam and Lafayette). The two most common occurrences of non-compliance that have been identified in these plans so far, include a lack of access to public buildings by way of no sidewalk or a difficult to pass sidewalk and the fact that sidewalks are not extended though driveways and parking lots. This Plan, in support of ADA compliance across the County calls for equitable distribution of funding for sidewalks especially with respect to projects identified in an ADA Transition Plan.

4.1.2 Supportive (↑) & Prohibitive (↓) Policies

How policies at local, state and federal levels are developed and implemented can directly or indirectly impact regional AT adoption as well as the safety of AT users. The majority of the policy language addressing AT comes from state agencies, however most of the implementation and enforcement is carried out by local jurisdictions allowing for inconsistencies in the execution of the rules and regulations outlined by the state.

- **↑: Policy on Accommodating Bicycle and Pedestrian Travel on ODOT Owned or Maintained Facilities –** ODOT has an established policy that ensures that a project development process for each ODOT funded project consider bicycle and pedestrian accommodations based on three criteria: safety, feasibility and potential for use. This policy is based on regulations found in Federal (CFR & USC) and State (ORC) codes. Building AT infrastructure into funded transportation projects, either new or reconstruction, is the most feasible and cost-effective way to build a comprehensive AT network as roadways are already on a rotating maintenance/reconstruction schedule.

- **↓: ODOT Design Standards –** All bicycle facilities funded with ODOT/FHWA monies are held to specific design standards. These standards currently come directly from the 2012 AASHTO (American Association of State Highway and Transportation Officials) Guide for Development of Bicycle Facilities. These current standards are demanding with even off road bikeways more closely resembling the design of a road rather than a pathway. The strict design standard works to slow the implementation of bike infrastructure around the state as project costs increase when using ODOT/FHWA funding. ODOT is aware of the burden the design standards place on local communities and is in the process of compiling more flexible design guidelines.

- **↑: 3-Foot Safe Passing Law –** As recently as December 2016 the Ohio General Assembly passed House Bill 154 making it illegal for a motorist to pass a bicycle with less than three feet of clearance. This rule went into effect March 2017 and allows Ohio to join the majority of states that currently have similar bills. This rule will hopefully not only decrease the number of fatalities and serious injury crashes but also the frequency of close calls that often keep potential bicyclists off the road.

- **↓: Enforcement of Motor Vehicle & Bicycle/Pedestrian Law –** Policies and roadway laws are only as effective as the implemented enforcement of said laws. Across the country laws associated with bicycle and pedestrian roadway use, including bicycle, pedestrian and motor vehicle behavior are often enforced as an afterthought to classic traffic violations like speeding, running red lights, etc. This enforcement

behavior leads to poor roadway use with improper crossings on the part of bicyclist and pedestrians and failures to yield correctly by all roadway users becoming common traffic behaviors. In Allen County over 50 percent of all bike/pedestrian crashes in the last five years can be attributed to these two causes.

4.1.3 Local Active Transportation Programs

Within Allen County a number of local government and community organizations are dedicated to helping grow a sustainable bike culture across Allen County. A number of programs in the form of meetings, community events, educational opportunities and awareness campaigns are supported throughout the year to support AT use and safety in local communities as well as throughout the region (Table 4-1).

TABLE 4-1
LOCAL BIKE/PEDESTRIAN PROGRAMS BY STAKEHOLDER

Program	Regional Planning	Health Professionals	Local Law Enforcement	Activate Allen County	Local Bike Shops	Local Non-Profits	Local/ State Govt's
Bike Rodeo	✓	✓	✓		✓		✓
Bike/Ped Counts	✓	✓		✓	✓	✓	✓
Bike Ped Taskforce	✓	✓		✓	✓	✓	✓
Experiential Education	✓	✓	✓		✓		✓
MoveSafe	✓	✓	✓				✓
Local Bike Rides or Walk/Run Events	✓			✓	✓	✓	✓

- **Bike Rodeos –** Half-day skill building events that feature a number of stations for kids to learn bike safety basics in funs hands-on activities. The events include helmet give-away and are conducted at rotating locations in collaboration with local schools, churches and law enforcement. Bike Rodeos are staffed by health and safety advocates as well as bicycle enthusiasts.

- **Bike/Pedestrian Counts –** In accordance with the National Bicycle and Pedestrian Documentation Project the County records bike and pedestrian traffic twice a year at 45 locations during five time periods each (Weekdays: 7am – 9am, 11am – 1pm, 3:30pm – 5:30pm and 5:30pm – 7pm & Weekends: 12pm – 2pm). These counts will serve as a baseline measurement to see how improvements to pedestrian and bicycle facilities impact the number of people walking and bicycling.

- **Bike/Pedestrian Taskforce** – A task force was created in 2013 to promote walking and biking in Allen County. The taskforce represents numerous jurisdictions and community groups and pools resources and knowledge in order to better support a bike culture in Allen County through public education and outreach.

- **Experiential Education –** Starting in Summer 2017 experiential education in the form of bike rides led by trained leaders will be offered to community residents and worksites. These rides teach and illustrate first hand the rights and responsibility of bicyclists and have been shown to have a larger impact on mode shift and bicyclist behavoir then traditional educational strategies.

- **MoveSafe –** Due to increases in both pedestrian and bicycle crashes, the Allen County Safe Community Coalition will review bicycle and pedestrian crashes as well as carry out public education and awareness campaigns focused on roadway safety and active transportation.

- **Local Bike Rides or Walk/Run Events –** Nearly 100 rides, walks and runs are held each year in Allen County, often sponsored by local bike shops or non-profits and alligned with a specific charity or organization. These are held all year long and throughout the county but are concentrated around the Ottawa Riverwalk during the summer months.

4.2 PEDESTRIAN INFRASTRUCTURE

Sidewalks are the back bone of any comprehensive active transportation network. Whether the majority of one's trip is by foot, bike, bus or car, the majority of trips will always begin and/or end on a sidewalk. The lack of or deterioration of sidewalks in both urban and rural settings is the number one barrier to non-motorized trip taking. The following sub-sections break down in detail the current pedestrian infrastructure found in Allen County as well as common impediments found throughout the network.

4.2.1 Network

Given that Allen County has urban, suburban and rural characteristics and that there are over 1,400 miles of roadway including an Interstate/US Highway serving the County it is not reasonable or feasible to expect every mile of roadway to have sidewalks or other pedestrian infrastructure (ramps, ped-heads, etc.). Focusing local jurisdictions' time and financial resources to where potential pedestrian infrastructure would get the most use is a good start. Within Allen County there are 60.4 square miles of urbanized area and 25.4 additional square miles of unincorporated area for a total of 85.8 square miles of urban areas. This is the area where resources dedicated to pedestrian infrastructure will go the furthest as trip generators are within walking distance of one another. The 2017 Allen County Auditor's database showed that 88.5 percent of all land dedicated to commercial enterprise (retail, restaurants, doctor's offices, etc.) and K-12 education is located within the identified urban areas surrounding Lima, Delphos or Bluffton.Two types of urban areas are found within Allen County as defined by the Census Bureau in 2010. The greater Lima area encompasses 54.0 square miles and is identified as an Urbanized Area as it is comprised of more than 50,000 people. Both Delphos and Bluffton are designated as Urbanized Clusters which encompass between 2,500 and 50,000 people, those areas are 4.2 and 2.2 square miles respectively (Table 4-2).

TABLE 4-2
ALLEN COUNTY URBAN AREAS & ROADWAYS

Area Type	Urban Area Square Miles	Roadways (mi)
Lima Urbanized Area	54.0	485.8
Delphos Urban Cluster	4.2	48.9
Bluffton Urban Cluster	2.2	25.8

Lima Urbanized Area – Within the Lima Urbanized Area, which encompasses the incorporated areas of Lima, Elida, Cairo and Cridersville incorporated areas as well as parts of American, Bath, Perry, Shawnee and Monroe townships, there are 486 miles of

roadway ranging in functional class, speed, roadway width and Average Annual Daily Traffic (AADT). Of those 486 miles only 177 miles (36.4%) have sidewalks on both sides of the road (Table 4-3). These sidewalks are concentrated in the historic central business districts and older residential districts making travelling to locations within such areas accessible without access to a car. As Map 4-1 clearly depicts as one moves out of these areas sidewalks become less common. This configuration presents two main obstacles: (1) those living on the fringes of the urban area become dependent upon motorized transport and if they are dependent upon walking, are placing their personal safety in jeopardy; and, (2) without sidewalks leading to the major commercial districts, residents looking to travel by foot are prohibited from utilizing the commercial services and entertainment provided in these areas and those utilizing transit are at risk, as pedestrians, once they leave the safety of the bus.

Of the 486 miles of roadway within the Lima Urbanized Area only 309 miles (63.6%) are missing at least 1 sidewalk.

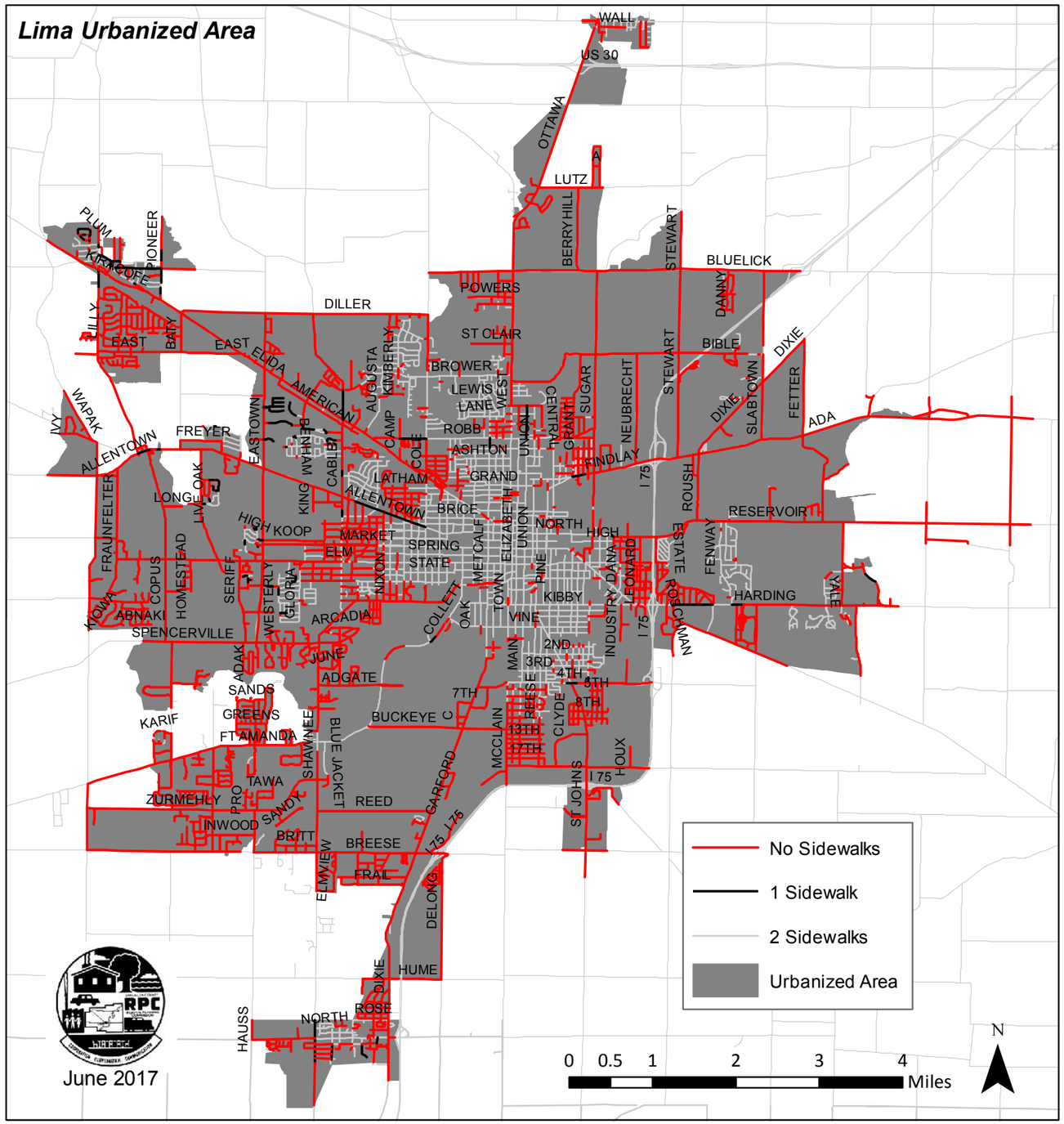
TABLE 4-3
PRESENCE OF SIDEWALKS IN ALLEN COUNTY URBAN AREAS

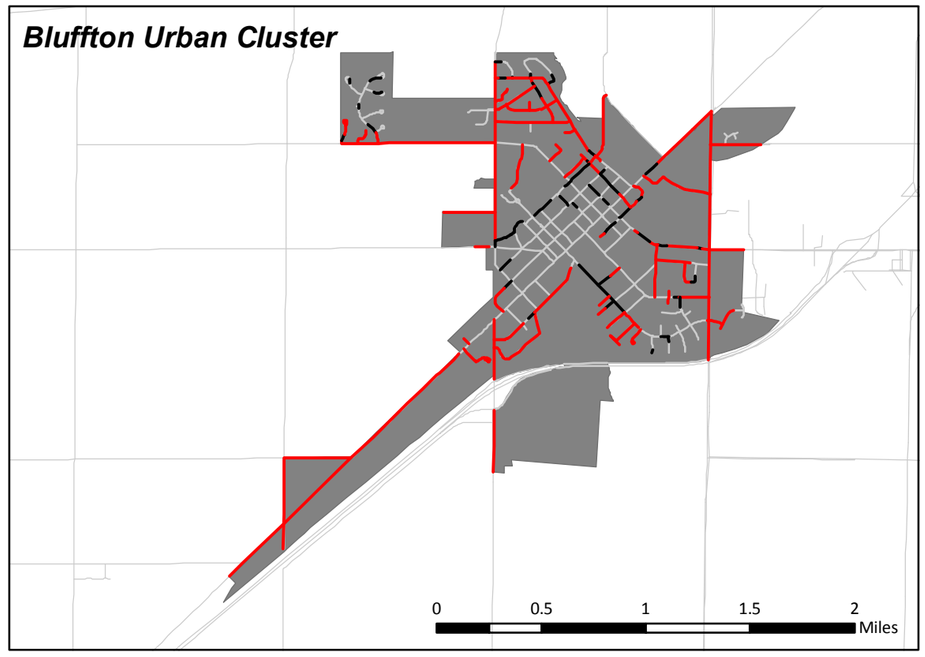
Area Type	Roadways (mi)	Roadways w/o 2 Sidewalks	PCT of Roadways w/o 2 Sidewalks
Lima Urbanized Area	485.8	308.9	63.6%
Delphos Urban Cluster	48.9	29.0	59.3%
Bluffton Urban Cluster	25.8	15.6	60.4%

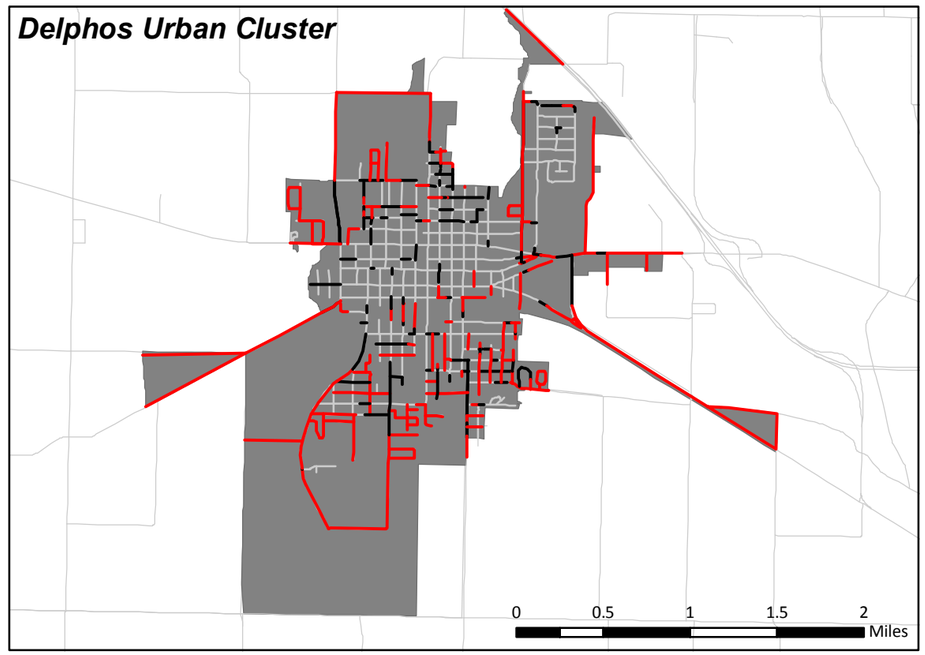
Local governments' awareness of the benefits that sidewalks provide to both those with and without access to motor-vehicles is growing every year. Major sidewalk projects have been undertaken in the last five years increasing accessibility throughout the Urbanized Area. In 2015 over 1.5 miles of Kibby St. was reconstructed to include new curbs, ADA ramps and sidewalks. The newly installed 5' sidewalks connected important generators that attract high volumes of traffic, including Industry and Kibby Corners Parks as well as Liberty and Freedom Elementary Schools. The most recent sidewalk project, completed May 2017, runs along Cable from Elm St. to Shawnee Rd. and acts as an extension of the earlier Market St. to Elm St. sidewalk installation project. The Cable Rd. sidewalks connect dense residential neighborhoods to trip generators including St. Charles School, Lima Central Catholic High School, Chief Supermarket and numerous other restaurants and commercial services. These projects represent a large investment from the state and local community as each project represents an over $2 million investment. Aside from just the major sidewalk construction projects the City of Lima reconstructs sidewalks throughout the city each year that are deemed unsatisfactory due to heaving, deterioration, etc. and that are not repaired by the property owners within a given timeline. At each of these sidewalk reconstruction projects ramps with truncated dome pads were installed in order to increase accessibility to pedestrian infrastructure across the city in compliance with the ADA. In 2015 and 2016 alone, 187 segments of sidewalk were replaced with a total project cost of $208,781, of which $133,175 were assessed back to the property owners.[1,2]

[1] http://www.cityhall.lima.oh.us/DocumentCenter/View/2453
[2] http://cityhall.lima.oh.us/DocumentCenter/View/3217

MAP 4-1
ALLEN COUNTY - URBAN AREAS PEDESTRIAN INFRASTRUCTURE







Delphos Urban Cluster – Within the Urban Area, which encompasses the majority of the City of Delphos including parts in both Allen and Van Wert Counties, there are 49 miles of roadway ranging in functional class, speed, roadway width and Average Annual Daily Traffic (AADT). Of those 49 miles only 20 miles (40.7%) have sidewalks on both sides of the road. These sidewalks are concentrated in the center of the city between 1st and 6th streets as depicted in Map 4-1. As one moves away from the central district sidewalks become more scarce making these parts of the urban area less accommodating to those travelling as pedestrians. Like the City of Lima, the City of Delphos has made investments over the last decade to provide more infrastructure that supports pedestrian travel throughout the urban area. In 2009 the City of Delphos installed sidewalks along 2nd St corridor for a total project cost of $89,396 and in 2011 installed sidewalks along Elida Road for an investment of $67,377.

Bluffton Urban Cluster – Within the Bluffton Urban Cluster, the Village of Bluffton including parts in both Allen and Hancock Counties, there are 26 miles of roadway, of which only 10 miles (38.4%) have sidewalks on both sides of the road. These sidewalks are concentrated in the village center between Main and Vine streets as depicted in Map 4-1. While not depicted on the map the Bluffton University campus provides a dense sidewalk network northwest of the village center, however as you move in any other direction the sidewalk network degrades. Given the density of the village and the existence of a University AT modes are an easy choice to make if the infrastructure is in place. Steps continue to be taken to improve the network of pedestrian infrastructure and as recent as 2013 the Village Council adopted legislation that states that sidewalks are to be constructed and maintained throughout all residential areas. The most significant project of the last decade occurred along Main Street and included new sidewalks, curbs, lighting and landscaping. The project took place in 2009 and total project costs reached $1.5 million.

4.2.2 Impediments

Given the number of benefits a comprehensive sidewalk network brings to a community its often surprising how little attention is paid to the connectivity, condition and utility of the network. Sidewalks have the potential to boost a community's accessibility, recreation, local economy and overall health; however, poorly designed or maintained networks limit the benefit a community will see. Roadway network characteristics like wayfinding, signage, speed limits, traffic volume, shoulder width, sidewalk conditions, infrastructure for mobility impaired pedestrians and multi-modal access (transit route information, transit shelters) all impact the comfort level with which the roadway network can be used by pedestrians. While improvements are being made across Allen County all of the following barriers to pedestrian trip making were found in both the urban and suburban regions of the county.

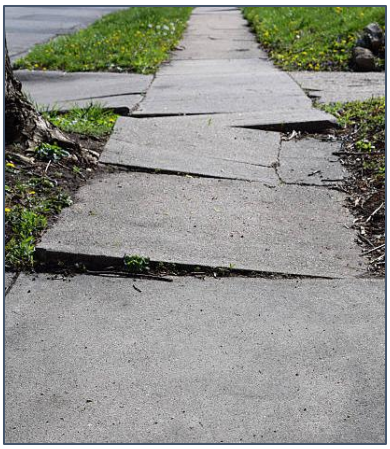
Wayfinding – While many local residents or employees may overlook the need for proper signage and wayfinding materials, in order to attract first time and repeat visitors to commercial districts wayfinding is essential. Having landmarks and infrastructure clearly indicated on easy to access maps or brochures as well as on signs leading from regional corridors is vital in order to let people know what is available, where it is and by which modes of transportation (bicycling, walking, transit) it is accessible by.

Speed Limit, Traffic Volume & Shoulder Width – High speed and narrow roadways without adequate pedestrian infrastructure: sidewalks, crosswalks, ped-head signals, etc., can cause high stress trips for anyone travelling by foot along moderate to high

traffic roadways. Pedestrians are left with two options, one walk in the street where there is no room for them or two walk in the grass, mud, dirt or gravel along the road side. This effectively prohibits pedestrians, especially disabled or elderly pedestrians, from accessing services along those routes. In pedestrian-motor vehicle crashes speed is the primary factor determining severity. An FHWA study showed that when a vehicle is traveling at 40 mph or more over 80 percent of crashes result in pedestrian fatalities while at under 20 mph only five percent of all pedestrian crashes end in a fatality[3]. Without sidewalks or at least wide shoulders (≥6ft) on roads with speeds higher than 35 mph pedestrians are putting themselves at high risk potentially every day as they travel by foot to work or school. Allen County currently has 220 miles of roadway where no sidewalks or pedestrian infrastructure is installed where the speed limit is greater than 35, the shoulders are less than 6 feet wide and the AADT is greater than 1,000 (Map 4-2). Many of these are regional corridors that connect Allen County communities to one another, keeping pedestrians isolated to the communities they live or work in. While the majority of these roads are found outside the urban areas 63 miles of roadways that fit these criteria are found within the Lima Urbanized Area, mostly in the commercial districts along the fringe of the urban area.

An FHWA study showed that when a vehicle is traveling at 40 mph or more over 80 percent of crashes result in pedestrian fatalities while at under 20 mph only five percent of all pedestrian crashes end in a fatality[1].

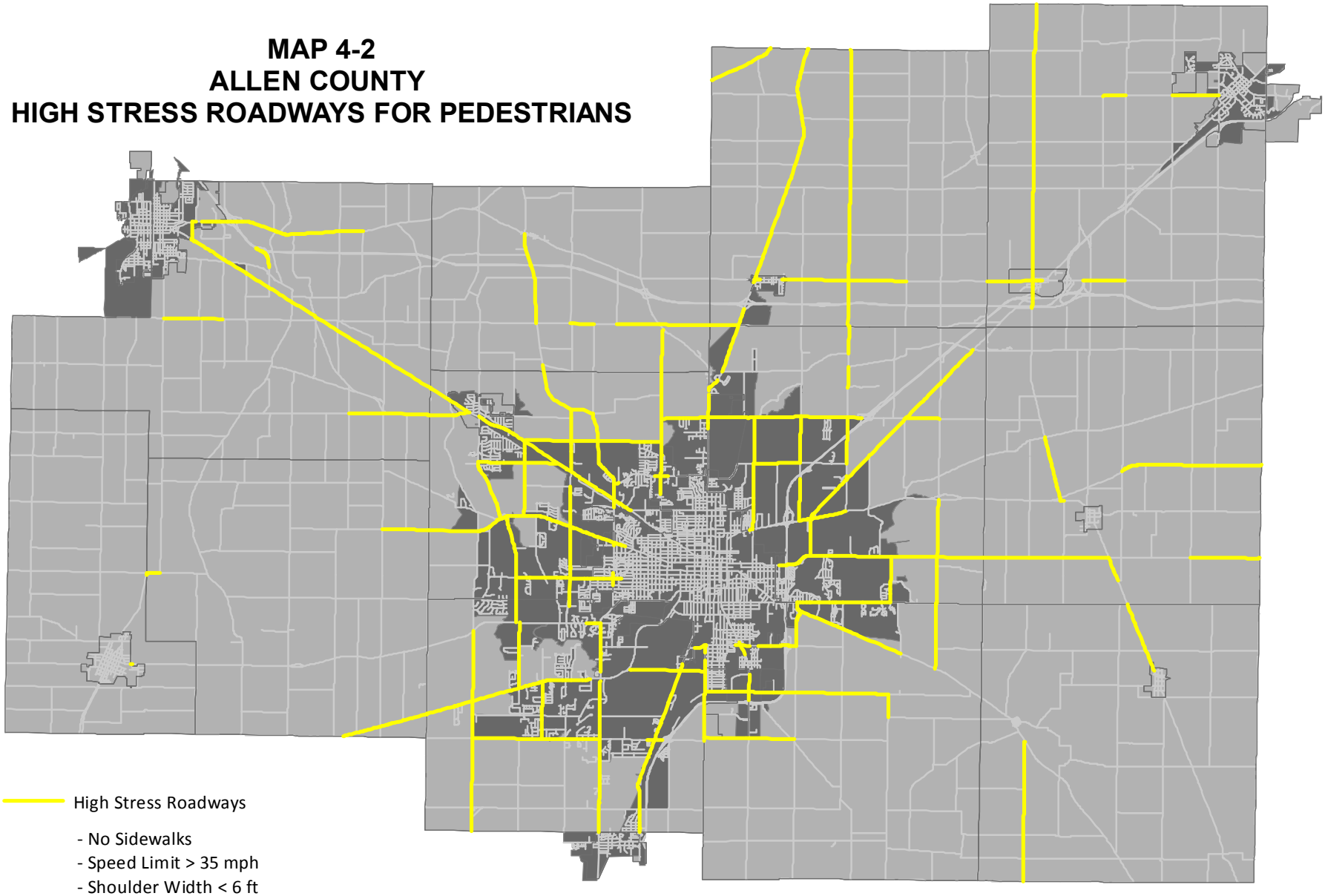
Sidewalk Condition – The importance of well-maintained, level sidewalks cannot be over stated. A large proportion of pedestrians, across the country but especially in Allen County, is made up of people who do not have the ability to drive, including the elderly and disabled populations. Both of these populations make up a higher percentage of the population in Allen County (Over 65 – 15.5% and Disabled – 13.1%) then the nationwide average (Over 65 – 14.1% and Disabled – 11.4%).[4] This means that not only do Allen County sidewalks have to accommodate able-bodies but also those that require walkers, canes, wheel chairs, etc. To accommodate all users the ADA requires all sidewalks to be sloped no greater than 5% and have no lips greater than ¼". Due to general deterioration, tree roots and freezing temperatures many sidewalks across the county do not currently meet these criteria. Other obstacles that were found along Allen County sidewalks included street light and telephone poles, railroad crossings, parked cars, overgrown vegetation and flooding.



Multi-Modal Access – Many trips made on a daily basis are longer than the average person is willing or able to walk, meaning that if walking is going to be part of the trip another mode of transportation will also need to be implemented. If connections between motor-vehicle/bus/bicycling and walking are made efficient, first and last mile solutions are a convenient way to increase a resident's daily activity, decrease their motor-vehicle related emissions, and increase the extent of the community accessible to

[3] https://safety.fhwa.dot.gov/ped_bike/pssp/background/psafety.cfm
[4] https://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t#

MAP 4-2
ALLEN COUNTY
HIGH STRESS ROADWAYS FOR PEDESTRIANS



those residents without cars. Infrastructure that supports these transitions from one mode to being a pedestrian revolve around sidewalk networks that connect bus stops, bus transfer stations, bike racks and parking lots to other generators in the community. The service area of the Allen County Regional Transit Authority Fixed Route system includes 294 miles of roadway. These roads are located within ¼ mile of the fixed route and are assumed to be the most commonly traversed roadways by residents walking to a transit bus stop. Currently, of these 294 roadway miles only 160 miles (54%) have sidewalks enabling easy access to transit stops from residents' homes or places of work.

Infrastructure for Mobility Impaired Pedestrians – Making sure that sidewalks are level and not drastically sloped is only the first step a local government needs to take to ensure access to pedestrian infrastructure for all local residents (Table 4-4). Aspects of a pedestrian network that will either keep older/disabled pedestrians off the roadway or place them in high stress situations include: short signal timing, narrow sidewalk widths, short sight lines, absence of tactile or audible indicators, sidewalks that end abruptly and confusing wayfinding or informational signage.

TABLE 4-4
DESIGN NEEDS OF MOBILITY-IMPAIRED PEDESTRIANS[5]

Wheelchair	• Wider path and larger maneuvering space. • Surfaces with low cross lopes, low grades, smooth surfaces, and level terrains. • Firm, stable surfaces and structures such as ramps or beveled edges to negotiate changes in level. • Gradual rate of change of cross slope in such places as driveways and aprons.
Walking-Aid	• Extended signal timing at wide intersections. • No grates and cracks which could catch or hinder the walking-aid. • Longer pedestrian signal cycles at intersections and the presence of passing spaces to allow others to travel around them. • No rapid change in cross slope that could cause people with walkers to stumble.
Prosthesis	• Extended signal timing at wide intersections. • Low grades and cross slopes.
Visual	• Detectable warnings (surfaces that can be detected underfoot and by a person using a cane through texture, color, and resilience). • Wayfinding information that provides orientation information to the user. • Visual cues, tactile surfaces, or audible pedestrian signals that can provide information about traffic flow and street crossings more accessible.
Hearing	• Areas with long sight distances relatively free of visual obstructions such as landscaping.
Cognitive	• Signs that use pictures, universal symbols, and colors rather than words to convey meaning to a broad range of people.

[5] https://www.fhwa.dot.gov/publications/research/safety/pedbike/05085/chapt8.cfm

4.3 BIKE INFRASTRUCTURE

Biking is the true regional connector of the active transportation modes as low density and long distances often work to eliminate walking and transit from regular inter-community trip making. There are three main types of bike trips that local and regional bike infrastructure needs to support: (1) commute to work or other utility trips; (2) local recreational trips; and, (3) regional recreational trips. All add to the total number of bikes using the community's roadways. However, these trip types primarily rely on different kinds of infrastructure to ensure a successful and safe trip. The following sub-sections detail the current bike infrastructure found in Allen County as well as common impediments found throughout the network.

Bicyclists are allowed to travel on any of the 1,400 miles of roadway in the county, with the exception of I-75 and US 30.

4.3.1 Bicycle Network

While bicyclists are allowed to travel on any of the 1,400 miles of roadway in the county, with the exception of I-75 and US 30, infrastructure targeted at this mode of travel is intermittent at best. Bicycling, like walking, benefits a community in terms of better health, easier access to employment, lower motor-vehicle emissions and increased residential and tourism spending. In order for a community to maximize AT benefits specific to bicycling, local, regional and state officials need to assemble a comprehensive network that supports all three types of bike trips, utility, local recreational, and regional recreational. The result has been the development of a hierarchy of bike facilities based on jurisdictional level, US and State Bike Routes, Regional Connectors, Urban Networks and Off-Road Pathways.

Currently, on-road bicycle facilities (i.e. bike lanes and bike routes) measure 16.7 miles and are centralized around the City of Lima while off-road facilities (i.e. shared-use and unpaved paths) measure 60.4 miles and are found mainly within the Johnny Appleseed Metro Park District and other municipal or township parks especially along the Ottawa River, City Reservoirs and the Miami/Erie Canal (Map 4-3).

Regional Connectors – Currently there are no bike facilities in Allen County that connect regional locations or attractions, across the county or the state. By early 2019, this is scheduled to change as two US Bike Routes will crisscross Allen County (Figure 4-1). Currently State and local governments are working towards official designation for USBR 25 and USBR 44. Both USBRs will intersect in Richland Township with USBR 25 travelling northeast to southwest through Bluffton, Lima, and Cridersville along Dixie Highway and the Ottawa Riverwalk and USBR 44 travelling east to west through Beaverdam, Cairo, and Delphos along Lincoln Highway. The designation and signage of these routes will add nearly 50 miles of bike designated infrastructure to Allen County while connecting residents across five Allen County communities and serving cross county and state recreational opportunities.

FIGURE 4-1
REGIONAL ORIENTATION OF PROPOSED US BIKE ROUTES

MAP 4-3
LIMA URBANIZED AREA
BIKE INFRASTRUCTURE

Cole
O'Connor
Cole
Baxter
McKibben
Kenilworth
West
Main
Spring
Faurot
Prospect
Milburn

Bike Route
Bike Lane
Shared Use Path
Unpaved Path
Roads
Parks

June 2017

N

0 0.5 1 1.5 2 2.5 Miles

Urban Networks – These types of networks have the potential to be found in any urban area where numerous trip generators are within a relatively concentrated area, allowing for the efficient and safe movement of bicyclists throughout the urban setting. Including designated bike infrastructure throughout the urban network is essential when a large proportion of said network is made up by high stress etc.). The only urban area in Allen County that reflects a high percentage of these roadways is the Lima Urbanized Area. There are currently 16.1 miles of bike facilities within the Lima Urbanized Area accounting for 8.7 percent of all roads within the city roadways (large volume of traffic, high speeds, narrow lanes, boundary and 3.3 percent of all roads within the urbanized area. This leaves large swatches of the urbanized area not accessible to those travelling by bike whether by choice or necessity. Recent projects within the City of Lima include bike lane markings on Elizabeth and Wayne Street in 2014 funded primarily through $1.2 million in ODOT safety monies, markings and signage for bicycle traffic on McKibben, Baxter, Faurot, State and McDonel funded through $20,000 from the Ohio Department of Health (ODH), and most recently in 2016 bike signage and markings along 3.3 miles of Main Street.

While there is still far more investments to be made the City's efforts to improve conditions for bicyclists as well as pedestrians, such efforts have not gone unnoticed. In the winter of 2016 the City was awarded a Bronze designation as a Bicycle Friendly Community by The League of American Bicyclists. As it currently stands no city in Ohio has any designation higher than Bronze giving Lima the chance to be a leading voice in statewide AT efforts.

Off-Road Pathways – In terms of mileage, the majority of Allen County bike facilities are off-road facilities with over 60 miles of pathways. These facilities include paved and unpaved paths that explore Allen County parks and reservoirs as well as connect incorporated areas and parks across the county. The most travelled of these paths in Allen County is the Ottawa Riverwalk which has access to over 10 miles of paved pathway open to both pedestrians and bicyclists. The Ottawa Riverwalk runs from Heritage Park in Shawnee Township directly south of the Central Business District of the City of Lima and ends at the Ottawa Metro Park in Bath Township. The longest of the off-road paths is the towpath along the Miami-Erie Canal running over 12 miles from county line to county line. The Canal towpath connects the City of Delphos to the Village of Spencerville and is part of the much longer Buckeye and North Coast Trail (1,400 miles) system that extends along the canal to both the north and south of Allen County. Other popular off-road paths in Allen County can be found around city reservoirs as well as within parks both in the Lima Urbanized Area and the Bluffton Urban Cluster.

In terms of mileage, the majority of Allen County bike facilities by far are off-road facilities with over 60 miles of pathways.

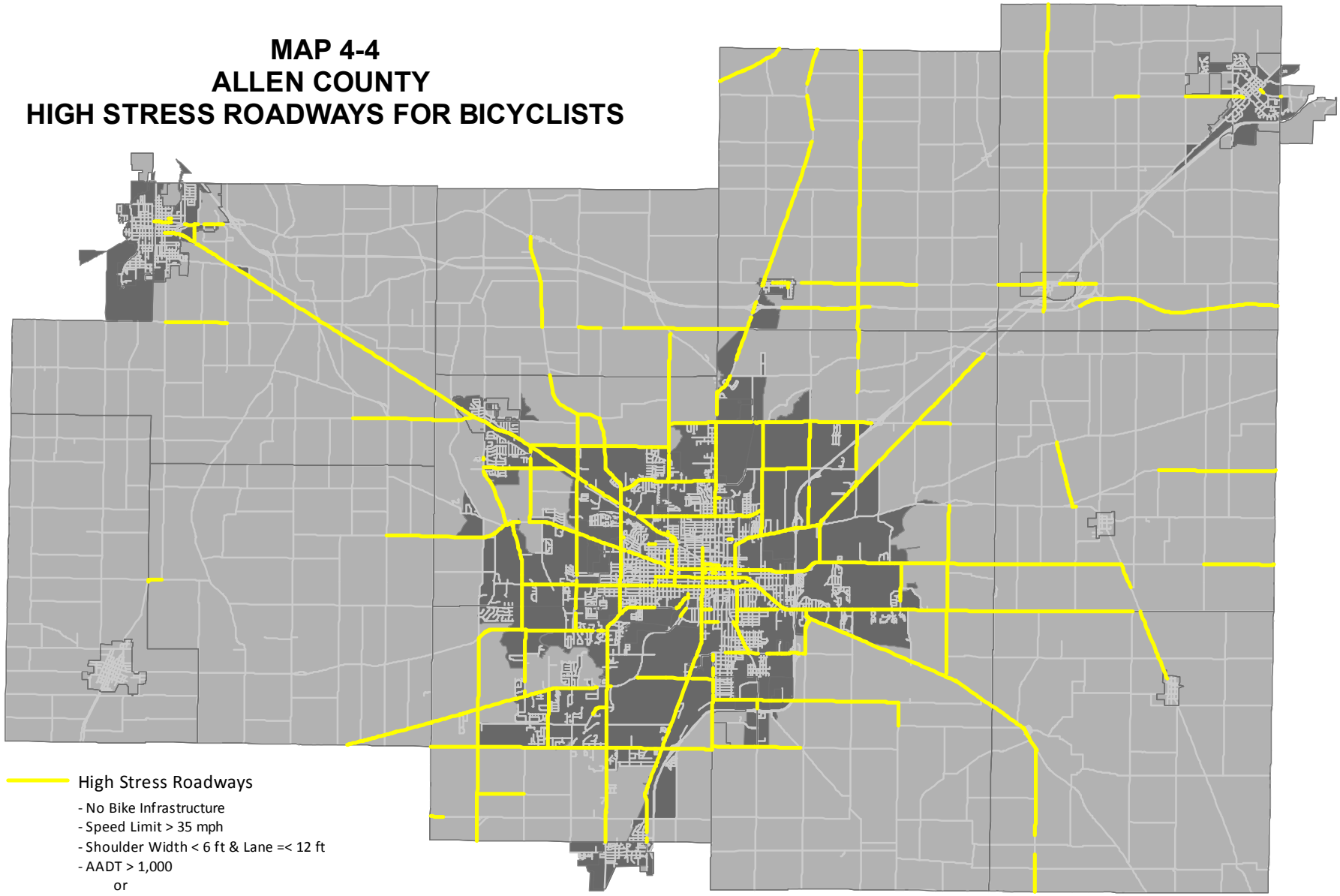
4.3.2 Impediments

While bikes are street legal vehicles allowed on any road, not designated as a freeway, many urban and rural roads present obstacles that increase stress levels and potential for dangerous situations for both bicyclists and motorists. Roadway network characteristics like speed limits, traffic volume, lane widths, pavement conditions, bike infrastructure design and multi-modal access all impact the comfort level with which the roadway network can be used by bicyclists. While improvements are being made across Allen County all of the following barriers to bicycle trip making were found in both the urban and rural regions of the county.

Speed Limit, Traffic Volume & Roadway Width – Roadways with high volumes of traffic that have posted speed limits above 35 and narrow lanes or shoulders can cause high stress trips for anyone travelling by bike. On roadways with well designed bike infrastructure both the safety and comfort of the bicyclist and the driver of the motor-vehicle can be accommodated. This infrastructure can come in many forms, from signage and wide, well maintained shoulders in rural areas to an interconnected well signed and signalized network of protected bike lanes in an urban center. As with crashes involving pedestrians, as the speed of the motor-vehicle increases so does the severity of the injuries in bicycle/motor-vehicle crashes. Allen County currently has 212 miles of roadway where no bike infrastructure is installed where the speed limit is greater than 35, the shoulders are less than 6 feet wide, the lanes are ≤ 12 feet and the AADT is greater than 1,000 (Map 4-4). These high stress roadways are fairly well distributed throughout the County with 44.8 percent found within urban areas and the remaining found throughout the more rural areas. Examination of Map 4-4 reveals high stress segments on both regional corridors as well as major urban corridors within the Lima urban network.

Pavement Condition – The condition and deterioration of our nation's transportation infrastructure, including both urban and rural roadways, is one of the most pressing issues facing communities today. As roadways deteriorate they often do so starting from the shoulder or roadway edge making these the most treacherous lanes of travel. These same areas often attract road and vehicle debris (asphalt, sticks, glass, plastic, etc.) and are common locations for manhole covers and storm water grates. According to the Ohio Revised Code, bicyclist are required to ride in the right most lane that is practical, based on safety, upcoming turns, etc. This means that the majority of bicycle traffic is found on the edge of the right most lane or on the shoulder, where potholes, debris and below street infrastructure add to the potential stressors bicyclists may face when using the roadway. PCR (Pavement Condition Rating) Data has been collected for over 300 miles of roadway within Allen County.

MAP 4-4
ALLEN COUNTY
HIGH STRESS ROADWAYS FOR BICYCLISTS



While this doesn't take into account debris, drainage grates, etc. the rating provides an overall assessment of pavement quality, including cracks, potholes, rutting, and many more forms of pavement deterioration. 160 miles of urban non-local roads were assessed and 11.5 miles or 7.2 percent were given ratings of poor or very poor condition. Rural non-local roads fared better with less than 1 percent of roads rated in poor or very poor condition. These ratings while informational are not necessarily an accurate assessment of roads in Allen County as 1,187 miles of roadway were not assessed with the majority of these being local roads which often are the lowest priority for resurfacing or rehabilitation.

A lack of standards can lead to overlooked or confusing design choices that can make maneuvering though bike infrastructure a challenge.

Hazardous Bike Infrastructure – Even though bike infrastructure itself has been implemented in certain communities for decades, the concept at a national level is still in its infancy. This means that federal or state standards have not yet been set and individual communities and engineers are often just doing the best with what they have. A lack of standards can lead to overlooked or confusing design choices that can make maneuvering though bike infrastructure a challenge. Common examples of bike infrastructure leading to dangerous or confusing situations include when bike lanes end abruptly or when on-street parking and bike infrastructure interact in ways that inevitably lead to conflict. One such bike lane within the City of Lima is along Elizabeth Street where a dedicated bike lane directly intersects a 2-hour parking zone (picture to the right). These types of intersections force bicyclists to behave unpredictably as they dart around cars parked within the bike lane. It is these types of situations that increase the chance of crashes or near misses involving bicyclists and feed worries of safety in otherwise would be cyclists.

Multi-Modal Access – As is also common with pedestrians, bicyclists, especially those participating in daily commutes, often utilize multiple forms of transportation to complete their trip, whether it's on foot, in a car or by bus. Bike parking is the key to making multi-modal bike trips possible, not having a secure place to lock up a bike while it is not in use is prohibitive to this form of transportation. The City of Lima and the county as a whole are working to accommodate these trips by gradually increasing the amount of bike parking in the urban areas. As of 2013 100 percent of RTA Fixed Route buses were equipped with bike racks that have a capacity of three bikes each and in 2012 the City of Lima, as part of the downtown roadway reconstruction, installed 6 bike racks through the downtown area to encourage biking in the downtown area and as a compliment transportation mode to utilizing the transit system. Procuring secure and convenient bike storage and parking throughout the urban areas as well as some of the larger villages is an ongoing project of the Regional Planning Commission, Allen County Public Health and Activate Allen County.

SECTION 5
DEMAND FOR ACTIVE TRANSPORTATION & ROAD-USER SAFETY

An efficient and successful active transportation system centers around two key aspects, first is "right sizing" the system taking into account current and future demand, and second is utilizing appropriate safety counter measures both physical and educational to ensure the safety of all road users. The following sub-sections will look at current national and local AT trends, expected local growth, and current safety concerns found throughout the local AT network.

5.1 ACTIVE TRANSPORTATION TRENDS & BEHAVIORS

The most recent analysis of national travel trends revealed some interesting factors that are impacting our transportation system and our selection regarding mode of travel. Data indicates that while the population is aging and household size has declined in the US all other major travel indicators increased between 1969 and 2009. Over these four decades the typical American household, while decreasing in size, acquired more vehicles, more drivers and more workers. In fact since 1969, the annual rate of increase in the number of personal vehicles was almost 1.5 times the annual rate of increase in the number of drivers. However data indicates that the massive growth in the number of daily household trips and the number of miles driven per trip previously experienced in this country over these four decades due to urban sprawl is gradually slowing as the younger generation moves back to urban areas where trips are shorter in nature.[1]

5.1.1 Active Transportation Use Trends

Household composition and demographics have changed, as has the nature of employment, technology and travel. Motorists now, especially younger motorists, are driving less; and, a number of data sources confirm that walking, bicycling and transit use as modes of travel are being used by increasing numbers of Americans of all ages and for various reasons:

- The Centers of Disease Control and Prevention reported in 2012 that more than 145 million US adults now include walking as part of a physically active lifestyle. More than 6 in 10 people walk for transportation, fun, relaxation, or exercise. The percentage of people who report walking at least once for 10 minutes or more in the previous week rose from 56 percent (2005) to 62 percent (2010).[2]

- According to a National Sporting Goods Association survey, 36 million Americans age seven and older were estimated to have ridden a bicycle six times or more in 2015. And National Bicycle Dealers Association (NBDA) research conducted by the Bicycle Market Research Institute reported that 73 percent of adult cyclists rode for recreation, 53 percent for fitness, 10 percent for commuting, 8 percent racing and 6 percent sport.[3] A 2012 National Survey of Bicyclist and Pedestrian Attitudes and Behavior found that 51 percent of respondents rode their bikes at least once in the past week. And that nearly 4 in 10 respondents reported cycling more than they did

[1] http://nhts.ornl.gov/2009/pub/stt.pdf
[2] https://www.cdc.gov/vitalsigns/walking/
[3] http://nbda.com/articles/industry-overview-2013-pg34.htm

the year prior.[4] Nationally, the number of workers who traveled to work by bicycle increased by 64 percent between 2000 and 2012.[5]

- More Americans used public transportation options in 2013 (10.65 billion passenger trips) than in any year since 1956 as service improved, local economies grew and travelers increasingly sought alternatives to the automobile. The new ridership data is the latest indication of changing consumer preferences - a result of increasing urbanization and an aging population coupled with environmental and health concerns.[6]

Data regarding trips by type and mode has restrictions in that the American Community Survey (ACS) data addresses only work-based trips; while National Household Travel Survey (NHTS) data addresses travel for all purposes. Previous data confirms that bicycling, walking and public transit use are clearly increasing in popularity, whether for sport, recreation, exercise, or simply for relaxation and enjoyment. But as ACS data indicates, their potential as modes of transportation for work trips is just beginning to be realized.

- According to 2015 American Community (ACS) Survey data suggests nationally that 2.8 percent of those aged 16 years and older walked to work, 0.6 percent biked to work and 5.1 percent used public transportation to get to work.[7]

- ACS data also indicated that 2.3 percent of employed Ohioans 16 years of age and older walked to work; 0.3 percent biked to work; and, 1.7 percent used public transit. [8]

- Here, locally those numbers are still lower. In Allen County only 1.4% walked to work, 0.3% biked and 0.5% used public transit. In Lima, a slightly higher percentage walked (2.1%), but only 0.2% biked and 1.6% used public transit. [9]

NHTS data regarding trips by type suggests that of the average trips per household only one in six (15.6%) involved travel to work or work-related trips. And in fact social/recreational (27.5%), shopping (20.9%), and other family/personal errands (21.6%) exceed the number of work-related trips taken per household.[10] In Allen County one in five (17.6%) trips involved travel to/from work while 18.1 percent were shopping based and other family/personal errands reflected 23.2 percent. While declining in proportion of overall household travel, the work trip remains important and integrated within all household travel due to the temporal nature of employment in establishing peak travel time, necessary accessibility

[4] https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/811841a.pdf
[5] https://www.nhtsa.gov/road-safety/bicyclists#5396
[6] https://www.nytimes.com/2014/03/10/us/use-of-public-transit-in-us-reaches-highest-level-since-1956-advocates-report.html
[7] https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_15_5YR_S0801&prodType=table
[8] https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_15_5YR_S0801&prodType=table
[9] https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_15_5YR_S0801&prodType=table
[10] http://traveltrends.transportation.org/Documents/B2_CIA_Role%20Overall%20Travel_web_2.pdf

to work from home and its implications for land use development patterns. Trip chaining complicates employment based commuting behaviors as the trips to/from work evolve into multiple stops to meet their household needs and minimize travel time before completion. Therefore, work-based commutes remain critical to understanding local transportation needs.

Finally, considering that most personal vehicle and transit trips must begin/end by walking to/from the parking lot, garage, or bus stop, even motorized transportation includes pedestrian travel as well. Nonetheless, it seems overly apparent that locally - pedestrian, biking and public transit modes are not being used as extensively as they could be in the community.

5.1.2 Factors Influencing Trip Mode

Many factors have been said to influence one's choice of travel mode and, in particular, the decision to bicycle, walk or use transit. Such factors include weather, the need to trip-chain, distance/time, social pressure, fatigue and fitness, parking costs, enjoyment of walking/biking, and convenience.

The debate over weather and climate as it governs the most walkable, bikeable and transit-friendly communities continues without factual basis.

The debate over weather and climate as it governs the most walkable, bikeable and transit-friendly communities continues without factual basis. The 2010 census identified cites in various climate zones that enjoyed rather high levels of AT commuting. [11] Portland, Denver, Minneapolis, Pittsburgh, Providence, Chicago are all places that enjoy relatively high levels of transit use, bicycling and walking for transportation purposes as well as recreation and fitness. These communities are all larger, with higher traffic volumes, longer commute times, and that arguably enjoy similar "inclement" weather. Many of these same Midwestern communities have been successful in supporting upwards of 20 percent of their work-related trips in active transportation modes (Table 5-1). Simply suggesting that weather alone is the reason that locally we do not witness behaviors in such proportions is not a compelling argument. So other factors must be responsible.

Distance and time are also often cited as a reason for not using alternative travel modes. According to 2009 National Household Travel Survey (NHTS) results, the national average length of a travel trip is 9.75 miles. Trips to work are slightly longer, while shopping and other utilitarian trips are slightly shorter in length. [12] NPTS data indicated that the national average work-trip length was 12.2 miles, which required 23.8 minutes.[13] Here in Allen County, the average work trip is just 4.1 miles with an average commute time of just 19.3 minutes in Allen County.[14]

[11] https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_15_5YR_S0801&prodType=table
[12] http://nhts.ornl.gov/2009/pub/stt.pdf
[13] http://nhts.ornl.gov/2009/pub/stt.pdf
[14] https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_15_5YR_S0801&prodType=table

Most important to the purposes herein – an FHWA report suggests that nationally 27 percent of travel trips are 1 mile or less; 40 percent are 2 miles or less; and, 49 percent are 3 miles or less. Certainly such short trips are within reasonable bicycling distance, if not within walking distance.[15] So in short order data has dismissed weather, distance and time as an excuse not to pursue AT options for the vast majority of our daily trips.

TABLE 5-1
ACTIVE TRANSPORTATION & LOCAL CLIMATE

City	Transit	Walk	Bike	Commute Time (min.)	Climate	Precipitation (Days)	Average Temp.	Freeze (Days)
New York, NY	56.5%	10.2%	1.0%	39.9	Dfa	121	55.1	--
Boston, MA	33.7%	15.0%	1.9%	30.1	Dfa	127	51.3	97
Providence, RI	8.3%	10.8%	1.4%	22.2	Dfa	125	50.4	117
Atlanta, GA	9.8%	4.6%	0.8%	25.5	Cfa	117	61.3	49
Miami, FL	11.4%	4.5%	1.0%	27.0	Aw	128	75.9	0
Portland, OR	12.1%	5.9%	6.4%	25.1	Csb	140	53.6	41
Chicago, IL	27.6%	6.6%	1.6%	34.1	Dfa	125	49.0	131
Pittsburgh, PA	17.0%	11.1%	1.7%	23.4	Dfa	153	50.3	121
Detroit, MI	8.6%	3.6%	0.5%	26.8	Dfa	135	48.6	133
Denver, CO	6.8%	4.5%	2.3%	24.8	H	89	50.3	156
Los Angeles, CA	10.6%	3.6%	1.2%	30.1	Csa	35	66.0	0
San Francisco, CA	33.1%	10.4%	4.0%	31.7	Csa	68	57.0	0
Minneapolis, MN	13.1%	7.0%	4.3%	22.7	Dbf	116	44.9	156
Phoenix, AZ	3.6%	1.9%	0.7%	24.8	Bwh	36	72.6	6
Lima, OH	**1.6%**	**2.1%**	**0.2%**	**18.4**	**Dfa**	**126**	**50.8**	**115**

Finally, personal attitudes and values have been identified as important in the decision to bicycle, walk or use public transportation. Individuals may choose not to bicycle, walk or use public transportation because they perceive these activities as socially inappropriate or at least inappropriate for those who can afford a car. But a growing number of others have quite different values, viewing the use of public transit, bicycling, and walking as beneficial to the environment, healthful, economical, and free from the problems of contending with traffic or finding parking. These and the many other benefits of pursuing AT options work to influence some individuals to initiate such behaviors and then continue to do so on a regular basis.[16] The necessity to address household needs or work-related trips may require accommodating bulky items and/or trip chaining which could challenge individuals who want to use alternative travel means. However, prioritizing and planning in advance may well prove more beneficial in the long run as AT tends to provide inherent mental and physical benefits to users that outweigh occasional obstacles.

5.2 LOCAL ACTIVE TRANSPORTATION DEMAND

Local demand, while growing, has not approached the growth in demand seen in large cities and college towns across the country. Locally, levels of demand can be estimated by looking at where people live, work and play, especially in areas where there are concentrations of people without access to a motor-vehicle or the ability to drive due to age, disability, or poverty. While estimating demand can help direct planning activities, actual bike and pedestrian counts are critical to understanding how an AT network is being utilized. In the following sub-sections local demand and current local count data is examined.

[15] http://safety.fhwa.dot.gov/PED_BIKE/univcourse/pdf/swless02.pdf
[16] http://safety.fhwa.dot.gov/PED_BIKE/univcourse/pdf/swless02.pdf

5.2.1 Demographic Demand

There are multiple ways local jurisdictions can estimate demand throughout their community. Mapping the distribution of certain demographics is one exercise that can be used to estimate where there is potentially more or less demand for AT modes. In this section the distribution of the elderly population, youth population, disabled population, population in poverty as well as households with less than two cars are evaluated and aggregated to determine areas in Allen County where demand for AT, based on characteristics of the residential population, is the highest.

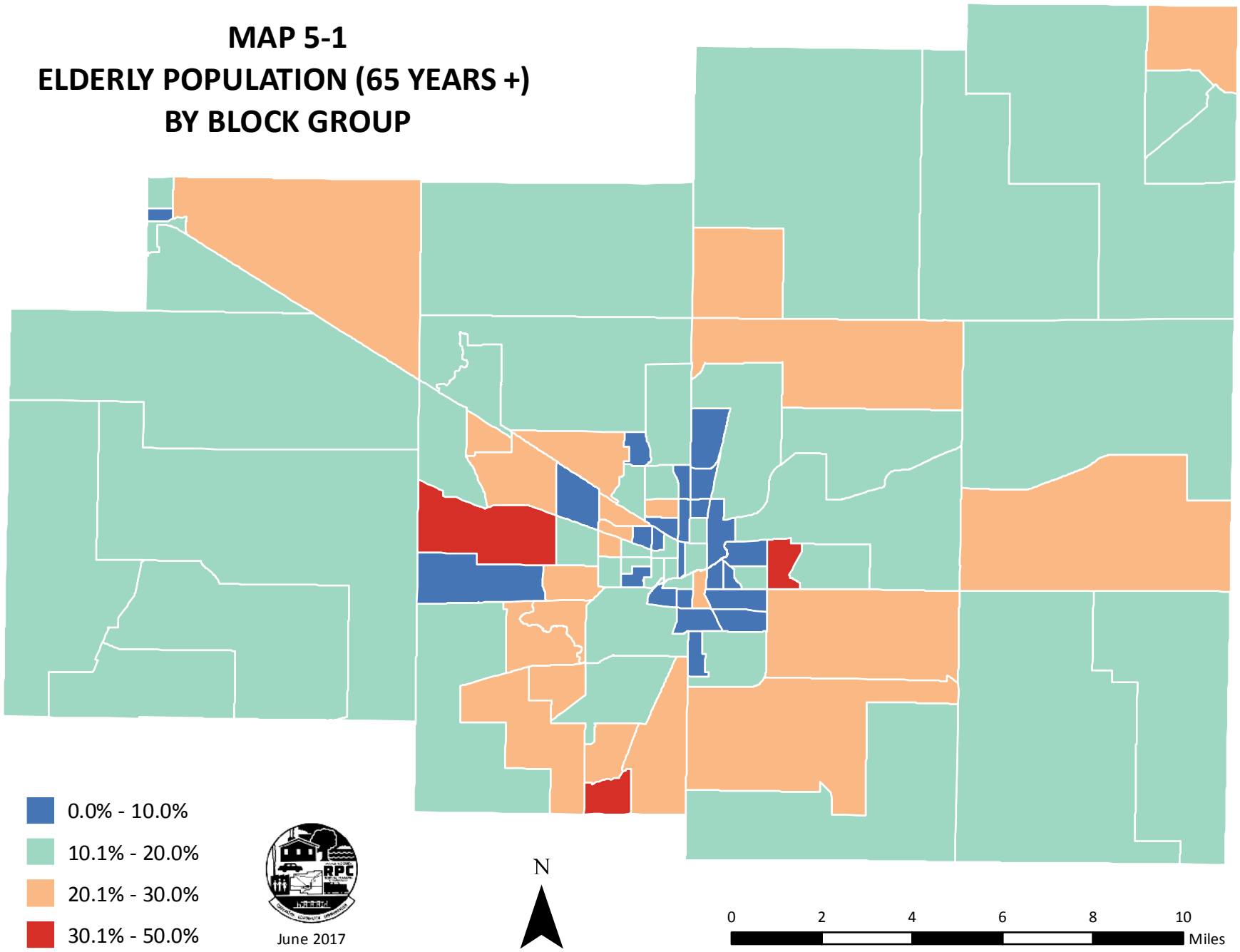
- **Elderly –** The elderly population makes up a significant proportion of active transportation users, most often seen as pedestrians or transit users. What is of even greater importance is the disproportionate amount of motor-vehicle/pedestrian crashes that involve an elderly person. In 2015 pedestrians at or above the age of 65 accounted for almost 20 percent of all pedestrian deaths nationwide and where involved in 13 percent of all pedestrian crashes resulting in an injury.[17]

  Of note, the elderly population often transitions to AT modes later in life usually due to physical or financial constraints. Reasons vary from no longer being physically able to drive or no longer having the resources to fund car repairs, insurance or gas on a fixed income. Given the frequent use of the AT network by the elderly population as well as the significant safety concerns, due to slow reaction times and difficulty crossing roads, the planning and engineering of new AT infrastructure needs to focus on creative solutions that keep slow moving pedestrians safe as they maneuver through the network. Elderly persons make up over 15 percent of the population in Allen County with concentrations found along the fringes of all three urban areas. Proper AT infrastructure for this population would include sidewalks and transit routes; this population needs a safe and comprehensive network with which to gain access to services provided inside and outside the city/village limits (Map 5-1).

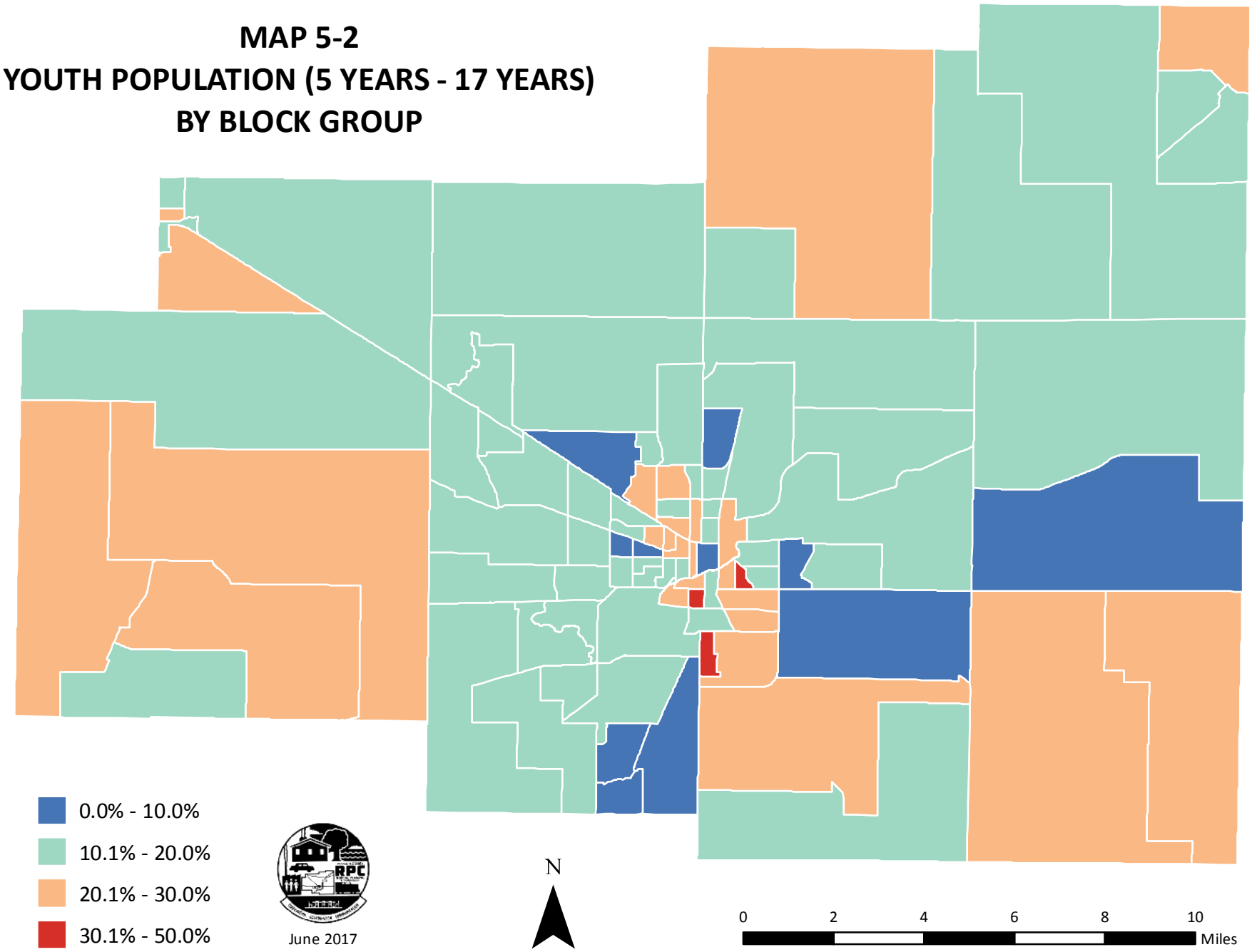
- **Youth –** Youth, 5 to 17, also make up a large proportion of AT users and a large proportion of those involved in injury or fatal crashes.[18] Trips to school make walking, biking or transit a part of daily transportation trip making for the youth population, especially in urban school districts with busing thresholds set as wide as 2 miles. When it comes to safety concerns for youth it is not often a physical constraint that puts them in danger but more often a lack of awareness of the importance of traffic laws, including the responsibilities of pedestrians and bicyclists, which are in place to keep all road-users safe. Almost 20 percent of the population within Allen County is between the ages of 5 and 17, this population is fairly well distributed throughout the county although block groups with youth making up over 30 percent of the population can be found in Lima (Map 5-2). Safe Routes to School Programs paired with educational outreach in schools have shown to increase the number of children walking and biking to school as well as decrease the number of crashes involving school-age children.[19]

[17] https://www.cdc.gov/motorvehiclesafety/pedestrian_safety/
[18] https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812375
[19] file:///I:/Reports/Active%20Transportation%20Plan/Active%20Transportation%20Plan/2017/SFS/DATA/tt368.pdf

MAP 5-1
ELDERLY POPULATION (65 YEARS +)
BY BLOCK GROUP



MAP 5-2
YOUTH POPULATION (5 YEARS - 17 YEARS)
BY BLOCK GROUP



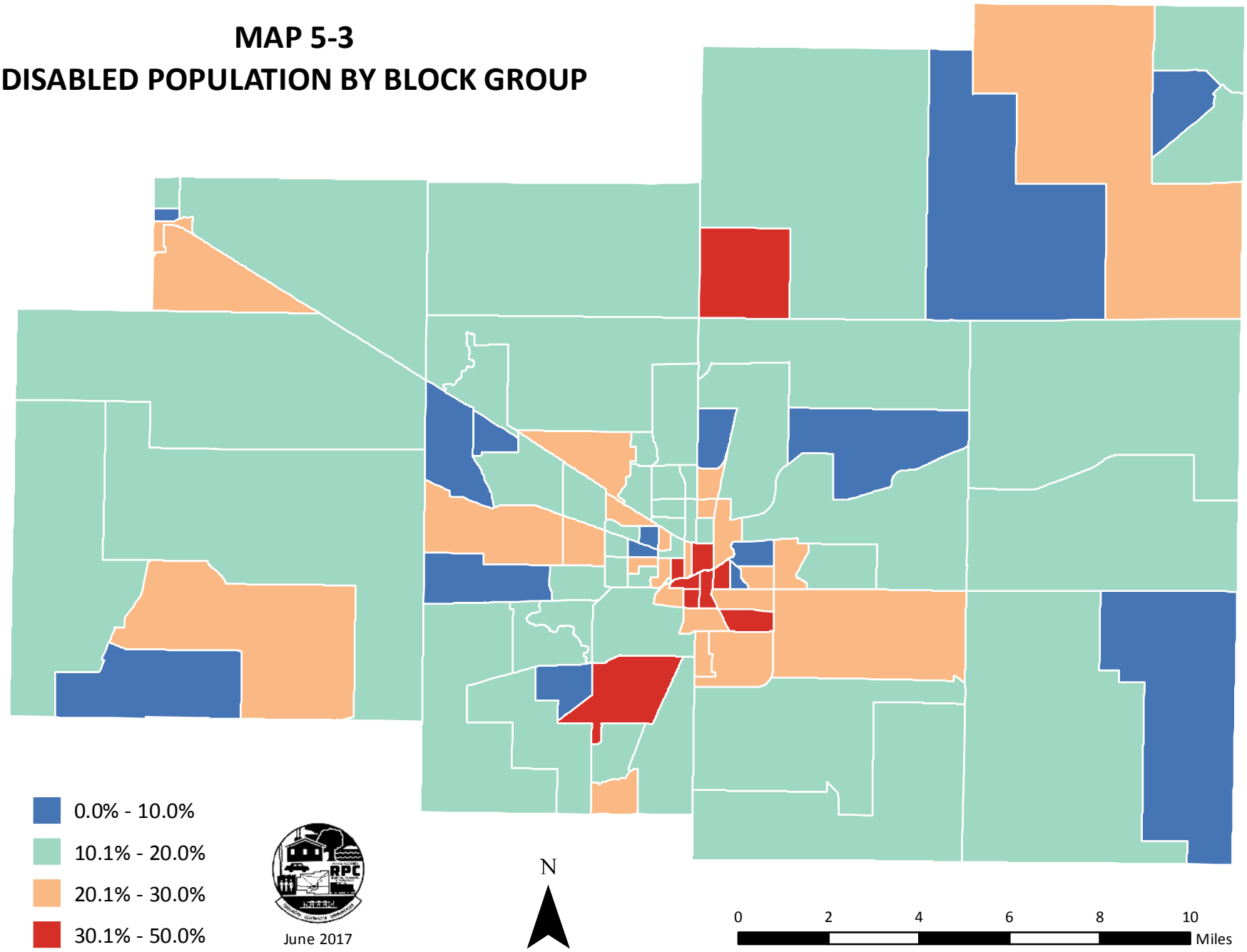
- **Disabled –** Both cognitive and physical disabilities can make maneuvering through an AT network extremely challenging. Whether it's handling curbs, or uneven sidewalks with a wheelchair, or crossing four lanes of traffic in the allotted time on unsteady feet, or trying to find your way when reading is a challenge, there are numerous every day obstacles that can be easily overlooked by planners, engineers and government officials. Special attention must be paid to the needs of this population. Almost a quarter (24.2%) of the population 18 years old and up in the City of Lima has been identified as living with some type of disability. A concentration of residents with a disability is definitely seen in the center and south side of Lima where multiple block groups see a disability rate over 30 percent (Map 5-3).

- **Poverty** – Of all the demographic variables poverty is by far the most geographically concentrated. The current poverty rate in the City of Lima is 32.4 percent which is significantly higher than the rate of the rest of the county (9.0%). The disproportionate amount of people living in poverty within the city limits is illustrated clearly in Map 5-4. Populations living in poverty are often included in high AT demand populations due to financial restraints prohibiting them from owning or taking care of a motor-vehicle, which leads to other modes of travel being sought out. Motor-vehicle dependent transportation systems are a key obstacle to many people gaining or keeping employment. By opening these segments of the roadway network to safe and efficient AT a community can both encourage and support financial independence and active lifestyles.

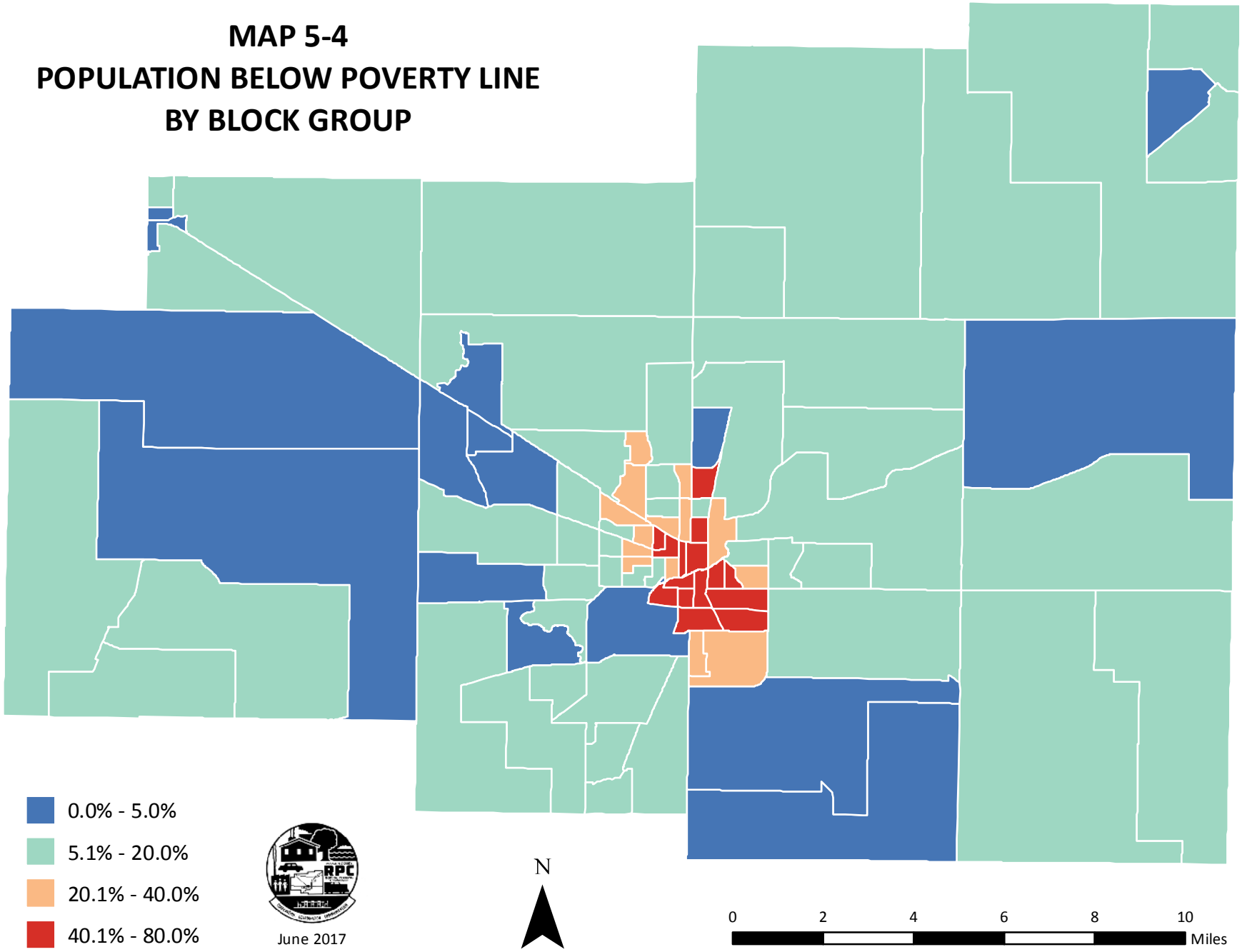
- **Limited Access –** The most direct measure of demand is the distribution of households with 0 or 1 motor-vehicle. These households allow either none or one member to utilize a motor-vehicle on a daily basis leaving the rest of the household to find other methods of transportation to complete their necessary trips. Shown in Map 5-5 these households are primarily and secondarily inside the larger urban areas found within Allen County. This distribution is not surprising given the difference in poverty rates between the City of Lima and the remainder of Allen County; also of note is the fact that the modern rural lifestyle is currently very motor-vehicle dependent.

To assess the distribution of AT demand due to the demographic characteristics of the residential population the five variables described above (Elderly, Youth, Disabled, Poverty and Limited Access) were aggregated into a single score representing overall demand. The highest levels of demand are seen inside the City of Lima with the majority of block groups having moderately high to high levels of demand. In the rest of the county the areas of highest demand are concentrated around urban areas and other incorporated areas (Map 5-6). These results support efforts to focus resources on bolstering urban networks where the potential for utility trip mode shift is the highest.

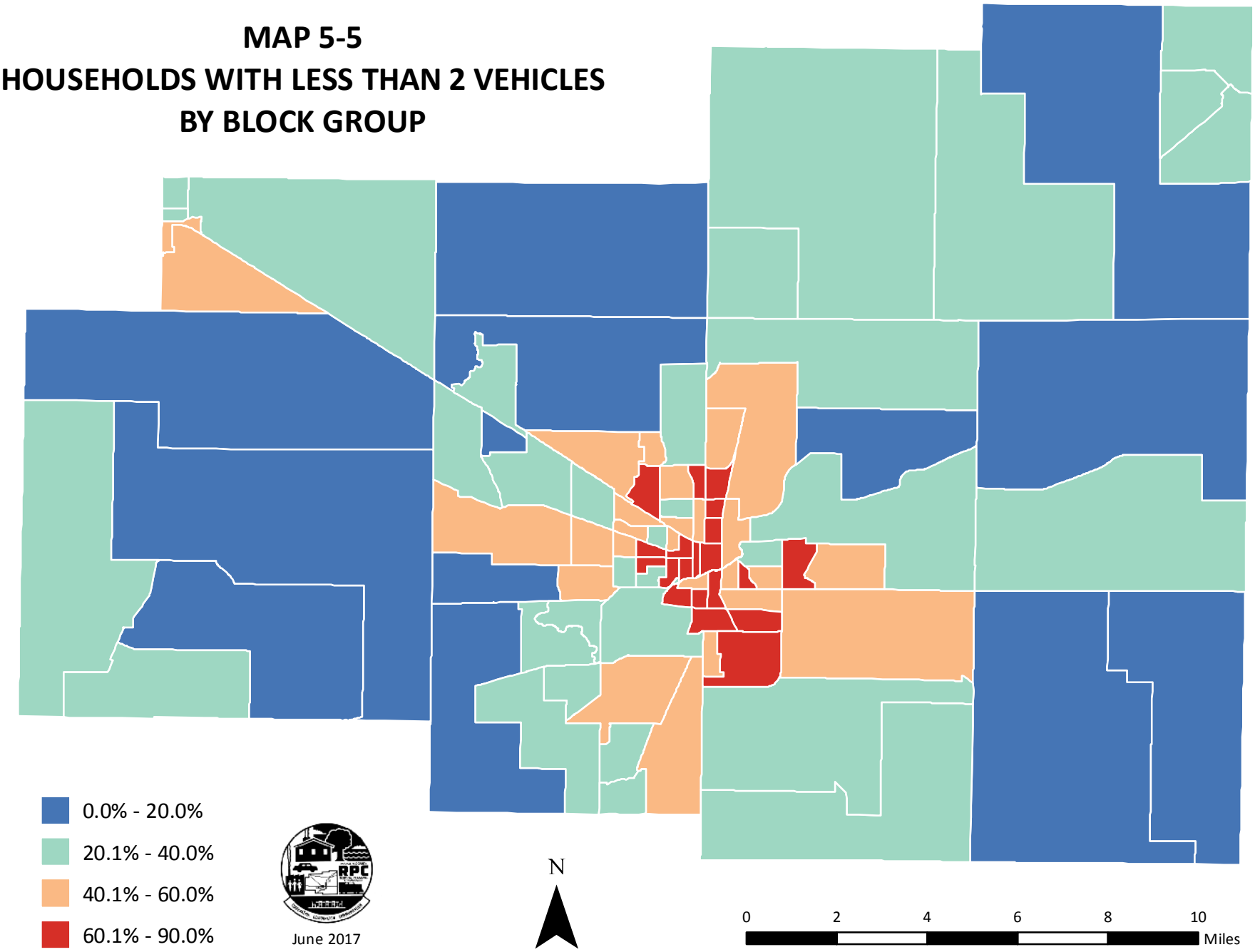
MAP 5-3
DISABLED POPULATION BY BLOCK GROUP



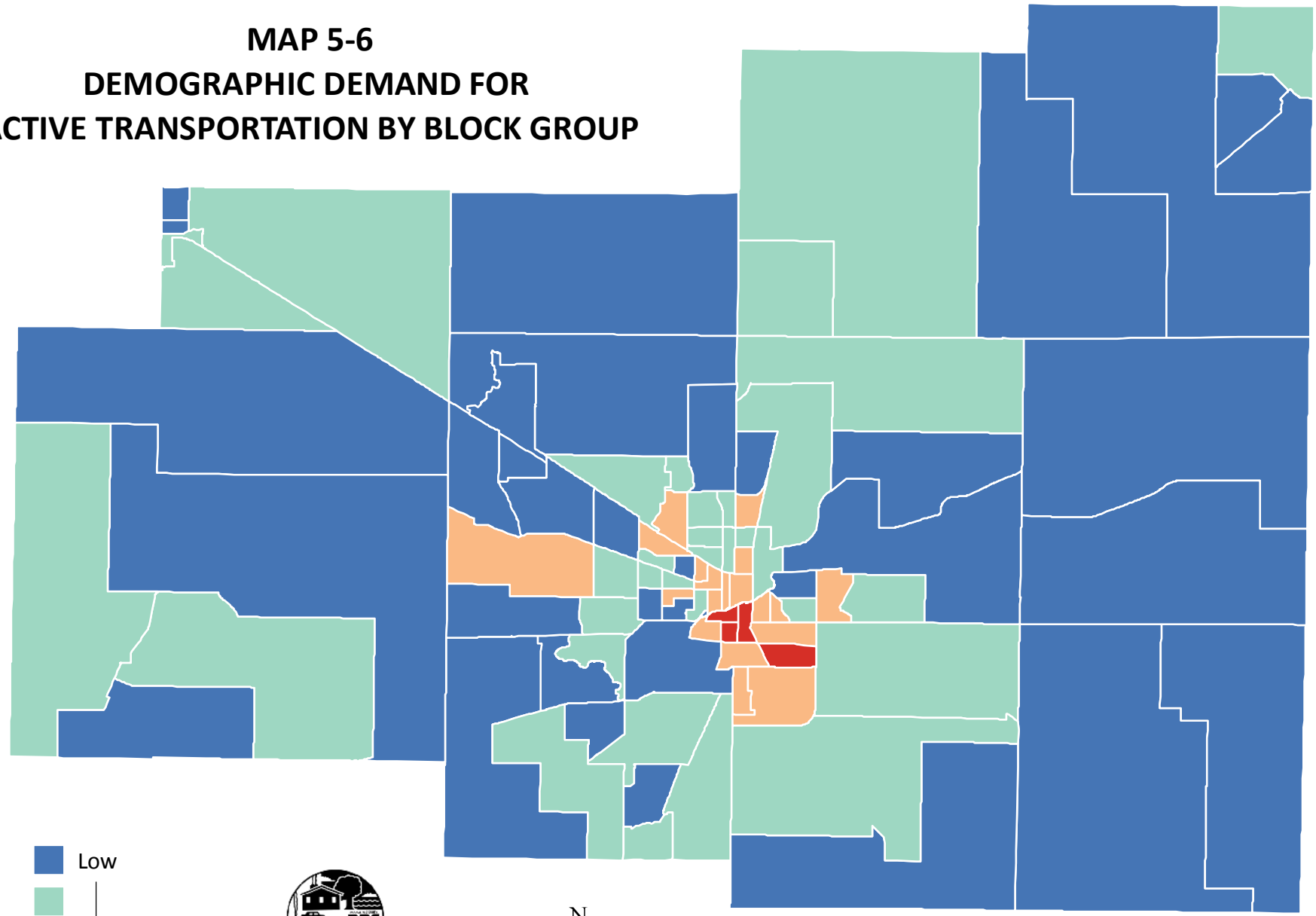
MAP 5-4
POPULATION BELOW POVERTY LINE
BY BLOCK GROUP



MAP 5-5
HOUSEHOLDS WITH LESS THAN 2 VEHICLES BY BLOCK GROUP



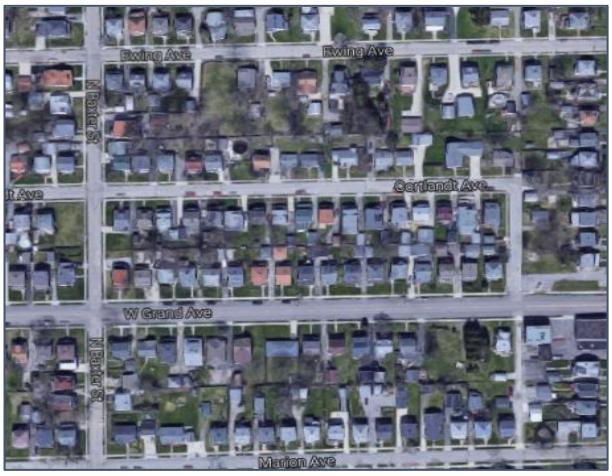
MAP 5-6
DEMOGRAPHIC DEMAND FOR ACTIVE TRANSPORTATION BY BLOCK GROUP



5.2.2 Land Use Demand

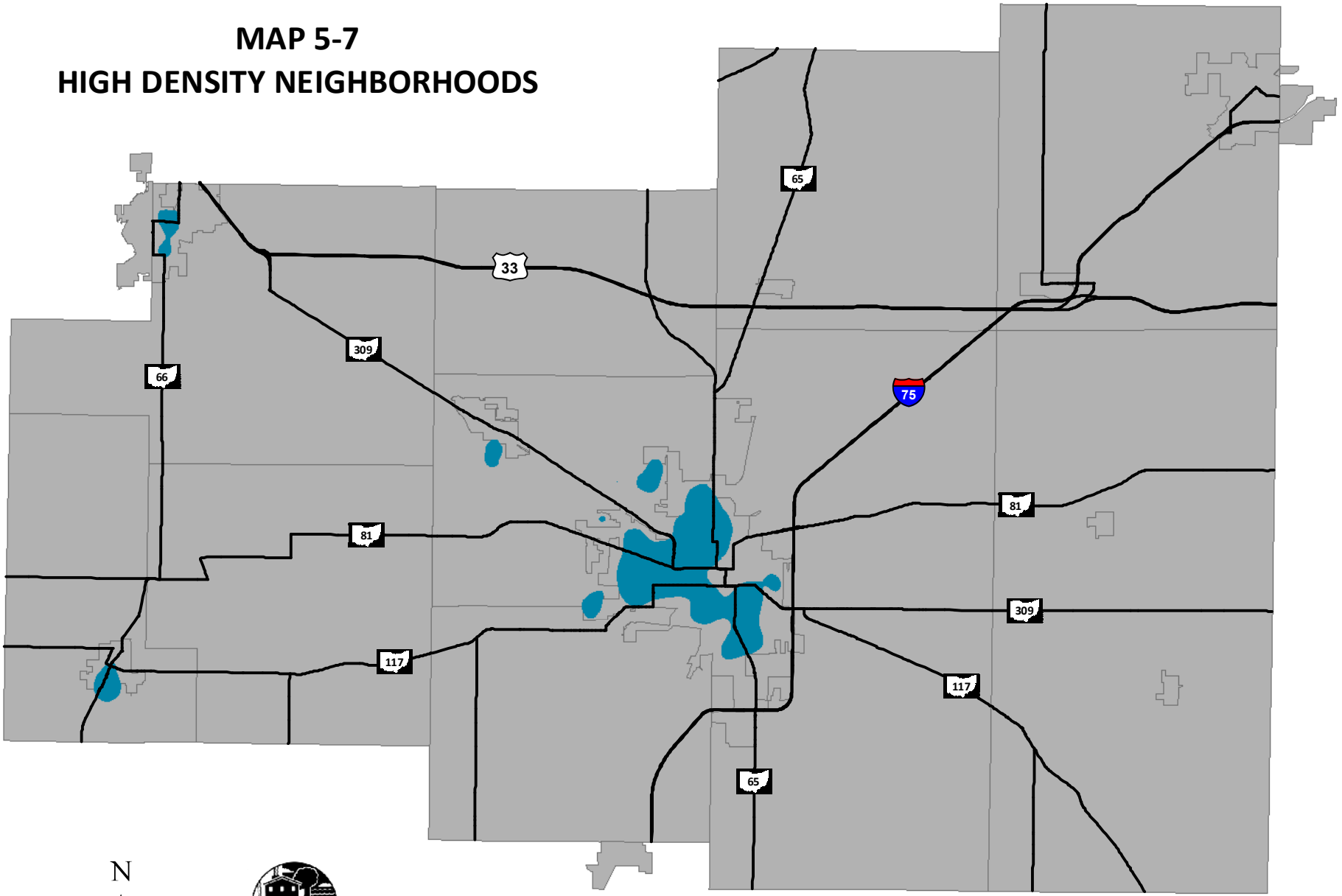
Another way of estimating demand is by examining land use especially higher density residential neighborhoods, large employers, commercial centers, schools and parks and their ability to create or draw traffic. These areas are referred to as major generators and are essential to understating local traffic patterns.

- **High Density Neighborhoods –** These neighborhoods represent high density residential development often in the form of urban subdivisions, village centers and large apartment complexes. These are the areas that generate significant traffic in a community and where potential AT infrastructure has the most potential to impact large swaths of the community. Map 5-7 illustrates the areas of Allen County that have a density greater than 1,000 households per square mile. As expected the majority of the identified area was found within the City or Lima, with smaller areas identified in Elida, Spencerville and Delphos.



- **Large Employers –** The trip taken the most times in any given year by the majority of adults is their daily commute to and from work. This makes the distribution of places of work and their respective workforce size extremely important in understanding a community's daily traffic flow. With approximately 44,000 employees working in Allen County daily commutes account for a large proportion of vehicles miles travelled within the County. Map 5-8 shows the distribution of employers with a workforce of at least 100 employees. These employers are concentrated inside the City of Lima and the Lima Urbanized Area as well as Delphos and Bluffton Urban Clusters. The three largest employers in Allen County and the only three with over 1,000 employees are St. Rita's Medical Center, Lima Memorial Hospital and Ford Motor Co., all of which are located within the Lima Urbanized Area.

MAP 5-7
HIGH DENSITY NEIGHBORHOODS



June 2017

- **Commercial Centers –** By looking at the density of commercial service providers in Allen County seven commercial centers of varying size were identified. Four smaller local commercial centers in Delphos, Bluffton, Spencerville and the West Street/Northern Avenue area in the City of Lima were identified as were three major commercial centers that serve the region, found along Harding Hwy and Bellefontaine Ave; throughout the Lima Central Business District (Map 5-8); and, along Allentown Rd, Cable Rd and Elida Ave (Map 5-9). These areas, like the large employers, attract daily traffic from both inside and outside Allen County.

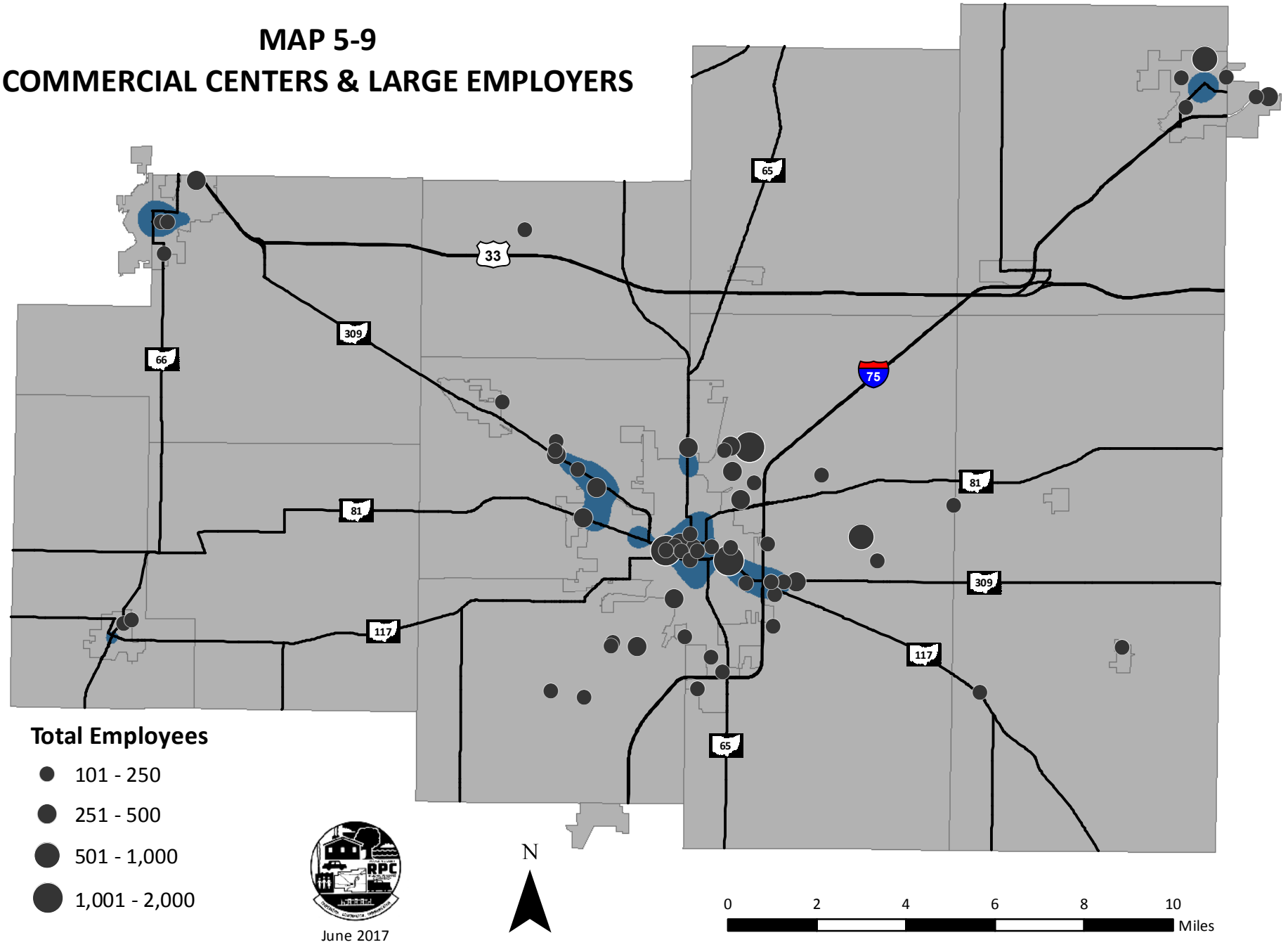
MAP 5-8
LIMA CENTRAL BUSINESS DISTRICT

- **Schools –** Schools, ranging from K-12 to Post Secondary, have a direct impact on daily traffic patterns as traffic to and from these buildings usually follow a strict daily schedule. At the same time there is also high potential for large volumes of AT mode users as most students are below legal driving age, low-income and/or often live within close proximity to the school they attend. Schools serving all age groups are relatively scattered across the County meaning all jurisdictions and school districts have the opportunity to increase access to school buildings for local students.

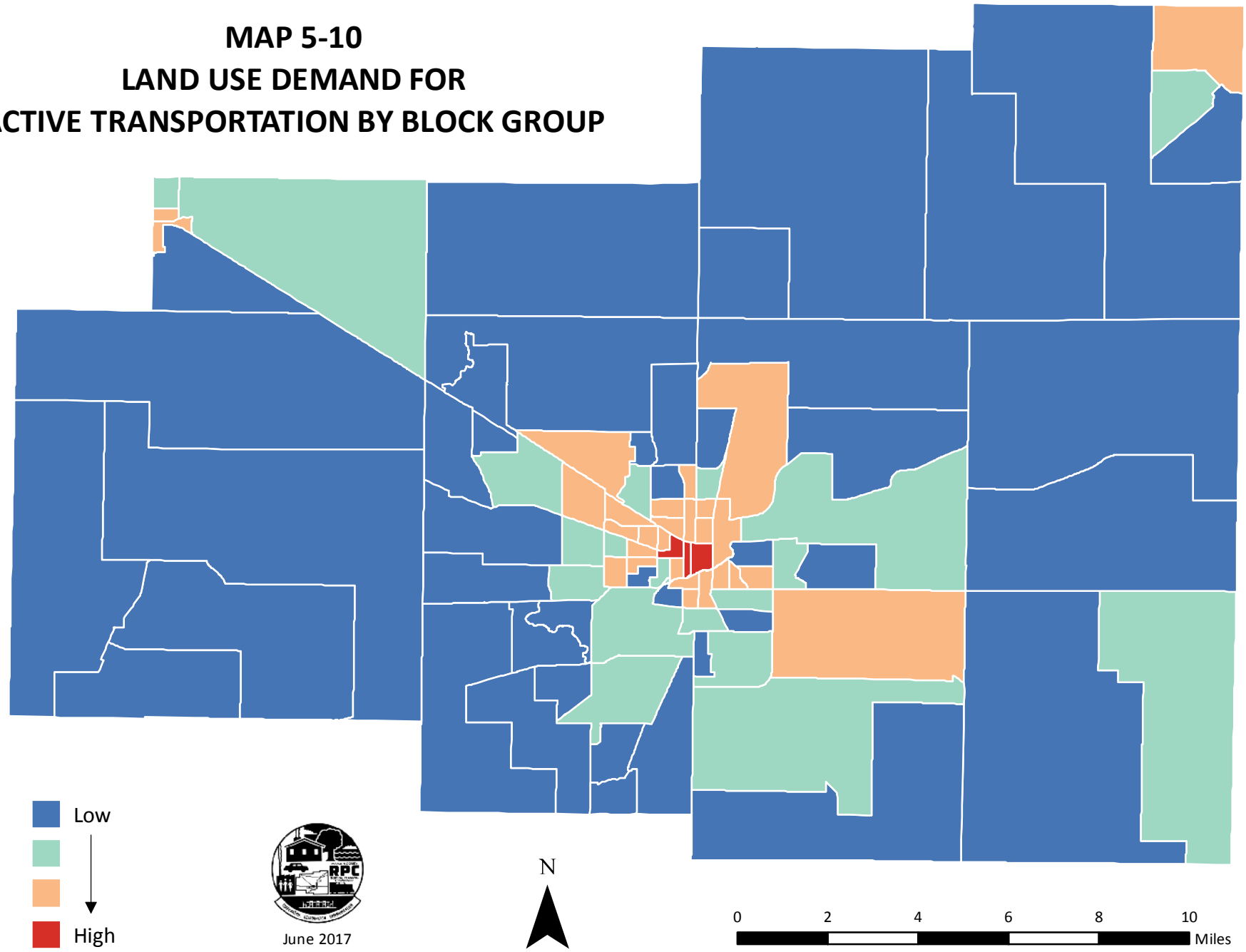
- **Parks –** Parks of all kinds attract AT users from children to older commuting and recreational pedestrians and bicyclists. Use of parks drastically increases when they are accessible by AT mode allowing non-drivers to independently utilize the park grounds.

Demand stemming strictly from land use is almost entirely found within the urban areas surrounding Lima, Bluffton and Delphos as well as within some of the larger villages, like Spencerville and Elida (Map 5-10). Ensuring that this demand for AT, outlined above, is met is extremely important to residents' quality of life. The importance stems from the fact that both utilitarian and recreational services are often housed in commercial centers and that travel corridors between high density residential neighborhoods and places of work are key to a strong workforce and economy.

MAP 5-9
COMMERCIAL CENTERS & LARGE EMPLOYERS



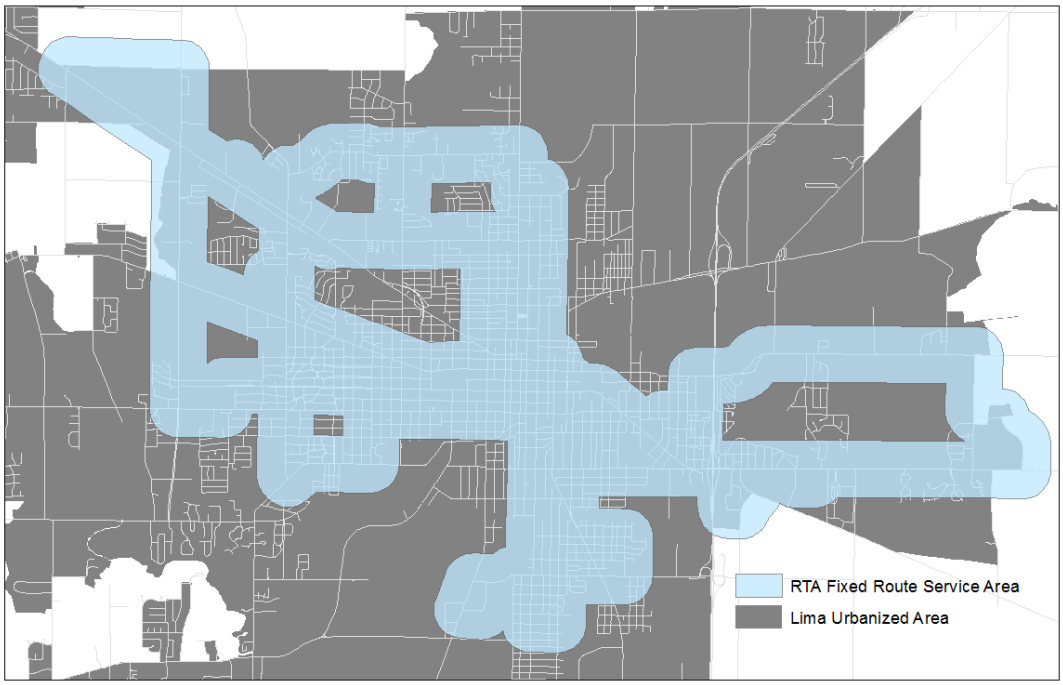
MAP 5-10
LAND USE DEMAND FOR
ACTIVE TRANSPORTATION BY BLOCK GROUP



5.2.3 Multi-Modal Demand

Demand for pedestrian and bicycle facilities can also stem from other choices made about transportation modes and a user's ability to connect multiple modes. A good portion of current AT facility use is directly related to use of the transit system. The local transit system is the most developed network throughout the entire Lima Urbanized Area, through the RTA Fixed Route System. The RTA Fixed Route system service area covers 17.2 square miles with 94 percent of that area inside the Lima Urbanized Area (Map 5-11). While the transit system itself spans a large portion of the urbanized area, the supporting infrastructure including sidewalks, bus stops, bus shelters, on-road bike facilities and bike racks, which all help facilitate the transition from pedestrian or bicyclist to transit rider are sorely lacking. Offered as an example 42 percent or 96.6 miles of the roadways inside the service area are lacking sidewalks. Completing the necessary infrastructure along the Fixed Route System is essential to develop a timely multi-modal transportation system and AT network. Focusing implementation of AT projects and programs in this area tackles the demand, both demographic and land use-based, that exists within the Lima Urbanized Area, as the majority of major commercial centers and low-income residential areas are included in the service area of the Transit Authority.

MAP 5-11
RTA SERVICE AREA



5.2.4 Regional Demand

Aside from bolstering economic activity and equity through AT infrastructure in the County's urban areas demand also stems from the connectivity between these urban areas. Regional corridors include (Map 5-12):

- **US Bike Routes –** Two USBRs are on schedule to be designated in Spring 2019. USBR 44 following Lincoln Hwy from County Line to County Line intersects with USBR 25 through

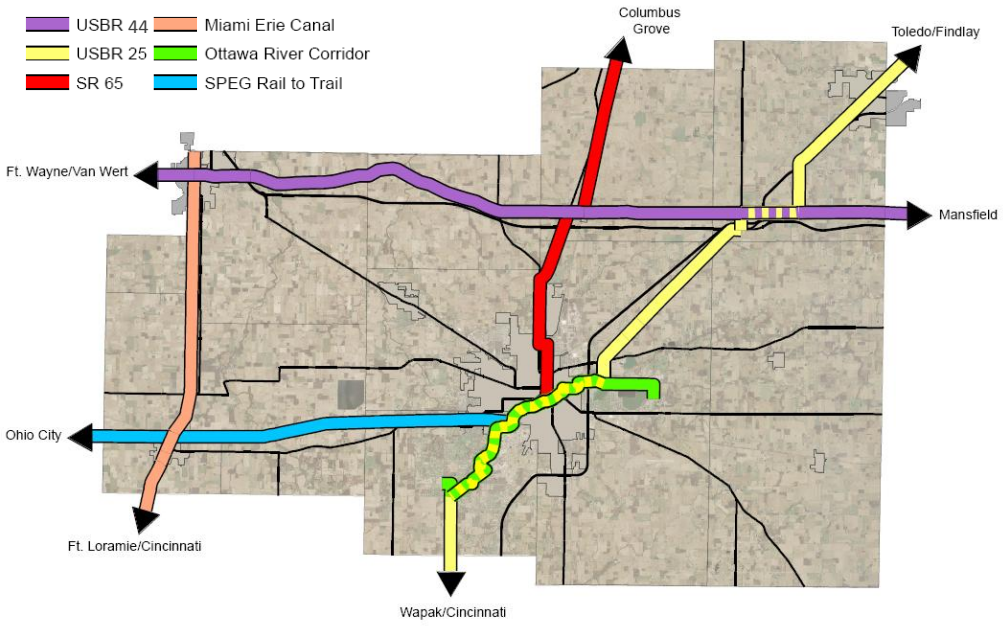
Beaverdam as it comes down from Bluffton meanders through Lima along the Riverwalk and then heads south out of the County. These routes themselves span from Nebraska to New York City (USBR 44) and from the tip of Michigan to the Gulf Coast (USBR 25). These routes have the potential to not only create safe corridors between Allen County jurisdictions but also to bring national bike tourism straight to the center of Allen County communities.

- **Miami-Erie Canal** – The Miami-Erie Canal ran from Cincinnati to Lake Erie over 274 miles. Today large segments of the canal and towpath still exist and are used recreationally as bike and hike trails. Approximately 11 miles of the canal and towpath run through Allen County connecting Delphos to Spencerville. The trail along the towpath has been improved along different segments of the canal, including through and south of Spencerville to the Countyline as well as segments outside the County near St Mary's. A priority of this plan is to complete the connection between Delphos to Spencerville through improvements to the existing towpath as well as through on-road facilities.

- **SPEG Rail to Trail –** This seldom used rail line runs from Lima to Spencerville, representing an important east to west regional connection. As it currently stands safety concerns about the proximity of an active rail line to the potential trail have prohibited movement towards this goal. Whether a creative solution of the deactivation of the rail line comes first this connection remains a priority corridor in the County.

- **SR 65 –** While USBR 25 passes directly through Lima, USBR 44 passes approximately 6 miles north of Downtown Lima. The connection between Lima and both USBRs is vital for maximizing use of the AT network as over a third of all County residents live and work within the City of Lima. State Route 65 is the most direct path from downtown Lima to USBR 44. This corridor will also continue past USBR 44 and provide passage into Putnam County.

MAP 5-12
MAJOR REGIONAL CORRIDORS



5.2.5 Bike/Ped Counts

While estimating potential demand on new infrastructure is an important part of the AT planning process knowing the current level of use on existing infrastructure is a key aspect. Such data is collected from actual physical observations instead of estimations and assumptions of behavior. Since 2013 Allen County has participated in the National Bicycle and Pedestrian Documentation Project, a campaign co-sponsored by Alta Planning and Design and the Institute of Transportation Engineers (ITE) Pedestrian and Bicycle Council.[20] The national effort schedules four weeks every year (Allen County participates in two counts per year one in May and one in September), for jurisdictions to complete bike and pedestrian counts at multiple count locations, during multiple time periods on both a weekday and weekend. In 2013, Activate Allen County, together with Allen County Public Health and the Regional Planning Commission started with 25 locations counting at five time periods (Weekend: 12pm – 2pm & Weekday: 7am – 9am, 11am – 1pm, 3:30pm – 5:30pm and 5:30pm – 7pm). Since then 20 sites have been added, with 45 sites being counted in the most recent count period (May 2017).

The majority of the 45 count locations can be found within the Central Business District in the City of Lima.

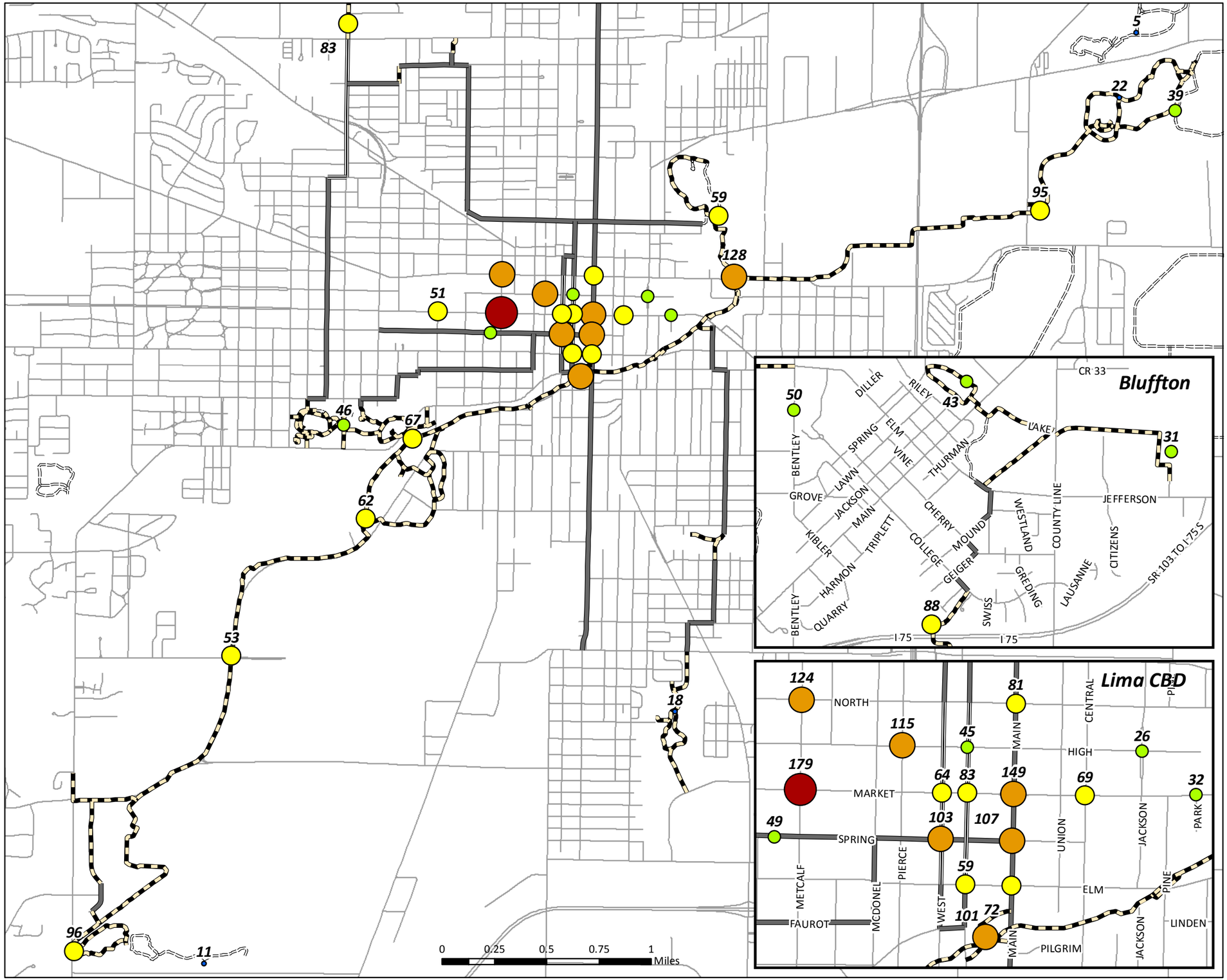
The majority of the 45 count locations can be found within the Central Business District in the City of Lima. Other count locations are found in Delphos (new count locations in 2017), Bluffton, Johnny Appleseed Metro Parks, near City Reservoirs and along the two major Allen County trials, the Ottawa River Walk and the Miami-Erie Canal Towpath. The diversity in count locations allow both recreational and utility AT use to be captured in the counting exercise. While the information collected is useful there are obvious limitations due to the fact that each site and time period are only counted twice a year. This allows weather, special events, etc. to impact that count period making compiling trends that represent actual average daily use difficult. Results of the most recent 2017 count have yet to be compiled so following will be an overview of the 2014, 2015 and 2016 counts. Since the count program in Allen County relies on volunteers not every location or every time period is counted during each counting event. Due to this the maps following show the maximum daily use that was counted in any of the three years included.

Both the highest pedestrian and bike counts took place along Market Street within the Lima Central Business District (CBD), with a maximum daily total of 179 bicyclists at Market and Metcalf and 900 pedestrians at Market and Elizabeth.

Both the highest pedestrian and bike counts took place along Market Street within the Lima Central Business District (CBD), with a maximum daily total of 179 bicyclists at Market and Metcalf and 900 pedestrians at Market and Elizabeth. The average maximum daily totals for on road facility counts was 83 bicyclists and 414 pedestrians. Counts along recreational pathways were slightly lower with averages of 40 bicyclist and 129 pedestrians. The highest counts were 128 bicyclists where the Riverwalk crosses North Street and 900 pedestrians at the intersection of Main Street and Elizabeth Street (Map 5-13 & Map 5-14). Improving the consistency of count locations over multiple years is essential to tracking changes in AT trends and behavior as investments are made in infrastructure and awareness efforts.

[20] http://www.bikepeddocumentation.org/index.php

MAP 5-13
MAXIMUM DAILY BIKE COUNTS (2014-2016)



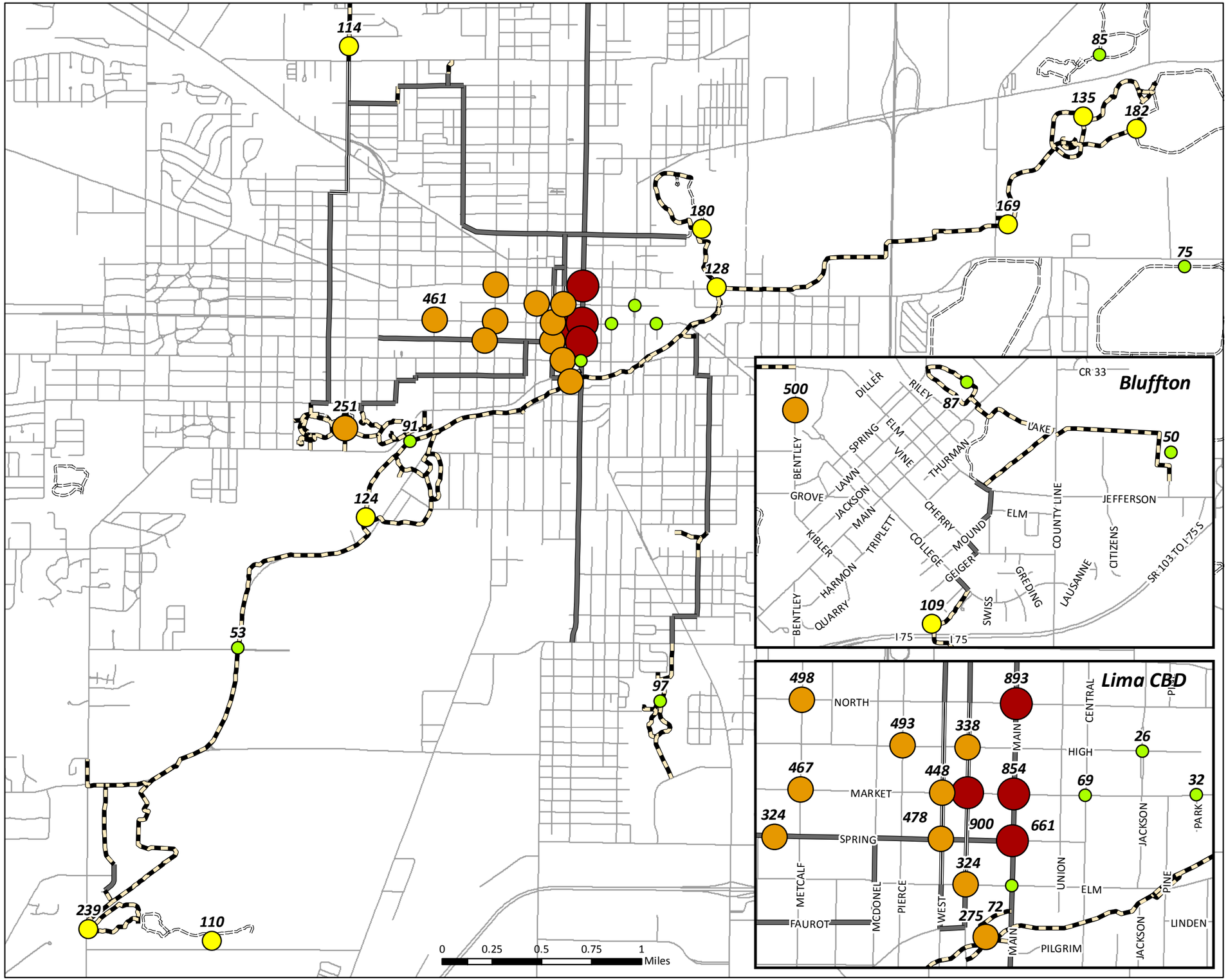
- 0 - 25
- 26 - 50
- 51 - 100
- 101 - 150
- 151 - 200

- Bike Route
- Bike Lane
- Shared Use Path
- Unpaved Path
- Roads

N

June 2017

MAP 5-14
MAXIMUM DAILY PEDESTRIAN COUNTS (2014-2016)



- 0 - 25
- 26 - 100
- 101 - 250
- 251 - 500
- 501 - 1,000

- Bike Route
- Bike Lane
- Shared Use Path
- Unpaved Path
- Roads

N

June 2017

5.3 EXPECTED FUTURE GROWTH

When planning projects and programs that could span decades into the future attempting to estimate not only current demand but future demand due to potential growth or decline in different population age cohorts or economic sectors is paramount to drafting a successful plan. A focus on revitalizing the City of Lima's downtown is gradually seeing progress with new restaurants and shops opening each year. If this trend continues, as is expected, more workforce and recreational/entertainment traffic will begin filtering through the downtown streets upon AT infrastructure.

An example of growth on the near horizon is the relocation of portions of Rhodes State College to Lima Square bringing faculty members and hundreds of students downtown on a daily basis. While this is good news for local businesses and restaurants it may have significant impacts on current transportation-related infrastructure including signal timing, available parking, demand for transit and demand for comprehensive AT infrastructure. Discussions have already begun on how the City will adapt to accommodate the increase in daily traffic both vehicular and human-powered.

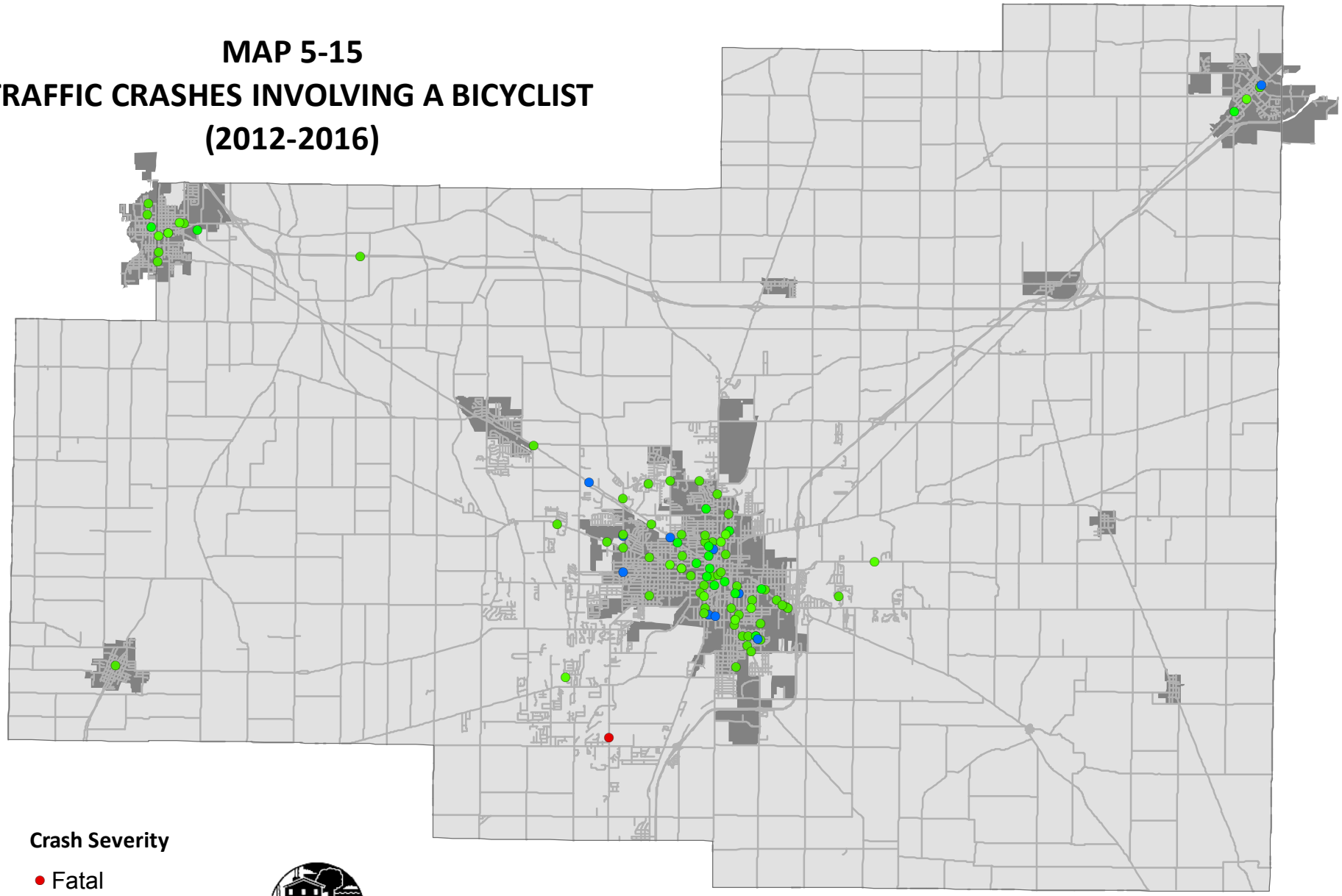
5.4 ROAD-USER SAFETY

Road-user safety is by far the most important characteristic of roadway and AT networks. More so then use or demand, as no matter the traffic, whether there are 10 or 1,000 people utilizing the system, if they cannot do so without putting their life in danger then the system is not successfully carrying out its intended purpose. To measure road-user safety the number and type of crashes involving bicyclists or pedestrians, from 2012-2016, were evaluated and compared to similar jurisdictions across the state.

5.4.1 Bicycle Crashes

During the 2012-2016 time period the total number of bicycle crashes reported ranged between a low of 16 in 2016 and a high of 25 in 2012 (Figure 5-1). Since 2012, based on a 5-year rolling total, the number of injuries due to a crash involving a bicycle has continued to trend downward, with no fatal crashes during that time until the most recent 2016 year (Figure 5-2). The only fatal crash, was an alcohol-related crash and occurred in August of 2016 on Shawnee Rd. north of Breese Rd. in Shawnee Township. These crashes almost exclusively occurred in urban or incorporated areas with the vast majority taking place inside the City of Lima (Map 5-15). The distribution of these crashes point to a need for improvement along Allen County's AT urban networks.

MAP 5-15
TRAFFIC CRASHES INVOLVING A BICYCLIST
(2012-2016)



The top two contributing factors of bicycle crashes during this time period were failure to yield and improper crossing (Table 5-2). By far the most common contributing factor was a failure to yield, 30 times by the bicyclist and 14 times by the motor vehicle driver, accounting for over half of all bicycle related crashes (55.7%). This data suggests that education and awareness of right of way rules and responsibilities for both bicyclists and motorists may be an important first step in creating a safe AT system. Figure 5-3, 5-4 and 5-5 breakdown these crashes by posted speed limit, time of day and age.

FIGURE 5-1
ANNUAL 2012-2016 BICYCLE SERIOUS INJURY & FATAL CRASHES

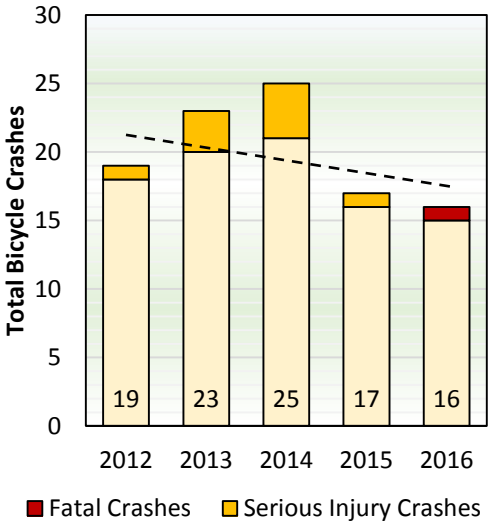


FIGURE 5-2
5-YEAR ROLLING AVERAGES FATAL & SERIOUS INJURIES

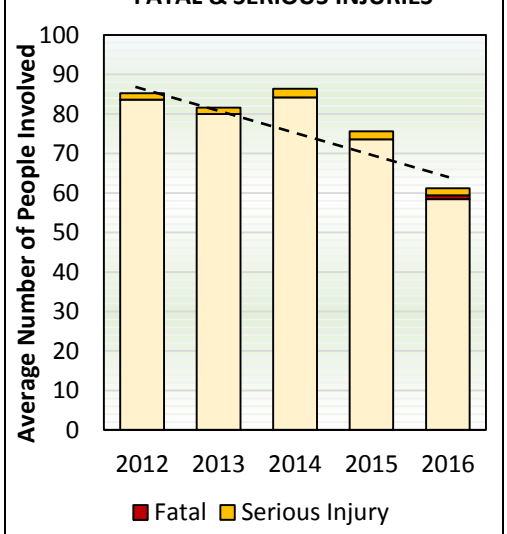


TABLE 5-2
BICYCLIST CONTRIBUTING FACTOR

	Cause	2012	2013	2014	2015	2016	Total	PCT of Total
Bicyclist Error	Improper Crossing	1	3	1	1	1	7	8.9
	Inattentive	0	1	1	2	0	4	5.1
	Not Visible (Dark Clothing)	0	0	0	0	1	1	1.3
	Wrong Side of Road	1	2	2	0	0	5	6.3
	Failure to Control	1	2	1	0	0	4	5.1
	Failure to Yield	1	5	11	6	7	30	38.0
	Darting	1	0	1	1	1	4	5.1
	Other Improper Action	0	0	0	2	2	4	5.1
Motorist Error	Unsafe Speed	0	0	0	0	0	0	0.0
	Improper Lane Change	0	1	0	0	1	2	2.5
	Vision Obstruction	0	0	0	0	0	0	0.0
	Failure to Yield	2	3	4	3	2	14	17.7
	Ran Light	0	0	1	0	0	1	1.3
	Failure to Control	1	1	0	0	0	2	2.5
	Improper Backing	0	0	0	0	0	0	0.0
	Inattentive	0	0	0	0	0	0	0.0
	Other Improper Action	0	0	0	0	1	1	1.3

FIGURE 5-3
CRASH SEVERITY BY POSTED SPEED, 2012-2016

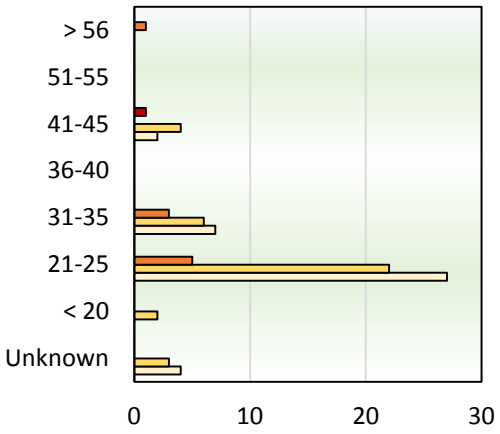


FIGURE 5-4
TIME OF CRASH
TOTAL CRASHES, 2007-2016

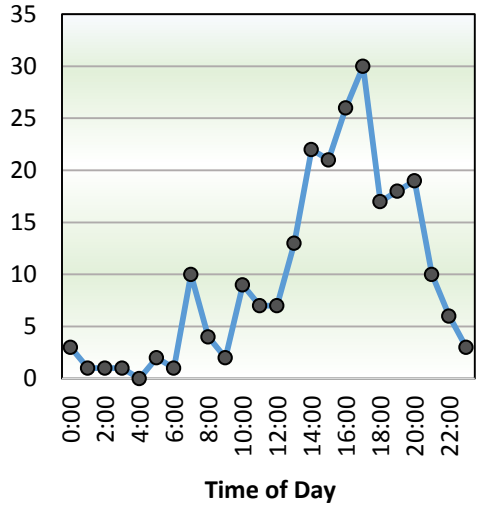
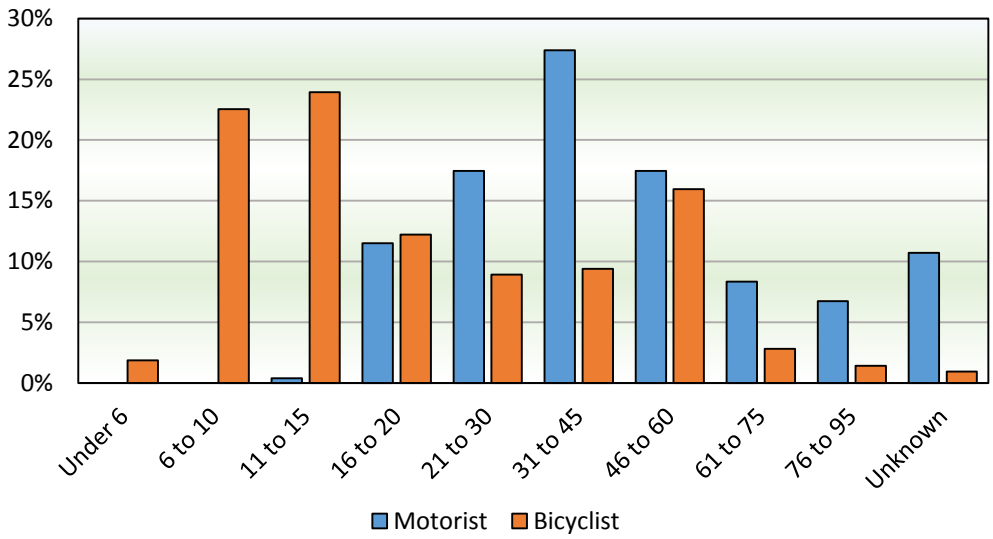


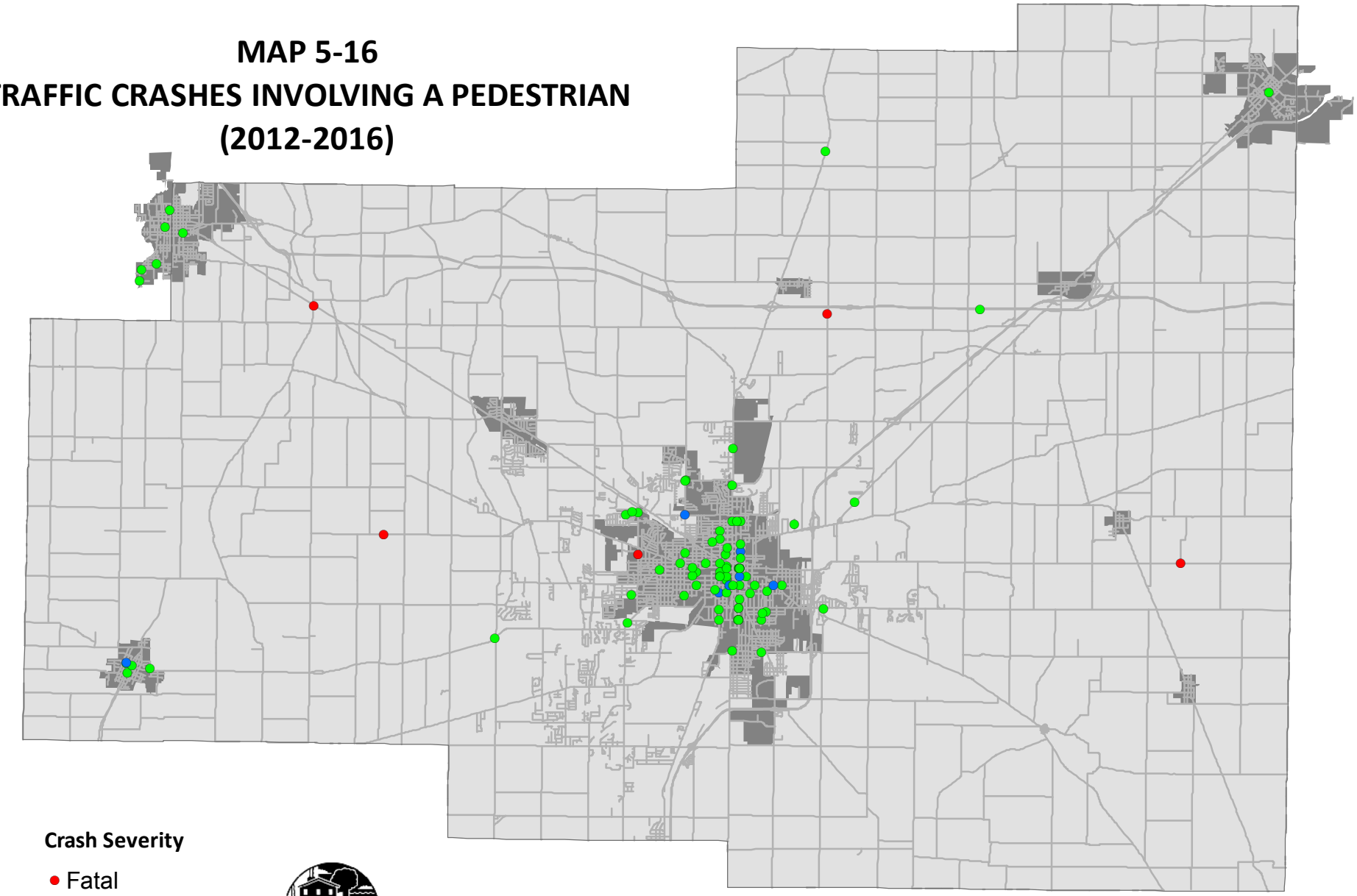
FIGURE 5-5
AGE BREAKDOWN
TOTAL CRASHES, 2007-2016



5.4.2 Pedestrian Crashes

There were five fatal crashes involving pedestrians during the 2012-2016 time period. After two years with no fatalities (2012 & 2013), there were five total in the 2014-2016 period (Figure 5-6). The 5-year rolling total of all injuries inflicted by crashes involving pedestrians is not showing a promising trend as the rate of both pedestrian crashes and resulting injuries has begun to trend upward again, as off 2013, after many years of trending downward (Figure 5-7). A similar geographic distribution can be seen in both bicycle and pedestrian crashes, where the majority take place inside urban areas, however four of the five fatal pedestrian crashes occurring in this time period occurred outside the urban areas in Amanda, Marion, Monroe, and Jackson townships (Map 5-16).

MAP 5-16
TRAFFIC CRASHES INVOLVING A PEDESTRIAN
(2012-2016)



The contributing factors, shown in Table 5-3, varied slightly more than those contributing to bicycle crashes with 15 improper crossings (pedestrian), 9 darting (pedestrian), and 38 failure to yield (motorist). Along with awareness and education mentioned above enforcement of bike and pedestrian laws on the part of both the AT user and the motorist is essential for influencing changes in behavior. Figure 5-8, 5-9 and 5-10 breakdown these crashes by posted speed limit, time of day and age.

FIGURE 5-6
ANNUAL 2012-2016 PEDESTRIAN SERIOUS INJURY & FATAL CRASHES

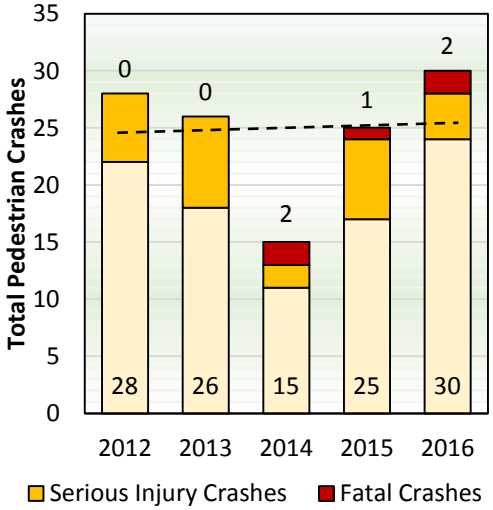


FIGURE 5-7
5-YEAR ROLLING AVERAGES FATAL & SERIOUS INJURIES

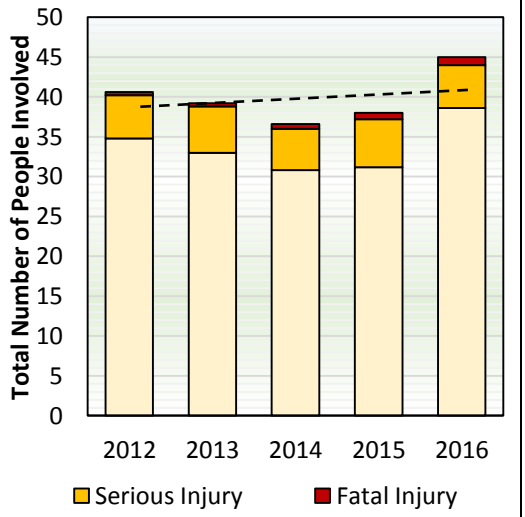
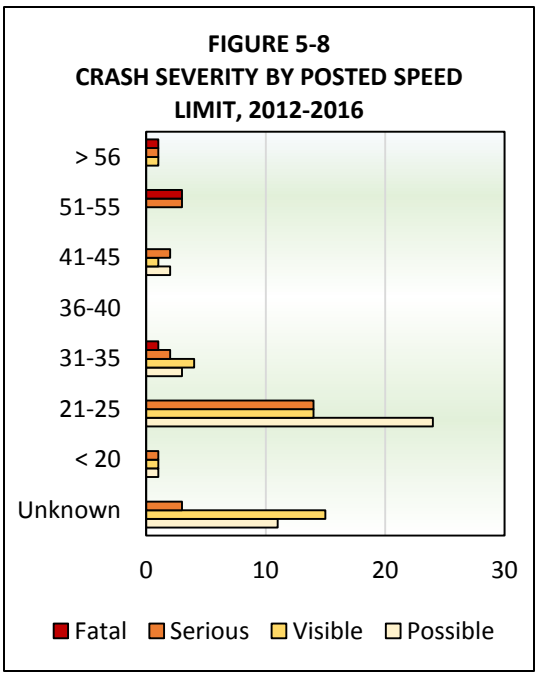
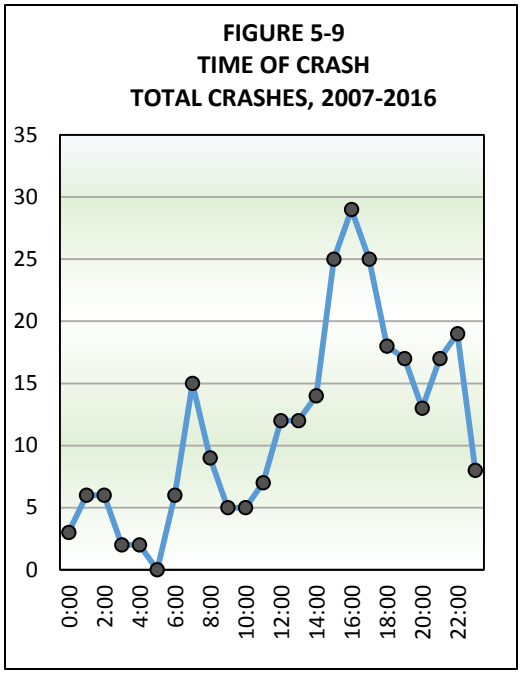
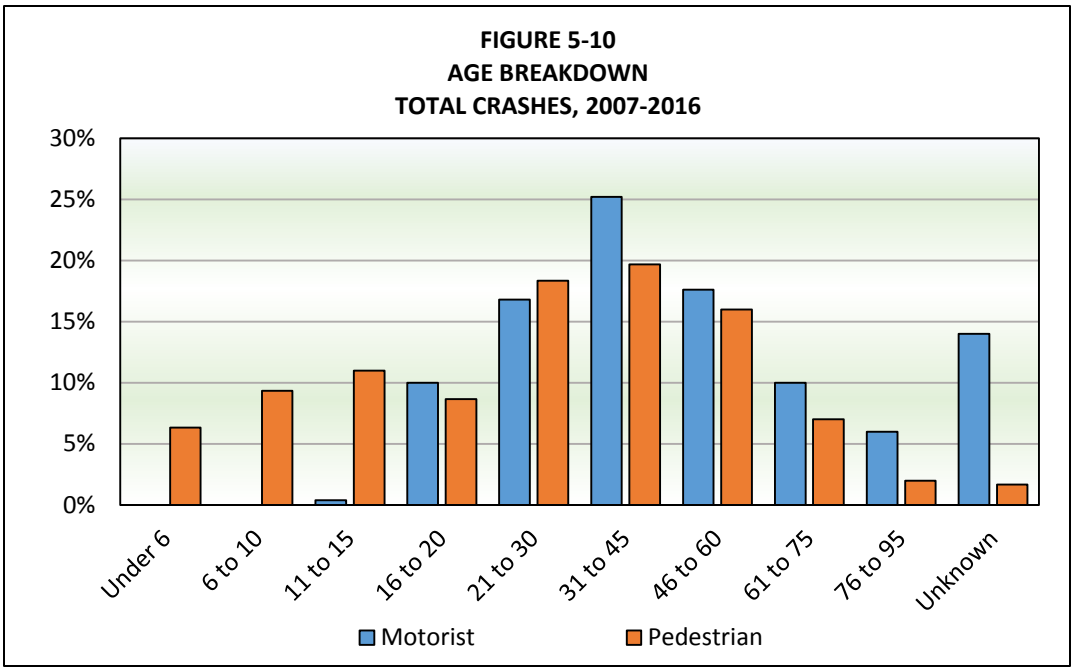


TABLE 5-3
PEDESTRIAN CONTRIBUTING FACTOR

	Cause	2012	2013	2014	2015	2016	Total	PCT of Total
Pedestrian Error	Improper Crossing	3	5	2	3	2	15	12.6
	Inattentive	1	1	0	2	0	4	3.4
	Not Visible (Dark Clothing)	1	0	0	0	0	1	0.8
	Wrong Side of Road	0	1	0	0	0	1	0.8
	Lying and/or Illegally in Roadway	1	0	1	3	2	7	5.9
	Failure to Yield	2	1	1	1	0	5	4.2
	Darting	1	4	1	1	2	9	7.6
	Other Improper Action	0	2	0	2	0	4	3.4
	Failure to Obey Traffic Signs	0	0	0	0	1	1	0.8
Motorist Error	Unsafe Speed	0	0	0	1	0	1	0.8
	Improper Lane Change	1	0	0	0	0	1	0.8
	Left of Center	0	0	0	0	2	2	1.7
	Failure to Yield	8	5	3	6	14	36	30.3
	Ran Light	0	0	0	0	1	1	0.8
	Failure to Control	1	1	1	1	2	6	5.0
	Improper Backing	0	2	0	1	0	3	2.5
	Operating in Negligent manner	0	0	0	0	2	2	1.7
	Other Improper Action	9	4	4	1	2	20	16.8







5.4.3 Statewide Comparison of Crash Statistics

In order to better understand crash statistics in a single jurisdiction it helps to compare them to numbers from jurisdictions of similar size from across the state. In the table below (Table 5-4) Allen County and the City of Lima crash rates are compared to other counties and cities with similar population size. As is quickly apparent by glancing at the table, Allen County and the City of Lima are in the top 3 for all three categories. Most notable Allen County is number one in both bike and pedestrian crash rates and number of crashes resulting in at least one injury and the City of Lima is number one in all three bike crash categories. This puts a significant challenge ahead of local planners, engineers

and government officials looking to increase AT traffic while simultaneously decreasing the rate of crashes involving AT modes.

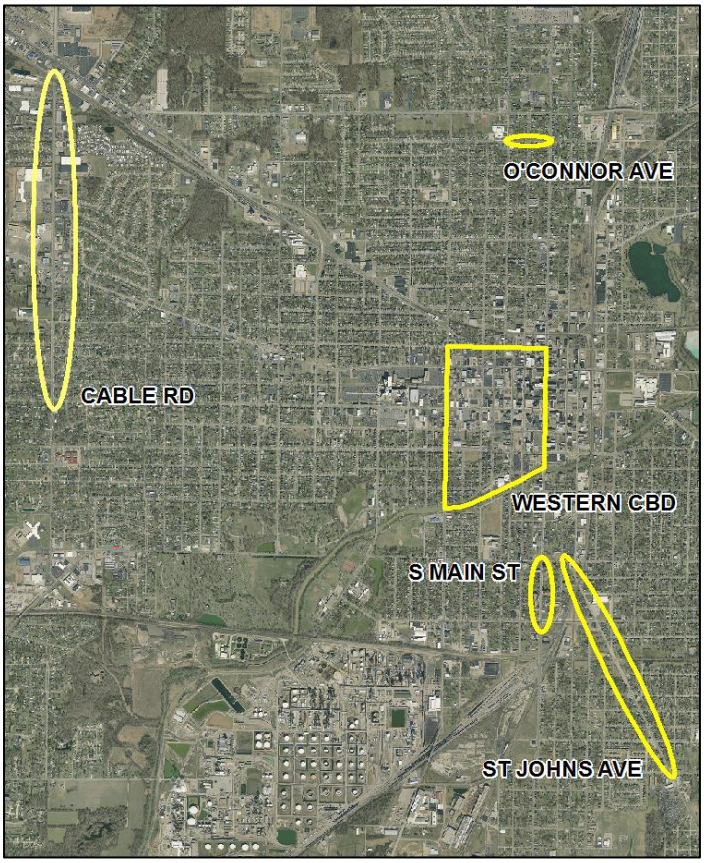
TABLE 5-4
STATE OF OHIO BIKE/PEDESTRIAN CRASH RANKINGS (2012-2016)

Ohio Counties (50,000-135,000)		Ohio Cities (30,000-50,000)	
Bike	**Pedestrian**	**Bike**	**Pedestrian**
Crash Rate (Crashes per 100,000)		**Crash Rate (Crashes per 100,000)**	
Hancock – 119.0	Erie – 111.6	Findlay – 189.3	**#1 Lima – 211.5**
Marion – 94.7	**#2 Allen – 109.1**	**#2 Lima – 185.7**	Lancaster – 203.7
#3 Allen – 91.2	Scioto – 101.9	Newark – 155.6	Euclid – 177.8
Frequency of Crashes		**Frequency of Crashes**	
#1 Allen – 97	**#1 Allen – 116**	Findlay – 78	Euclid – 87
Hancock - 89	Richland – 103	Newark – 74	**#2 Lima – 82**
Wood - 87	Erie –86	**#3 Lima – 72**	Lancaster - 79
Frequency of Injury Crashes		**Frequency of Injury Crashes**	
#1 Allen – 83	**#1 Allen – 99**	Findlay – 66	Euclid – 83
Hancock – 75	Richland – 89	**#2 Lima – 61**	**#2 Lima – 73**
Wood - 73	Erie - 74	Newark – 59	Lancaster - 71

5.4.4 High Crash Corridors/Intersections

Intersections or corridors with at high concentrations of crashes involving AT modes, during the 2012 - 2016 time period, were considered high crash areas. These sections of the AT network represent areas where improvements to the network are most needed.

- **Western CBD –** North of the Ottawa River to Wayne Street and Main Street to Metcalf Street makes up the western half of the CBD. This area by far sees the largest concentration of crashes involving AT modes. In the 2012-2016 time period this area saw a total of 37 crashes involving a pedestrian or bicyclist. There were 9 crashes involving bicyclists with 8 (88.9%) of those resulting in an injury and 28 crashes involving a pedestrian with 23 (82.1%) resulting in at least one injury. Six of the nine bicycle crashes



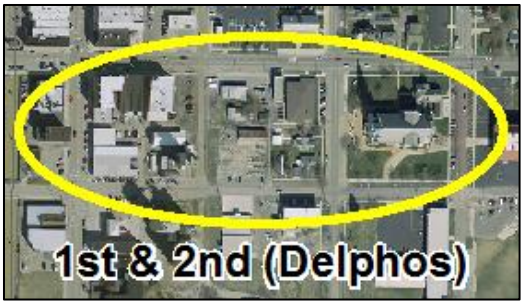
occurred on roadways with no dedicated bike facilities speaking to the advantage such facilities provide AT users. On the other hand all 24 pedestrian crashes occurred along corridors or at intersections with sidewalks on both sides of the road meaning that a more focused effort, on awareness, street lighting, signals, and signal timing in this area may be required.

- **St Johns –** Nine crashes have occurred within 500 feet of the St Johns corridor between Kibby and 4th St. There were a total of two pedestrian crashes both resulting in injury and seven crashes involving an injury to a bicyclist for a total of nine crashes during the 2012-2016 time period. This corridor has no dedicated bike facilities which may help explain the high number of bike related crashes.

- **O'Connor Ave. (West to Main) –** Four crashes involving AT modes have occurred along the two-block corridor spanning West Street and Main Street. All four were pedestrian crashes resulting in at least one injury. All the crashes occurred along a segment of roadway outfitted with sidewalks along both sides of the road. This trend should indicate to planners, engineers and government officials that just installing the basic infrastructure is not always enough but tailoring each installation to the intersection or corridor and providing educational opportunities to those who rely on it daily is of equal importance.

- **S Main Street –** Within 500 ft of the S main Street corridor between Kibby Street and Vine Street there were 7 crashes involving AT modes. All seven of these involved pedestrians, and all seven crashes resulted in at least one injury. All of these incidents occurred along roadway with sidewalks on both sides of the road.

- **1st Street & 2nd Street (Main to Pierce – Delphos) –** Inside this 3 square block area there were 4 crashes involving an AT mode. Three bike crashes resulting in at least one injury each and one injury producing pedestrian crash. This area supports no bicycle facilities and includes two blocks with either no sidewalks or a sidewalk on only one side of the road.



- **Cable Rd between Market and Elida –** This corridor saw four bicycle crashes and three pedestrian crashes in the five year period. This corridor was the location of one of the two AT fatalities that occurred inside the Lima Urbanized Area since 2012, another fatality occurred along this same corridor as recently as 2011. Along with the pedestrian fatality there were two pedestrian crashes resulting in injuries, two bike crashes resulting in injuries and two bike crashes resulting in property damage. This corridor has neither sidewalks or dedicated bike facilities and is a major commercial corridor with an AADT (Average Annual Daily Traffic) of nearly 20,000 vehicles.

5.4.5 Societal Cost of Crash Related Injuries

Reducing traffic crash related injuries across a community or state is not only beneficial to those persons directly impacted by the crashes but also it lifts monetary burdens placed on the local communities. As the severity of a resulting injury increases the financial burden placed on the community drastically jumps, due to lost wages, medical costs, etc. (Table 5-5).

TABLE 5-5
2016 SOCIETAL COST OF A SINGLE CRASH

Crash Type	Societal Cost
Property Damage	$10,194
Possible Injury	$63,209
Visible Injury	$112,263
Serious Injury	$307,358
Fatal	$5,811,333

In the 2011-2015 time period there were 307 crashes involving an AT mode. These 307 crashes included 40 serious injury crashes and 4 fatalities, for a total societal cost of $48.5 million (Table 5-6). The yearly societal financial burden ranged from 2012 with $4.4 million to 2014 with $15.7 million. These types of financial burdens put the upfront costs of infrastructure aimed at reducing crashes and the potential for crash related injuries into perspective. While AT modes make up a relatively small proportion of road users they make up a disproportionally high amount of the serious injury and fatal crashes. At the same time most AT infrastructure projects have associated costs that are much lower than traditional transportation projects, meaning that targeting crashes involving AT modes is potentially the most cost-effective strategy to lowering crash and injury rates in a community.

TABLE 5-6
SOCIETAL COSTS OF 2012-2016 AT CRASHES

Type of Crash	Pedestrian Crashes		Bike Crashes		AT Crashes	
	#	$	#	$	#	$
Property Damage	13	$128,484	15	$148,112	28	$276,596
Possible Injury	40	$2,458,556	37	$2,264,347	77	$4,722,903
Visible Injury	39	$4,249,290	28	$4,143,251	77	$8,392,541
Serious Injury	27	$8,010,262	9	$2,662,584	36	$10,672,846
Fatal	5	$28,625,421	1	$5,811,333	6	$34,436,754
TOTAL:	**124**	**$43,472,013**	**100**	**$10,624,772**	**224**	**$58,501,640**

SECTION 6
PROPOSED POLICIES & PROGRAMS

Getting the community to engage in AT requires nothing short of a transformation of the car culture. For the past century, through every conceivable medium, the automobile has been presented as the embodiment of the American dream. The automobile is associated with freedom, mobility, personality and status. After over 100 years of effective marketing, it is no wonder that most Americans hop into their cars for even the shortest of trips. Trips that by most objective and subjective measures are better suited for walking or bicycling.

While the lack of a safe, convenient and comfortable route is often a major contributing factor, the lack of infrastructure is only one part of the equation. Policies and programs that encourage mode shift are key in order to achieve the goal of getting a greater number of people walking and bicycling for everyday transportation. Efforts in five key areas, Engineering, Education, Encouragement, Evaluation and Enforcement, are proposed in the remainder of this section.

6.1 ENGINEERING – *Creating safe and convenient places to ride and walk*

6.1.1 Off-Road Facility Connectivity

The Rotary Riverwalk/Ottawa River Bikeway currently extends from the northeast quadrant of Shawnee Township, through Lima and into Bath Township, providing a bicycle and pedestrian connection to Lima. The townships surrounding Lima should work with Johnny Appleseed Metro Parks and the local school districts to provide more off-road trails throughout the area and to help extend the Rotary Riverwalk/Ottawa River Bikeway further into the county.

6.1.2 ADA Compliance

In 1990 the Federal government stated that all local jurisdictions need to have an ADA Transition Plan outlining how and when public infrastructure, including sidewalks, will be brought into ADA compliance. This has gone largely unheeded until recent years. Currently a number of Allen County jurisdictions are working on such plans and to improve the accessibility of AT networks for all county residents, each jurisdiction will need to develop, adopt and continue implementing this federally mandated plan.

6.1.3 Safe Routes to School Program

Safe Routes to School (SRTS) is an international movement to make it safe, convenient and fun for children to walk and bike to school. SRTS programs combine the efforts of parents, schools, community leaders and local, state and federal governments to improve the health and well-being of children by enabling and encouraging them to walk and

bicycle to school. SRTS uses a variety of education, engineering and enforcement strategies to help make routes safer for children to walk and bike to school and encouragement strategies to entice more children to walk and bike to school.

Currently the Lima, Elida and Spencerville School Districts have adopted SRTS plans; however, the other Allen County school districts should consider participating in a SRTS program. Ohio has a SRTS program that is managed by ODOT. Developing a SRTS program may take some time to get going with trainings, surveys, assessments and getting the right community leaders involved. In the meantime, schools can focus on initiating the following programs to begin to create a safe environment that encourages children to walk and bike to school.

- Provide information and resources on how to safely walk and bike to school in the classroom and on the schools website.
- Look at your schools existing policies and begin to identify and address policies that hinder walking and biking to school and implement new policies that support it.
- Participate in a Walk to School Day or Bike to School Day.
- Initiate a Walking School Bus.
- Initiate a Bicycle Train.

6.1.4 Pedestrian Safety Measures

Safety countermeasures should be considered at all intersections where pedestrains are crossing traffic. Countermeasures from marked crosswalks to pedestrisn refuge islands to count-down signals should be considered for implementation. See Appendix C for comprehensive list. While some countermeasures may only be appropriate at interesctions with high speeds or volumes of traffic, others like count down signals should become standard practice. Local jurisdictions should develop a prioritized system to identify and provide count-down pedestrian signals at all signalized intersections. The initial focus should be in downtown main street areas and school zones.

6.1.5 Complete Sidewalk Gaps

Ideally, every road should have sidewalks on both sides of the street. Local jurisdictions should develop a system to complete sidewalk gaps. Sidewalk gaps along arterial and collector roads should be completed first. Providing continuous sidewalks along transit routes and near schools should also be a priority. In order to capitalize on these improvements, whenever a roadway is reconstructed, sidewalks should be included as part of the reconstruction project.

6.1.6 Water Quality

The Miami and Erie Canal as well as the Ottawa River have the potential for increased water flow and higher water quality, which would make both waterways a significantly more attractive amenity to local jurisdictions. The construction and maintenance of the Riverwalk along the Ottawa River has significantly increased the utilization of the river

corridor. The Miami-Erie Canal, in the area between Delphos and Spencerville, has been overgrown by adjacent vegetation, had the canal banks collapse and had water features fallen into a state of disrepair. Delphos, Spencerville and County officials should work with ODNR to better address these issues between the two communities and help preserve the canal corridor as a park-like destination in the downtown area while also working to improve the canal tow-path trail that connects the two jurisdictions. All three jurisdictions, Delphos, Spencerville and Lima should initiate aggressive anti-littering programs to clean-up litter in and around the canal/river and work with code enforcement officials to address illegal dumping and littering.

6.1.7 Complete Streets

States, regions, counties and cities around the country have used various complete street policies to unambiguously endorse and define their support for non-motorized transportation. Complete Streets are planned, designed, operated and maintained such that all users may safely, comfortably and conveniently move along and across streets throughout a community. The Complete Streets concept recognizes that streets serve multiple purposes and that a community's roadways must be designed such that they balance the needs of all the transportation users. Delphos, Bluffton and Spencerville should all adopt policy similar to that adopted by Lima that supports the development of Complete Streets.

6.1.8 Multi-Modal Connectivity

With the urban areas infrastructure supporting travel mode transitions should be prioritized. Concurrent with development, a contiguous sidewalk and bicycle system should be provided primary roads, especially in areas with retail as well as near parks and schools. Providing these facilities, along with bike racks and covered bus stops will also help to support transit use.

6.1.9 Protected Bike Facilities

Where feasible, in urban areas with high volumes of traffic, protected bike facilities should be considered in roadway and transit projects. Having vertical barriers between regular travel lanes and bike facilities provides safer more comfortable routes for bicyclists when travelling high traffic, high speed roads. See Appendix C for more bicycle safety countermeasures.

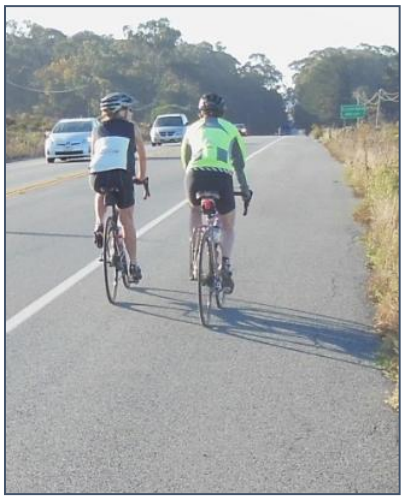
6.1.10 Regional Trail/Route Funding & Implementation

The trails and bike routes that span between cities and villages need to have a designated implementation and maintenance plan and sustainable funding source to succeed. While state and federal grants may be obtained to offset the majority of the construction cost, a local match is still required. More importantly, the trails and routes need management by an organization or consortium that has the institutional

wherewithal to properly maintain the facilities. Complicating this is that some of the trails will likely be on easements of land held by other entities.

For the proposed trails the most logical option would be to expand the mission of the Johnny Appleseed Metropolitan Park District. The partnership approach that was utilized with the Rotary Riverwalk/Ottawa River Bikeway is a good model to use. The challenge is that the trails would be a substantial expansion of their facilities and this would require a corresponding increase in revenue.

The linear nature and multiple access points of trails make them exceedingly difficult to generate use based revenue and most agencies that have attempted this in the past have since abandoned that model. Thus, some other general revenue source needs to be considered. The most likely source is an increase in the tax levy, as the Parks District's levy supports about 80 percent of the their budget. The challenge is that the replacement levy (not to exceed 0.75 mil) was just passed in 2013 and will be in place through 2023. Also due to a decrease in property valuation and a change in state tax law the Park District is operating on about 70% of the budget that it had ten years ago. Thus, it is unrealistic for the Park District to take on any additional responsibilities without a corresponding increase in supporting revenue.



In order for Johnny Appleseed Metropolitan Park District to return to 2003 funding levels they would need to go for an additional levy. The Park District should commission a scientific survey to determine if the residents of the county are interested in not only going back to historic funding levels but to expand the park district to include regional trails and bike routes. A strategic planning group should be created to sketch out what mileages would be appropriate and educate the public on the different mileage options. The group should also look at various scenarios at what could be accomplished and what money is needed to leverage state and federal sources and more importantly maintain the facility at an appropriate level.

6.1.11 Paved Shoulders

Wide paved shoulders provide a separate space for bicycle and pedestrian travel in rural areas and improve roadway conditions from a motor vehicle safety and maintenance standpoint. Ideally, wide paved shoulders should be considered in all new construction and reconstruction projects on rural roadways used by more than 1,000 vehicles per day. In some communities, where a separate recreational pathway is not feasible, local park and recreation commissions should consider helping fund a portion of the paved shoulder cost.

6.1.12 Safe Routes to Transit

A Safe Route to Transit Program targets pedestrian improvements directly around transit stops and the walking or bicycling routes used to reach them. This improves safety and efficient movement of all types of traffic along transit routes. Good bus stops feature the characteristics seen below.

FIGURE 6-1
COMPLETE TRANSIT STOP

6.1.13 Safe Routes to Healthy Food

Similar to the Safe Routes to School and Transit Programs, a Safe Routes to Healthy Food Program looks to improve AT corridors that connect residential neighborhoods, especially those with low motor-vehicle access, to locations with stores offering affordable healthy food options.

6.1.14 Stormwater Drainage

A flooded street is not equally accessible to all modes of transportation. When it rains, people biking, walking, and using mobility devices are the first ones to lose access to the street and the last to regain access, making grey or green infrastructure dedicated to draining or capturing storm water a key aspect of planning for AT mode use. Implementing stromwater drainage measures throughout the urbanized areas of Allen County will improve the access to and quality of the AT network year-round.

6.1.15 MPO AT Project Selection

The most economical time to integrate AT infrastructure is when a roadway is being built; however as roadways come up for consideration for rehabilitation each roadway project should be required to consider inclusion of bicycle and pedestrian amenities. The MPO should adopt policy that stipulates federally funded projects appearing in this ATP be given serious consideration before being programmed in the MPO's STIP/TIP budget process.

6.2 EDUCATION – *Giving people of all ages and abilities the skills and confidence to ride and walk*

6.2.1 Experiential Educational Rides

Encourage AT mode shift by providing experiential educational bike rides that give hesitant or uninformed bike riders the information and tools they need to safely and confidently ride bikes on roadways throughout the county. The program designed by Yay Bikes! out of Columbus requires two leaders per ride. As of the writing of this plan only one trained leader works in Allen County making it a priority to increase the number of trained leaders in the region.

6.2.2 Grow MoveSafe Campaign

MoveSafe Allen County was created in March 2017 to act as an education and training forum, promoting AT safety through media campaigns with the goal of decreasing bike and pedestrian crashes. In order to spread awareness of AT safety more resources and time should be invested in this action.

6.2.3 Safe Routes to School *See Engineering*

6.2.4 Law Enforcement Training

Support efforts to provide law enforcement with professional development training focused on effective enforcement of AT laws in order to promote safe roadways.

6.3 ENCOURAGEMENT – *Creating a strong AT culture that welcomes and celebrate AT users*

6.3.1 Transportation Project Coordination

The Bicycle and Pedestrian Task Force has roughly 40 members representing many geographic areas and points of view from across the county and was established to promote increased walking and bicycling in Allen County. As part of this initiative the Task Force should consider expanding its mission to make formal recommendations to local governments regarding the advancement and support of planned AT roadway projects in order to share best practices and learn from each other.

6.3.2 Comprehensive Bike Map

A regional bike map currently exists for Allen County but should be expanded in the model of the Columbus, OH bike map which not only outlines designated bike facilities but also provides comfort ratings for all roadways and is available in brochure, online PDF and as an interactive online map. [1] The map should also include information on bicycle laws, safety recommendations and pathway etiquette. The map production and print costs can be offset by selling advertising or underwriting from local businesses and tourism organizations. When distributing the map, it should be paired with other publications already targeting residents' mailboxes for efficiency and coverage. The map may also be located at the Chamber of Commerce, local businesses and kiosks for further distribution.

6.3.3 Wayfinding Technical Support

A coordinated wayfinding system, with well-designed and placed signs, creates an aesthetic environment that reinforces a positive sense of place for residence and

[1] http://www.morpc.org/transportation/bicycle-pedestrian/columbus-metro-bike-map/index

visitors. LACRPC should take the lead on developing a county-wide bicycle and pedestrian wayfinding system. Their role would include the following:

- Prepare detailed design guidelines and specifications for the system
- Develop a resource tool outlining principles and best practices for bicycle and pedestrian wayfinding
- Provide mapping resources

The resulting product will provide consistency in the physical design and placement of pedestrian and bicycle wayfinding signage county-wide. It will also help build a brand for the county by directing visitors to key destinations and informing locals of bicycle and pedestrian routes across the county.

6.3.4 "Bikes May Use Full Lane" Signs

Current signage along bike routes across the county and the country state "Share the Road". While the sentiment is good, motorists often take this to mean share the lane which leads to close calls due to narrow passing distances. Cities, like Columbus, OH, have recently replaced "Share the Road" signs for "Bikes May Use Full Lane" signs which encourage motorists to pass bicycles as they would another car by moving into the adjacent lane.

6.3.5 Active Commute Program

An Active Commute Program should be developed that provides individual outreach, through community surveys and events, to find people who have an inclination to walk bike or take the bus but need additional encouragement and resources. The following is a list of programs and services that should be considered:

- **Commuter Challenge Program** – A competition between local business and employees to see who can get the most employees to try a green commute (walking, biking, busing, carpooling, etc). The program leverages this activity to expand awareness of active transportation connections to the work place and to generate excitement among the corporate community around the health and well-being benefits of cycling or walking to work.

- **Discounted Bus Pass** – As part of a commute to work program, consider free or discounted bus passes to downtown employees.

- **Complimentary Emergency Ride Home** – As part of a commute to work program provide complimentary emergency rides home, allowing walkers, bikers, carpoolers and transit riders to have a backup plan to take a taxi home in the event of an emergency.

- **Enclosed and Secure Bicycle Parking** – Provide enclosed and secure rooms or fenced off-areas, generally in parking garages, where employees can park their bikes for extended periods of time.

- **Ride Buddy Rides –** Provide route planning and a buddy ride for commuters who want to bike to work but are hesitant about getting on the road. The ride buddy will plan the route, ride it with the commuter once and provide resources and information on bike law and comfortable bike commuting tips.

- **Lunch & Learn Events** – Hold a lunch time event at a local business to help educate and promote alternative transportation to work (follows the model of how vendors and suppliers reach the corporate world). The event could provide safety tips and inform perspective commuters of the different options and resources available. The event host must be knowledgeable of the different routes and options for alternative transportation and be able to help others in determining the best route to get to and from work.

6.3.6 Building an AT Culture Events

Getting people to break out of a well-entrenched habit does not happen overnight. One event, a singular news story or a flyer will have no lasting impact. Culture change is a gradual transformation where new ideas permeate into a wide cross-section of society throughout an extended time period. In essence this is a campaign with a simple message. That message is that active living is a rewarding life style. Easily understood, yes, but like quitting smoking or eating healthier, understanding what you should do does not equate actually doing what you know you should.

To help build community consciousness of the issue a drumbeat of activities tailored to specific interest groups are proposed throughout the year. It is not expected that everyone will participate in every activity. We are hoping to get them engaged at least one that fits their interests and current situation. But if promoted effectively, they will hear about all of the other events and together they will begin to feel like they are a part of some larger, community-wide initiative.

Two dozen events are proposed arranged round five themes: Safe Routes to School; Community; Commuter; Volunteer; and Transit. While such events proposed may seem daunting, many of them are actually small events that will require minimal planning. Some may start out small and grow year to year. Some may start out as a single event and then become something that participants carry on with minimal or no outside assistance through much of the year. A key aspect of all of these events is to cover them in a variety of media outlets. This will not only help attract new participants at the next event, but plant seeds of information in the population.

Safe Routes to School – A typical misunderstanding of safe routes to school programs is that they are oriented solely to the schools themselves. Encouraging more children to walk and bike to school and assuring that they have safe passage is the responsibility of the entire community. A single resident with no school age children living with them at home can have a profound impact on who walks or bikes to school. Likewise, the

number of kids that walk to school can have a significant impact on the amount of morning rush hour traffic.

- **Shovel for Scholars**
  In the winter, the conditions of a community's sidewalks influence how many kids walk. A single un-shoveled section of sidewalk can be a deterrent for many children and an unsurmountable obstacle for someone in a wheelchair or pushing a stroller. In January, a public service campaign should communicate to residents and businesses that they should strive to clear their walks before school. The message should note that the fight against childhood obesity can be fought with a snow shovel by the people who don't even have any kids of their own. It should also remind motorists to be on the alert for kids walking to school in the dark.

- **Walk Around the World**
  If a classroom of 25 kids walked to school rather than being driven by a parent an average ½ mile each day that has the potential to eliminate up to 125 miles of travel each week. Elementary classes should be encouraged to track the classes total walking and bicycling mileage for the month of March. They can plot their progress on a map of the country and then combine their progress with classes around the school district to see how far they have come together. They can also calculate how many calories they have burned as well as how much gas, money and greenhouse emissions they have saved. The progress at the end of the month should be shared with the local media outlets.

- **Bike Train Blast**
  In May, when the weather begins to warm up groups of kids should be encouraged to form Bike Trains. Bike Trains are comprised of a group of children riding their bikes to school with one or more supervising adults. Bike trains address three key issues. First, is the fear parents may have for the personal safety of their child when they travel to or from school by themselves. Second, an adult can help guide children who may not be quite ready skill or judgment wise to ride a bike to school by themselves. Third, the larger group of cyclists along with the presence of an adult makes the group more visible to motorists and improves safety. The bike train leaders could be volunteer parents who rotate the duty. The schools should facilitate the process by helping plan routes and schedules and posting sign-up sheets and information. Local media should be contacted to both promote the idea as well as inform motorists what to expect. The schools should also participate in National Bike to School Day that is usually held during the first week of May.

- **Bike Rodeo**

Over the summer would be a good time to organize a series of bike rodeos around the County. Bike Rodeo's are typically half-day skill building events that feature a number of stations for children to learn bike safety basics in fun hand-on activities. Bike Rodeo's can be a little more complex to organize than some other events as they require a large number of skilled people to pull off a successful event. They are often done in conjunction with other community events. The payback is that it teaches not only the children new skills, but often the parents as well. Given the organizational demands of this it would be ideal for the County to have a set event that they can take to the different communities and enlist the help with the local police.

- **Walking School Bus Week**

At the start of the school year in September the elementary schools should facilitate the organization of informal Walking School Buses. Walking school buses are arguably one of the most effective and easiest to implement safe routes to school strategies. Children who start walking in groups with adult supervision in the early elementary years typically continue to walk in groups unsupervised in the later part of elementary school and when they go to middle school. The elementary schools should facilitate the process by helping plan routes and schedules and posting sign-up sheets and information. Local media should be contacted to both promote the idea as well as inform motorists to keep an eye out for children walking to school.

- **International Walk to School Day**

  International Walk to School Day is held yearly, during the first week of October. It is global event that involves schools from across the county and the globe, walking to school on the same day.

- **Still Walking Wednesday**

  With the advent of daylight savings time and the weather turning cooler students and parents could use a refresher about the benefits of walking or bicycling to school. The purpose is to help the walking school buses keep going and inform motorists to be on the alert in the dark morning hours for children walking to school.

Community Events – These are little celebrations of active living. They are used to initiate people into activities that they may not currently embrace and provide the support of a larger group.

- **Winter Warrior Warm-ups**

As New Year's resolutions are beginning to fall to the wayside, February is a good time to encourage people to keep active. Also, winter tends to be a time of social isolation due to people not spending as much time outside and losing touch with their neighbors. Winter Warrior Warm-ups are a series of Saturday morning outdoor walks. Each weekend will be at a different location. The reservoir trails, the river trail and the Metro Park trails are all good options. These could be accompanied by media articles that talk about simple strategies for keeping warm while keeping active outside in the winter.

- **Meet Half-Way Hikes**

When the weather begins to get a little warmer, April is a good time to push the distances a little further and explore some future trail routes. For example, at the same time a group of people leaves Lima and walks west towards Spencerville along the railroad line as a group from Spencerville walks east to Lima. The meet at the halfway point, trade a few stories and a snack and then head back. The groups do not need to be large. Local media should always be encouraged to come along as these hikes could be turned into articles about what the connection may look like some day. Each weekend could devoted to a different intercity corridor. If done each year, these could serve as a way to benchmark progress on the corridor development.

- **Reservoir Rendezvous**

The trails on the levees of the Bresler Lake, Lost Creek, Ferguson, Lima and Schoonover Park Reservoirs are great active living resources. To encourage even more use, each weekend in June should be hold a small event at a different reservoir. This will encourage people to try new places so they don't get bored with a routine at the same place each weekend. Officials representing the City, Township or Park that the reservoir is located in should be on hand to welcome the walkers and help generate a little publicity. Participants should be encouraged to up their mileage a little bit each weekend as well as continue on their own after June.

- **Righteous Riverside Ramble**

In August, churches should encourage their congregations to meet on a Saturday morning or Sunday afternoon to bike the riverside trail as well as take part in some minor service project along the trail. The message would be taking care of body as well as spirit and a way for the church to show its commitment to the community as a whole. Interfaith groups could meet to discuss strategies such as different churches or denominations take different weekends or if there is

the opportunity for some interfaith efforts. Churches could also encourage parishioners to bike to church on Sundays by providing places to park their bikes and messages that shorts and short sleeve shirts are welcome during the summer.

- **All Allen, All Active, All-At-Once**
  Each weekend in October, residents in each community in Allen County are encouraged to participate in some outdoor activity such as walking, running, bicycling, etc. and then log their time and/or miles on a website. The website could be used to track statistics and have the communities compete on a per capita basis on which community is the most active. Weekends could be even themed where one weekend is all about biking and the next running, etc.

- **Random R.A.T. Ride & Repeat**
  Ride Around Town (RAT) is a somewhat tamer version of a critical mass ride. It typically takes the form of a casual large group ride tooling around an urban area. They are often started by a group of friends and spread by word of mouth. The end destination is often a bar for socializing. Generally they take place a little after the rush hour is done so there is not too much consternation by the motoring public and they add some life into the downtown after-business hours.

Commuter Events – While the special events open up people to the opportunities, it is when they integrate activity into their everyday activities that a pattern gets engrained. All of these events could be part of an active commuter challenge program that lasts the entire year. The main pitch of the program would be the benefits of a healthy active workforce.

This program would have a website where individuals and employers could register and log their commutes or workplace sponsored activities. Individuals and employers could then track the number of active commute miles as well as calories burned, gallons of gas saved and greenhouse gasses eliminated. Few people would use the system year round but special events throughout the year would keep the idea fresh.

Token awards could be provided for individual meeting personal goals or racking up the most mileage in a particular category for an event. Employers could also get awards based on their size and percentage of people participating. At the end of an event a press release should be prepared that shows how many miles were done via an active commute and the resulting calories burned and greenhouse gasses eliminated.

- **Cool Commute Challenge**
  In January, the Cool Commute Challenge will work to dispel the myth that people simply don't walk or bike to work in the winter. Accompanying the challenge would be a workshop on winter bicycle commuting. On particularly snowy days there should be an effort through various media to show how walking or bicycling to work was actually easier and more pleasant than the frustrations of driving in bad weather.

- **Satellite Slim Down**
  In March, employees whose work commute is beyond a reasonable walking or bicycling distance will be encouraged to park in remote lots and walk or bike the last mile or two to work. For the first year or so, this plan should be implemented in Lima and then if successful it could be extended to other communities. Employees who live outside of Lima, in the surrounding townships and counties, would be encouraged to drive their normal commute to work; however, they would park a mile or so from work and then walk or bike the remaining distance. This program would utilize existing parking lots in City Parks and Johnny Appleseed Metro Parks that are adjacent to the Rotary Riverwalk/Ottawa River Bikeway. The parking lots will be identified via website along with suggested routes to major employment centers. The parking lots would be signed for the month and added police presence will be given to the parking lots and primary routes between employment centers and the parking lots. Temporary bicycle parking racks, that take the space of a car parking stall, could be added in these locations to provide additional bicycle parking if needed. The main purpose of this event is to increase physical activity for employees whose commute is too far too walk or bike to work on daily basis.

- **Bike to Work Week**
  In May there is a National Bike to Work Week. Initially this may be limited only to the official bike to work week, during this time an effort should be made to promote safe bicycling as well as proving information on desirable bike routes. Employers and employees could participate in a week long and/or a month-long competition.

- **Mid-Day Meander Monday's**
  This would be held in July as a simple promotion to get people to walk during their lunch break. The idea is to promote exercise as something that can be done anytime and does not require special clothes or a gym membership.

- **Walk to Work Week**
  This would be held in September to encourage people to walk to work. The promotion would stress how much exercise someone would get by walking to work vs. driving. The promotion would also focus on how for trips 2 miles or less, a walking trip would likely not take much more time than driving. The event should highlight walking as a great low-impact exercise and an easy and enjoyable way for people to start getting more active.

- **Fat Tire Fridays**
  This is a follow-up to Bike to Work Week. It is an effort to promote biking to work at least one day a week. Fridays are chosen as many employers have a relaxed dress code on Friday and fat tires allude to the fact that you don't need a special commuter bike.

Volunteer Events – Tracking the number of people who bike and walk is one of the most critical metrics in active transportation. Without this knowledge we do not know if improvements to infrastructure, programs and policy changes are making a difference. We also have no way to determine if we are making bicycling and walking safer or less safe. While there have been many advances in automated counting the new technology can be costly. Also, even most automated counters need to be calibrated by human counts.

May and September counts should continue as part of the National Bicycle and Pedestrian Documentation Project (NBPDP). The Bicycle and Pedestrian Task Force should take the lead in recruiting and providing the volunteers for this effort which is currently organized by the Lima Allen County Regional Planning Commission. As staff and volunteers allow – evaluate also conducting a count in July. Current efforts are focused on making this event less staff and volunteer intensive by relying more on cameras.

Transit Events – With the cost of gas, parking, vehicle maintenance and insurance, transportation is making up more and more of a families' and individuals' monthly budget. Public transportation provides an economically alterative to the private automobile. When you take public transit, you save money by not stopping at the pump or feeding the meter. You're not only helping your wallet, you will also be helping the environment by reducing energy consumption and pollution.

- **Try Transit Week**
  Try Transit Week is a program to encourage everyone to avoid driving solo and give bus transit a try. During the weeklong event, participants can pledge that they will try transit during the week. Participants are then automatically entered for a chance to win prizes such as a one-year transit pass. Other prizes could also be donated by local business.

- **Dump the Pump Day**
  The National Dump the Pump Day is held in June and provides information and activities that encourage people to dump their car and give public transportation a try. Dump the Pump day could include free transit rides, discounts on monthly or weekly transit passes, a fuel calculator and saving calculator on a website and activities and events at transit stations.

- **Rider Appreciation Day**
  On this day, treats, free bus passes and swag are given out at bus stops around town to say thank you to the people that ride the bus.

6.3.7 Adopt-an-Alley

Adopt-an-Alley program is an effort to enhance the pedestrian environment and attractiveness of downtown areas by providing clean, safe and attractive alleyways that link the parking lots in the rear of businesses to municipal streets. This program would provide individuals, businesses and organizations a chance to make a difference in their community by volunteering to beautify an alleyway. Enhancements may include adding street furniture, decorative lighting, flower pots, wall art, sculptures, entertainment and any other improvements that would help make the alleyways a more pleasant passage for pedestrians and bicycles.

Local jurisdictions could grant no-cost yearly easements for temporary installations and the program could be administered by the Chamber of Commerce or the jurisdiction itself. Adopters could receive recognition in the form of a sign that would extend out to the street from the Alley. The sign could also double as a wayfinding aid to the parking lots. After upgrading, the temporary use of some alleys may be supported with cafe tables and movable seating to promote local business activities or community events.

6.3.8 Canal Corridor Development

Beyond improving the water quality of the canal, Spencerville and Delphos should focus on improving the area adjacent to the canal and get the downtown community involved:

- Provide amenities such as pedestrian lights, wayfinding signs, benches and trash receptacles along the towpath trail.
- Change the texture of the asphalt with new decorative pavement or other cost-effective applications such as paint.
- Encourage businesses and cafés to front the canal. It could be as easy as adding some flower pots, moveable chairs, tables, umbrellas and decorative lighting to help liven up the backside of the buildings.
- Host a festival along the towpath to highlight its potential as a public destination. This may include an art walk, food tasting event, craft show, music festival, etc.
- Initiate a farmers market on the west side of the canal to bring activity to the downtown area.
- Develop an Adopt-a-tree or Adopt-a-Flower Pot program where individuals and organizations can donate money or volunteer time to plant a tree or take care of a flower pot along the canal towpath.

6.3.9 Sidewalk Maintenance

Regular and consistent maintenance of sidewalks, particularly along arterials and collectors, is important for active transportation. Typical problems that can occur include cracked pavement, standing water, overgrown trees and shrubs, and snow and ice. Inadequate maintenance of a sidewalk can be dangerous and discourages people from using active transportation.

The following is a checklist of key maintenance policies that should be addressed:

- An easily accessible phone and/or web-based complaint system for the public to report maintenance issues.
- A sidewalk maintenance policy that describes how the city will give written notice to the owner or occupant of the premises when a sidewalk needs repair and provides direction on how to remedy the situation.
- Twice a year tree and brush trimming program for all sidewalks along primary roads.
- A snow and ice removal policy that clearly states that property owners are responsible for snow removal of the full width of the sidewalk on or adjacent to their property within 24 hours after the end of each accumulation of snow, sleet or freezing rain.
- An educational campaign to encourage property owners to clear curb ramps when shoveling their sidewalks.
- Designate staff and assign responsibility for clearing snow and ice from orphan areas, such as crossing islands.

6.3.10 Mixed-Use Development

Mixed-use development contributes to the pedestrian and bicycle environment by integrating residential and non-residential uses within a compact development. Based on future growth, the Lima Urbanized Area (City of Lima, American, Bath, Perry and Shawnee Townships) should look at integrating planning and zoning changes that would lead to more walkable developments downtown and along commercial corridors.

6.3.11 Bike Friendly Businesses

This is a program that identifies through a window decal, website, and bike map those business along bike routes that have agreed to open there store to provide water and restrooms at no charge to bicyclists. While no charge is included this program has shown to be beneficial to store owners as bicyclist will often spend money at a place that has accommodated their needs.

6.3.12 Bikeshare

Bikeshare is the fastest growing form of shared mobility in the country, with over 120 systems set up across the country, many of them setting up just in the last 5 years. Bikeshare is set up around hubs spread throughout downtown areas or trail networks where people rent bikes for short periods of time. Bikeshare programs aim to support mode shift for short local trips and to encourage physical activity and use of on and off-road bike facilities. Preliminary research has been done by the Regional Planning Commission looking into the feasibility

of bikeshare in Lima. The main corridors being examined include Main St, Market St and the Ottawa Riverwalk.

6.3.13 Winter Sidewalk & Trail Maintenance

Consistency of facilities' availability is a primary influence on people's choice to commute by AT modes. For a commuter to comfortably rely on an AT mode, facilities needs to be available for travel all year round. This means that trails, utilized for utility trips, and sidewalks need to be maintained for travel throughout the winter months.

6.3.14 Support Bike Shop & Co-op Programming

Supporting both private sector and non-profit AT partners is key to building a bike culture in Allen County. These organizations often help bolster community participation and fill in gaps that government services can't cover.

6.3.15 Incorporated Area Sidewalk Ordinance

To support pedestrian travel and increase quality of life in all of the incorporated areas of Allen County, implementing sidewalk ordinances which require sidewalks to be heavily considered in all roadway reconstruction projects.

6.3.16 Bike Route Amenities

Bike routes that cut through rural areas with long stretches between villages or cities can be barren at the speed of bike. By providing mini-bike rest stops to provide water, shade, restrooms, basic tools etc. at strategic points along the route, bicyclists can feel more secure setting out on long treks.

6.4 EVALUATION – *Evaluate use of AT network and impact of implemented projects, programs and polices*

6.4.1 Bicycle & Pedestrian Documentation Project

In the fall of 2013, the Lima/Allen County Regional Planning Commission (LACRPC) participated in the National Bicycle and Pedestrian Documentation Project and had continued to participate in May and September counts. These counts provide a valuable baseline from which the success of increasing both the use and safety of new facilities may be measured. LACRPC should expand the pedestrian and bike count in the following ways:

1. Participate in all three count periods: May, July and September.
2. Prior to a road corridor being improved with pedestrian and/or bicycle facilities conduct a count so that the effectiveness of building the new facility in attracting new bicyclists and pedestrians may be measured.
3. Investigate supplementing human counters with automated counters for facilities such as trails so that use levels and patterns may be determined more economically.
4. Engage more of the members of the Pedestrian and Bicycle Task Force as volunteers in the count efforts by providing a brief training at one of the quarterly meetings.

6.4.2 Automatic Counters

Currently the county relies solely on manual count events to evaluate the levels of walking and biking on local roadways. These are point in time studies which often don't accurately reflect actual levels of use. Automatic counters that can be installed at strategic locations and collect data over weeks or months provide a much more complete picture of AT use in a community

6.4.3 Neighborhood Walkability/Bikeability Assessments

Once a year neighborhoods should be walked and biked by community members representing a wide variety of ages and abilities and at different times of day, rush hour, dusk, dark, etc. These assessments will help track changes in the network both as new AT facilities are installed and older facilities degrade.

6.5 ENFORCEMENT – *Ensuring safe roads for all users*

6.5.1 Site Plan Approval Checklist

A site design checklist should be provided to developers and used by local jurisdictions in their review of site plans to make sure that bicycle and pedestrian issues are being adequately addressed. The Canadian Institute of Traffic Engineers publishes "The Canadian Guide to Promoting Sustainable Transportation through Site Design" that serves as a good model.[2]

6.5.2 Bicycle Patrol

Support the growth of a large and well trained bicycle patrol in Allen County urban centers. Officers travelling at the speed of bike are much more equipped to react to bicycle and pedestrian infractions.

6.5.3 Good Tickets

Good ticket programs, allow police officers to hand out coupons or other rewards to bicyclists, pedestrians or motorists who appropriately follow AT laws, promoting safe behaviors.

6.5.4 Warning Tickets

Warning tickets refer to, bicyclists or pedestrians, being pulled over by law enforcement, usually on bikes, just as a motorist would be for speeding, however instead of handing down fines law enforcement officials explain which laws were broken and what the potential fine for that infraction could be. In this case once the information has been imparted and a warning given the AT user is free to go with no penalty. Intersections and corridors targeted with this type of enforcement have shown large reduction in AT user infractions.

[2] http://www.jtc.sala.ubc.ca/reports/sustainable%20transportation%20through%20site%20design%20manual.pdf

6.5.5 50% of Citations for High Crash Infractions

Focus law enforcement's efforts on roadway infractions that are contributing factors to traffic crashes, especially serious injury crashes. Setting a goal for these agencies of 50% of all citations being handed down for these infractions keep both law enforcement and motorists, including AT users, highly aware of these types of infractions.

6.5.6 Law Enforcement Training **See Education**

6.6 OTHER

6.6.1 Corridor & Land Preservation

Off-road shared-use path facilities are the most comfortable and safe way to travel by bike or foot. These types of facilities provide miles of recreational trails as well as connections to urban areas if connected to the roadway network. In order to provide these off-road facilities corridors and large patches of land need to be preserved for in rural areas for these and other park related activities.

SECTION 7
PLAN IMPLEMENTATION

Allen County's ATP is predicated upon various political subdivisions with inherent interests, boundaries, fiscal resources, and jurisdictional responsibilities. The Plan policies, programs and projects will likely be implemented based on a balanced and collective decision making process determined in part by priorities, available funding and staffing requirements. In many cases, the local governments will approach the Regional Planning Commission for project support and funding assistance.

Pursuant to MAP-21 legislation, the Planning Commission must have a fiscally controlled and balanced approach to transportation planning; a planning approach that facilitates a safe, efficient, secure and environmentally friendly intermodal transportation system. Under MAP-21, an MPO's Transportation Plan is required to include a financial assessment which demonstrates how the MPO will ensure that operational and maintenance demands are considered and how capital improvement projects included within the Plan can be implemented. The purpose of this Section is to identify the nature and scope of available resources to develop and maintain the system and to present a forecast of the amount of federal funds that will be available to support AT improvement projects through the year 2040.

Financial resources were identified at three levels. At the first level, efforts were made to identify the current sources and the extent of funding used to integrate or maintain the bicycle and pedestrian system. As many pedestrian and some bicycle amenities are integrated within larger highway projects, the extent of AT improvements were identified separate from the highway component. Section 7.1 provides an overview of such sources. At the second level, a forecast of funding currently committed to AT improvements over the 2018-2021 period is identified. Section 7.2 provides an overview of funding by source and year for the currently committed transportation projects. Finally, fiscal assumptions were made using expected programmatic funding for the period over the 2021 through 2040 as documented in the MPOs Long Range Transportation Plan. The Section closes with a financial summation establishing the MPO's compliance with federal fiscal constraint requirements.

7.1 FISCAL RESOURCES

Funding for developing and maintaining pedestrian and bicycle facilities and programs comes from a variety of federal, state, and local sources. Typically, various funding sources are combined to plan and deliver projects. There are a number of state and federal funding sources (Table 7-1) available to support improvements for pedestrians and cyclists including the: ODOT Transportation Alternatives (TA) Program[1]; the ODOT Safe Routes to School Program (SRTS)[2]; ODOT Safety Program[3]; ODOT and MPO Surface Transportation Program (STP)[4]; MPO Congestion Mitigation Air Quality Program (CMAQ)[5]; State Capital Improvement Program (SCIP)[6]; Local Transportation Improvement Program (LTIP)[7]; Recreational Trails Program[8]; Clean Ohio Trails Fund[9]; County & Municipal Bridge (BR) Program; Surface Transportation Block Grant Program[10]; and, Community Development Block Grant Programs. Appendix D provides a detailed breakdown of the various state and federal program resources currently available.

[1] http://www.dot.state.oh.us/Divisions/Planning/LocalPrograms/Pages/TransportationAlternatives.asp
[2] http://www.dot.state.oh.us/saferoute
[3] http://www.dot.state.oh.us/Divisions/Planning/SPPM/SystemsPlanning/Pages/FundingGuidelines.aspx
[4] https://www.fhwa.dot.gov/map21/factsheets/stp.cfm
[5] http://www.fhwa.dot.gov/environment/air_quality/cmaq/
[6] http://www.pwc.state.oh.us/Infrastructure.html
[7] http://www.pwc.state.oh.us/Infrastructure.html
[8] http://ohiodnr.com/tabid/21369/default.aspx
[9] http://clean.ohio.gov/RecreationalTrails/Default.htm
[10] https://www.transit.dot.gov/funding/grants/flexible-funding-programs-surface-transportation-block-grant-program-23-usc-133

TABLE 7-1 STATE & FEDERAL PROGRAMS USED TO FINANCE "AT PROJECTS" BY TYPE & AMOUNT 2010-2017										
Fund Type	**Lima**	**JAMPD**	**Delphos**	**Bluffton**	**Cairo**	**Elida**	**Spencerville**	**Allen County**	**ODOT**	**Total**
MPO/STP	$393,075						$17,210			$410,285
MPO/CMAQ	$847,341	$495,000	$100,000	$260,000	$106,900					$1,809,241
State/STP									$129,338	$129,338
State/CMAQ								$240,904	$497,548	$738,452
ODOT TA	$1,304,844									$1,304,844
ODOT Safety	$314,491									$314,491
SRTS	$477,599						$91,982		$318,560	$888,141
OPWC/Issue 1	$898,825			$3,000	$21,380	$66,496				$989,701
Nature Works			$38,750	$7,800						$46,550
Clean Ohio	$81,018	$1,398,000								$1,479,018
ODOT BR								$5,759	$193,767	$199,526
CDBG	$1,679,965									$1,679,965
Permissive License Plate Fees	$66,292									$66,292
ARRA	$119,593									$119,593
629 Monies	$55,023									$55,023
General Fund			$20,000	$175,000						$195,000
Donation			$125,000	$158,000						$283,000
Other (levies, etc.)		$641,000	$9,512	$86,100						$736,612
Total	**$6,238,066**	**$2,534,000**	**$293,262**	**$689,900**	**$128,280**	**$66,496**	**$109,192**	**$246,663**	**$1,139,213**	**$11,445,072**

The Planning Commission surveyed local political subdivisions to identify the various funding resources used in funding local capital improvements over the 2010 thru 2017 period. Funding controlled by ODOT reflected $2.4M in AT expenditures over the period; the MPO committed some $2.2M in funding for AT projects over the period. And while several local governments have repeatedly used the MPO/STP Program, MPO/CMAQ Program and/or the ODOT TA Program, most have not done so recently. More interestingly, local political subdivisions have typically used non- DOT monies local, general fund monies to help support such improvements. Table 7-1 reveals the funding streams familiar to and used by the local political subdivisions since 2010 and works to establish the region's available funding streams. On an annualized basis AT funding has reflected roughly $1.4M.

7.2 FISCAL COMMITMENTS FOR 2018 THRU 2021

In keeping with the federal fiscal constraint issues regulated under MAP-21 the Plan looks to forecast the extent of expected federal funding by funding category for implementing near-term projects through the 2018-2021 period. The projections are based on project-level information and local government commitments made to specific projects using ODOT and MPO funding sources. As such project funding is tied to formal agreements with local political subdivisions with project budgets established based on engineered drawings. The MPOs Transportation Improvement Program (TIP) is the source document for such information and is amended on an as needed basis but always with respect to fiscal constraint. Table 7-2 reveals the existing fiscal commitments made over the FY 2018-2021 to AT projects. The MPO currently has no funding committed to AT projects beyond 2018. The MPO and ODOT are attempting to identify near term investment possibilities.

TABLE 7-2
TRANSPORTATION IMPROVEMENT PROGRAM (2018-2021)

Fund Type	2018 Budget	2019 Budget	2020 Budget	2021 Budget
STP - State	$481	$91,049	$217,931	$0
STP - MPO	$2,829	$0	$0	$0
TAP - State	$587,522	$0	$0	$0
CMAQ - MPO	$211,411	$0	$0	$0
Local	$135,922	$4,792	$625,024	$1,340,410
Total	**$938,165**	**$95,841**	**$842,955**	**$1,340,410**

7.3 FINANCIAL PROJECTIONS THRU 2040

Table 7-3 reveals the full extent of federal and state transportation program funding projected to be available for the operation, maintenance and expansion of the existing transportation system. Such funding is documented in the MPOs 2040 Long Range Transportation Plan for Allen County. The projection is provided to reveal the extent of all available federal transportation funding over the 2022 through 2040 not the funding committed to AT modes. Table 7-3 reveals the extent of available federal and state transportation funding and the pool from which AT investments can be developed.

TABLE 7-3
FISCAL PROJECTIONS 2021-2040

Federal $	Growth Factor	State $	Total
$241,835,376	½% Compounded	$47,659,201	$289,494,577

7.4 RECOMMENDED AT IMPLEMENTATION PRIORITIZATION STRATEGY

The ATP recommends the following implementation strategy for completing the recommended ATP networks and corridors.

1. The first priority in the implementation strategy is to target gaps in areas where a high demand for walking and bicycling and transit use currently exist. In instances where pedestrian and bicycle levels and demand exceed the capacity of an existing facility and impact safety, deficient facilities should be considered gaps and prioritized. Prioritize projects that improve access to transit. Bicycle and pedestrian amenities in urban networks will work to support transit, commercial, cultural, institutional and/or recreational activities where walking and bicycle travel is attractive, comfortable and safe. Implementation of pedestrian and bicycle infrastructure should be coordinated with land use and development that provide destinations to walk and bike to.

2. A major priority of the plan includes the extension of and connection to regional networks across the county, state and nation. Bike facilities, like roadway facilities, exist within a hierarchy, where major collectors funnel traffic across regions while smaller facilities then branch off into local communities and neighborhoods. These major collectors are essential in forming the framework for a regionally significant AT network that supports ecotourism throughout the region as well as a healthy and mobile population and workforce. Locally these projects include USBR 25 and 44, the Miami-Erie Canal, the Rails to Trails on the SPEG Line and the eastern and western extensions of the existing Ottawa Riverwalk.

3. Remedy broken linkages in the AT network in order to provide continuous and safe transportation alternatives between residential neighborhoods and key destinations including work, school, church and recreational activities. This should be one of the region's highest overall transportation priorities and a key focus for transportation improvements in the region. Gaps in sidewalks or bike facilities render otherwise suitable links in the AT network as futile as they are not accessible to those using the system.

4. Developing, staffing, and funding education programs, encouragement programs and initiatives such as Bike Share and Safe Routes to School programs which are extremely important. Just as important as on-the ground projects are programs that make it easier for people to walk, ride bikes and access transit. Funding decisions should consider the importance of these types of programs and pair them with infrastructure projects. Developing supportive coalitions and increasing funding levels of walking, bicycling and transit is essential to supporting a culture of Active Transportation.

5. The next highest priority should be to focus investments on improving and upgrading all deficient facilities so that they are safe and comfortable for all ages and abilities. Until the networks are complete it is not possible to expect substantial outcomes. In sub-areas where there is a high level of completion, connectivity and supporting land uses and levels of walking and bicycling and transit use can be quite high. A helpful analogy is to consider how effective our highway or rail systems would be if they had gaps or entire missing sections.

7.5 RECOMMENDED PROJECTS

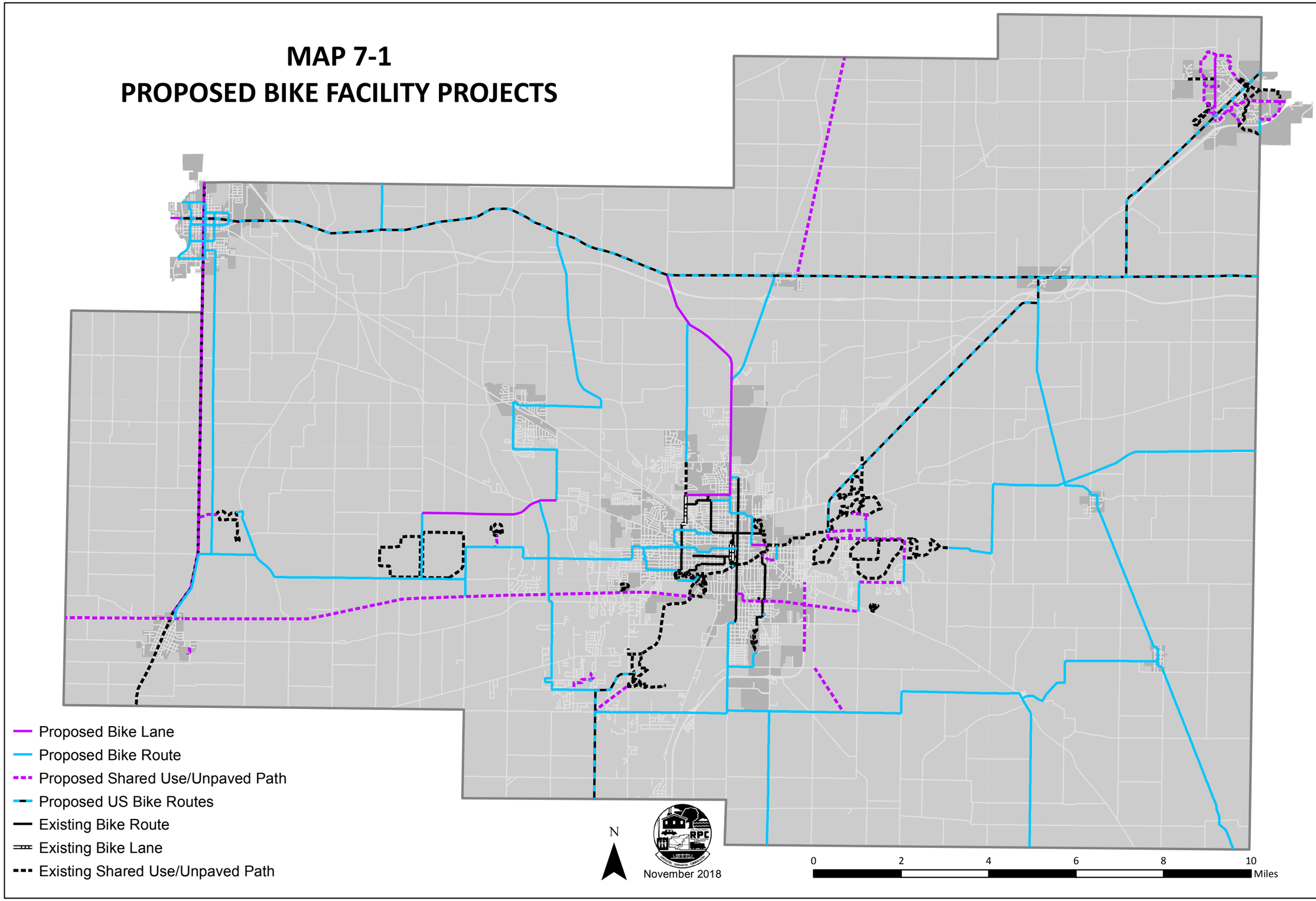
The Plan's recommended projects are presented separately as bicycle and pedestrian projects in Tables 7-4 and 7-5. Collectively, the AT project listings contain 100+ projects – some of which were broken down into manageable segments to minimize costs or to reflect the jurisdiction of different political subdivisions. The recommended projects were determined to be of considerable importance to the community and the system overall. The lists were identified based on current system deficiencies and safety concerns. Total ATP projects reflect some $39.6 million dollars and their cost are considered compliant with fiscal constraint requirements. Maps 7-7 and 7-8 document the location of the recommended projects to be realized within the 2040 planning horizon.

TABLE 7-4
MPO BIKE PROJECT COSTS

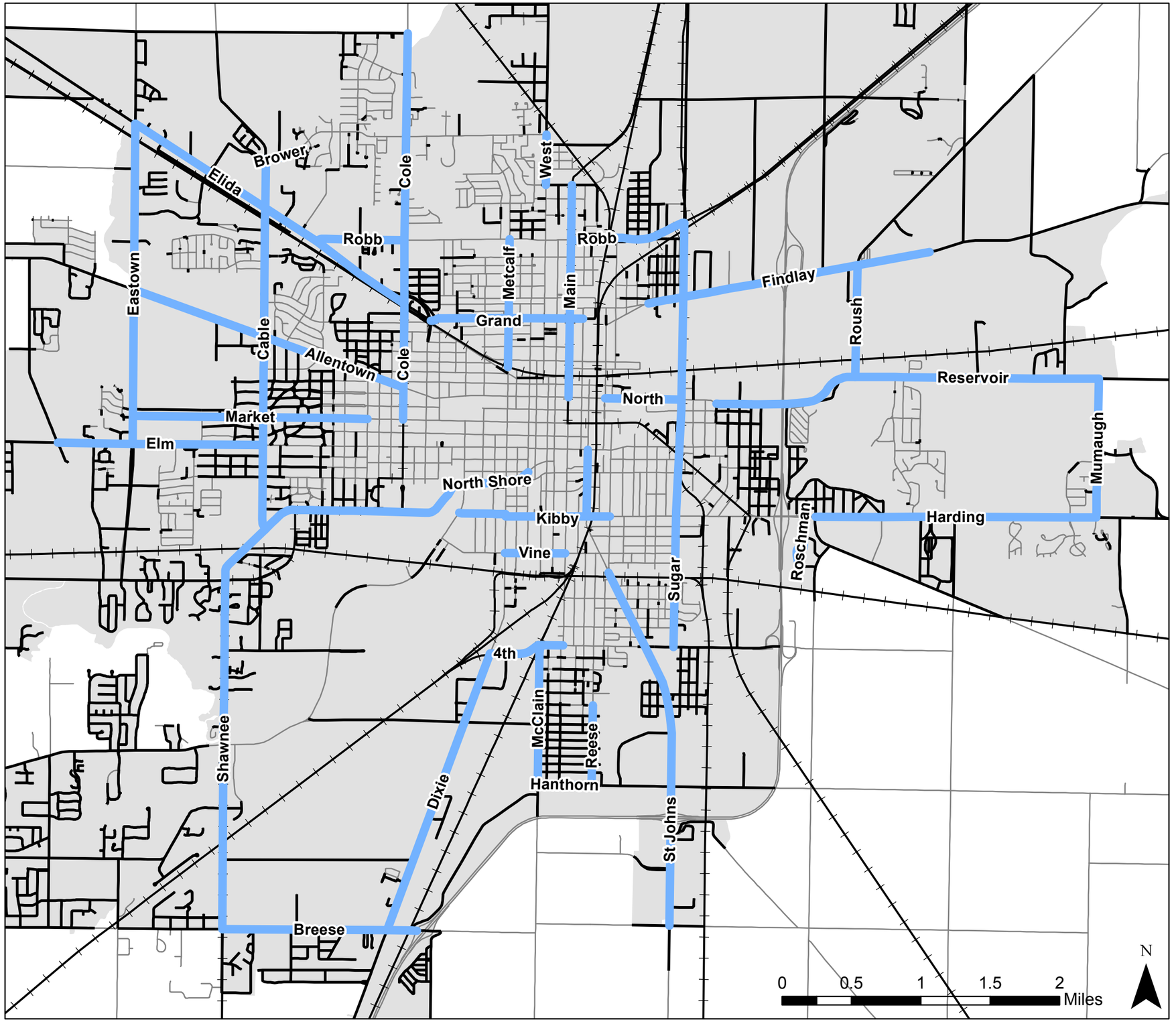
Project	Jurisdictions	Length (mile)	Budgetary Estimated Cost
Bike Routes		*$1 / linear ft*	
Redd (USBR 44 - Putnam Co)	Putnam County	1.04	$5,491
Agerter (Defiance - Kemp)	Amanda	3.37	$17,794
Defiance Trail (Agerter - Kendrick Woods)	Amanda	1.89	$9,979
Allentown (Defiance - Erie Canal)	Amanda/Spencer	1.33	$7,022
Kemp (Cotner - SPEG RR)	Amanda/Shawnee	1.11	$5,861
Cotner/Fraunfelter (Kemp - Elm)	American	1.57	$8,290
Zurmehly (Beeler - Lakeshore)	Shawnee	0.96	$5,069
Lakeshore/Wintergreen/Amanda Lake (Zurmehly - Ft Amanda)	Shawnee	0.91	$4,805
Wonderlick (Ft Amanda - SR 117)	Shawnee	1.42	$7,519
SR 117 (Wonderlick - Copus)	Shawnee	0.10	$528
Copus (SR 117 - SR 81)	Shawnee/American	2.32	$12,250
Baty/East (SR 81 - Dutch Hollow)	American	2.19	$11,563
Dutch Hollow (East - Main)	American/Elida	1.11	$5,861
Main/Sunnydale (Dutch Hollow - Eastown)	Elida/American	2.02	$10,666
Eastown (Sunnydale - Cable)	American	0.18	$956
Gomer (Eastown - USBR 44)	American/Sugar Creek	4.14	$21,859
Elm (Fraunfelter - Fernwood)	American/Lima	2.48	$13,094
Fernwood/High (Elm - Cable)	Lima	0.50	$2,629
High/Charles/Market/Baxter (Cable - Main)	Lima	2.39	$12,619
Rosedale/Oakland/Woodlawn (High - Rice)	Lima	0.48	$2,534
Rice/Charels/Richie/Baxter (Woodlawn - McKibben)	Lima	0.97	$5,122
Dale/Elm/Primrose/Lakewood (High - Rosedale)	Lima	1.31	$6,917
Spencerville (Rosedale - Ottawa River Trail)	Lima/Shawnee	0.53	$2,798
Elizabeth/Eureka/Central (Northshore - High)	Lima	0.77	$4,066
Spring/Union (Main - High)	Lima	0.29	$1,531
Pine/Pearl/Jefferson (North - Flanders)	Lima	0.67	$3,538
Flanders/Central/Murphy (Jefferson - West)	Lima	0.58	$3,062
West (Murphy - Robb)	Lima	0.43	$2,270
Ottawa (West - USBR 44)	Bath/Monroe/Cairo	2.62	$13,834
O'Connor (Baxter - West)	Lima	0.44	$2,323
Cole (Brower - SR 115)	Lima/American/Sugar Creek	3.16	$16,685
Shawnee (Elm - Ottawa Riverwalk)	Lima	0.34	$1,795
Catalpa (Milburn - Carlise)	Lima	0.08	$422
4th/McClain (Main - Breese)	Lima/Perry/Shawnee	2.15	$11,352
Hanthorn/Central Point (McClain - Trailhead)	Perry/Lima	0.97	$5,122
Breese (McClain - Schooler)	Perry	5.48	$28,934
Schooler/McPheron (Breese - SR 117)	Perry/Auglaize/Westminster	3.20	$16,896
SR 117/SR 196 (McPheron - Auglaize Co)	Westminster/Auglaize	3.58	$18,902
Faulkner/Johnston/Harrod (SR 117 - Main)	Westminster/Auglaize/Harrod	3.84	$20,275
Bowman (Rail to Trail - Harding)	Perry	0.67	$3,538
Mumaugh (Harding - OSU)	Bath	1.00	$5,280
Metzger (Termini - Reservoir)	Bath	0.41	$2,165
Mowery/Cool/SR 81 (OSU - Hardin Co)	Bath/Jackson	8.80	$46,464
Napoleon (Auglaize Co - Alger)	Auglaize	4.39	$23,179
Napoleon/6th/Main/1st (Alger - Napoleon)	Harrod	0.82	$4,330
Napoleon/High (Napoleon - Sugar)	Auglaize/Jackson/Lafayette	3.54	$18,691
High/Wood/Washington/Napoleon (Sugar - USBR 25)	Lafayette	5.27	$27,826
Hancock (Trail Head - Trail Head)	Richland/Bluffton	0.34	$1,795
Grubb Rd (Allentown - Agerter)	Amanda	1.50	$7,920
SR 66 (SR 81 - S. Delphos Corp Limit))	Amanda/Marion	6.47	$34,162
SR 65 (Auglaize Co - Breese)	Perry	3.06	$16,157
North/Canal/10th (SR 66 - Main)	Delphos	0.57	$3,010
Clime (Main - Delphos Southworth)	Delphos	0.62	$3,274
Delphos Southworth (Clime - 3rd)	Delphos	0.88	$4,646
3rd (Delphos Southworth - Ft Jennings)	Delphos	0.90	$4,752
Ft Jennings (3rd - 7th)	Delphos	0.24	$1,267
7th (Ft Jennings - Main)	Delphos	0.54	$2,851
Pierce (7th - Cleveland)	Delphos	0.65	$3,432
Cleveland (Pierce - Delphos Southworth)	Delphos	0.55	$2,904
Suthoff (Main - SR 66)	Delphos	0.24	$1,267
SR 66 (Suthoff - S. Delphos Corp Limit)	Delphos	0.48	$2,534
Main (10th - 5th)	Delphos	0.34	$1,795
Main (5th - Suthoff))	Delphos	0.72	$3,802
Main (Suthoff - Clime)	Delphos	0.20	$1,056
	Sub-Total:	**106.12**	**560,330**
US Bike Routes		*$1 / linear ft*	
USBR 25	Shawnee/Lima/Bath/Jackson/ Richland/ Beaverdam/Bluffton	15.06	$79,517
USBR 44	Delphos/Marion/Sugar Creek/Monroe/Cairo/ Richland/Beaverdam	22.84	$120,595
	Sub-Total:	**162.32**	**$200,112**
Shared Use Paths		*$113 / linear ft*	
SPEG Rail & Trail (Spencerville - Shawnee Rd) - PID 6	Shawnee	*10.38*	$6,192,140
Miami-Erie Canal Phase II (Delphos - Spencerville) - PID 25	Delphos/Marion/Spencer/Spencerville	*7.01*	$4,181,712
Lafayette Hike/Bike (Lafayette - Harding) - PID 57	Lafayette	*1.76*	$1,048,076
Ottawa River Corridor (Metro Park - OSU) - PID 65	Bath	*2.07*	$1,234,288
Ottawa River Corridor (SR 81 - Bath Schools) - PID 74	Bath	*0.21*	$122,369
Perry School Bikeway Project (Perry Schools - Perry Museum) - PID 102	Perry	*1.22*	$728,009
Bluffton Hike/Bike Phase 3 - JAMPD Connector - PID 183	Bluffton	*0.53*	$314,346
Bluffton Hike/Bike Phase 4 - Buckeye Park Connector - PID 184	Bluffton	*1.91*	$1,137,458
Miami Erie Canal (Delphos Corp. Limit) - PID 218	Delphos	*3.01*	$1,797,412
SR 103 - (RR - Citizens) - PID 106256	Bluffton	*0.46*	$275,062
SR 103 - (Citizens - I-75) - PID 106257	Bluffton	*0.38*	$228,696
SPEG Rail to Trail (Shawnee Rd - Ottawa River Trail & Spencerville to County Corp. Line)	Spencerville/Spencer/Amanda/Shawnee/Lima	4.00	$2,388,142
Kendrick Woods Feeder (Kendrick Woods - Canal Trail)	Amanda	0.43	$258,942
AEP (Shawnee - Beeler - Zurmehly)	Shawnee	1.41	$841,262
Metzger - Johnny Appleseed	Bath	0.37	$220,757
Rail to Trail (Central - Bowman)	Lima/Perry	2.66	$1,587,062
Bellefontaine/Elm (Harrison - Elm - Shawnee)	Lima	0.37	$220,757
IR 75 (Harding - Breese)	Lima/Perry	3.25	$1,939,080
Harding (Bowman - Mumaugh)	Perry/Bath	1.02	$608,573
Rail to Trail (USBR 40 - N of Allen County)	Monroe	5.07	$3,024,965
Wisher Dr - Spencerville	Spencerville	0.21	$125,893
	Sub-Total:	**47.72**	**$28,475,001**
Bike Lanes or Wide Shoulders		*$25 / Linear Ft*	
5th (Corp - Corp Limits Delphos)	Delphos	2.14	$564,960
Bentley (Trail Loop North - Trail Loop South: Bluffton)	Bluffton	1.17	$308,880
Robb (West - Cole)	Lima/American	1.00	$264,000
North (Pine - Ottawa River Trail)	Lima	0.35	$92,400
Vine/Central (Main - Rail to Trail)	Lima	0.31	$81,840
Allentown Rd (Grubb - Eastown)	Amanda/American	4.19	$1,106,160
West/SR 115 (Robb - USBR 40)	Lima/American/Sugar Creek	5.62	$1,483,680
	Sub-Total:	**14.78**	**$3,901,920**
	Bike Totals:	**330.95**	**$33,137,363**

TABLE 7-5 MPO PEDESTRIAN PROJECT COSTS			
Project	**Jurisdictions**	**Length (mile)**	**Budgetary Estimated Cost**
Sidewalks		*$33 / 5' wide linear ft*	
Grand Avenue (Union - Metcalf) - PID 7	Lima	0.54	$186,784
Cole/Robb Intersection - PID 8	Lima	-	-
Metcalf Street Reconstruction (RR - Grand) - PID 27	Lima	0.35	$122,924
Metcalf Street Reconstruction (Grand - Robb) - PID 28	Lima	0.57	$197,945
Kibby Street (Collett - Pine) - PID 30	Lima	1.10	$384,896
Cable Road (Shawnee - University) - PID 31	Lima	1.16	$403,636
St. John's Road (Breese - Pine) - PID 32	Lima	2.64	$919,195
Main Street (North - Northern) - PID 36	Lima	1.53	$533,776
Elm Street (Cable - Eastown) - PID 45	Lima	0.94	$328,275
Vine Street Reconstruction (Metcalf - Main) - PID 50	Lima	0.43	$151,332
Sugar Street (4th - Findlay) - PID 51	Lima	2.52	$879,549
Cole Street (Brower - Diller) - PID 58	Lima	0.74	$259,506
Cole Street (Robb - Brower) - PID 60	Lima	0.75	$260,354
Cole Street (Market - RR) - PID 62	Lima	0.81	$281,844
Main Street (Lafayette) - PID 63	Lafayette	0.33	$113,391
Main Street (Harrod) - PID 64	Harrod	0.57	$198,051
Elida Road/Elida Ave Intersection - PID 69	American	-	-
Elm Street (Eastown - Stevick) - PID 76	Lima	0.54	$188,324
Robb Avenue (Main - RR Overpass) - PID 80	Lima	0.27	$94,826
North Street (Jackson - Sugar) - PID 81	Lima	1.12	$391,235
Fourth Street (Metcalf - Main) - PID 82	Lima	0.53	$183,830
Grand Avenue (Metcalf - Jameson) - PID 83	Lima	0.57	$197,426
Breese Road (Shawnee - I-75) - PID 87	Shawnee	1.52	$529,612
Cole Street (Latham - Robb) - PID 94	Lima	0.60	$207,620
Spencerville Bikeway Station - PID 125	Spencerville	-	$1,489,629
Main Street (SR 66) - PID 214	Delphos	0.34	$118,569
Spencerville/North Shore (Cable - McDonel) - PID 219	Lima	2.05	$713,962
Roschman Avenue (Hotels - Sam's Club) - PID 220	Perry	0.39	$134,420
Cable Road (Elida - University) - PID 221	Lima	1.16	$404,478
Market Street (Pears - Lima Corp. Line) - PID 222	Lima	0.86	$300,558
Reservoir Road (Dewey - Roberts) - PID 224	Lima	0.25	$87,506
Market Street (Lima Corp. Line - Woodlawn) - PID 225	Lima	1.20	$416,518
Central Avenue (Kibby - Elm) - PID 226	Lima	0.48	$167,773
Shawnee Road (Ft. Amanda - Zurmehly) - PID 231	ACEO	0.43	$149,025
SR 103 (RR - Citizens) - PID 106256	Bluffton	0.46	$80,328
SR 103 (Citizens - I-75) - PID 106257	Bluffton	0.38	$66,785
SR 117/Shawnee (Cable - Breese)	Lima/Shawnee	2.69	$469,788
Breese (Shawnee - Dixie)	Shawnee	2.38	$414,050
Harding (Bellefontaine - Mumaugh)	Perry/Bath	3.00	$522,997
Mumaugh (Harding - Reservoir)	Bath	2.00	$348,619
Reservoir (Roberts - Mumaugh)	Lima/Bath	2.57	$448,206
Roush (Reservoir - SR 81)	Bath	1.61	$280,494
SR 81 (McCullough - Roush)	Bath	2.92	$509,457
Sugar (SR 81 - Robb)	Bath	1.07	$186,810
Robb (Sugar - Boyer)/(Cole - Elida)	Bath/American	1.84	$320,459
Elida (Cole - Eastown)	American	4.67	$813,721
West (Northern - Brower)	Lima/Bath	0.73	$126,931
Cable (Elida - Edgewood)	Lima/American	0.35	$61,710
Eastown (Elida - Elm)	American	4.62	$804,349
Allentown (Cole - Eastown)	Lima/American	3.25	$565,996
Market (Pears - Eastown)	Lima/American	2.72	$473,671
	Ped Totals:	**64.54**	**$17,491,140**

MAP 7-1
PROPOSED BIKE FACILITY PROJECTS



MAP 7-2
PROPOSED PEDESTRIAN FACILITY PROJECTS



Sidewalk Projects

Missing Sidewalks

Railroad

Lima Urbanized Area

Novermber 2018

APPENDIX A
ATP Goals, Strategic Objectives & Performance Measures

APPENDIX A
ATP GOALS, STRATEGIC OBJECTIVES & PERFORMANCE MEASURES

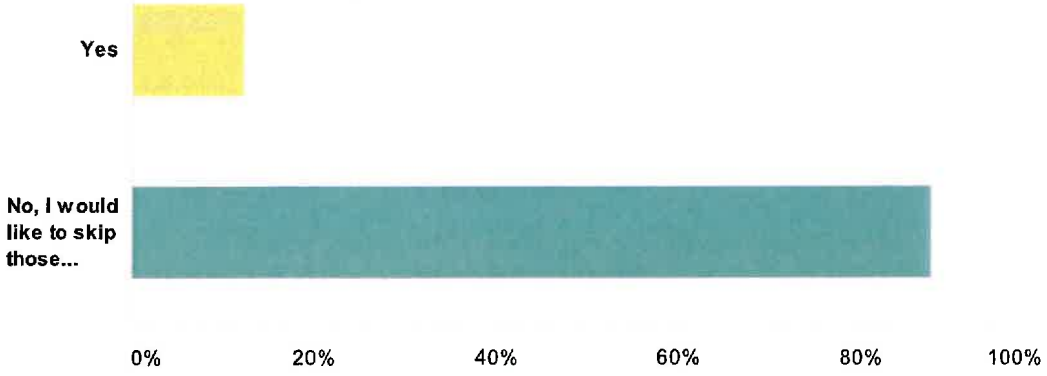
GOAL	STRATEGY	PERFORMANCE MEASURES	TRACKING SCHEDULE	COORDINATING AGENCY(IES)
SAFETY: Reduce the number and severity of crashes involving pedestrians and bicyclists.	Investigate intersections or corridors with high concentrations of crashes involving AT modes and recommend warranted and appropriate safety countermeasures.	Crash Frequency per 100,000 residents	Annually	ODPS, ODOT, RPC, LOCAL JURISDICTIONS
		Crash Severity	Annually	ODPS
	Encourage Law Enforcement to participate in educational opportunities that cover local AT mode laws and enforcement strategies.	Provide at least one opportunity every 2 years for local law enforcement to update and refresh knowledge of AT laws.	Bi-Annually	LOCAL JURISDICTIONS, ACPH, ACTIVATE ALLEN COUNTY
	Initiate and support public campaigns to increase awareness and obedience of traffic laws concerning AT modes.	Quarterly media (local news, newsletters, social media, etc.) releases promoting AT safety.	Quarterly	MOVESAFE, RPC, ACPH, LOCAL JURISDICTIONS, ACTIVATE ALLEN COUNTY
	Install dedicated AT facilities along major corridors and areas with large volumes of traffic or high speeds to ensure safe access to services by all road-users.	Percentage of Higher Order roadways with bike and pedestrian facilities	Annually	RPC, ODOT, LOCAL JURISDICTIONS
SOCIAL EQUITY: Create a more accessible community for all through development of interconnected pedestrian and bicycle facilities.	Upgrade all roadway components to be ADA compliant in order to allow equal access to AT facilities for children, elderly and disabled populations.	Adoption of ADA Transition Plan and # of compliance projects completed	Annually	LOCAL JURISDICTIONS, ACPH, ACTIVATE ALLEN COUNTY
	Increase connectivity of AT facilities to improve access to job opportunities, medical care and local commercial services by those living in households with low motor-vehicle ownership.	Percentage of population within ¼ mile of Fixed Route transit	Annually	RTA, RPC
		Percentage of parks available to transit dependent population	Annually	RTA, RPC, ACPH, ACTIVATE ALLEN COUNTY
		Percentage of low-income population living in urban areas not within walkable distance OR Fixed Route service to full service grocery store	Annually	RTA, RPC, ACPH, ACTIVATE ALLEN COUNTY
		Adopted Complete Street policies	Annually	ODOT, RPC, ACPH, ACTIVATE ALLEN COUNTY
	Improve AT facilities, including those associated with transit, adjacent to all school buildings in in order to provide the opportunity for students and other community members to walk, bike or bus to school and other community events	Percentage of low-income population living in urban areas not within walkable distance OR Fixed Route service to area schools	Annually	RTA, RPC, ACPH, ACTIVATE ALLEN COUNTY
	Increase proportion of MPO transportation funding allocated to improving AT (Pedestrian, Bicycle and Transit) facilities 3 percent per annum over the 2010 expenditure.	Percentage of federal funds for bicycle and pedestrian efforts	Annually	RPC, LOCAL JURISDICTIONS, ACPH, ACTIVATE ALLEN COUNTY
ECONOMIC: Increase access to employment as well as spending at local businesses through AT networks and tourism.	Complete AT corridors that connect residential neighborhoods to employment opportunities in order to establish a healthier local workforce.	Percentage of low-income population living in urban areas not within walkable distance OR Fixed Route service to major employment centers	Annually	RTA, RPC
		Bike/Ped trips for work purposes	Annually	RPC, RTA, ODOT, ACPH, ACTIVATE ALLEN COUNTY
		Transit trips for work purposes	Annually	RPC, RTA, ACPH, ACTIVATE ALLEN COUNTY
	Establish comprehensive AT networks in urban areas to promote spending at local businesses.	Percentage of roadways within urban areas with bike and pedestrian facilities	Annually	RPC, ACPH, ACTIVATE ALLEN COUNTY
	Establish distinct and clear wayfinding signage that directs local and regional AT traffic to local establishments.	Percent of AT facilities more than 1 mile (Non-Urban) or .5 mile (Urban) away from wayfinding signage	Annually	RPC
	Grow the local network of off-road trails in order to promote local recreational and agro-tourism.	Miles of off-road bike/ped improvements	Annually	LOCAL JURISDICTIONS, JA METRO PARK DISTRICT, ACPH, ACTIVATE ALLEN COUNTY

APPENDIX A ATP GOALS, STRATEGIC OBJECTIVES & PERFORMANCE MEASURES				
GOAL	**STRATEGY**	**PERFORMANCE MEASURES**	**TRACKING SCHEDULE**	**COORDINATING AGENCY(IES)**
ENVIRONMENT: Provide alternatives to motor vehicle travel, reduce automobile emitted pollutants from our air and water, and reduce stormwater runoff from the overall transportation system.	Encourage and support AT mode shift in order to decrease the number or daily motor-vehicle miles driven.	Total vehicles miles travelled	Annually	ODOT, RTA, RPC, ACPH, ACTIVATE ALLEN COUNTY
		Vehicle miles traveled per capita	Annually	ODOT, RTA, RPC, ACPH, ACTIVATE ALLEN COUNTY
		Miles of bike/ped improvements	Annually	ODOT, LOCAL JURISDICTIONS, RPC, ACPH, ACTIVATE ALLEN COUNTY
		Community Walkability and bike-ability	Annually	PRIVATE VENDOR, LOCAL JURISDICTIONS, RPC, ACPH, ACTIVATE ALLEN COUNTY
	Increase convenience of transit system (larger range/more frequent trips) to encourage use.	Daily miles of Fixed Route Transit System	Annually	RTA, RPC, ACPH, ACTIVATE ALLEN COUNTY
	Support establishment of transit and shared mobility modes (i.e. Bikeshare, Carshare, Rideshare, etc.)	Annual membership and trips made on shared mobility systems	Annually	PRIVATE VENDOR, RTA, RPC, ACPH, ACTIVATE ALLEN COUNTY, LOCAL JURISDICTIONS
	Transform unused or under-used parking lots in urban centers into parks or stormwater retention areas with available bike parking, in order to draw AT user downtown as well as decrease impervious surface coverage.	Percentage of green stormwater investment of total stormwater investment in dollars	Annually	LOCAL JURISDICTIONS
		Percentage of tree canopy coverage	Annually	RPC
HEALTH: Improve overall well-being of Allen County residents and minimize health care costs by promoting an active lifestyle that will serve to improve resident's physical health.	Promote adoption of Safe Routes to School Travel Plan in all Allen County school districts.	Number of School Districts with adopted Safe Route to School Plans	Annually	ODOT, LOCAL SCHOOL DISTRICTS, RPC, ACPH, ACTIVATE ALLEN COUNTY, LOCAL JURISDICTIONS
	Prioritize AT networks and corridors that connect residents to medical care facilities, grocery stores, schools, parks and transit facilities.	Percentage of low-income population living in urban areas not within walkable distance OR Fixed Route service to area hospitals or emergency medical facilities	Annually	RTA, RPC, ACPH, ACTIVATE ALLEN COUNTY
		Percentage of low-income population living in urban areas not within walkable distance OR Fixed Route service to full service grocery store	Annually	RTA, RPC, ACPH, ACTIVATE ALLEN COUNTY
	AT options as part of workplace wellness strategies.	Number of Allen County businesses with workplace wellness strategies that promote AT	Annually	RPC, ACPH, ACTIVATE ALLEN COUNTY
	Develop a comprehensive AT network throughout the county to encourage physical activity through both recreational and utilitarian AT trips.	Mileage of bike and pedestrian facilities in Allen County	Annually	RPC, ACPH, ACTIVATE ALLEN COUNTY

APPENDIX B
Online Community Survey Results

Q1 Would you like to provide feedback specific to Bluffton?

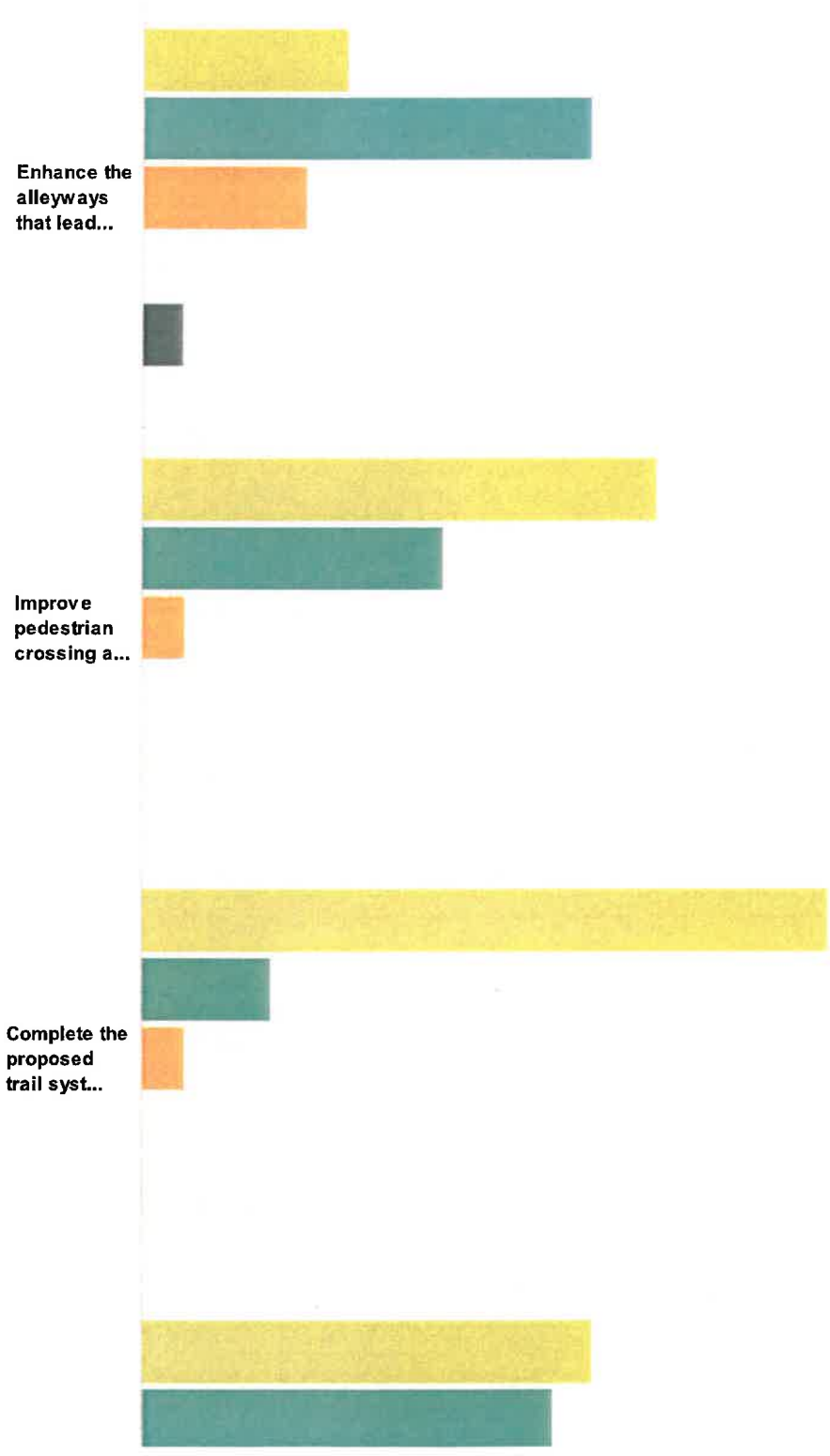
Answered: 197 Skipped: 3



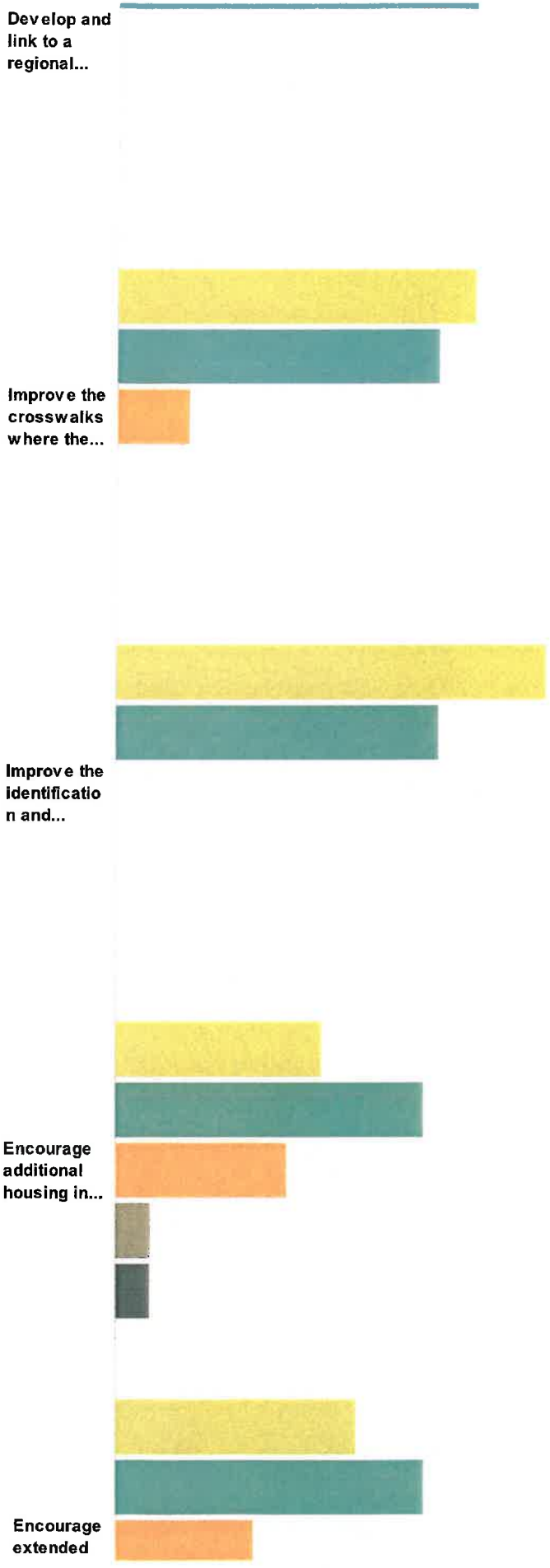
Answer Choices	Responses	
Yes	**12.18%**	24
No, I would like to skip those questions	**87.82%**	173
Total		**197**

Q2 Preliminary discussions identified some potential improvements that will encourage active transportation in Bluffton. Please indicate how important you feel these are.

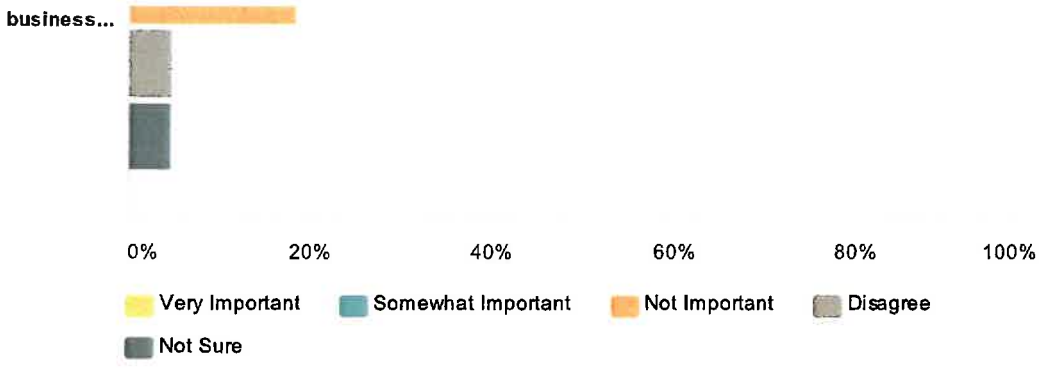
Answered: 22 Skipped: 178



Activate Allen County - Active Transportation Plan Survey



Activate Allen County - Active Transportation Plan Survey



	Very Important	Somewhat Important	Not Important	Disagree	Not Sure	Total
Enhance the alleyways that lead from parking lots to Main Street	**23.81%** 5	**52.38%** 11	**19.05%** 4	**0%** 0	**4.76%** 1	21
Improve pedestrian crossing at College Avenue and Main Street	**60%** 12	**35%** 7	**5%** 1	**0%** 0	**0%** 0	20
Complete the proposed trail system around town	**80%** 16	**15%** 3	**5%** 1	**0%** 0	**0%** 0	20
Develop and link to a regional trail systems to encourage tourism	**52.38%** 11	**47.62%** 10	**0%** 0	**0%** 0	**0%** 0	21
Improve the crosswalks where the existing trail intersects a road	**47.62%** 10	**42.86%** 9	**9.52%** 2	**0%** 0	**0%** 0	21
Improve the identification and wayfinding signage for the existing trail system	**57.14%** 12	**42.86%** 9	**0%** 0	**0%** 0	**0%** 0	21
Encourage additional housing in the downtown over stores and offices	**27.27%** 6	**40.91%** 9	**22.73%** 5	**4.55%** 1	**4.55%** 1	22
Encourage extended business hours	**31.82%** 7	**40.91%** 9	**18.18%** 4	**4.55%** 1	**4.55%** 1	22

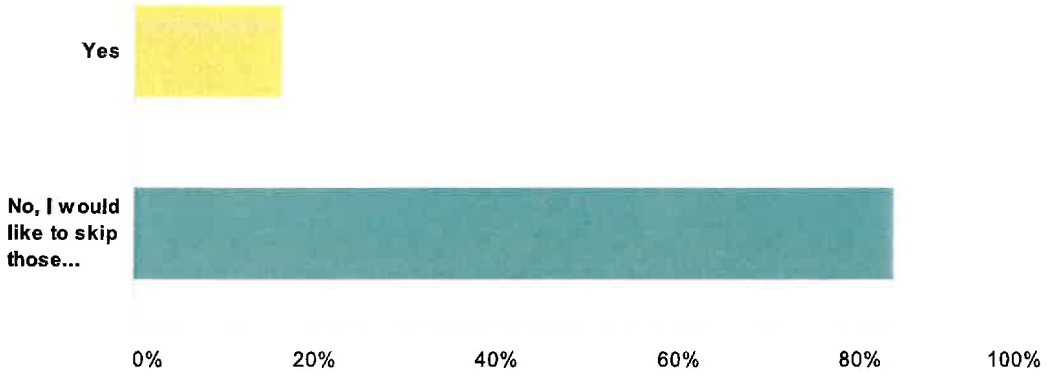
Q3 Please describe any other issues in Bluffton that you feel this project should focus on.

Answered: 3 Skipped: 197

#	Responses	Date
1	One of the main problems for Bluffton is far too much street parking, especially on Main Street. This is extremely dangerous for anyone riding a bicycle on the main road in the town. It also makes street crossing more difficult for pedestrians because you have to almost be in the road just to see if anything is coming, not to mention it makes close calls for motorists pulling out of parked spots.	12/31/2013 12:07 AM
2	Parking for businesses or bike racks	12/5/2013 2:25 PM
3	Using underused and undeveloped alleys as bike routes/paths.	11/26/2013 5:18 PM

Q4 Would you like to provide feedback specific to Delphos?

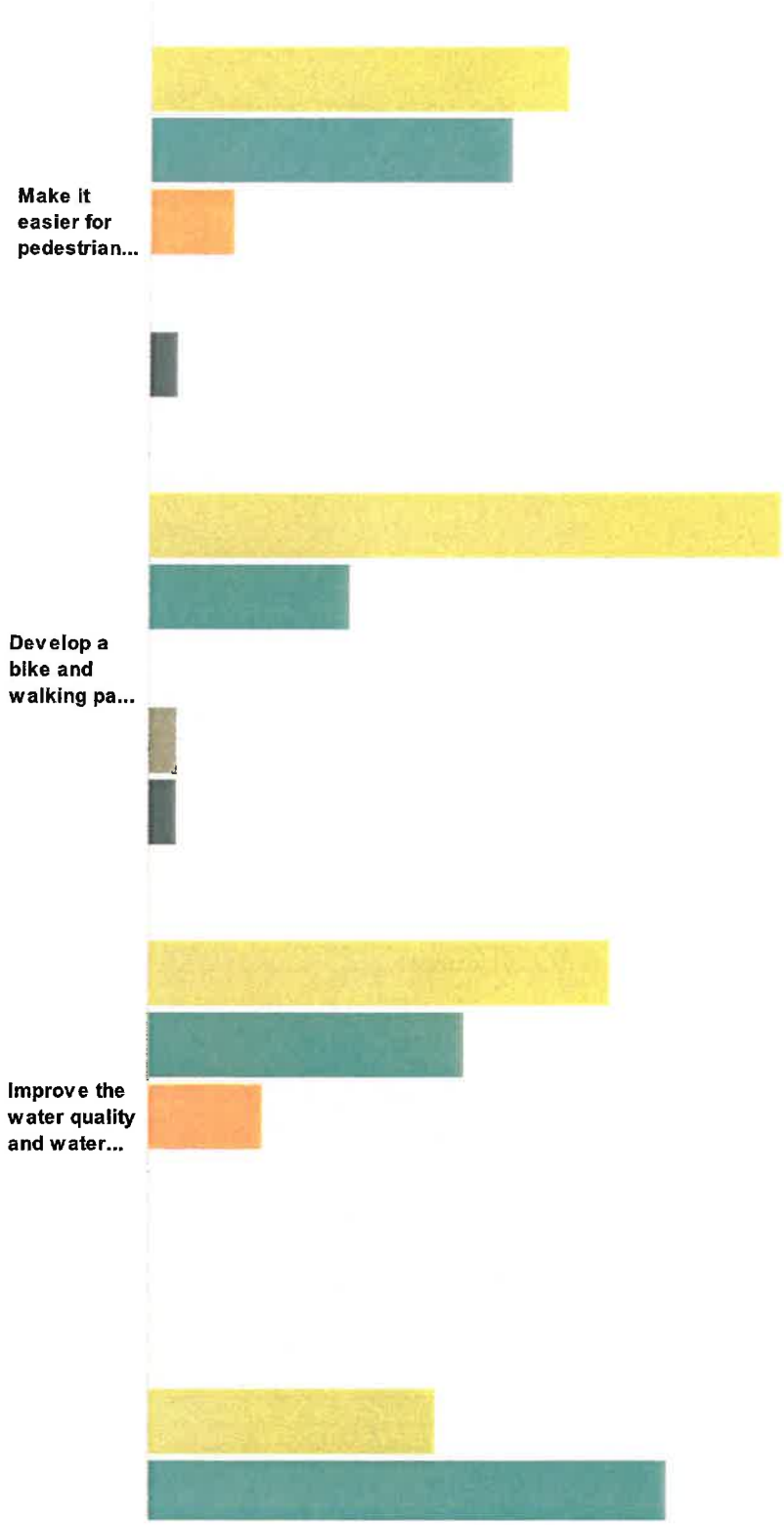
Answered: 196 Skipped: 4



Answer Choices	Responses	
Yes	**16.33%**	32
No, I would like to skip those questions	**83.67%**	164
Total		**196**

Q5 Preliminary discussions identified some potential improvements that will encourage active transportation in Delphos. Please indicate how important you feel these are.

Answered: 32 Skipped: 168



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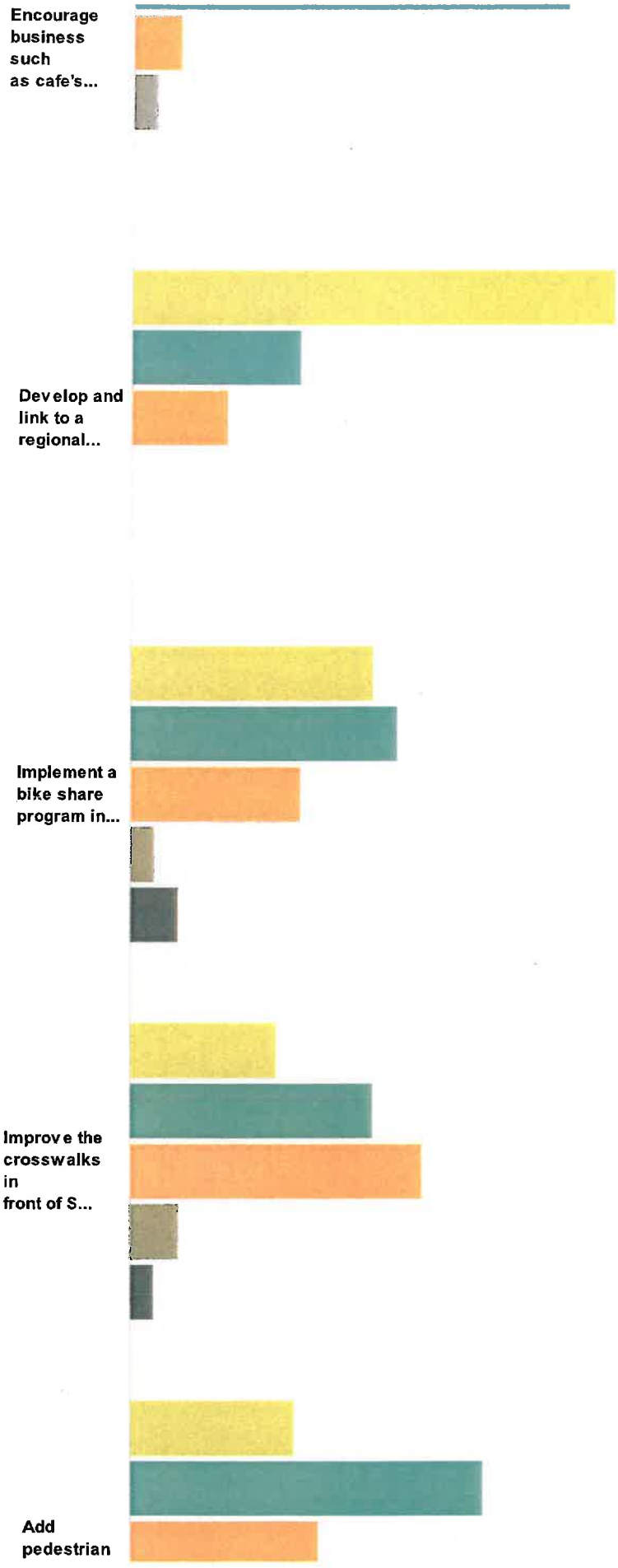
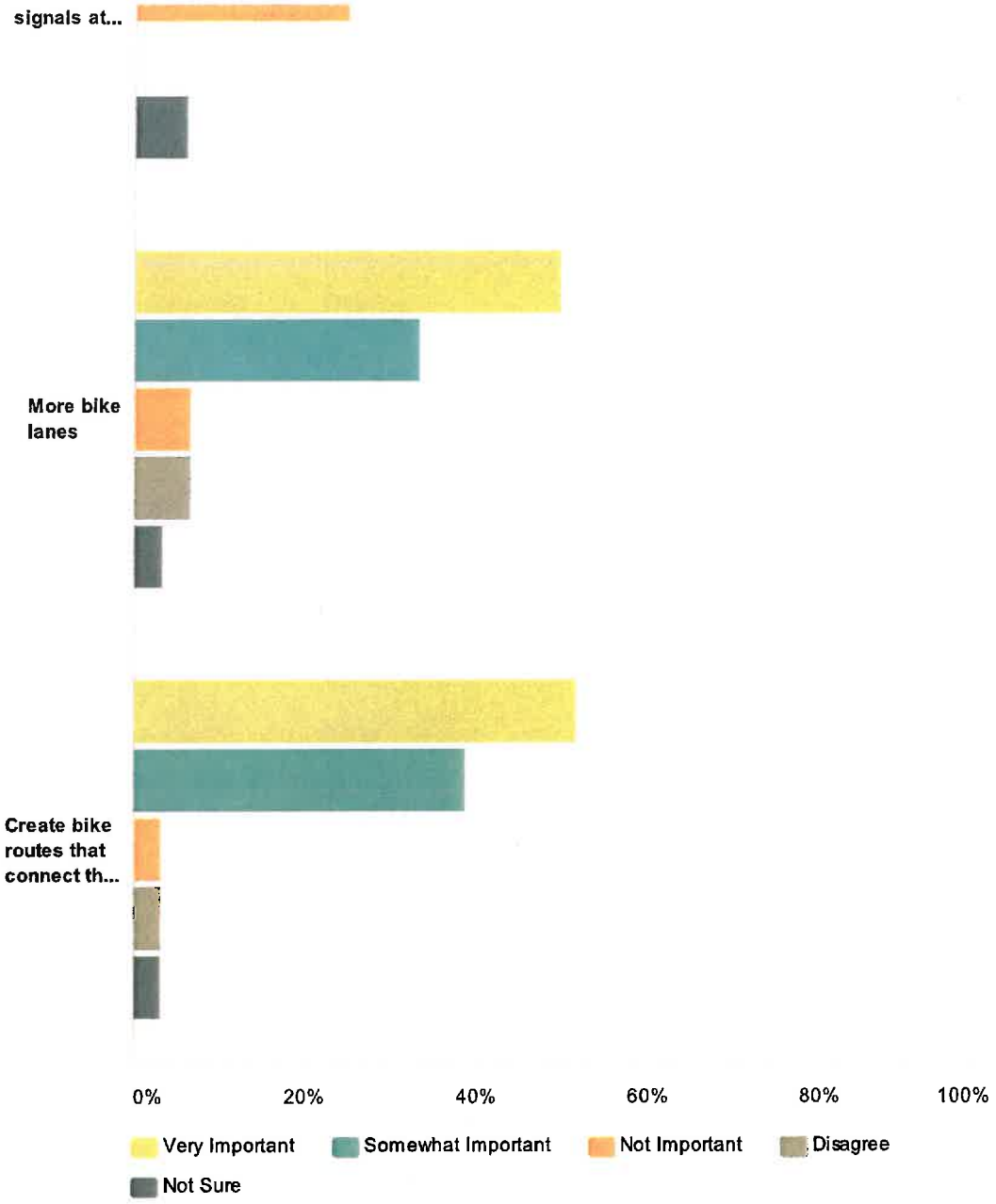




	Very Important	Somewhat Important	Not Important	Disagree	Not Sure	Total
Make it easier for pedestrians to cross Lincoln Highway	**46.88%** 15	**40.63%** 13	**9.38%** 3	**0%** 0	**3.13%** 1	32
Develop a bike and walking path along the canal in town	**70.97%** 22	**22.58%** 7	**0%** 0	**3.23%** 1	**3.23%** 1	31
Improve the water quality and water flow of the canal	**51.61%** 16	**35.48%** 11	**12.90%** 4	**0%** 0	**0%** 0	31
Encourage business such as cafe's fronting the canal	**32.26%** 10	**58.06%** 18	**6.45%** 2	**3.23%** 1	**0%** 0	31
Develop and link to a regional trail system to encourage tourism	**64.52%** 20	**22.58%** 7	**12.90%** 4	**0%** 0	**0%** 0	31
Implement a bike share program in town for visitors and rural residents	**32.26%** 10	**35.48%** 11	**22.58%** 7	**3.23%** 1	**6.45%** 2	31

Improve the crosswalks in front of St. John's High School	**19.35%** 6	**32.26%** 10	**38.71%** 12	**6.45%** 2	**3.23%** 1	31
Add pedestrian signals at signalized intersections	**21.88%** 7	**46.88%** 15	**25%** 8	**0%** 0	**6.25%** 2	32
More bike lanes	**50%** 15	**33.33%** 10	**6.67%** 2	**6.67%** 2	**3.33%** 1	30
Create bike routes that connect the downtown to City parks	**51.61%** 16	**38.71%** 12	**3.23%** 1	**3.23%** 1	**3.23%** 1	31

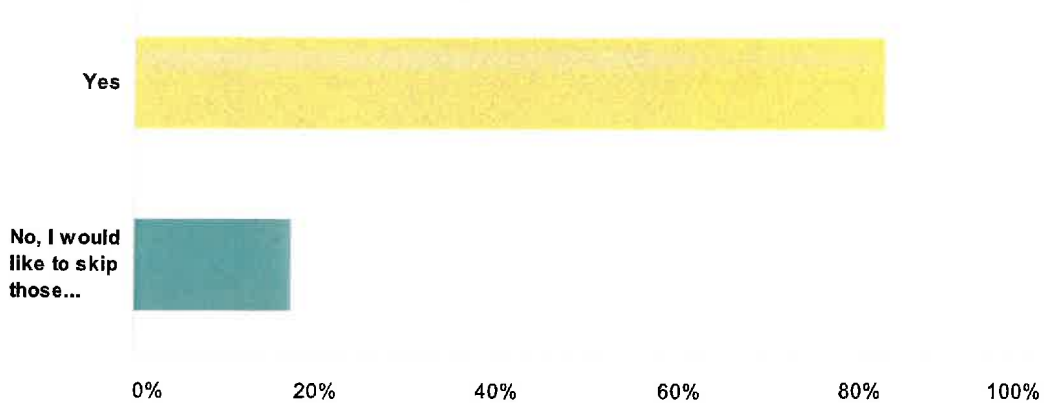
Q6 Please describe any other issues in Delphos that you feel this project should focus on.

Answered: 2 Skipped: 198

#	Responses	Date
1	identify (survey) the actual State of Ohio property boundaries, so people are fully aware of where they can use without restriction and where they may have to ask for permission from the locals.	1/2/2014 5:43 PM
2	Crosswalks at the intersection of fifth street and state street for students walking to Jefferson High School. Sidewalk along the front of the City Pool along the street for people walking to and from football games.	11/18/2013 1:49 PM

Q7 Would you like to provide feedback specific to Lima?

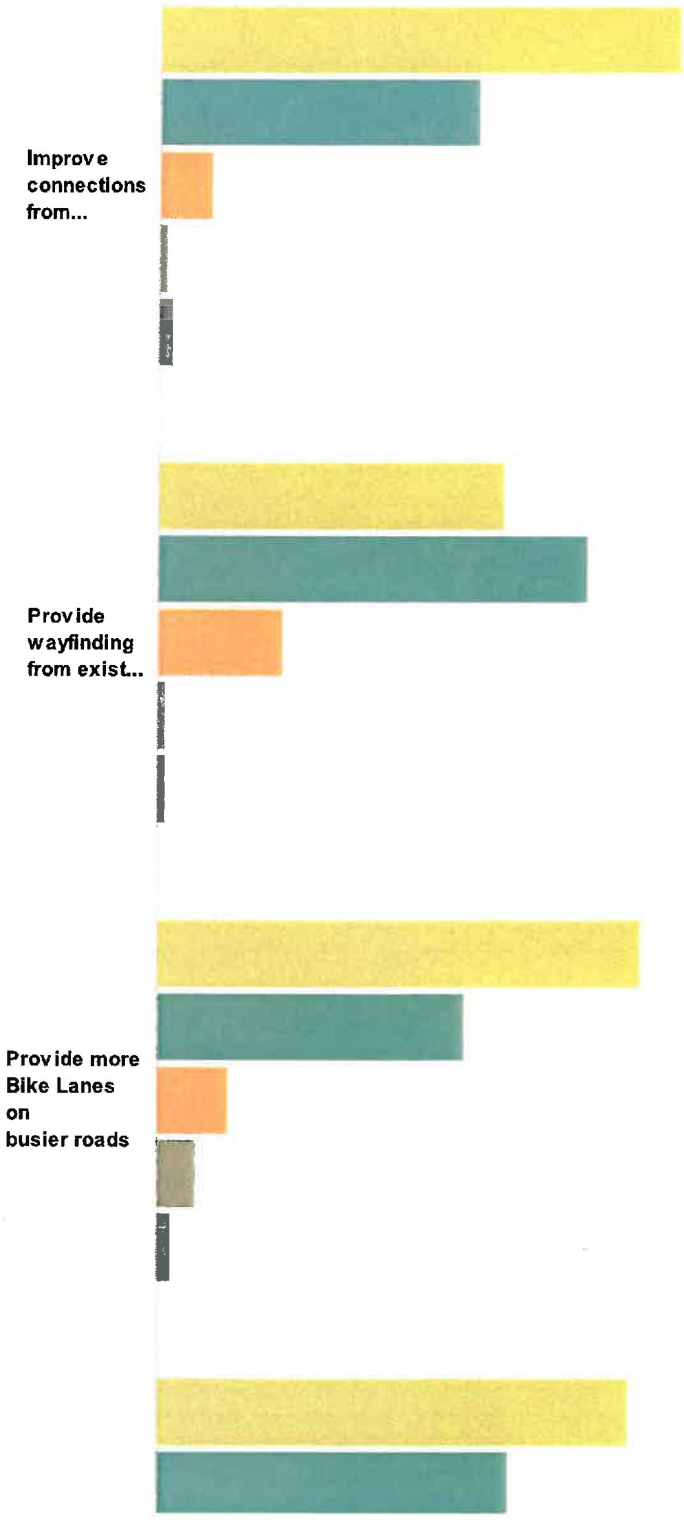
Answered: 197 Skipped: 3



Answer Choices	Responses	
Yes	**82.74%**	163
No, I would like to skip those questions	**17.26%**	34
Total		**197**

Q8 Preliminary discussions identified some potential improvements that will encourage active transportation in Lima. Please indicate how important you feel these are.

Answered: 141 Skipped: 59



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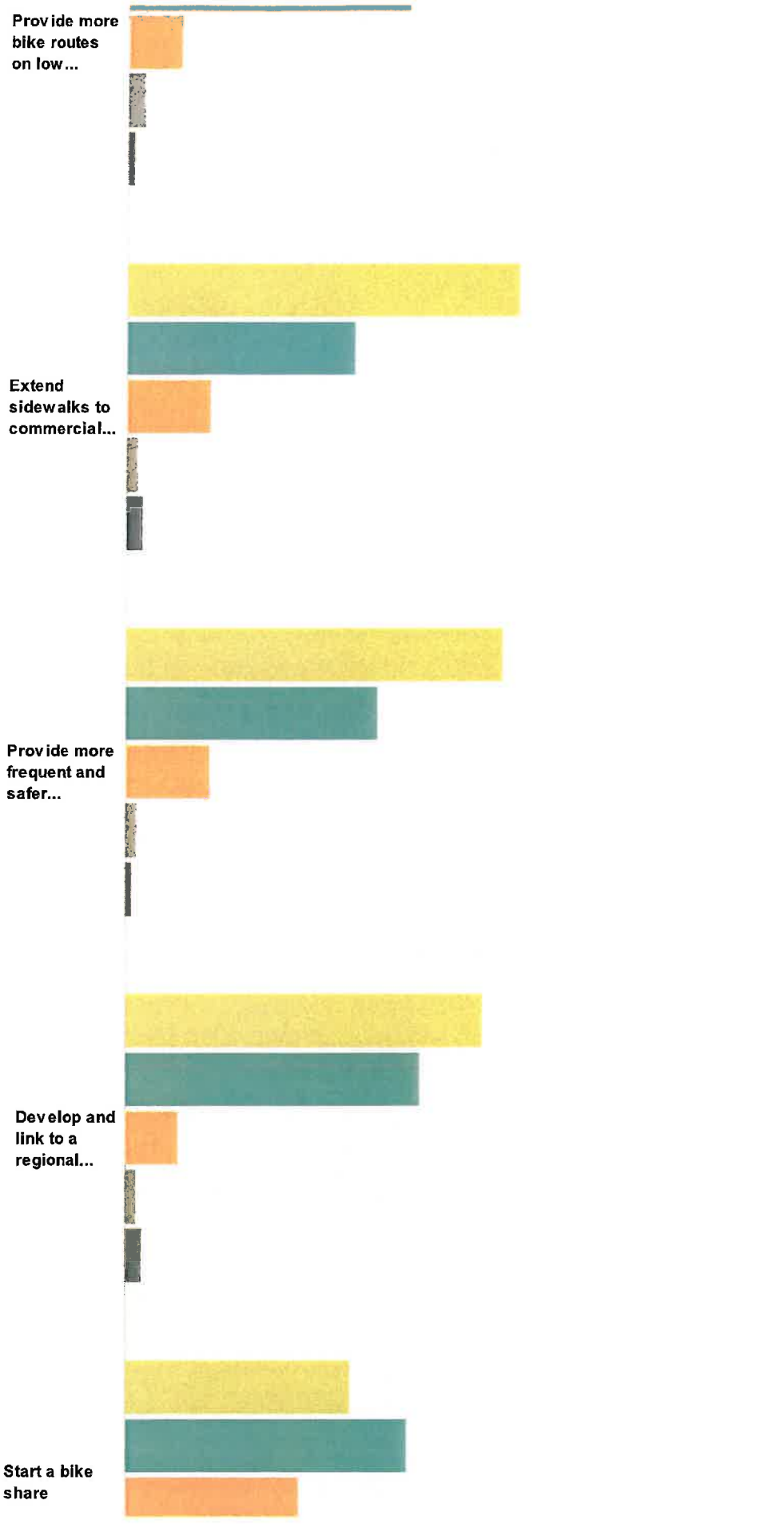
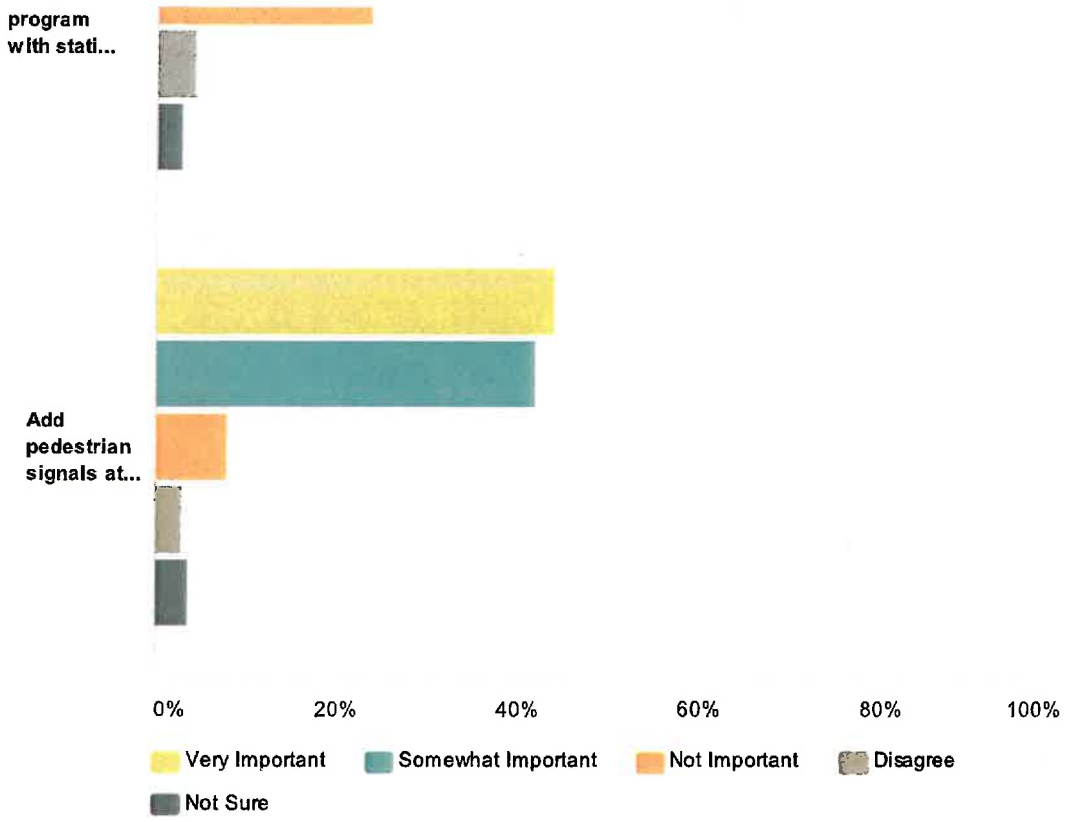




	Very Important	Somewhat Important	Not Important	Disagree	Not Sure	Total
Improve connections from neighborhoods to existing trails	**57.14%** 80	**35%** 49	**5.71%** 8	**0.71%** 1	**1.43%** 2	140
Provide wayfinding from existing trails to local businesses	**37.86%** 53	**47.14%** 66	**13.57%** 19	**0.71%** 1	**0.71%** 1	140
Provide more Bike Lanes on busier roads	**52.86%** 74	**33.57%** 47	**7.86%** 11	**4.29%** 6	**1.43%** 2	140
Provide more bike routes on low speed/low traffic roads	**51.45%** 71	**38.41%** 53	**7.25%** 10	**2.17%** 3	**0.72%** 1	138
Extend sidewalks to commercial & service centers just outside of Lima	**53.90%** 76	**31.21%** 44	**11.35%** 16	**1.42%** 2	**2.13%** 3	141
Provide more frequent and safer pedestrian crosswalks on busy streets	**51.80%** 72	**34.53%** 48	**11.51%** 16	**1.44%** 2	**0.72%** 1	139
Develop and link to a regional trail system to encourage tourism	**48.92%** 68	**40.29%** 56	**7.19%** 10	**1.44%** 2	**2.16%** 3	139
Start a bike share program with stations at key locations around town	**30.71%** 43	**38.57%** 54	**23.57%** 33	**4.29%** 6	**2.86%** 4	140
Add pedestrian signals at signalized intersections	**43.97%** 62	**41.84%** 59	**7.80%** 11	**2.84%** 4	**3.55%** 5	141

Q9 Please describe any other issues in Lima that you feel this project should focus on.

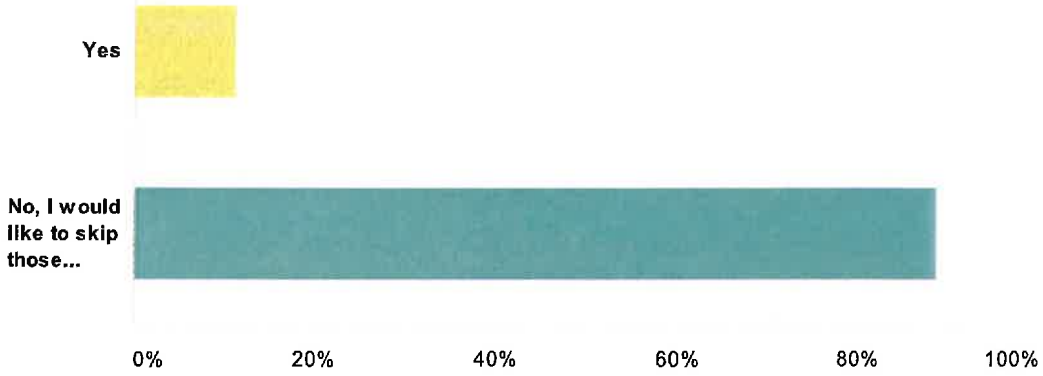
Answered: 33 Skipped: 167

#	Responses	Date
1	bicycle lanes on roads	12/31/2013 1:18 PM
2	The biggest problem for pedestrians and bicyclists in Lima is the total lack of respect from some of the motorists there. There should be more money spent on enforcing and educating about existing laws than bike lanes and such. A bike lane is absolutely worthless if the motorists do not give cyclists the absolute right of way in them. We already have a "bicycle" road with arrows and bikes painted on it, but it does nothing for cyclists. Until educational material (commercials, advertisement, etc) is promoted in our area to all of the citizens about sharing the roads and enforced even with tickets, I do not see much of anything improving cycling ease or safety in the Lima area. Infrastructure is not going to change culture.	12/31/2013 12:17 AM
3	Post Signage to raise awareness of Cyclists on the road.	12/27/2013 7:18 PM
4	My husband is leagally blind and we live just off Cable on Elm St he has a scooter he rides on the street because there is no sidewalks to ride on. Could you put that in to have side walks added we have allot of people walking in the summer going to Sharon Dairy Queen. My husband would be able to get exercise if we had a side walk he would not be afraid to walk on he is over weight and need a place to exercise. Thank You a concerned wife Barbara Bender	12/23/2013 9:07 AM
5	Animals walking freely & unattended throughout town. If you're not a pet person, this is scary.	12/22/2013 8:22 PM
6	Force houses that have never had sidewalks inside the city limits, to have them...hard to walk down just one block that goes 3 houses with walks and then go out on the street and then back onto a short distance of walks again, etc. Also, sidewalks are replaced for trip hazards, but they should also be replaced when they are ALWAYS covered with mud or water. Lenghthen the WALK signal time at intersections–example: at Cable and Latham–I was a pedestrian that was hit by a car at this intersection 2003–asked to have the time lenghthend and was told that it wasn't possible because it would cause a traffic problem at the other lights on Cable....and look at how there are no sidewalks on the west side of Cable from Elida Rd. to Allentown–hard to walk from the mall or UNO. Would like to see more street lights in neighborhooods.	12/22/2013 7:08 PM
7	I've tried clicking the boxes and it won't work so here are my responses. 1. somewhat 2. somewhat 3. not sure 4. somewhat 5. somewhat 6. very 7. very 8. somewhat 9. very	12/12/2013 9:16 AM
8	The east and south sides of Lima and adjoining communites are frequently left out of these types of development. Perry Township is growing and has ready made roadbed & paths from the old Interurban railway, not to mentions adbanoned commercial rail lines. Rather than adding more to already congested and busy roads try using some of these alternate routes in the plans. Please keep costs low on these projects, the county is quick to tax us working people to pay the county employees for questionable projects.	12/10/2013 8:35 PM
9	Encourage businesses to get involved - how they can promoteand encourage walking/biking between businesses/commercial areas and local attractions. Also how they can cater to pedestrian traffic, e.g. store front signage that is easy for pedestrians to read vs. motorized vehicles.	12/8/2013 8:36 PM
10	improving the connectivity to country roads. i.e. currently there are few if any safe routes to access country roads from inside the city so that country roads can be used for recreation.	12/6/2013 4:41 PM
11	AFTER DARK, REQUIRE REFLECTIVE STRIPES OR SOMETHING TO MAKE THE BIKE RIDERS MORE VISIBLE -	12/6/2013 2:48 PM
12	Drivers disregarded for pedestrians and cyclist. Better education for drivers concerning traffic laws as they apply to pedestrians and cyclists.	12/4/2013 10:31 PM
13	The street lights hold way to long! Bike routes should not be on busy streets.	12/4/2013 6:26 PM

14	One issue I am aware of that prevents more people from walking/biking more in the city is safety. Frankly we have some bad neighborhoods in Lima and people just don't feel safe walking or biking through those neighborhoods.	12/4/2013 1:12 PM
15	Sidewalks on the south side of Lima	12/4/2013 7:15 AM
16	Connecting Lima Parks and neighborhoods thru bike/walk trails with easy to read signage and map stations.	12/3/2013 1:38 PM
17	too many bike and ped crashes...	12/3/2013 1:16 PM
18	Please add curbs to existing busier roads, such as North St, West St, Kibby. It looks junky and run down without. Consider expanding paved berms on roads just outside Lima, because there is no room for cyclists to safely ride.	12/3/2013 10:36 AM
19	The current bike path is good for east-west traffice, but we need a good north-south path that connects with the east-west path.	12/3/2013 8:27 AM
20	Crosswalks, sidewalks and marked bike routes/lanes are soooooo needed in our town	12/3/2013 8:27 AM
21	SAFETY on the current bike path. The section between schoonover & senior h.s. has hidden areas. Planners should ask, would I want my wife or daughter on the path ? Just too many areas that are unsafe overall. My guess is that's re men than women use the bike path. SIGNAGE. The path that runs into North st. has no signage to take you to the bridge & direct you where you get back on.	12/2/2013 6:45 PM
22	Connections between RTA and bike routes Connections between all schools and bike routes	12/2/2013 6:00 PM
23	slowing traffic on major Lima streets–example: West Market St between Town Square and Woodlawn Ave. where cars consistently drive much faster than speed limit	12/2/2013 5:53 PM
24	Are there bike racks on all of the RTA Buses now?	12/2/2013 1:18 PM
25	Walking Bus for all schools kids in Lima area	12/2/2013 11:39 AM
26	Lima is doing a good job of catering to bikers. A bike share program may not take off here because the majority of the locals most likely have access to a bike if they want to ride one. If a program was implemented, I'd concentrate locating the bikes at the local hotels where visitors are most likely staying. A way to get more tourism - cater to the east side hotels. Give visitors/guests to the area a place to run! Wyndham is probably the only hotel which is in close proximity to a trail network. The eastern hotels are on an island, not allowing runners/bikers a safe place to work out. The Fairfield Inn (N Cable) is landlocked by busy roads and NO WALKS!	12/2/2013 10:25 AM
27	Railroad tracks are a big problem in Lima. Poor maintenance impedes at, bike & walking transportation. WD vivited Terra Haut IN recently...RR Tracks were ALL in great shape.Find out how they do it!	11/28/2013 3:13 AM
28	Is there any consideration being given to educating the public about safe and proper use of the sidewalks and bikepaths and street crossings? What are the rules of law that apply?	11/27/2013 12:29 PM
29	Road diets shoudl be implemented where possible.	11/26/2013 5:20 PM
30	There needs to be a designated bike route that connects the central city area with the mall and other businesses out that direction. I currently don't feel comfortable biking on busier streets and would bike to work instead of driving if there was a bike lane or even some sort of shared marking to remind people to look for and share the space with cyclist.	11/25/2013 2:23 PM
31	An easier way for bike riders to get from all parts of Lima area to Apollo Career Center	11/25/2013 4:00 AM
32	safer looking streets, I would walk tot eh YMCA from my house - but I don't always feel safe -	11/19/2013 2:26 PM
33	Connect with the existing sidewalks and infrastructure in downtown Lima - will also help spur on economic development in downtown Lima	11/18/2013 7:10 PM

Q10 Would you like to provide feedback specific to Spencerville?

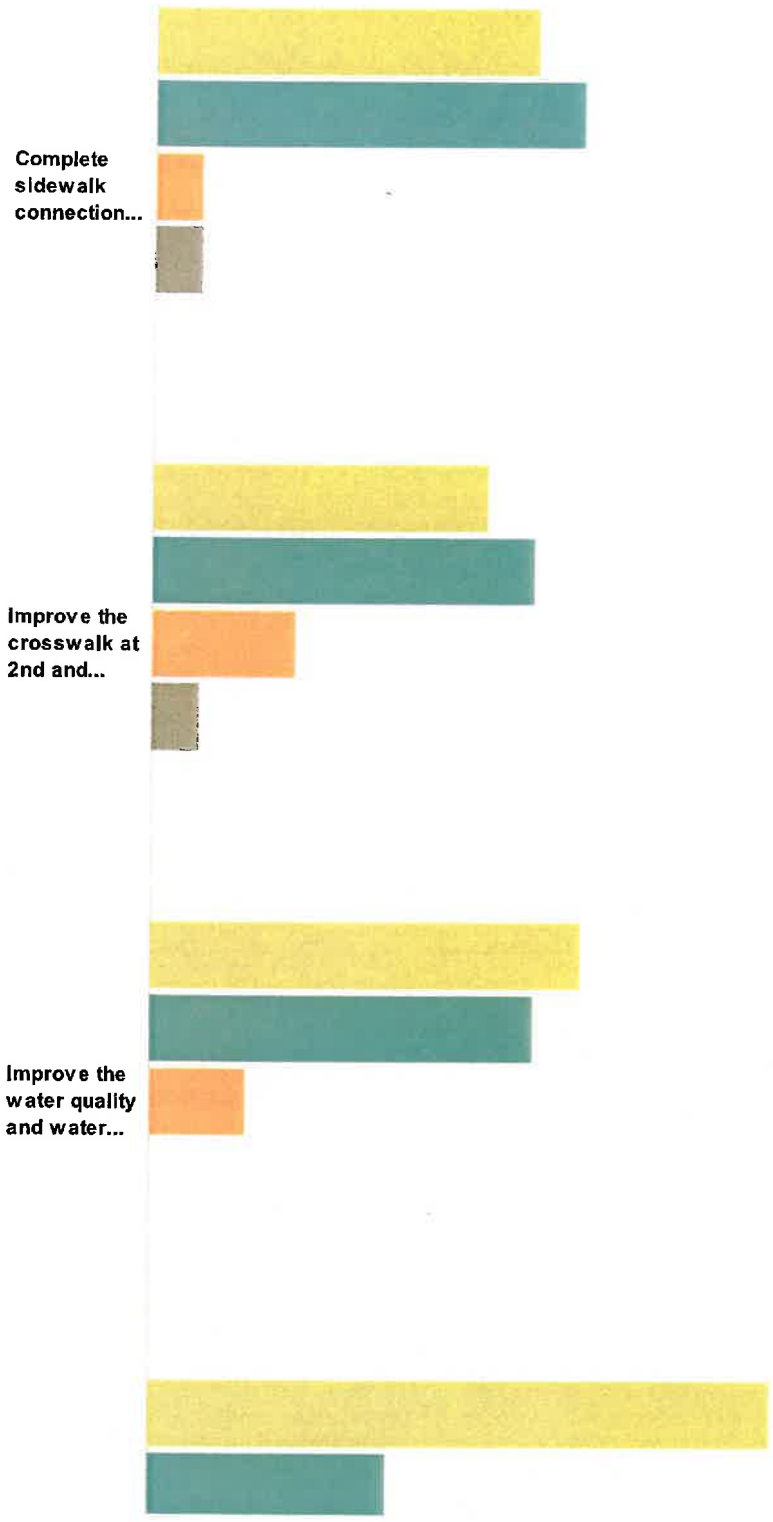
Answered: 178 Skipped: 22



Answer Choices	Responses	
Yes	**11.24%**	20
No, I would like to skip those questions	**88.76%**	158
Total		**178**

Q11 Preliminary discussions identified some potential improvements that will encourage active transportation in Spencerville. Please indicate how important you feel these are.

Answered: 19 Skipped: 181



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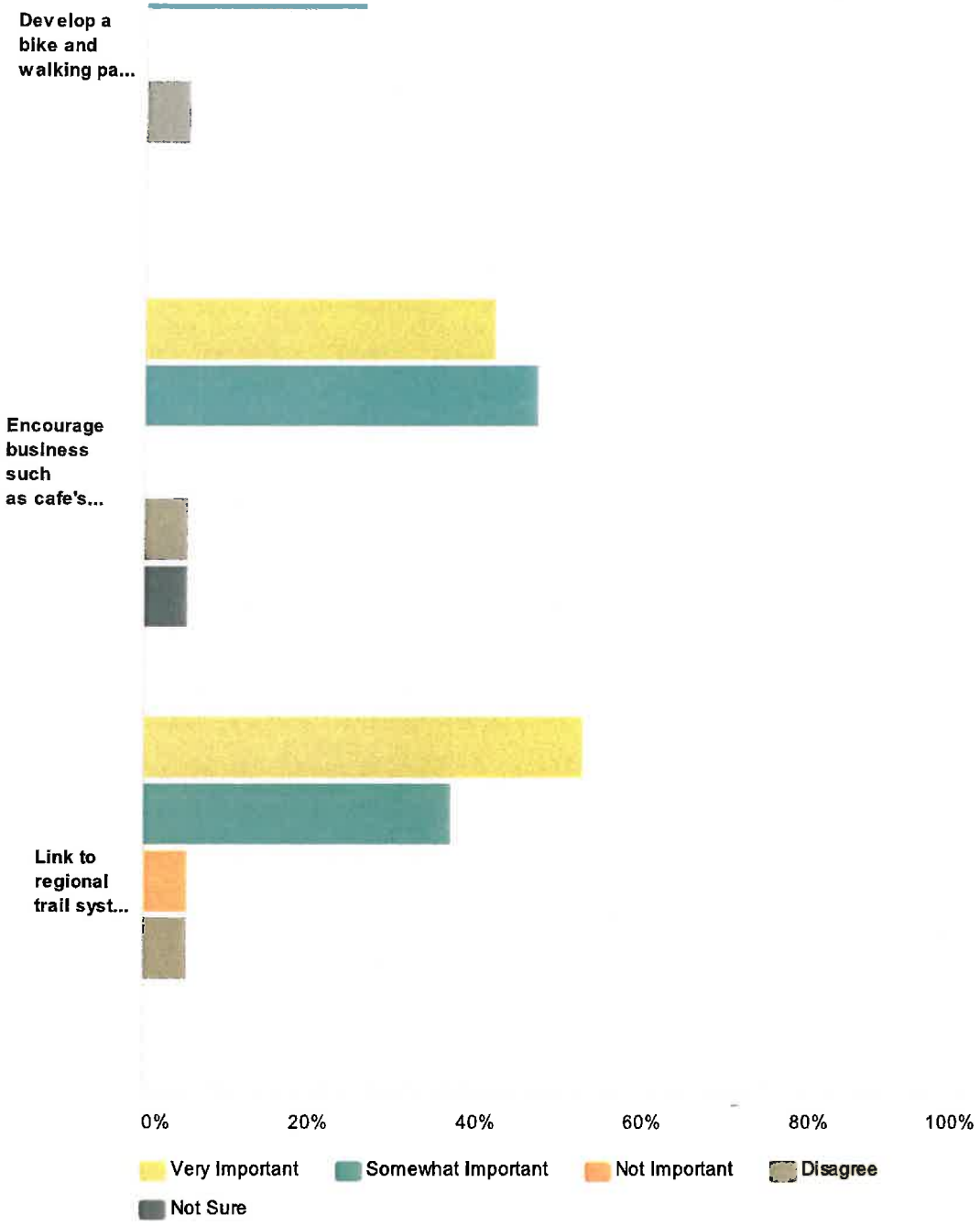


	Very Important	Somewhat Important	Not Important	Disagree	Not Sure	Total
Complete sidewalk connections to school along 2nd Street	**42.11%** 8	**47.37%** 9	**5.26%** 1	**5.26%** 1	**0%** 0	19
Improve the crosswalk at 2nd and Broadway	**36.84%** 7	**42.11%** 8	**15.79%** 3	**5.26%** 1	**0%** 0	19
Improve the water quality and water flow of the canal	**47.37%** 9	**42.11%** 8	**10.53%** 2	**0%** 0	**0%** 0	19
Develop a bike and walking path along the canal in town	**68.42%** 13	**26.32%** 5	**0%** 0	**5.26%** 1	**0%** 0	19
Encourage business such as cafe's fronting the canal	**42.11%** 8	**47.37%** 9	**0%** 0	**5.26%** 1	**5.26%** 1	19

Link to regional trail systems to encourage tourism	**52.63%** 10	**36.84%** 7	**5.26%** 1	**5.26%** 1	**0%** 0	19

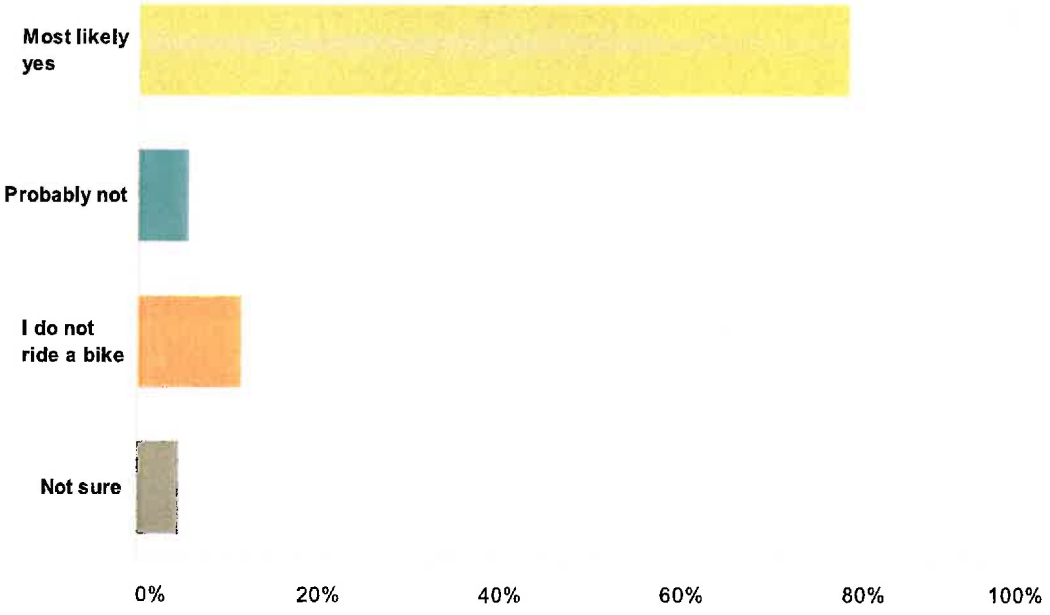
Q12 Please describe any other issues in Spencerville that you feel this project should focus on:

Answered: 5 Skipped: 195

#	Responses	Date
1	Identify (survey) the State of Ohio property so people know what is public and what is private.	1/2/2014 5:44 PM
2	Complete the stone path along the canal that ends at Deep Cut Rd., to connect to the stone path from St. Mary's that ends near Bloody Bridge. Also connect another stone path from Spencerville, North to Delphos, along the canal. A bike lane from Spencerville out to Kendricks Woods Johnny Appleseed Park would be nice too.	12/27/2013 7:39 PM
3	the water in that town is not fit to drink they have been working on this for 3 years now and all there doing is raising the price of sewer and water and not cleaning it up very unheathly you need drinking water not sidewalks	12/23/2013 9:21 AM
4	Its a must that we clean the Miami-Erie Canal and resolve issues with flow of water and make the current bike/walk path way more attractive for the public. Also this path must be extended into the business area of the village and then to the Old Acadia Park (Wellsite), which is a popular recreational area for sports (children). Our Canal has been an eye sore for many years and I believe if it was much more attractive people would be more interested in using walk/bike path.	12/10/2013 1:38 PM
5	Has anyone thought of reaching out specifically to the considerable number of people who are daily walkers in Spencerville for more input? Evening is a very popular time of day. The track at the school is also preferred/favorite/exclusive repeated walking path for many.	11/27/2013 12:34 PM

Q13 Would you be comfortable riding a bike on an off-road trail?

Answered: 176 Skipped: 24

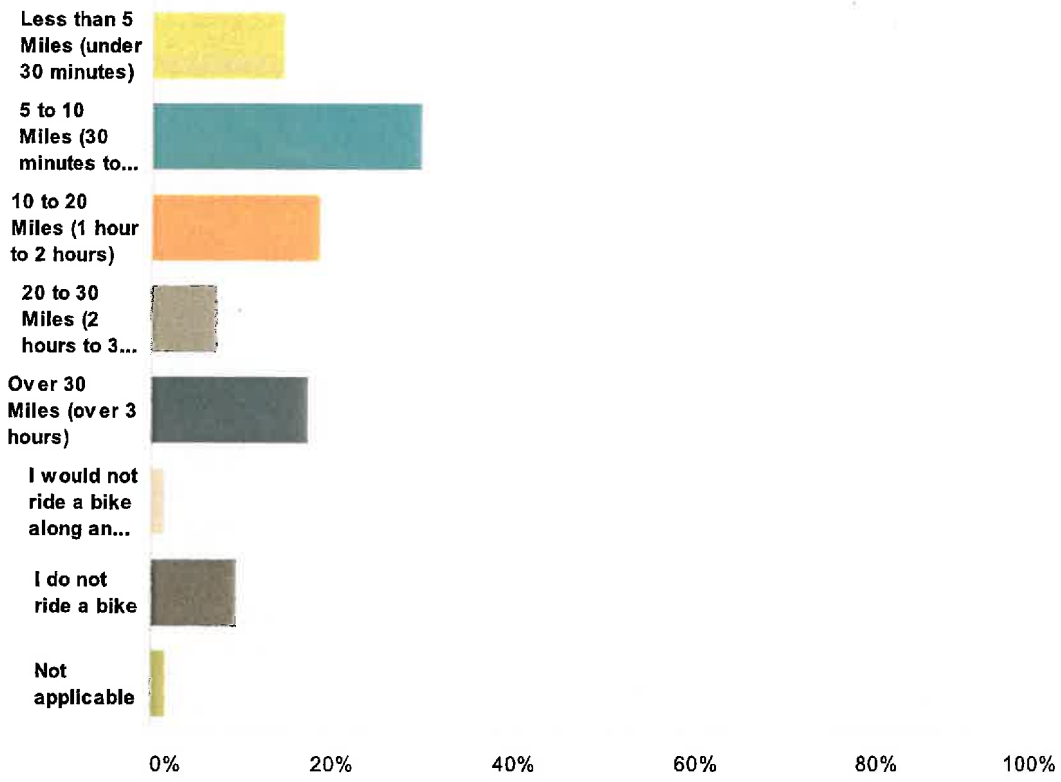


Answer Choices	Responses	
Most likely yes	78.41%	138
Probably not	5.68%	10
I do not ride a bike	11.36%	20
Not sure	4.55%	8
Total		**176**

#	Other (please specify)	Date
1	Absolutely!	12/27/2013 7:41 PM
2	Personally myself maybe, my husband yes	12/12/2013 9:17 AM
3	Depends on the neighborhood.	12/10/2013 8:37 PM
4	If had proper lighting and mapping	12/10/2013 1:40 PM
5	As long as it's maintained.	12/6/2013 2:42 PM
6	Yes with emergency stations, lighting for dusk times, and patrolling.	11/18/2013 4:59 PM

Q14 What is the maximum distance you would ride a bike along an off-road trail?

Answered: 179 Skipped: 21

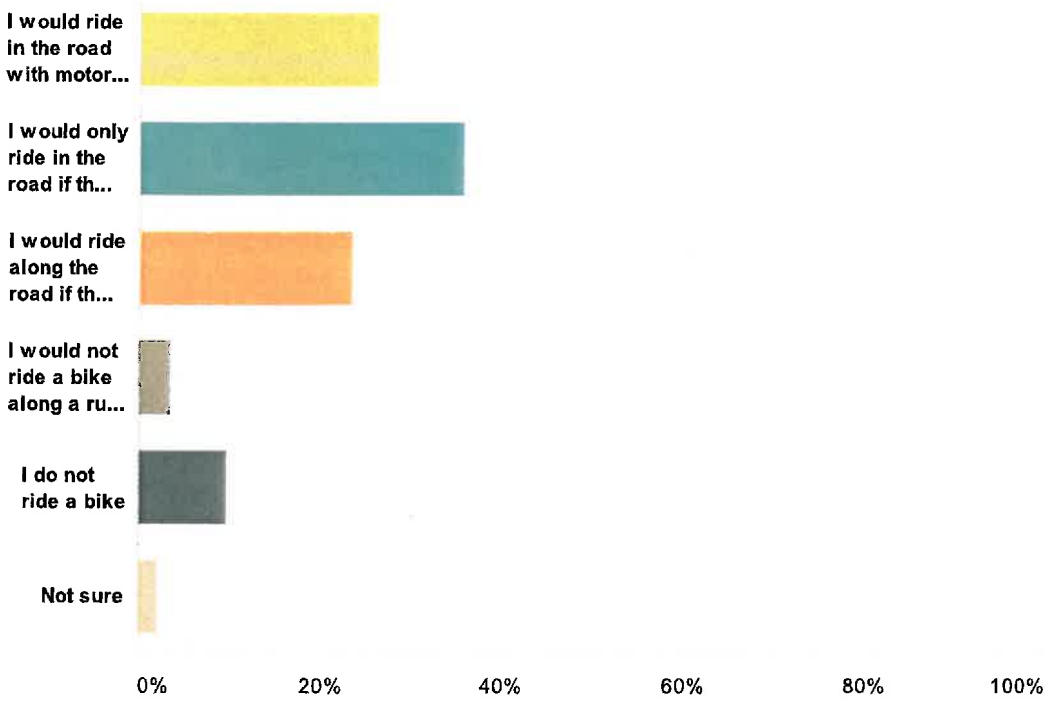


Answer Choices	Responses	
Less than 5 Miles (under 30 minutes)	**14.53%**	26
5 to 10 Miles (30 minutes to 1 hour)	**29.61%**	53
10 to 20 Miles (1 hour to 2 hours)	**18.44%**	33
20 to 30 Miles (2 hours to 3 hours)	**7.26%**	13
Over 30 Miles (over 3 hours)	**17.32%**	31
I would not ride a bike along an off-road trail	**1.68%**	3
I do not ride a bike	**9.50%**	17
Not applicable	**1.68%**	3
Total		**179**

#	Other (please specify)	Date
	There are no responses.	

Q15 What is your preferred comfort level for riding a bike along a rural roadway?

Answered: 177 Skipped: 23

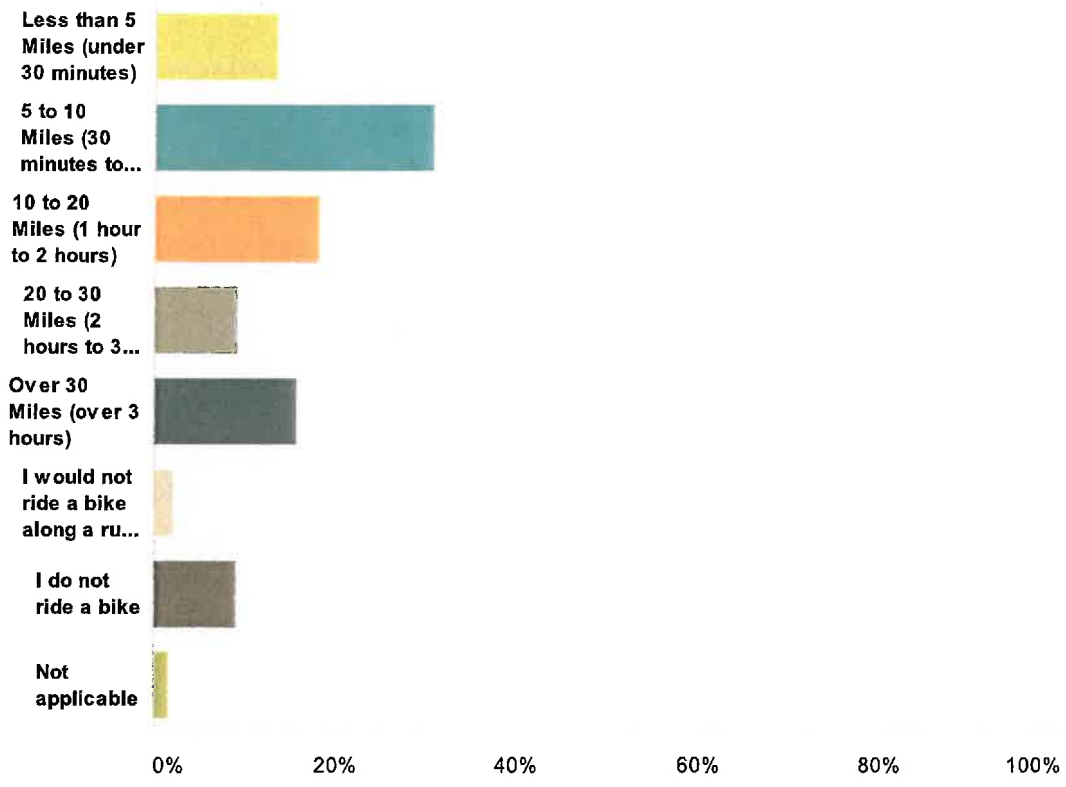


Answer Choices	Responses	
I would ride in the road with motor vehicle traffic whether there is a wide paved shoulder or not	**25.99%**	46
I would only ride in the road if there was a wide paved shoulder	**35.59%**	63
I would ride along the road if there is there is a roadside pathway	**23.16%**	41
I would not ride a bike along a rural road	**3.39%**	6
I do not ride a bike	**9.60%**	17
Not sure	**2.26%**	4
Total		**177**

#	Other (please specify)	Date
1	I ride all rural and city roads. I avoid state highways.	12/31/2013 12:20 AM
2	prefer paved shulder or pathway	12/23/2013 2:44 PM
3	I would ride in the wide path, if I had a choice.	12/22/2013 7:20 PM
4	Im might ride a bike on a rural road if the ADT was low enough	11/26/2013 5:25 PM
5	prefer a path if a busy road.	11/25/2013 8:32 AM
6	Ride on the road now, but would prefer a wider paved shoulder or roadside pathway.	11/21/2013 12:00 PM

Q16 What is the maximum distance you would ride a bike along a rural road?

Answered: 178 Skipped: 22

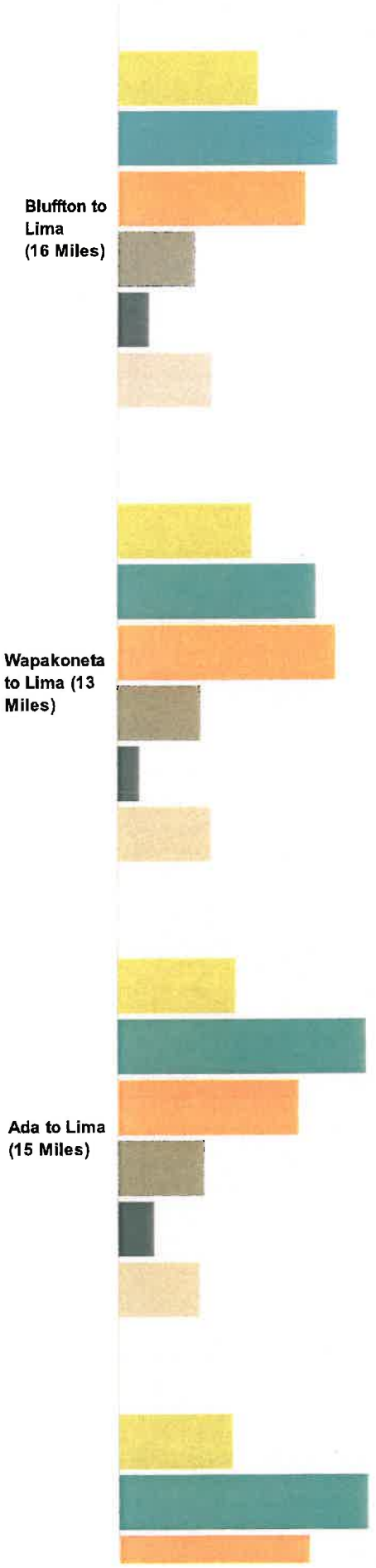


Answer Choices	Responses	
Less than 5 Miles (under 30 minutes)	**13.48%**	24
5 to 10 Miles (30 minutes to 1 hour)	**30.90%**	55
10 to 20 Miles (1 hour to 2 hours)	**17.98%**	32
20 to 30 Miles (2 hours to 3 hours)	**8.99%**	16
Over 30 Miles (over 3 hours)	**15.73%**	28
I would not ride a bike along a rural road	**2.25%**	4
I do not ride a bike	**8.99%**	16
Not applicable	**1.69%**	3
Total		**178**

#	Other (please specify)	Date
1	I woudl ride longer if (a) roadside path was built/maintained; or, (b) if we were on/off rural roads with low ADT; and (c) the destination had ped/bike friendly amenitites and things to do	11/26/2013 5:25 PM

Q17 Please select which bicycle facility you think would be most appropriate for each route:

Answered: 170 Skipped: 30


Bluffton to Lima (16 Miles)
Wapakoneta to Lima (13 Miles)
Ada to Lima (15 Miles)

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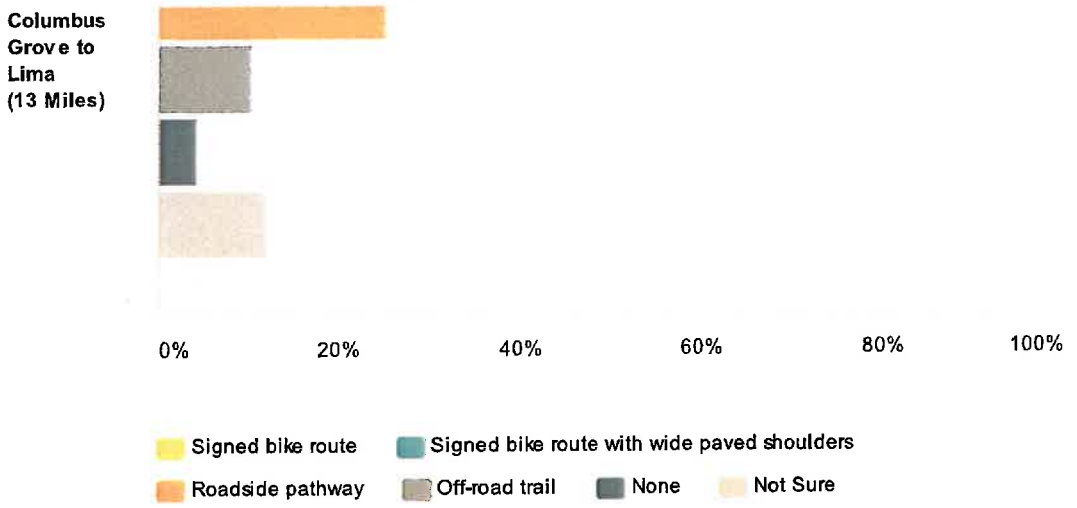
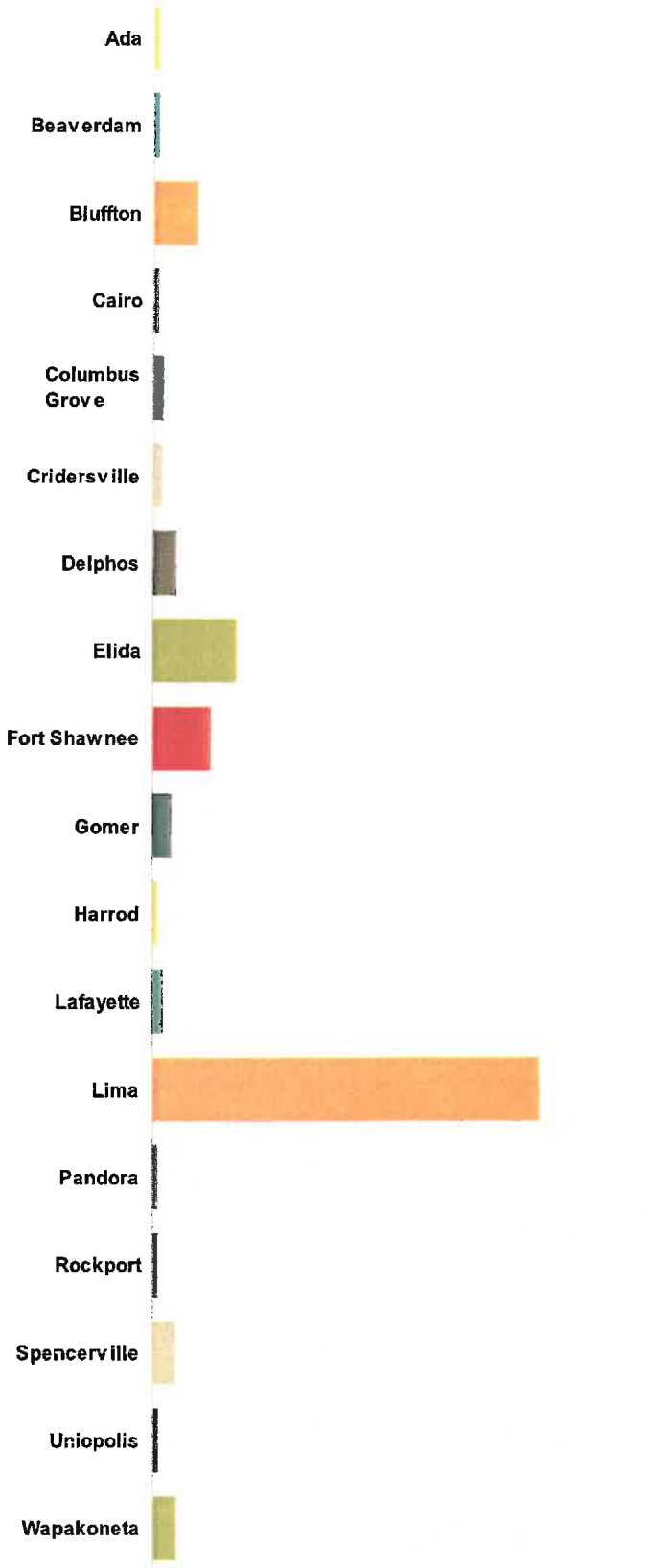
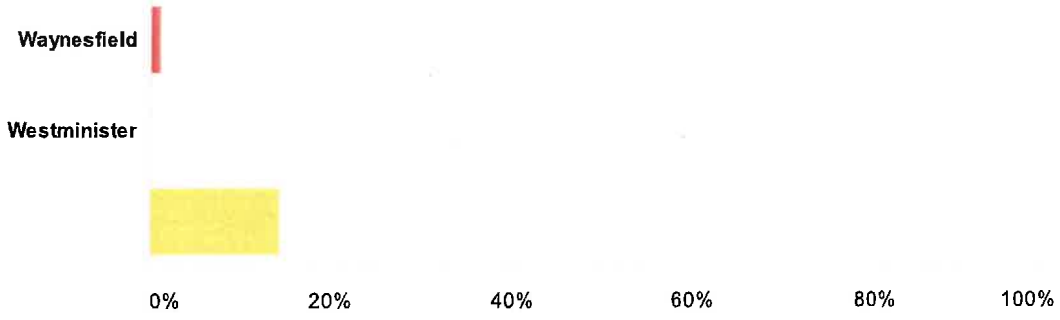


	Signed bike route	Signed bike route with wide paved shoulders	Roadside pathway	Off-road trail	None	Not Sure	Total
Delphos to Spencerville (10 Miles)	**17.07%** 28	**38.41%** 63	**15.24%** 25	**12.80%** 21	**4.88%** 8	**11.59%** 19	164
Delphos to Lima (14 Miles)	**12.27%** 20	**26.99%** 44	**38.04%** 62	**9.20%** 15	**3.68%** 6	**9.82%** 16	163
Spencerville to Lima (13 Miles)	**15.24%** 25	**30.49%** 50	**25%** 41	**13.41%** 22	**3.66%** 6	**12.20%** 20	164
Bluffton to Lima (16 Miles)	**18.56%** 31	**29.34%** 49	**25.15%** 42	**10.18%** 17	**4.19%** 7	**12.57%** 21	167
Wapakoneta to Lima (13 Miles)	**17.90%** 29	**26.54%** 43	**29.01%** 47	**11.11%** 18	**3.09%** 5	**12.35%** 20	162
Ada to Lima (15 Miles)	**15.66%** 26	**33.13%** 55	**24.10%** 40	**11.45%** 19	**4.82%** 8	**10.84%** 18	166
Columbus Grove to Lima (13 Miles)	**15.06%** 25	**33.13%** 55	**25.30%** 42	**10.24%** 17	**4.22%** 7	**12.05%** 20	166

Q18 Please indicate where you LIVE. If you do not live in any of these areas please select "Other".

Answered: 174 Skipped: 26





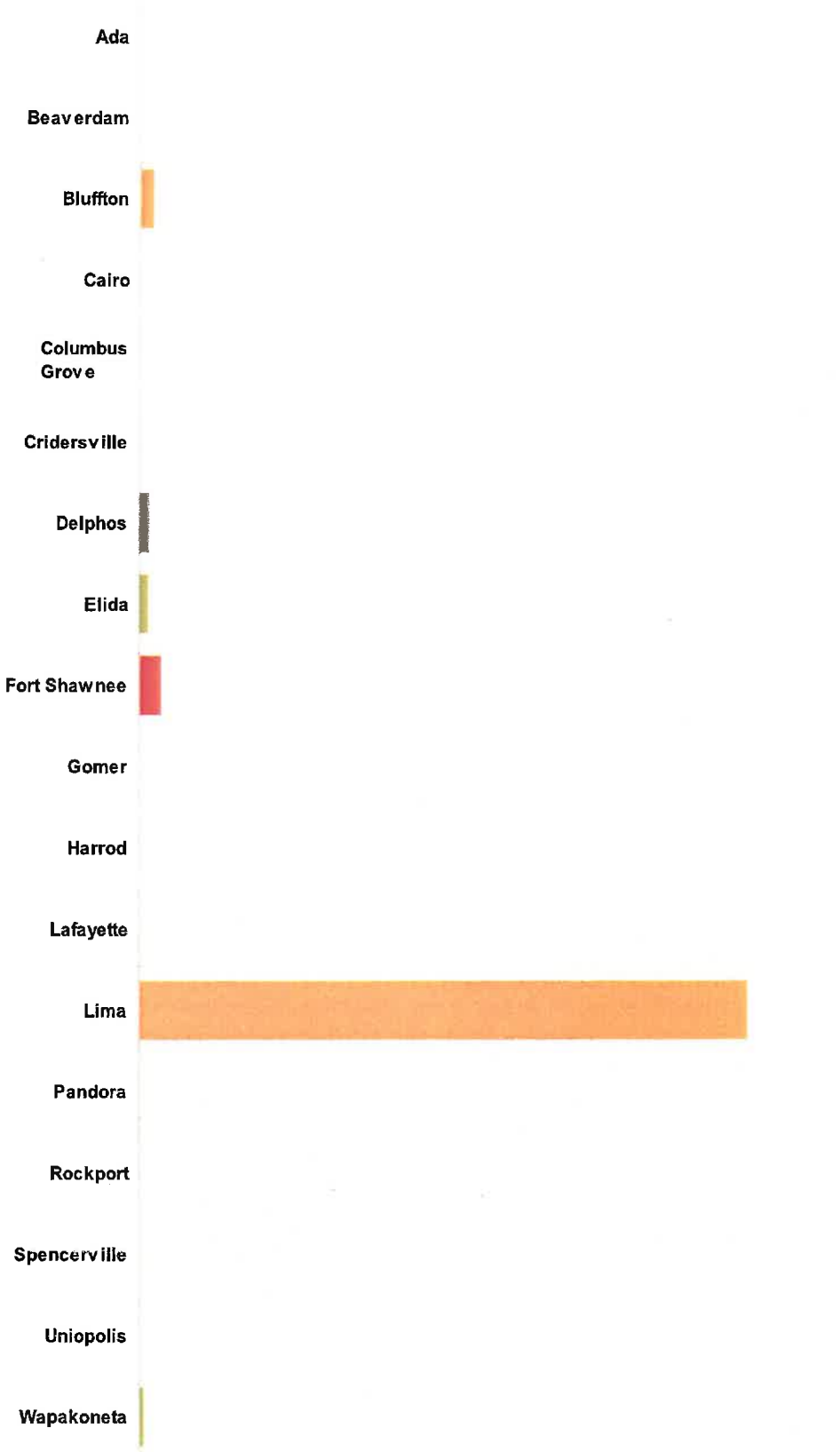
Answer Choices	Responses	
Ada	0.57%	1
Beaverdam	0.57%	1
Bluffton	5.17%	9
Cairo	0.57%	1
Columbus Grove	1.15%	2
Cridersville	1.15%	2
Delphos	2.87%	5
Elida	9.77%	17
Fort Shawnee	6.90%	12
Gomer	2.30%	4
Harrod	0.57%	1
Lafayette	1.15%	2
Lima	44.25%	77
Pandora	0.57%	1
Rockport	0.57%	1
Spencerville	2.87%	5
Uniopolis	0.57%	1
Wapakoneta	2.87%	5
Waynesfield	1.15%	2
Westminister	0%	0
Other (please specify)	14.37%	25
Total		**174**

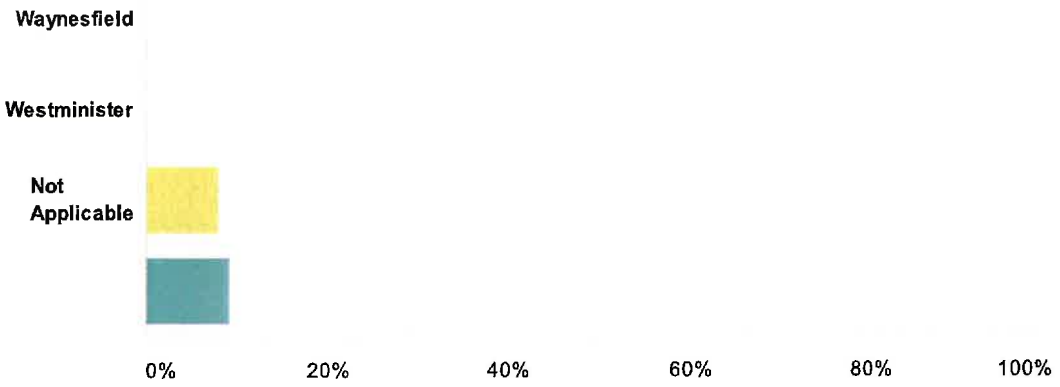
#	Other (please specify)	Date
1	Landeck	1/2/2014 5:52 PM
2	American Township/Elida School district	12/31/2013 9:21 AM
3	half way between Beaverdam and Lima	12/31/2013 12:23 AM

4	in allen county	12/23/2013 9:26 AM
5	SE Allen County	12/10/2013 8:42 PM
6	Shawnee Township-Ft. Shawnee no longer exists	12/9/2013 9:57 AM
7	Shawnee Township	12/9/2013 6:54 AM
8	Country	12/6/2013 3:20 PM
9	Shawnee Township	12/6/2013 3:18 PM
10	Shawnee Township	12/6/2013 2:40 PM
11	Shawnee	12/6/2013 2:19 PM
12	Shawnee Township	12/6/2013 2:07 PM
13	Perry Township	12/4/2013 9:41 AM
14	Bath Township, east of Lima	12/2/2013 11:42 AM
15	Bath Township	12/2/2013 7:42 AM
16	Bath	11/28/2013 3:18 AM
17	"Lima" but way west of town, almost out of Shawnee Township	11/27/2013 4:42 PM
18	perry twp	11/27/2013 1:30 PM
19	South of Elida at St Rt 81	11/27/2013 11:09 AM
20	Toledo	11/21/2013 4:07 PM
21	Bath Township	11/20/2013 5:39 PM
22	Bath Twp	11/20/2013 11:53 AM
23	Fort Jennings	11/19/2013 8:43 AM
24	Shawnee-ft.shawnee no longer exists	11/19/2013 8:13 AM
25	Van Wert	11/19/2013 7:53 AM

Q19 Please indicate where you WORK. If you do not work in any of these areas please select "Other" or "Not Applicable".

Answered: 175 Skipped: 25





Answer Choices	Responses	
Ada	0%	0
Beaverdam	0%	0
Bluffton	1.71%	3
Cairo	0%	0
Columbus Grove	0%	0
Cridersville	0%	0
Delphos	1.14%	2
Elida	1.14%	2
Fort Shawnee	2.86%	5
Gomer	0%	0
Harrod	0%	0
Lafayette	0%	0
Lima	75.43%	132
Pandora	0%	0
Rockport	0%	0
Spencerville	0%	0
Uniopolis	0%	0
Wapakoneta	0.57%	1
Waynesfield	0%	0
Westminister	0%	0
Not Applicable	8%	14
Other (please specify)	9.14%	16
Total		**175**

#	Other (please specify)	Date

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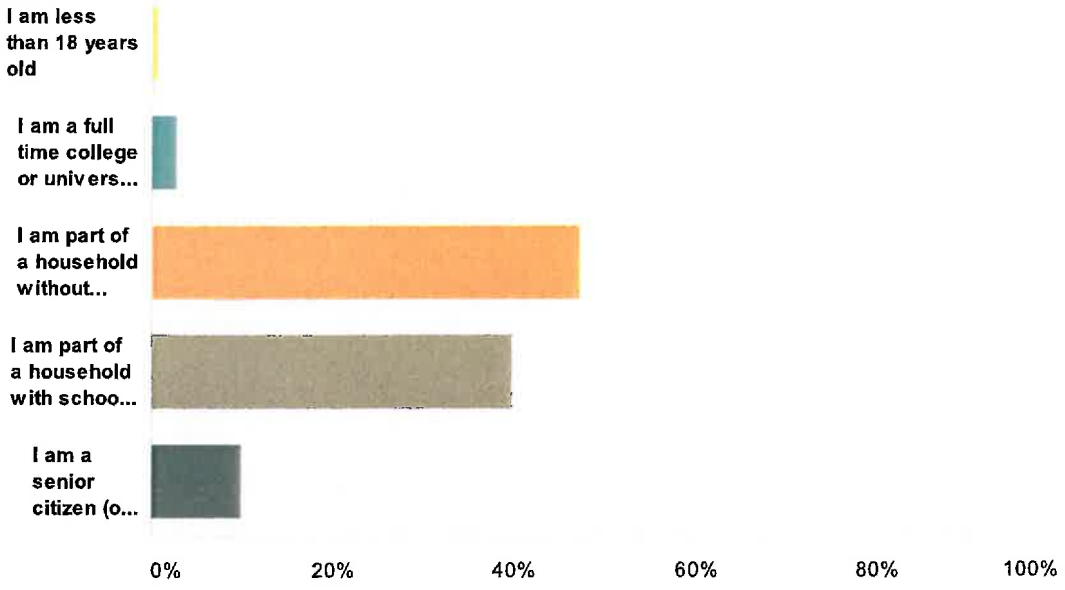
1	All around Ohio	1/2/2014 5:52 PM
2	anna	12/28/2013 7:46 PM
3	Shawnee Township	12/9/2013 9:57 AM
4	disabled	12/4/2013 10:36 PM
5	Retired	12/4/2013 3:41 PM
6	Retired!	12/3/2013 5:38 PM
7	retired	12/3/2013 5:29 PM
8	Findlay	12/3/2013 8:56 AM
9	Retired	12/2/2013 9:37 AM
10	Travel Allen County	11/28/2013 3:18 AM
11	"Lima," but way east of Town, in Bath township	11/27/2013 4:42 PM
12	bath twp	11/27/2013 1:30 PM
13	Retire, but very active!	11/20/2013 5:39 PM
14	Bath Twp	11/20/2013 11:53 AM
15	Sidney	11/20/2013 11:39 AM
16	Shawnee township	11/19/2013 8:13 AM

Q20 Please indicate which of the following best describes your circumstance. For the purposes of this question, a household is considered any type of residence with one or more occupants.

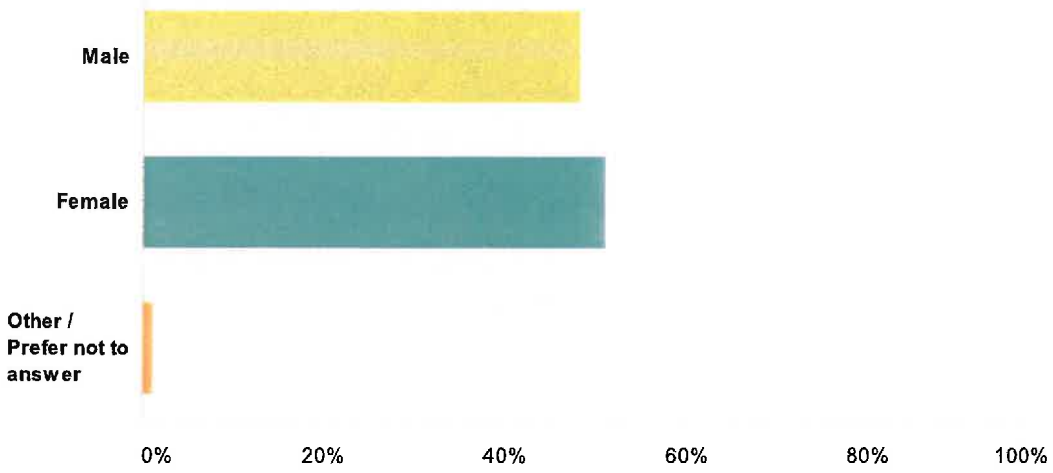
Answered: 174 Skipped: 26



Answer Choices	Responses	
I am less than 18 years old	0.57%	1
I am a full time college or university student	2.87%	5
I am part of a household without school age children	47.13%	82
I am part of a household with school age children	39.66%	69
I am a senior citizen (over 65)	9.77%	17
Total		**174**

Q21 Gender that you currently identify with:

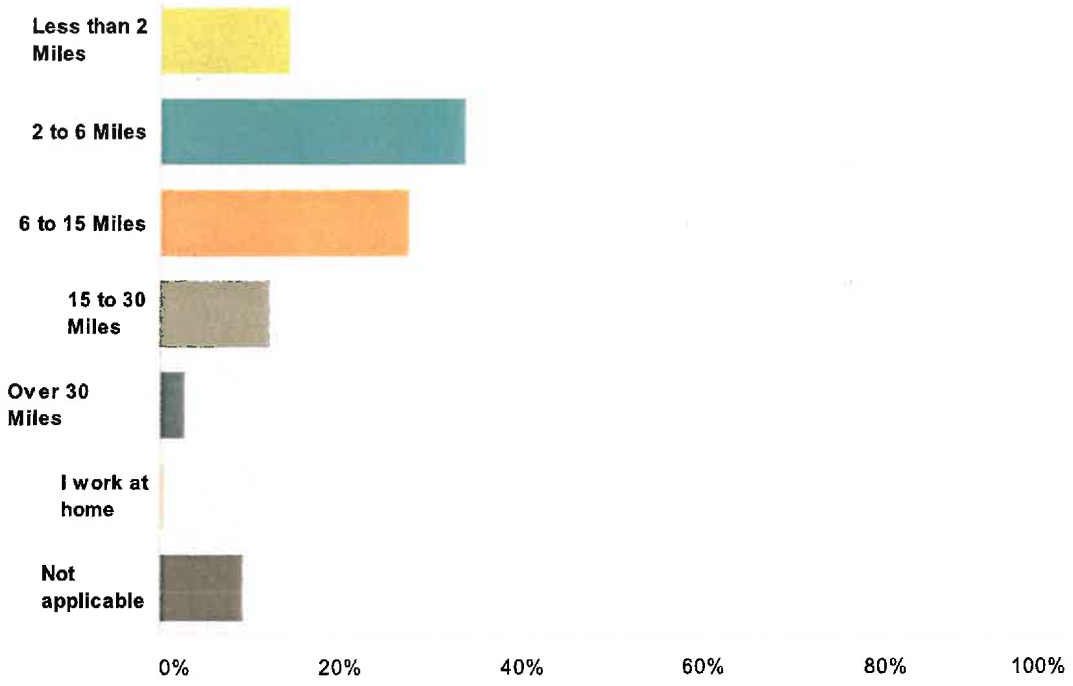
Answered: 175 Skipped: 25



Answer Choices	Responses	
Male	48%	84
Female	50.86%	89
Other / Prefer not to answer	1.14%	2
Total		175

Q22 How far is your commute to work?

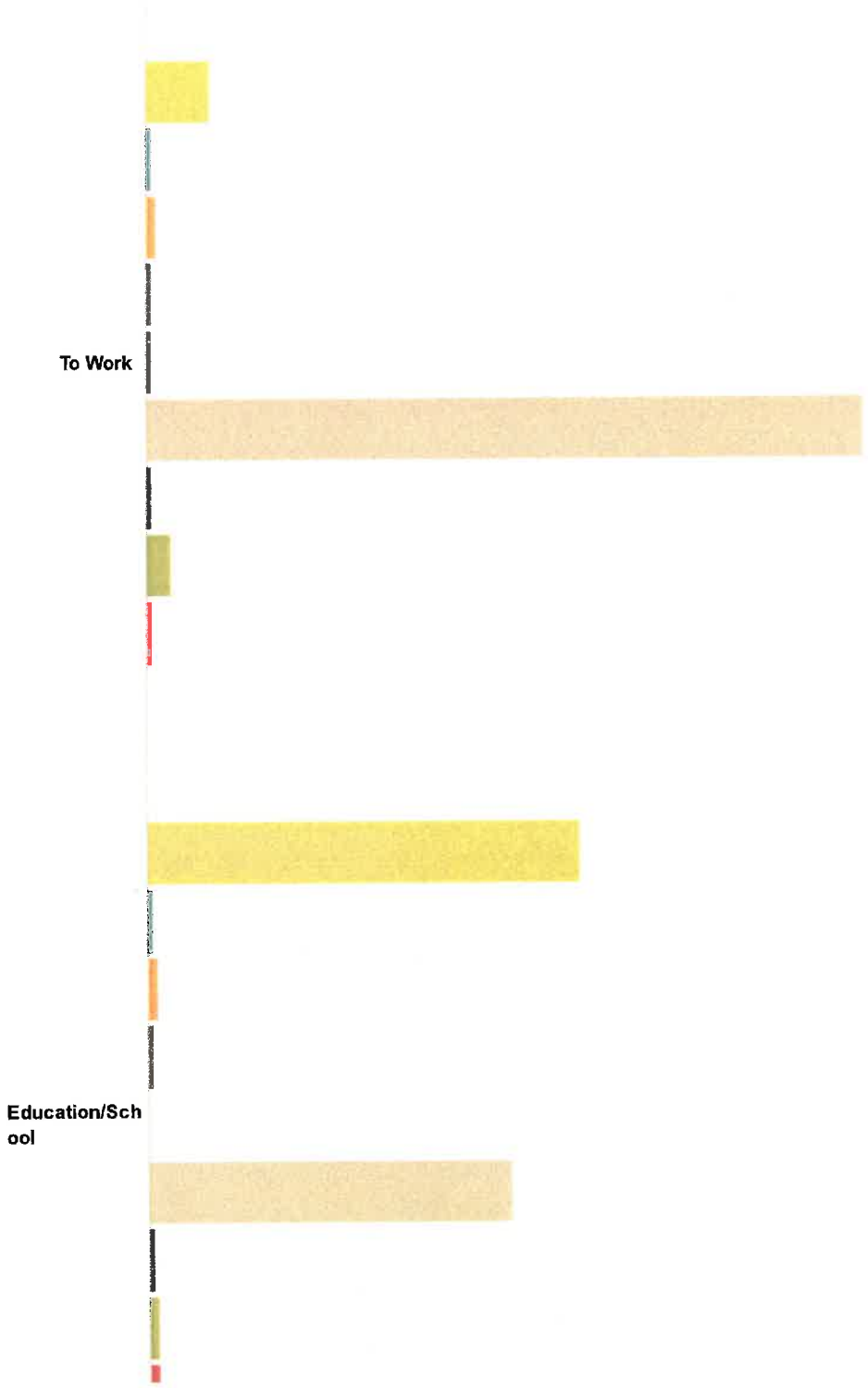
Answered: 175 Skipped: 25

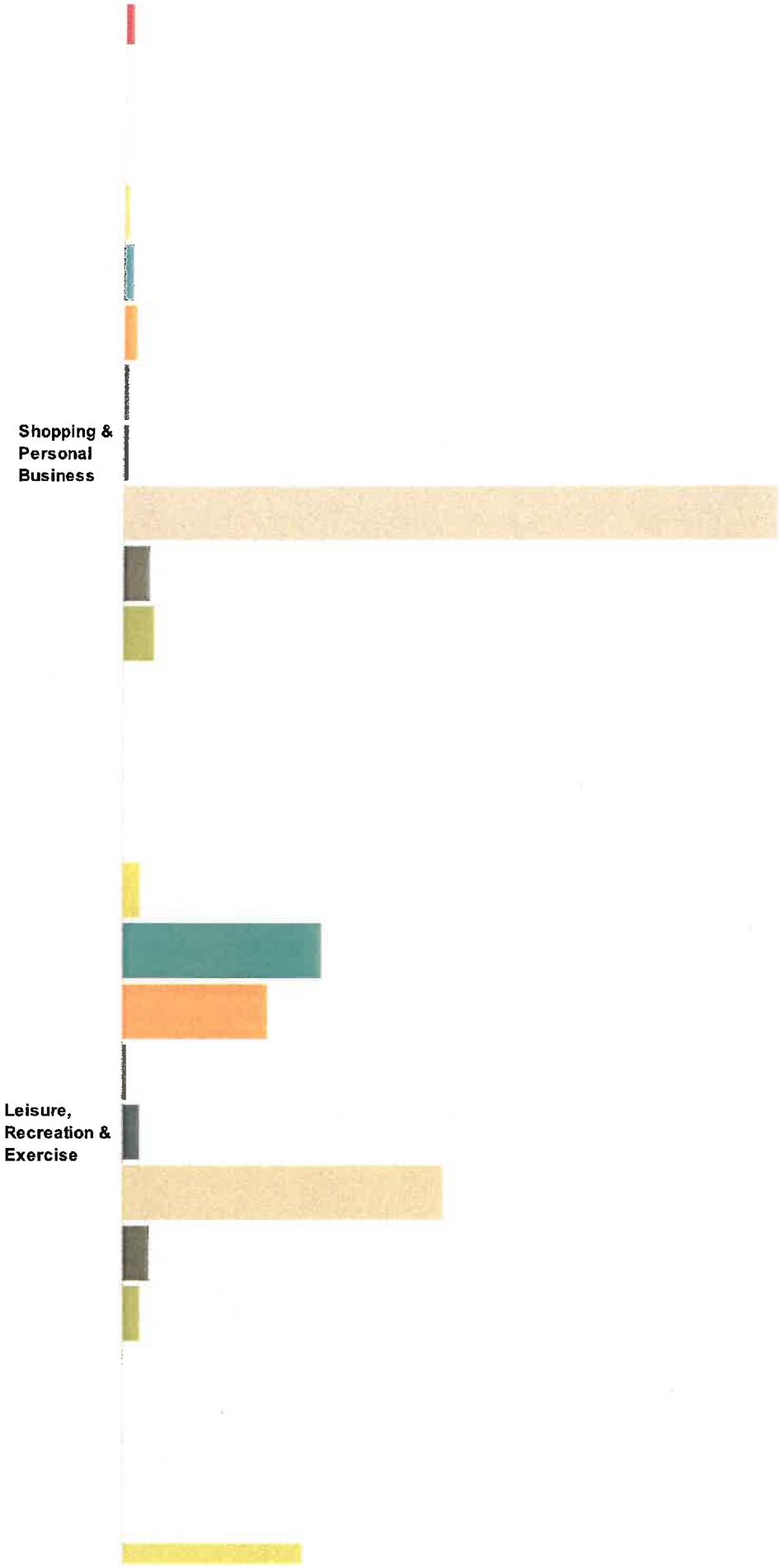


Answer Choices	Responses	
Less than 2 Miles	**14.29%**	25
2 to 6 Miles	**33.71%**	59
6 to 15 Miles	**27.43%**	48
15 to 30 Miles	**12%**	21
Over 30 Miles	**2.86%**	5
I work at home	**0.57%**	1
Not applicable	**9.14%**	16
Total		**175**

Q23 What is your primary mode of transportation for the following types of trips? Please select walking, bicycling, bus, motorcycle, drive yourself, passenger or other. If you don't typically make a particular trip type select "Not Applicable".

Answered: 172 Skipped: 28




Shopping & Personal Business
Leisure, Recreation & Exercise

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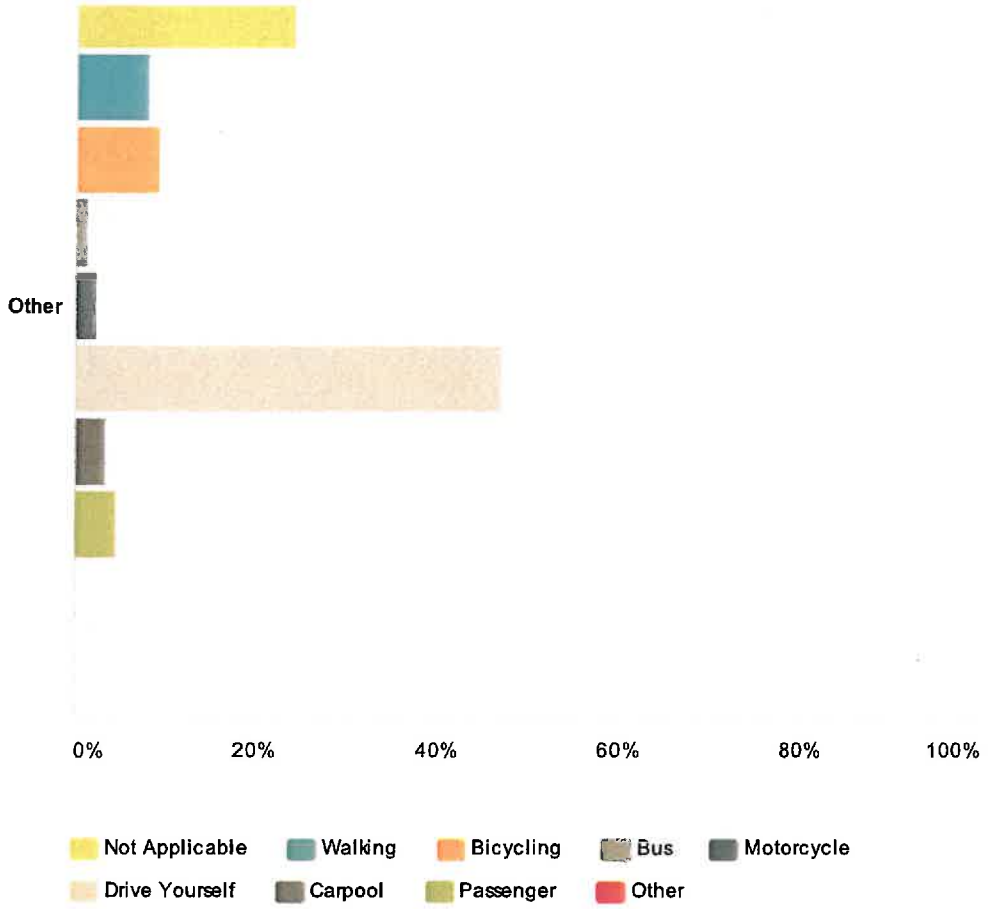


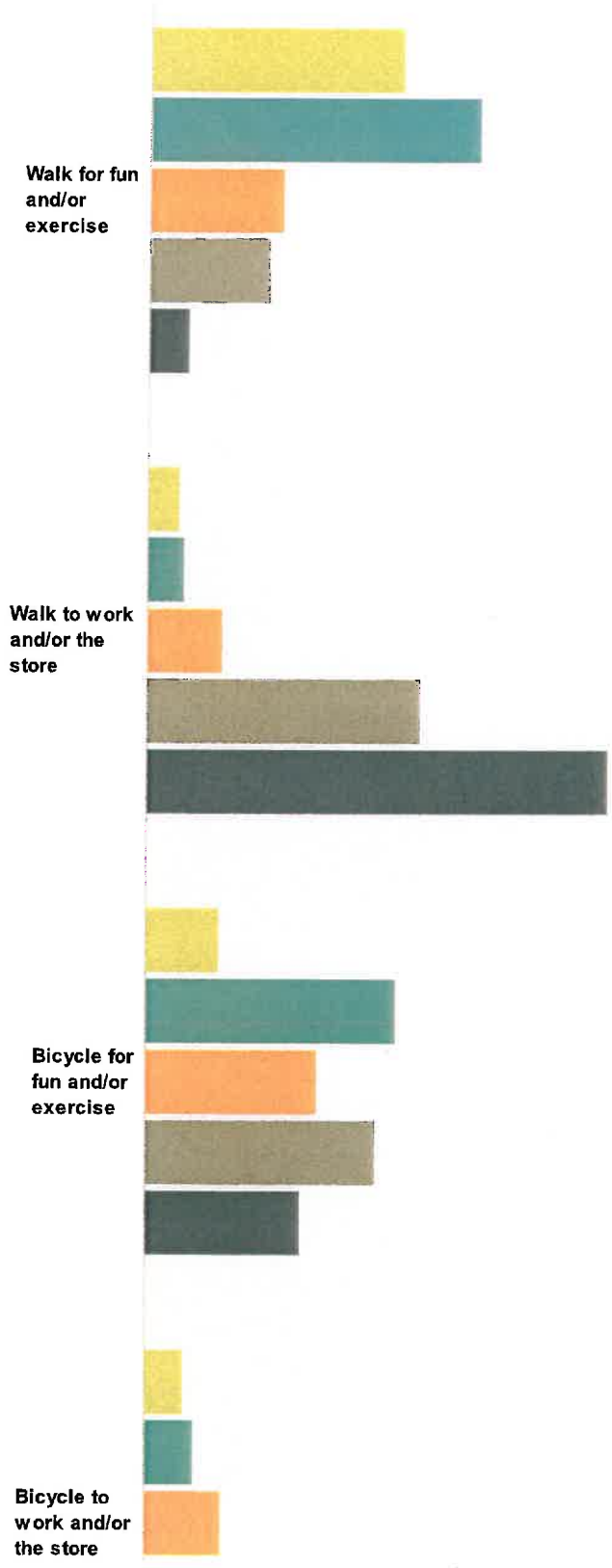
	Not Applicable	Walking	Bicycling	Bus	Motorcycle	Drive Yourself	Carpool	Passenger	Other	Total
To Work	**7.60%** 13	**0.58%** 1	**1.17%** 2	**0.58%** 1	**0.58%** 1	**85.38%** 146	**0.58%** 1	**2.92%** 5	**0.58%** 1	171
Education/School	**51.27%** 81	**0.63%** 1	**1.27%** 2	**0.63%** 1	**0%** 0	**43.04%** 68	**0.63%** 1	**1.27%** 2	**1.27%** 2	158
Shopping & Personal Business	**0.60%** 1	**1.19%** 2	**1.79%** 3	**0.60%** 1	**0.60%** 1	**87.50%** 147	**3.57%** 6	**4.17%** 7	**0%** 0	168
Leisure, Recreation & Exercise	**2.37%** 4	**26.63%** 45	**19.53%** 33	**0.59%** 1	**2.37%** 4	**42.60%** 72	**3.55%** 6	**2.37%** 4	**0%** 0	169
Other	**24.14%** 21	**8.05%** 7	**9.20%** 8	**1.15%** 1	**2.30%** 2	**47.13%** 41	**3.45%** 3	**4.60%** 4	**0%** 0	87

#	Other (please specify)	Date
1	Excercise	12/22/2013 6:16 PM
2	Running/Jogging & Bicycling... I currently utilize the Rotary RiverWalk for both and would be interested in helping fund any possible future expansions	12/12/2013 11:13 AM
3	to work self, shopping and leisure passanger or self (can't click boxes again)	12/12/2013 9:20 AM
4	St MArys, Indian Lake, etc	12/10/2013 8:44 PM
5	Shopping and personal business from home is drive myself; from work, it is walking when possible	12/8/2013 8:46 PM
6	I do ride my bicycle in good weather months to work on most days.	12/3/2013 8:34 AM
7	I live in a community woithout sidewlqaks or bike routes I drive everywhere.	11/26/2013 5:28 PM

8	exercise	11/25/2013 8:55 AM
9	Walking and Bicycling are both means for exercise	11/19/2013 11:04 AM

Q24 Please describe how frequently you walk and bicycle for the following types of trips:

Answered: 173 Skipped: 27



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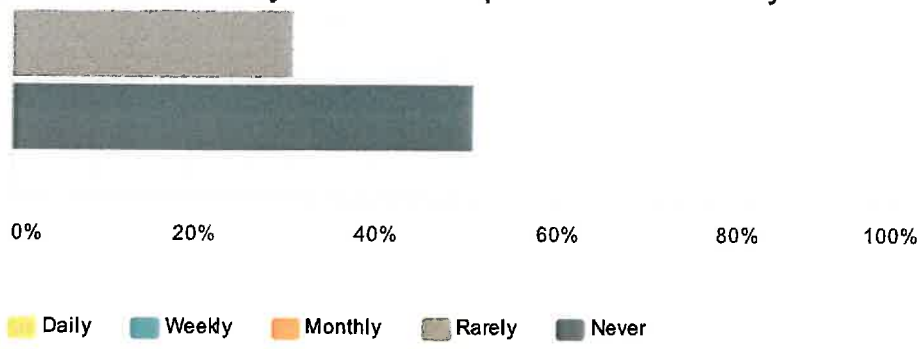


	Daily	Weekly	Monthly	Rarely	Never	Total
Walk for fun and/or exercise	**28.82%** 49	**37.65%** 64	**15.29%** 26	**13.53%** 23	**4.71%** 8	170
Walk to work and/or the store	**3.66%** 6	**4.27%** 7	**8.54%** 14	**31.10%** 51	**52.44%** 86	164
Bicycle for fun and/or exercise	**8.48%** 14	**28.48%** 47	**19.39%** 32	**26.06%** 43	**17.58%** 29	165
Bicycle to work and/or the store	**4.38%** 7	**5.63%** 9	**8.75%** 14	**30.63%** 49	**50.63%** 81	160

#	Other (please specify)	Date
1	I jog and cycle 4-5 days a week	12/12/2013 11:13 AM
2	walk for fun weekly, to work never, bicycle fun and work rarely, to store rarely	12/12/2013 9:20 AM
3	Walk 4x week bike 4-5x per week seasonaly (April-November)	12/6/2013 4:48 PM
4	I'm an avid biker, but do not bike to work due to high traffic from Bryn Mawr to St. Rita's	12/2/2013 6:20 PM
5	Walk for business/pleasure within downtown area	12/2/2013 11:44 AM
6	Bik to the store, not to work	11/20/2013 12:53 PM

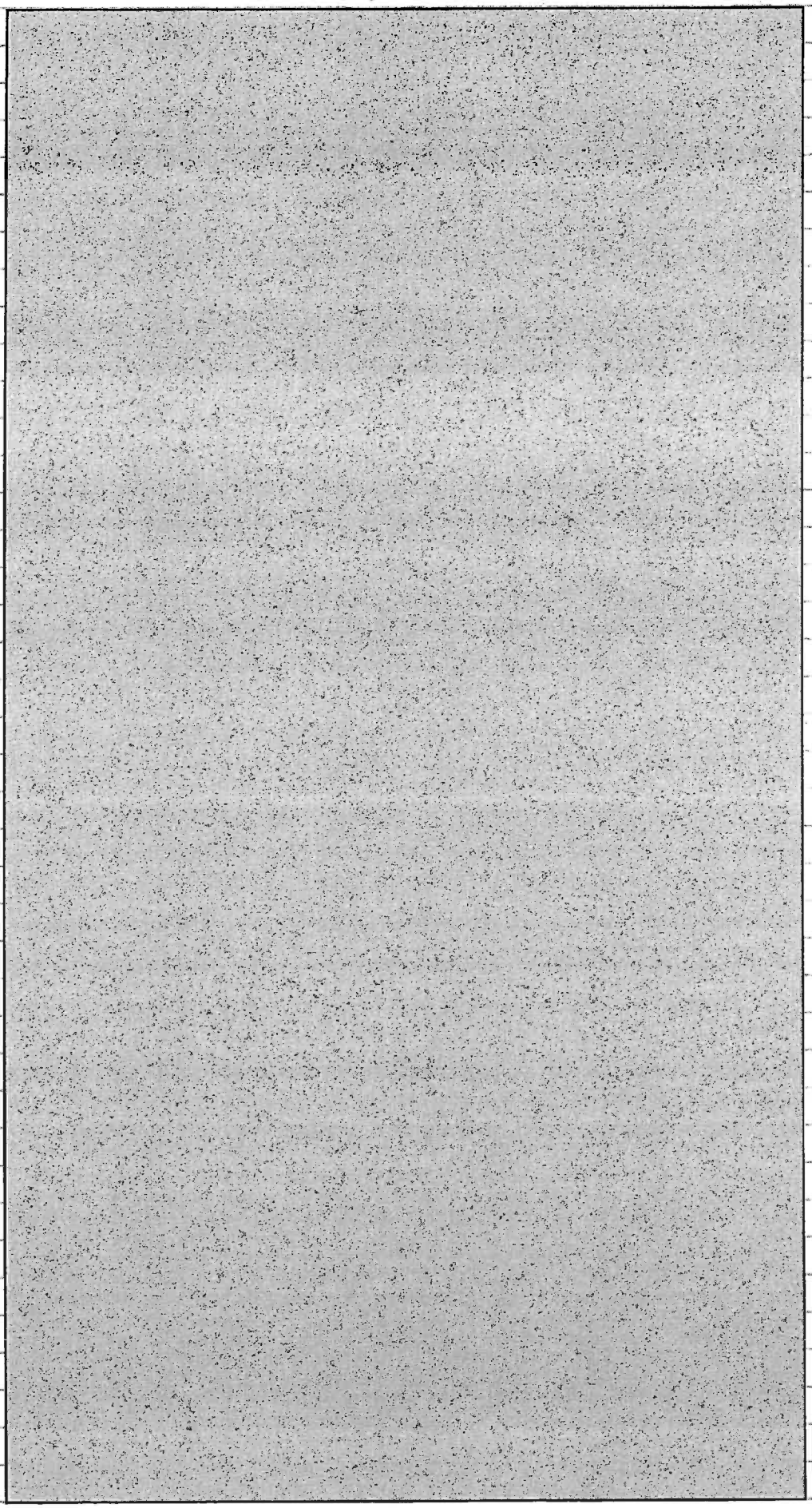
Q25 Optional Contact Information: Please enter you name and e-mail if you would like to receive notices of future events and when draft documents are available for review.Your name and e-mail will only be used for notices related to this project.

Answered: 54 Skipped: 146

Answer Choices	Responses	
Name	98.15%	53
e-Mail Address	98.15%	53

#	Name	Date
1	[redacted]	1/2/2014 5:59 PM
2		12/31/2013 1:42 PM
3		12/31/2013 1:22 PM
4		12/31/2013 12:40 AM
5		12/27/2013 7:50 PM
6		12/27/2013 7:25 PM
7		12/23/2013 11:02 AM
8		12/23/2013 9:12 AM
9		12/22/2013 6:17 PM
10		12/12/2013 11:14 AM
11		12/10/2013 8:49 PM
12		12/9/2013 2:34 PM
13		12/9/2013 9:59 AM
14		12/9/2013 7:22 AM
15		12/8/2013 8:51 PM
16		12/7/2013 9:41 AM
17		12/6/2013 9:31 PM
18		12/6/2013 4:35 PM
19		12/6/2013 2:50 PM
20		12/6/2013 2:48 PM
21		12/6/2013 2:27 PM
22		12/6/2013 2:14 PM
23		12/6/2013 2:14 PM
24		12/4/2013 10:39 PM
25		12/4/2013 3:43 PM
26		12/4/2013 10:34 AM
27		12/4/2013 9:47 AM

28		12/3/2013 5:41 PM
29		12/3/2013 9:01 AM
30		12/3/2013 8:50 AM
31		12/3/2013 8:35 AM
32		12/2/2013 7:57 PM
33		12/2/2013 7:10 PM
34		12/2/2013 6:20 PM
35		12/2/2013 6:10 PM
36		12/2/2013 5:58 PM
37		12/2/2013 12:55 PM
38		12/2/2013 11:44 AM
39		12/2/2013 8:18 AM
40		12/2/2013 7:45 AM
41		11/29/2013 8:36 PM
42		11/28/2013 3:22 AM
43		11/25/2013 8:37 AM
44		11/21/2013 12:28 PM
45		11/20/2013 6:38 PM
46		11/20/2013 5:42 PM
47		11/20/2013 12:54 PM
48		11/20/2013 11:57 AM
49		11/19/2013 2:44 PM
50		11/19/2013 2:30 PM
51		11/19/2013 11:04 AM
52		11/18/2013 4:59 PM
53		11/18/2013 1:58 PM
#		**Date**
1		1/2/2014 5:59 PM
2		12/31/2013 1:42 PM
3		12/31/2013 1:22 PM
4		12/31/2013 12:40 AM
5		12/27/2013 7:50 PM
6		12/27/2013 7:25 PM
7		12/23/2013 11:02 AM
8		12/23/2013 9:12 AM
9		12/22/2013 6:17 PM
10		12/12/2013 11:14 AM
11		12/10/2013 8:49 PM
12		12/9/2013 2:34 PM
13		12/9/2013 9:59 AM

14		12/9/2013 7:22 AM
15		12/8/2013 8:51 PM
16		12/7/2013 9:41 AM
17		12/6/2013 9:31 PM
18		12/6/2013 4:35 PM
19		12/6/2013 2:50 PM
20		12/6/2013 2:48 PM
21		12/6/2013 2:14 PM
22		12/6/2013 2:14 PM
23		12/4/2013 10:39 PM
24		12/4/2013 3:43 PM
25		12/4/2013 10:34 AM
26		12/4/2013 9:47 AM
27		12/3/2013 5:41 PM
28		12/3/2013 9:01 AM
29		12/3/2013 8:50 AM
30		12/3/2013 8:35 AM
31		12/2/2013 7:57 PM
32		12/2/2013 7:10 PM
33		12/2/2013 6:20 PM
34		12/2/2013 6:10 PM
35		12/2/2013 5:58 PM
36		12/2/2013 12:55 PM
37		12/2/2013 11:44 AM
38		12/2/2013 8:18 AM
39		12/2/2013 7:45 AM
40		11/29/2013 8:36 PM
41		11/28/2013 3:22 AM
42		11/25/2013 8:37 AM
43		11/25/2013 4:06 AM
44		11/21/2013 12:28 PM
45		11/20/2013 6:38 PM
46		11/20/2013 5:42 PM
47		11/20/2013 12:54 PM
48		11/20/2013 11:57 AM
49		11/19/2013 2:44 PM
50		11/19/2013 2:30 PM
51		11/19/2013 11:04 AM
52		11/18/2013 4:59 PM
53		11/18/2013 1:58 PM

Q26 If there are any additional thoughts or ideas regarding the Active Transportation Plan for Allen County that you would like to share with the design team, please describe below:

Answered: 29 Skipped: 171

#	Responses	Date
1	For hiking purposes between Delphos and Spencerville along the old Miami and Erie Canal Towpath Trail (MEST - Miami Erie State Trail), it will be best if the surface was NOT paved.	1/2/2014 5:59 PM
2	There are definitely some areas that need improved for pedestrian usage in our communities. I like some of your ideas to encourage more local cafes and businesses that could serve as destinations and attractions to include in a city walk or bicycle ride. I have seen this work well in other parts of the country and in Europe first hand. I summed up a lot of my thoughts and experience about bicycle improvement in my comments for Lima. Some infrastructure will help, but most of the problem is the sharing of the roads both in the city and rural roads with motorists. There needs to be more initiative to educate motorists and cyclists about the laws. If people felt the roads were safer here, they would ride bicycles more. Many more "Share the Road" signs would go along way. Maybe they should say "Share the Road, It's the Law!". That might make them more effective because most drivers do not seem to get it. Another issue throughout Allen county is large commercial semi trucks using county roads to cut through to highways and interstates. They usually have little regard for cyclists or pedestrians because they are rushing to make up time, tear up the roads they are no meant to be on and drive as fast or faster than the cars. "No Thru Truck" signs and tickets would go a long way for some of our county roads. I like what Activate Allen County is promoting. I hope you can make some great progress in the next few months and years.	12/31/2013 12:40 AM
3	The bike path in Lima is great, but it needs to be expanded to include the west side of Lima, more parks and businesses, and shopping areas. Also it needs mile markers for distance traveled.	12/28/2013 8:00 PM
4	Riding on high volume roads you need side paths like route 309 would need a side path. expanded road lane would do until funds are found.	12/23/2013 2:55 PM
5	More sidewalks out side of the city for more people to enjoy. People just do not walk in the city it should be a count effort . and the county should have bike lanes people could use for walking.	12/23/2013 9:12 AM
6	Thanks for helping raise awareness and hopefully it will lead to future projects and expansion of the already wonderful Rotary RiverWalk.	12/12/2013 11:14 AM
7	Please keep costs low. I personally don't believe adding these trails is the best use of our money at this time. I do not live in one of the proposed area but would like to see more trails like this leading to schools and near hotels.	12/10/2013 8:49 PM
8	can you say AGENDA 21!!	12/9/2013 8:28 AM
9	Not sure on what type of bike routes to recommend between the commercial centers - depends on the roads selected for the path. On busier roads, it would be nice to have extra paved shoulder space at a minimum, but on low volume roads, signage could work. Also, if attracting tourists is the main goal, dedicated off road pathways would seem to have some appeal.	12/8/2013 8:51 PM
10	I think it is a great idea and would like to see this infrastructure developed.	12/6/2013 9:31 PM
11	worse problem is getting bikes safely out of town. Elm Street needs to be widened from Cable to Fraunfelter. east bound is difficult. Hanthorn possible but not pleasant. east bound using the bike path is great until you deadend at the metropark then must access 81 to slabtown. why not access slabtown by cutting a hole in the fence to cross the parking lot of the Bath township house. it would keep bikers off the sidewalk.	12/6/2013 4:53 PM
12	NONE RIGHT NOW	12/6/2013 2:50 PM
13	The old inter urban traction line from Breese rd 500 feet from Perry high school to Hanthorn rd and Greely Chapel rd intersection. Then to connect to the rest of a bike/walk path to Lima.	12/4/2013 9:47 AM

14	It would be nice if there was a direct path from the north end of Lima to the river walk.	12/3/2013 5:41 PM
15	Have you considered such paths to OSU-Lima/Rhodes State College? The roads, esp. Reservoir and Mumaugh, have no wide berms and it is very dangerous for one to walk/bike to campus. A walkway/bikeway might be very beneficial for those who live in Lima or nearby. thanks and good luck.	12/3/2013 10:45 AM
16	RTA	12/3/2013 9:01 AM
17	There are times that I do not feel safe riding on the bike paths within the city limits. However I enjoy the riding on the bath outside of the city limits and I would really enjoy riding to the Wapak area if there was a path not so close to the road way. My daughter enjoys it also but it can be scary at times riding with her if it is in the road way or on a shoulder of the road.	12/3/2013 8:50 AM
18	I live in the Jerry Lee subdivision on the north side of Lima. That subdivision is in the Elida school district. It would be great if there was a bike/walk path from that subdivision to the Elida schools for bicycling or walking. Thanks	12/3/2013 8:35 AM
19	The current bike path is nice but has safety issues that need addressed. I do not advocate road-share bikeways. Drivers are distracted with cell phones and lower speed limits don't change that. Ft Wayne has nice bike paths and the slippery elm between north Baltimore & bowling green is a good example of rural bike path. I do not ride with an organized group since they cycle on the roads.	12/2/2013 7:10 PM
20	An issue for biking to work, besides infrastructure is the access to showers at my work.	12/2/2013 7:45 AM
21	More sidewalks needed everywhere in Allen County but especially around schools.	11/27/2013 4:44 PM
22	Have bike racks at bus stops [Lockable] where a bike can be left for ease of access for regular use of system. Possibly have long term parking available for cars as well ? This would allow for ease of transition from one mode to the other.	11/27/2013 11:18 AM
23	I think it would be great to start by extending the access to the current bike paths to outlying communities.	11/25/2013 8:37 AM
24	Last month my wife and I visited San Francisco and were amazed at the number of people of all ages walking & biking. A number of things stood out. 1) Bikers shared the roads with cars, buses, and the massive transit system on all roads in the city. 2) The mind set of anyone driving a vehicle was safety of the pedestrians at crossings and bicyclists on the streets, which were all given first priority everywhere in the city. 3) We saw very few obese people, as everyone, regardless of age were more active walking & bicycling. 4) It was obvious that it was a total community effort and plan.	11/21/2013 12:28 PM
25	I would love to be able to ride my bike more safely through out the Lima area! :)	11/20/2013 6:38 PM
26	There is a great need to connect the existing bike path to the 1000+ homes in subdivisions on the east side of Lima and the OSU Lima campus	11/20/2013 11:57 AM
27	Shawnee Road needs roadside walkways - could then easily connect to the school on Zurmehly, Heritage park, and the Ottawa River Walk - also connects to businesses and to Downtown Lima	11/18/2013 7:14 PM
28	Great thing for the community!	11/18/2013 5:08 PM
29	Love the idea of bike path from Delphos to Spencerville and Delphos to Lima.	11/18/2013 1:58 PM

APPENDIX C
FHWA Pedestrian & Bicycle Safety Countermeasures

Find More Info
(Estimated Costs, Selection Matrix, Case Studies, etc.)

http://www.pedbikesafe.org/

TABLE C-1
FHWA PEDESTRIAN SAFETY COUNTERMEASURES
http://www.pedbikesafe.org/PEDSAFE/countermeasures.cfm

Along the Roadway

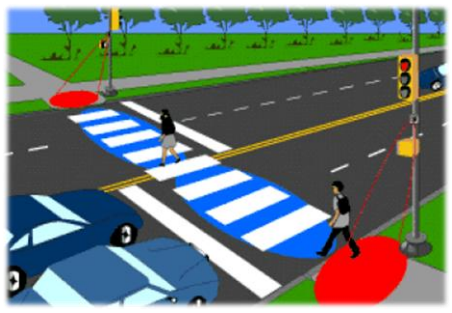
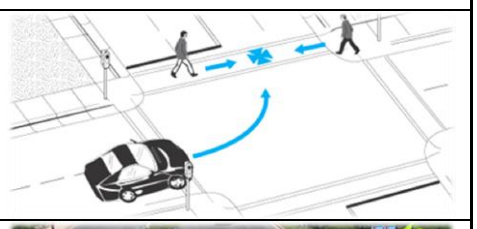
Countermeasure	*Purpose*	*Graphic*
Sidewalks, Walkways and Paved Shoulders	Pedestrians often walk along the roadway in areas where sidewalks or walkways are unavailable. Because there is no buffer between the pedestrian and the vehicular traffic, walking along the roadway can put a pedestrian at risk. It can also be difficult, if not impossible, for pedestrians with visual or mobility restrictions, as the road surface and gravel shoulders are generally not designed for pedestrian use. Sidewalks create the appropriate facility for the walking area of the public right-of-way and dramatically improve pedestrian safety.	
Street Furniture/Walking Environment	Streets without adequate sidewalk facilities may increase pedestrian risk. In addition, streets with sidewalks that lack a buffer or furniture zone and/or other pedestrian amenities are often viewed as unfriendly walking environments. By adding street furniture, sidewalks can be a functional and pleasant place for pedestrian	

At Crossing Locations

Countermeasure	*Purpose*	*Graphic*
Curb Ramps	Pedestrians with mobility restrictions will often have trouble moving from the sidewalk to the level of the roadway when crossing a street. The height difference between the road and the sidewalk might prove to be an insurmountable barrier to pedestrians trying to use sidewalks. Curb ramps provide access to street crossings and improve sidewalk accessibility for people with mobility restrictions.	
Marked Crosswalks and Enhancements	Any location that is an intersection of two roadways has a natural crossing location, which may be marked or unmarked. Motorists may fail to yield to pedestrians at unmarked crossings. Marked crosswalks warn motorists to expect pedestrian crossings and indicate preferred crossing locations for pedestrians.	
Curb Extensions	Wide roadways can create difficult crossing situations for pedestrians. Not only do pedestrians need more time to cross the roadway, but the roadway width encourages motorists to speed or take turns quickly. Curb extensions improve safety because they increase visibility, reduce speed of turning vehicles, encourage pedestrians to cross at designated locations, shorten the crossing distance, and prevent vehicles from parking at corners.	
Crossing Islands	Depending on the length of the pedestrian signal, some slower-paced pedestrians might get caught in the middle of the roadway if the traffic signal changes before they have finished crossing the roadway. At midblock crossings, it can be difficult for pedestrians to cross high-volume roadways if there is not a safe stopping place in the middle of the roadway. Crossing islands enhance the safety of pedestrian crossings and reduce vehicle speeds approaching pedestrian crossings.	
Raised Pedestrian Crossings	Where vehicle speeds on local and collector roads are relatively high, pedestrians experience significant challenges in cross the roadway. Motorist reaction time is reduced at higher speeds and additional measures may need to be taken to improve motorist yielding compliance and to reduce vehicle speed. Raised pedestrian crossings and intersections reduce vehicle speeds, reduce the need for curb ramps (though truncated domes should still be included), and enhance the pedestrian crossing environment.	
Lighting and Illumination	Roadway lighting has often focused on the needs of the motorist and not necessarily the safety of the pedestrian. However, it is important to consider lighting that illuminates pedestrian crosswalks and reduces glare to motorists. Of fatal pedestrian crashes, 58.6 percent occur at night on unlighted roads and 25.3 percent occur at night on lighted roads.13 Adequate roadway lighting enhances the safety of all roadway users, while pedestrian-scale lighting improves nighttime security and enhances commercial districts.	
Parking Restrictions (at Crossing Locations)	When vehicles are parked too close to pedestrian crossings, they limit the sightlines of pedestrians and motorists, which can increase pedestrian risk. Generally vehicles should not be parked within at least 20 feet of an intersection and parking restrictions should consider adequate sightlines for motorists and pedestrians to be able to see and react to each other.	
Pedestrian Overpasses/Underpasses	Sometimes it is necessary to completely separate pedestrians from vehicular traffic. Freeways, railways, and natural barriers can hinder the creation of traditional pedestrian facilities such as sidewalks and on-street crossings and often have a negative effect on pedestrian facility connectivity. Pedestrian overpasses and underpasses provide complete separation of pedestrians from motor vehicle traffic, provide crossings where no other pedestrian facility is available, and connect off-road trails and paths across major barriers.	

TABLE C-1
FHWA PEDESTRIAN SAFETY COUNTERMEASURES
(Continued)
http://www.pedbikesafe.org/PEDSAFE/countermeasures.cfm

At Crossing Locations (Continued)

Countermeasure	*Purpose*	*Graphic*
Automated Pedestrian Detection	At certain pedestrian crossings, it is necessary for a pedestrian to push a button to receive a pedestrian WALK signal. However, studies have shown that many pedestrians ignore the button or believe that the button is malfunctioning if there is a significant delay in receiving a signal.18 Visually impaired pedestrians also might not know that it is necessary to push a button to cross the roadway. Automated pedestrian detection provides more timely pedestrian indications and ensures that pedestrians have enough time to safely cross the roadway.	
Leading Pedestrian Interval	Vehicle-pedestrian incidents often occur at intersections where a pedestrian is crossing the street during a WALK interval. Pedestrians are especially vulnerable to left turning vehicles. Leading pedestrian intervals (LPIs) give pedestrians time to establish their presence in the crosswalk before motorists can start turning.	
Advance Yield/Stop Lines	In some cases, yielding motorists can cause unsafe pedestrian crossings by blocking the view of the pedestrian attempting to cross the roadway. Advance stop lines and yield markings improve the visibility of pedestrians to motorists and prevent multiple-threat crashes.	

Transit

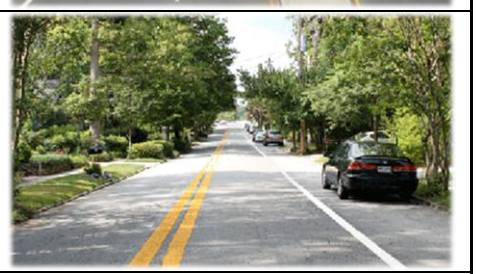
Countermeasure	*Purpose*	*Graphic*
Transit Stop Improvements	Good public transportation is as important to the quality of a community as good roads. Well-designed transit routes and accessible and comfortable stops are essential to a usable system. Transit stops should be designed to provide safe and convenient access and should be comfortable places for people to wait.	
Access to Transit	Provide safe and convenient access to transit stops for pedestrians of all abilities.	
Bus Bulb Outs	Provide additional space at transit stops for waiting patrons and passing pedestrians while also allowing buses to stop in lane, thereby increasing bus reliability and safety.	

Roadway Design

Countermeasure	*Purpose*	*Graphic*
Bicycle Lanes	Designing streets for bicycle use helps create a more predictable traffic environment by reducing conflicts between all modes of travel, whether the conflict is between bicyclists and motor vehicles or pedestrians and bicyclists. Dedicated bicycle facilities (e.g. bicycle lanes) on the roadway also help provide a buffer between pedestrians and motor vehicle traffic, encourage lower motor vehicle speeds, and reduce pedestrian exposure to motor vehicles at crossings.	
Lane Narrowing	On roadways where there are safety and speeding problems, and vehicle lane widths are greater than the recommended minimums, narrowing lane widths (i.e. lane diet), can help improve safety and comfort for pedestrians, bicyclists, transit riders, and motor vehicles. Lane diets provide multiple benefits, including lowering vehicle speeds, reducing crossing widths and pedestrian exposure to motor vehicle traffic, and redistributing roadway space for other users (e.g., create space for bike lanes).	
Lane Reduction (Road Diet)	Lane reductions (i.e. road diets) optimize street space to benefit all users. Lane reductions help improve safety and comfort for pedestrian as well as bicyclists.	

TABLE C-1
FHWA PEDESTRIAN SAFETY COUNTERMEASURES
(Continued)
http://www.pedbikesafe.org/PEDSAFE/countermeasures.cfm

Roadway Design (Continued)

Countermeasure	*Purpose*	*Graphic*
Driveway Improvements	The design of a driveway influences driver behavior and pedestrian safety and comfort. Attention to details such as the slope and design of the sidewalk crossing the driveway and maintaining sight lines can draw motorists' attention to the pedestrians approaching and crossing driveways and will improve access for people with disabilities.	
Raised Medians	Raised medians separate opposing streams of traffic and restrict turning movements. They can facilitate pedestrian crossings, improve pedestrian visibility to motorists, slow motor vehicle speeds, and provide space for lighting and landscaping.	
One-way/Two-way Street Conversions	Converting a one-way street to a two-way street reduces vehicle speeds and vehicle miles traveled and improves access and economic activity in areas with a dense mixture of land uses such as downtowns and commercial streets.	
Improved Right-Turn Slip-Lane Design	Well-designed right-turn slip lanes slow turning vehicles, allow drivers and pedestrians to easily see each other, reduce pedestrian exposure in the roadway, reduce the complexity of an intersection by breaking it into manageable parts, and allow drivers to see oncoming traffic as they merge into the receiving roadway. Right-turn slip lanes can be a detrimental to pedestrian safety when they allow motorists to maintain high speeds through the turn, do not optimize sight lines to the crosswalk, and do not reduce the crossing distance for pedestrians.	

Intersection Design

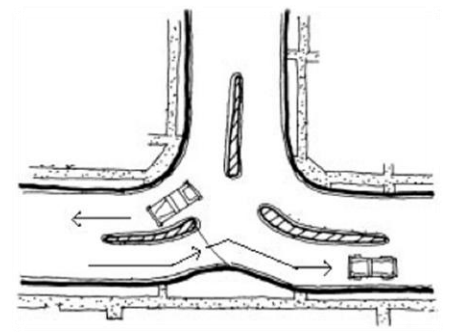
Countermeasure	*Purpose*	*Graphic*
Roundabouts	Roundabouts are circular intersections designed to eliminate left turns by requiring traffic to exit to the right of the circle. Roundabouts are installed to reduce vehicular speeds, improve safety at intersections through eliminating angle collisions, help traffic flow more efficiently and reduce operation costs when converting from signalized intersections, and help create gateway treatments to signify the entrance of a special district or area.	
Modified T-Intersections	Where speeding is of concern at T-intersections (3-leg intersections) on low-volume residential or collector streets, this treatment modifies the geometry of the intersection to reduce vehicle speeds.	
Intersection Median Barriers	Where it is desired to reduce cut-through traffic on neighborhood streets, intersection median barriers are used to restrict motor vehicle access for left-turn and cross-street through movements. Median barriers can enhance the comfort and accessibility of a street for pedestrians and bicyclists by reducing traffic volumes, preventing turning conflicts, and reducing pedestrian crossing distances and exposure to motor vehicles when pedestrian crossing islands/refuges are incorporated.	
Curb Radius Reduction	Larger curb radii typically result in high-speed turning movements by motorists, which may increase the risk of pedestrians being struck by right-turning vehicles. Smaller radii can improve pedestrian safety by requiring motorists to reduce vehicle speed by making sharper turns, and shortening pedestrian crossing distances which thereby improves signal timing. Also the smaller radii provide larger pedestrian waiting areas at corners, improve sight distances, and allow for greater flexibility of curb ramp placement.	
Modify Skewed Intersections	Skewed intersections occur when streets intersect at angles other than 90 degrees and can create complicated scenarios for pedestrians, bicyclists and motorists. Skewed intersections result in longer crossing distances for pedestrians and facilitate higher speed turning movements by vehicles. Correcting skewed intersections provides safer crossing conditions for pedestrians of all abilities.	
Pedestrian Accommodations at Complex Interchanges	One of the most challenging situations facing pedestrians in urban and suburban areas is how to walk safely through areas with interchanges, yet pedestrian travel is often not considered adequately when interchanges are planned and designed. At interchange areas, pedestrians face the task of crossing at the intersection of on-ramps and off-ramps when walking along the local or arterial street or pedestrians may also wish to cross the local street near ramps. In either situation, pedestrian crossing activity may conflict with high-speed right-turn or left-turn motorists who are decelerating from the off-ramp or accelerating onto the on-ramp.	

TABLE C-1
FHWA PEDESTRIAN SAFETY COUNTERMEASURES
(Continued)
http://www.pedbikesafe.org/PEDSAFE/countermeasures.cfm

Traffic Calming

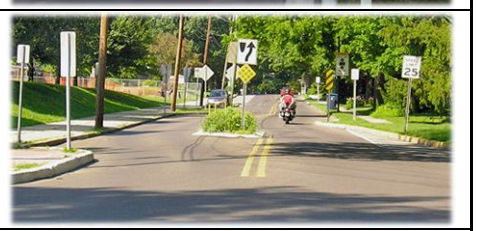
Countermeasure	*Purpose*	*Graphic*
Temporary Installations for Traffic Calming	Change the entire look of a street to send a message to drivers that the road is not for fast driving.	
Chokers	Chokers are designed to slow vehicles at a mid-point along the street through narrowing the street width at a specific location. They can be used create a clear transition between a commercial and a residential area or narrow overly-wide intersections and midblock areas of streets. Chokers also can be designed to add room along the sidewalk or planting strip for landscaping or street furniture.	
Chicanes	Chicanes are another horizontal traffic control measures used to reduce vehicle speeds on local streets. A secondary benefit of chicanes installation is the ability to add more green (landscaping) to a street.	
Mini-Circles	Mini-circles are traffic calming devices used to reduce speeds and manage traffic at intersections where volumes do not warrant a stop sign or a signal. This measure has been proven to effectively reduce crash problems at the intersection of two local streets.	
Speed Humps	Speed humps are vertical traffic control measures that tend to have the most predictable speed reduction impacts. They can also be used to enhance the pedestrian environment at pedestrian crossings.	
Speed Tables	Speed tables are another type vertical traffic control measures. Vertical measures tend to have the most predictable speed reduction impacts and are best used on local streets. Speed tables can also enhance the pedestrian environment at pedestrian crossings.	
Gateways	Gateways are landmarks used to create an expectation for motorists to drive more slowly and watch for pedestrians when entering a commercial, business, or residential district from a higher speed roadway. They can also create a unique image for an area.	
Landscaping	Landscaping can be used to calm traffic by creating a visual narrowing of the roadway. Its use can also enhance the street environment.	
Specific Paving Treatments	Paving treatments send a visual to motorists cue about the function of a street. They can also create an aesthetic enhancement of a street and be used to delineate separate space for pedestrians or bicyclists.	
Serpentine Design	Serpentine street design is used to change the entire look of a street to send a message to motorists to drive slowly on this street.	

TABLE C-1
FHWA PEDESTRIAN SAFETY COUNTERMEASURES
(Continued)
http://www.pedbikesafe.org/PEDSAFE/countermeasures.cfm

Traffic Management

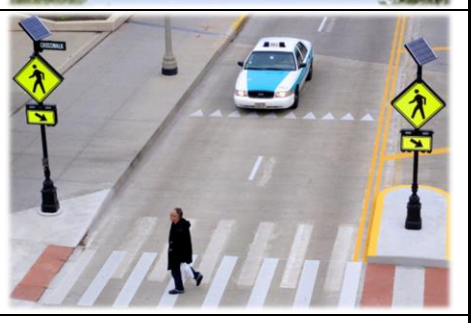
Countermeasure	*Purpose*	*Graphic*
Diverters	Diverters are measures used to discourage or prevent traffic from cutting through a neighborhood.	
Full Street Closure	Full street closures are the ultimate limitation measures used to discourage or prevent through traffic from using certain streets.	
Partial Street Closure	Partial street closures are traffic management measures that can reduce traffic volumes through preventing turns from an arterial street onto a residential street or restricting access to a street without creating one-way streets.	
Left Turn Prohibitions	Left-turns at intersections can present a challenge to motorists who must yield to both oncoming traffic and crossing pedestrians to find an acceptable gap. This situation increases the crash risk for pedestrians who may be struck by motorists that fail to yield. Prohibiting left-turns through physical measures is one method to nearly eliminate this risk.	

Signals and Signs

Countermeasure	*Purpose*	*Graphic*
Traffic Signals	Traffic signals create gaps in the traffic flow and allow pedestrians to cross the street at locations where pedestrians would otherwise experience excessive delay, difficulties crossing the street, or safety issues.	
Pedestrian Signals	Pedestrian signals should be used at traffic signals under a wide variety of conditions related to pedestrian activity or guidance, according to the MUTCD. Pedestrian signals provide positive guidance to pedestrians regarding the permitted signal interval to cross a street and prohibit pedestrian crossings when conflicting traffic may impact pedestrian safety.	
Pedestrian Signal Timing	In general, shorter cycle lengths (ideally less than 90 seconds) and longer walk intervals provide better service to pedestrians and encourage better signal compliance. For optimal pedestrian service, fixed-time signal operation usually works best because it provides an automatic pedestrian phase.	
Traffic Signal Enhancements	A variety of traffic signal enhancements that can benefit pedestrians and bicyclists are available. These include automatic pedestrian detectors, larger traffic signals to improve visibility, signal placement designed to deter motorists from observing cross street signals, and countdown signals provide pedestrians with information about the amount of time remaining in a crossing interval. The Institute of Transportation Engineers (ITE) Alternative Treatments for At-Grade Pedestrians Crossings report describes numerous traffic signal enhancement measures in detail.7	
Right-Turn-on-Red Restrictions	A permissible Right Turn on Red (RTOR) was introduced in the 1970s as a fuel-saving measure and has sometimes had detrimental effects on pedestrians. While the law requires motorists to come to a full stop and yield to cross-street traffic and pedestrians prior to turning right on red, many motorists do not fully comply with the regulations, especially at intersections with wide turning radii. Motorists are so intent on looking for traffic approaching on their left that they may not be alert to pedestrians approaching on their right. In addition, motorists usually pull up into the crosswalk to wait for a gap in traffic, blocking pedestrian crossing movements. In some instances, motorists simply do not come to a full stop.	
Advanced Stop Lines at Traffic Signals	Motorists sometimes crowd pedestrian crossings by stopping too close to a crosswalk. Advanced stop lines at traffic signals are helpful in improving the visibility of pedestrians to motorists and also allow pedestrians to advance in a crosswalk before motor vehicle has the opportunity to turn.	

TABLE C-1
FHWA PEDESTRIAN SAFETY COUNTERMEASURES
(Continued)
http://www.pedbikesafe.org/PEDSAFE/countermeasures.cfm

Signals and Signs

Countermeasure	*Purpose*	*Graphic*
Left Turn Phasing	One of the most common conflicts at signalized intersections is the competition between vehicles permissively turning left and pedestrians crossing during the concurrent pedestrian signal phase. Drivers typically focus on on-coming traffic to identify gaps for left turns and may not pay due attention to pedestrians approaching or in the parallel crosswalk. Furthermore, permissive left turns at congested intersections contribute to drivers accepting smaller gaps, turning at higher speeds, and "sneaking" through the intersection during the yellow or all-red signal intervals. Implementing protected left turn phasing can reduce conflicts with pedestrians crossing parallel to vehicle traffic.	
Push Buttons & Signal Timing	Pedestrian pushbuttons are detectors intended to provide pedestrians with the ability to activate a pedestrian signal and reassure pedestrians that they will receive a crossing indication. However, only approximately 50 percent of pedestrians at intersections activate pushbuttons to cross at the intersection. To improve potential use of the pushbuttons and compliance with pedestrian signals, pushbuttons should be designed and installed to maximize convenience, conspicuity, and communication for pedestrians. Section 4E.08 of the MUTD provides specific guidance on the location of pushbuttons at traffic signals.1	
Pedestrian Hybrid Beacon (PHB)	A pedestrian hybrid beacon is a special type of beacon used to warn and control traffic at an unsignalized location to assist pedestrians in crossing a street or highway at a marked crosswalk.	
Rectangular Rapid Flash Beacon (RRFB)	The Rectangular Rapid Flash Beacon (RRFB) is a device using LED flashing beacons in combination with pedestrian warning signs, to provide a high-visibility strobe-like warning to drivers when pedestrians use a crosswalk.	
Puffin Crossing	PUFFIN stands for Pedestrian User Friendly Intelligent Intersection, and it uses active detection and passive presence of pedestrians in crosswalks to determine whether the pedestrian phase of a traffic signal or beacon should be extended or canceled. PUFFIN signals in Great Britain reduce waiting times for both pedestrians and motorists while making sure that slower pedestrians can safely cross the street. PUFFIN signal indications are often placed on the near side of an intersection so that pedestrians can view oncoming traffic and look at the signal simultaneously. This positioning of the signals so crossing pedestrians can no longer see their signal has caused some concern in Great Britain and is currently under study. Tucson has attempted to take the best from the British design and overcome the position of the pedestrian signal indication issues with the Tucson PUFFIN. The pedestrian indications are placed so they are visible throughout the crossing maneuver in Tucson.	
Signing	Signs can provide important information that can improve road safety. By letting people know what to expect, there is a greater chance that they will react and behave appropriately. For example, giving motorists advance warning of an upcoming pedestrian crossing or that they are entering a speed zone will alert them to the potential of pedestrians crossing the street and modify their speed. Sign use and movement should be done judiciously, as overuse may breed noncompliance and disrespect. Too many signs may also create visual clutter where their conspicuity is diminished.	

Other Measures

Countermeasure	*Purpose*	*Graphic*
School Zone Improvement	Conditions exist around schools that create unsafe conditions for pedestrians, especially children; these conditions impact their safety and ability to travel to and from school. School zone improvements can enhance pedestrian safety around schools.	
Neighborhood Identity	Neighborhoods can establish their identities and foster a stronger sense of community among residents by using a combination of tools, such as gateways and signage. In doing so, residents can enhance the visibility of a neighborhood or district and support community efforts to define their neighborhood.	

TABLE C-1
FHWA PEDESTRIAN SAFETY COUNTERMEASURES
(Continued)
http://www.pedbikesafe.org/PEDSAFE/countermeasures.cfm

Other Measures (Continued)

Countermeasure	*Purpose*	*Graphic*
Speed-Monitoring	Excessive automobile speeds increase the risk to pedestrians. Speed-monitoring trailers can enhance enforcement efforts through public education and awareness.	
On-Street Parking Enhancements	On-street parking can address a lack of adequate parking along a street and can serve as a traffic calming measure, if motorists are driving at excessively high speeds along busy streets. By providing a buffer between sidewalk edge and moving traffic, on-street parking can help create a safer and more comfortable pedestrian environment.	
Pedestrian/Driver Education	Pedestrians and/or motorists can be misinformed regarding traffic laws, which may lead to risky or reckless behavior. Pedestrian and driver education can provide information to roadway users and help motivate a change in specific behaviors to reduce the risk of pedestrian injuries.	
Police Enforcement	Even though engineering countermeasures are implemented, the failure of motorists and pedestrians to adhere to traffic laws creates an unsafe environment. Police enforcement can increase driver awareness of the need to share the roadway and reduce pedestrian-related traffic crashes.	
Automated Enforcement Systems	The number of motorists speeding and/or running red lights endangers pedestrians and limited resources do not allow for continual manual enforcement of problematic intersections and/or roadways. Automated enforcement systems can help reduce the amount of crashes caused by motorists speeding and/or running red lights and aids enforcement officials in efforts to monitor and enforce traffic laws.	
Pedestrian Streets/Malls	In an otherwise vibrant and thriving pedestrian commercial area, there is a lack of space for pedestrians to interact, shop, eat, and/or travel. Pedestrian malls can create a significant public space in a downtown district, tourist district, or a special events or marketplace area, which can enhance the experience of people and ease mobility.	
Work Zones - Pedestrian Detours	Around 15 percent of fatalities resulting from crashes in work zones involve non-motorists (i.e. pedestrians, workers, and bicyclists). There is a need to provide safe and convenient passage to pedestrians in work zones, particularly with respect to the interactions of work-site vehicles and other motorists.	
Pedestrian Safety at Railroad Crossings	Railroad crossings can present safety issues for pedestrians, particularly those using wheeled devices such as wheelchairs and scooters. They also pose a risk to pedestrians using headphones and/or who are hearing impaired. Nearly every three hours in the United States, a person or vehicle is hit by a train.16Public railroad crossings (per the MUTCD) are required to have certain passive devices; active devices should be installed at those crossings where an engineering study has recommended their use.	
Shared Streets	The speed of motorists on low-volume residential streets and/or in commercial areas makes the use of the street by pedestrians uncomfortable and/or unsafe. Shared streets can improve the safety of pedestrians by removing traditional roadway treatments, encouraging integration, and creating a public space which can be used for social and commercial activities. However, not all streets should be shared by all road users. These should be used only in special situations where all users travel at walking speeds, and there are a nearly equal volume of pedestrians, bicyclists, and motorists.	
Streetcar Planning and Design	Streetcars can encourage the use of transit within cities and foster compact, livable neighborhoods. Secondary effects can include more pedestrian-friendly environments around streetcar stops and increased economic vitality along the streetcar corridor.	

TABLE C-2
FHWA BICYCLE SAFETY COUNTERMEASURES
http://www.pedbikesafe.org/BIKESAFE/countermeasures.cfm

Shared Roadway

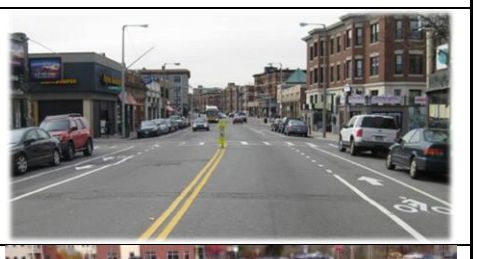
Countermeasure	*Purpose*	*Graphic*
Roadway Surface Improvements	Bicyclists are particularly vulnerable to sudden changes in width and surface texture, including potholes and drainage grates in locations where bicyclists can be expected to ride. Correcting sudden changes in surface characteristics will provide smooth, safe surfaces for bicyclists.	
Bridge and Overpass Access	Bridges and overpasses built for all modes of travel provide continuity of access for bicyclists and prevent significant detours for bicyclists due to unsurpassable natural or built barriers.	
Tunnel and Underpass Access	Roadway tunnels and underpasses that accommodate multiple travel modes provide continuity of access for bicyclists across barriers and connect shared-use paths across built or natural barriers, but they must be designed with safety and security in mind.	
Lighting Improvements	Illuminating the roadway surface and surroundings enhances the safety of all roadway users and optimizes visibility of bicyclists (and pedestrians) during low-light conditions, particularly in locations where high numbers of bicyclists may be expected such as commuter routes, routes to and from universities, intersections and intersections with shared-use paths. Personal security of bicyclists and pedestrians is also improved.	
Parking Treatments	Design configuration treatments reduce conflicts between bicyclists and parking-related incidents (pulling into and out of parking spaces, opening doors); provides more space or facilities for bicyclists on the roadway; and improves sight distance along a roadway.	
Median/Crossing Island	Medians and crossing islands help manage motor vehicle traffic and reduce the number of conflict areas, provide comfortable left-hand turning pockets with fewer or narrower lanes, and may help to slow traffic if roadway is narrowed sufficiently. Providing a protected refuge for bicyclists crossing or making left turns assists bicyclists in crossing high-volume streets at non-signalized locations. Finally, medians and crossing islands provide space for street trees and other landscaping.	
Driveway Improvements	Driveway improvements provide good visibility for motorists and bicyclists accessing the roadway and reduce conflicts between those traveling along the corridor and those entering or leaving the corridor. They slow motor vehicles entering/exiting the roadway and establish pedestrian right-of-way. They also reduce the chances of a bicycle-only fall or turning error when bicycles enter or leave the roadway.	
Lane Reductions (road diet)	Reducing lane numbers remedies excess capacity situations. More space for bicyclists, pedestrians, and parking is provided. Reducing the apparent width of the road provides median refuge and improves safety for all street users. It improves social interaction and enhances livability of the street. Lane reductions (i.e., road diets) optimize street space to benefit all users. Lane reductions help improve safety and comfort for pedestrian as well as bicyclists. Reducing the number of lanes on a multilane roadway can help improve sight distances for left-turning vehicles and create space for bicycle, transit, and/or parking lanes.	
Lane Narrowing	On roadways where there are safety and speeding problems, and vehicle lane widths are greater than the recommended minimums, narrowing lane widths (i.e., lane diet), can help improve safety and comfort for pedestrians, bicyclists, transit riders, and motor vehicles. Lane diets provide multiple benefits, including lowering vehicle speeds, reducing crossing widths and pedestrian exposure to motor vehicle traffic, and redistributing roadway space for other users (e.g., create space for bike lanes).	
Streetcar Track Treatments	Streetcar and light rail tracks pose a crash risk to bicyclists whose wheels may get stuck in the flangeway opening at skewed crossings and during turning and lane-changing maneuvers.	

TABLE C-2
FHWA BICYCLE SAFETY COUNTERMEASURES
(Continued)
http://www.pedbikesafe.org/BIKESAFE/countermeasures.cfm

On-Road Bike Facilities

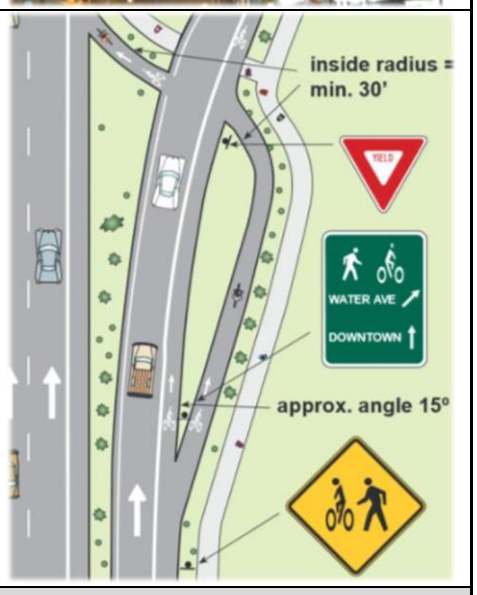
Countermeasure	*Purpose*	*Graphic*
Bike Lanes	Bike lanes are used to create on-street, separated travel facilities for bicyclists. They can provide safety benefits to road users though separate operational space for safe motorist overtaking of bicyclists, particularly in narrow, congested areas. Bike lane presence also visually narrows the roadway or motor vehicle travel lanes to encourage lower motor vehicle speeds.	
Wide Curb Lanes	Wide curb lanes create on-street travel facilities for more experienced and confident bicyclists through marking lanes wide enough so that motor vehicles and bicycles have adequate room to share the lane during overtaking.	
Paved Shoulders	Paved shoulders create separated space for bicyclists and also provide motor vehicle safety benefits and space for inoperable vehicles to pull out of the travel lane.	
Shared Bus-Bike Lanes	Combination lanes are an option to create on-street travel facilities for bicyclists where it is not feasible to provide a completely separate bicycle facility or lane. These lanes can still provide a safer facility for bicyclists through the separated space from higher-speed traffic lanes.	
Contraflow Bike Lanes	Contraflow bike lanes create specialized on-street facilities for bicyclists that can be used to enhance bike connectivity. They can improve safety and bicyclist behavior by reducing out-of-direction riding and the wrong-way riding that may occur where the most direct or comfortable route is a one-way street. This treatment can also be used to provide an alternative to riding on a high-speed, high-volume route.	
Separated Bike Lanes	Separated bike lanes can provide an attractive bicycle facility for people with a range of riding abilities through the physical separation from motor vehicle traffic.	

Intersection Treatments

Countermeasure	*Purpose*	*Graphic*
Curb Radius Reduction	Motorist's awareness of bicyclists during right turns can be improved by creating a safer intersection design. Larger curb radii typically result in high-speed turning movements by motorists, which may increase the risk of bicyclists being struck by right-turning vehicles. Smaller radii can improve safety by requiring motorists to reduce vehicle speed by making sharper turns.	
Roundabouts	Roundabouts are circular intersections designed to eliminate left turns by requiring traffic to exit to the right of the circle. Roundabouts are installed to reduce vehicular speeds; improve safety at intersections through eliminating angle collisions; help traffic flow more efficiently and reduce operational costs when converting from signalized intersections; and help create gateway treatments to signify the entrance of a special district or area.	
Intersection Markings	Intersection markings cognizant of nonmotorized traffic create on-street travel facilities and separated space for bicyclists. They also serve to increase awareness and safe behaviors by both cyclists and motorists.	
Sight Distance Improvements	Keep streets and intersections clear and unimpeded improves line of sight for all modes of traffic. This increases awareness and safe behaviors by both cyclists and motorists, increases their reaction times and decreases stopping distances.	

TABLE C-2
FHWA BICYCLE SAFETY COUNTERMEASURES
(Continued)
http://www.pedbikesafe.org/BIKESAFE/countermeasures.cfm

Intersection Treatments (Continued)

Countermeasure	*Purpose*	*Graphic*
Turning Restrictions	Turning restrictions can increase bicycle (and pedestrian) safety and decrease crashes with turning motor vehicles. This also increases safety in crosswalks.	
Merge and Weave Area Redesign	Improving markings and geometric design of turn lanes, intersections, arterials, and urban parkways provides for safer merging of bicycles with motor vehicle traffic. Improved sight distance and awareness can also mitigate conflicts at entry and exit ramps.	

Maintenance

Countermeasure	*Purpose*	*Graphic*
Repetitive/Short-term Maintenance	Roadways must be kept clear of debris and deterioration to provide a safe and predictable riding surface for bicyclists. Identify, plan, and budget for routine maintenance activities that are critical to 1) maintaining the safety of a facility; 2) protecting the investment in a facility; and 3) protecting aesthetics and the environment.	
Major Maintenance	Major maintenance activities provide an opportunity to improve the safety of a facility; protect the investment in a facility; and protect the aesthetics and the environment.	
Hazard Identification Program	Quickly and methodically identifying hazards for bicyclists can ensure that maintenance hazards are addressed on a timely basis.	

Traffic Calming

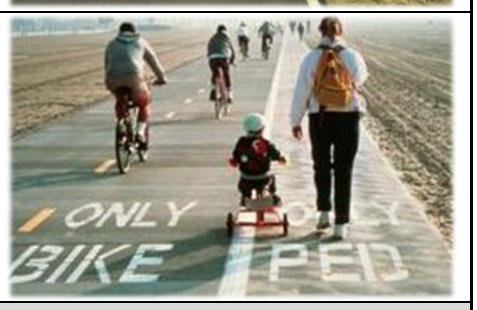
Countermeasure	*Purpose*	*Graphic*
Mini-circles	Mini-circles are traffic calming devices used to reduce speeds and manage traffic at intersections where volumes do not warrant a stop sign or a signal. Seattle has found this measure to effectively reduce crash problems at the intersection of two local streets.	
Chicanes	Chicanes are horizontal traffic control measures used to reduce vehicle speeds on local streets. A secondary benefit of chicane installation is the ability to add more green (landscaping) to a street.	
Speed Tables/ Humps/ Cushions	Vertical measures tend to have the most predictable speed reduction impacts and are best used on local streets. Speed tables can also enhance the pedestrian environment at pedestrian crossings.	

TABLE C-2
FHWA BICYCLE SAFETY COUNTERMEASURES
(Continued)
http://www.pedbikesafe.org/BIKESAFE/countermeasures.cfm

Traffic Calming

Countermeasure	*Purpose*	*Graphic*
Traffic Diversion	Traffic diversion augments traffic calming by limiting motor vehicle traffic on certain streets and preventing turns from an arterial street onto a residential street. It also reduces traffic volume by discouraging or preventing traffic from cutting through a neighborhood and restricts access to a street without creating one-way streets.	
Visual Narrowing	Visual narrowing suggests to motorists that the street is a narrow, low-speed street and other users should be expected.	

Trails and Shared-Use Paths

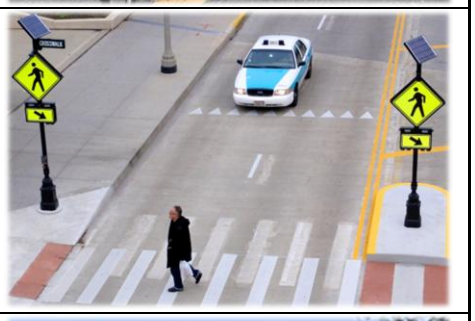
Countermeasure	*Purpose*	*Graphic*
Separate Shared-Use Paths	A separate shared-use path provides attractive off-roadway recreational or commuting bicycling opportunities and provides additional network opportunities to connect destinations. While the separation from motor vehicles provided by shared-use paths reduces the risk of some crash types, careful design is required to ensure safe roadway and driveway crossings and safe interactions among the different path users.	
Path Intersection Treatments	Intersections and driveways present many hazards to users of shared-use paths and safe crossings must be provided.	
Share the Path Treatments	Reduce conflicts and crashes on shared-use trails.	

Marking, Signs & Signals

Countermeasure	*Purpose*	*Graphic*
Optimizing Signal Timing for Bicyclists	Traffic signal timing should be optimized to account for bicycle operating characteristics that include providing minimum green intervals, red clearance time, and extension time to ensure that bicyclists can safely cross intersections.	
Bike-activated Signal Detection	Signalized intersections should include detection for bicyclists to facilitate safe, comfortable, and convenient crossings at intersections for bicyclists while also minimizing delay.	
Sign Improvements for Bicyclists	Signs provide warning and regulatory messages, as well as useful information to all road users. NO TURN ON RED signs can increase bicycle safety and decrease crashes with right-turning vehicles; SHARE THE ROAD signs can make motorists more aware of bicyclists on roads with poor bicycle accommodations; and wayfinding signs direct bicyclists to the best routes connecting destinations or circumventing barriers, while indicating to motorists that bicyclists may be present.	

TABLE C-2
FHWA BICYCLE SAFETY COUNTERMEASURES
(Continued)
http://www.pedbikesafe.org/BIKESAFE/countermeasures.cfm

Marking, Signs & Signals (Continued)

Countermeasure	*Purpose*	*Graphic*
Pavement Marking Improvements	A variety of pavement markings can be used at intersections to indicate the presence of bicyclists and bike facilities; to provide information about upcoming turning and crossing maneuvers; and to guide bicyclists on the correct path through an intersection.	
School-zone Improvements	Improvements to school zones provide enhanced safety around schools to encourage students to walk or bike to school.	
Rectangular Rapid Flashing Beacons (RRFB)	The Rectangular Rapid Flashing Beacon (RRFB) is a device using LED flashing beacons in combination with pedestrian and bicycle warning signs, to provide a high-visibility strobe-like warning to drivers when pedestrians and bicyclists use a crosswalk.	
Pedestrian Hybrid Beacon	A PHB is a special type of beacon used to warn and control traffic at an unsignalized location to assist pedestrians and bicyclists in crossing a street or highway at a marked crosswalk.	
Bicycle Signal Heads	Bicycle signal heads may be used to improve safety and operations at signalized intersections where bicycles require specific guidance.	

Other Measures

Countermeasure	*Purpose*	*Graphic*
Law Enforcement	Even though engineering countermeasures are implemented, the failure of motorists and bicyclists to adhere to traffic laws creates an unsafe environment. Police enforcement can increase driver awareness of the need to share the roadway and reduce bicycle-related traffic crashes.	
Bicyclist/ Motorist Education	Bicyclists and/or motorists can be misinformed regarding traffic laws, which may lead to risky or reckless behavior. Bicyclist and driver education can provide information to roadway users and help motivate a change in specific behaviors to reduce the risk of bicyclist injuries.	
Transit Access	This strategy promotes bicycling by greatly expanding the range of accessible destinations. It also promotes transit use, by expanding options for accessing and using transit.	

TABLE C-2
FHWA BICYCLE SAFETY COUNTERMEASURES
(Continued)
http://www.pedbikesafe.org/BIKESAFE/countermeasures.cfm

Other Measures (Continued)

Countermeasure	*Purpose*	*Graphic*
Wayfinding	Signage and markings can help new and experienced bicyclists find bicycle facilities and understand the distances to key destinations around the city. A wayfinding system also publicizes the existence of the bicycle network for all roadway users.	
Landscaping/Aesthetics	Landscaping can be used to calm traffic by creating a visual narrowing of the roadway. More broadly, aesthetically pleasing bicycle facilities can create an attractive environment, not only for bicyclists, but for everyone. By building such environments, one hopes to encourage more people to bike.	

APPENDIX D
AT Funding Sources

APPENDIX D AT FUNDING SOURCES			
Fund Type	**Agency**	**Description**	**More Info**
MPO/STBG	ODOT/MPO	The STBG promotes flexibility in State and local transportation decisions and provides flexible funding to best address State and local transportation needs.	https://www.fhwa.dot.gov/fastact/factsheets/stbgfs.cfm
MPO/CMAQ	MPO	A funding source for transportation projects and programs that help meet the requirements of the Clean Air Act. Funding is available to reduce congestion and improve air quality for areas that do not meet the National Ambient Air Quality Standards in nonattainment maintenance areas.	https://www.fhwa.dot.gov/fastact/factsheets/cmaqfs.cfm
ODOT TAP	ODOT/MPO	This program provides funding for projects defined as transportation alternatives, including on- and off-road pedestrian and bicycle facilities, infrastructure projects for improving non-driver access to public transportation and enhanced mobility, community improvement activities, and environmental mitigation; recreational trail program projects; and safe routes to school projects.	http://www.dot.state.oh.us/Divisions/Planning/LocalPrograms/Pages/LocalFundingOpportunities.aspx
SRTS	ODOT	The purpose of Safe Routes to School program is to encourage and enable students in grades k-8 to walk or ride their bicycle to school. Projects can be either engineering (improved crossings, sidewalks, etc.) or non-engineering (education and encouragement programs).	http://www.dot.state.oh.us/Divisions/Planning/ProgramManagement/HighwaySafety/ActiveTransportation/Pages/SRTS.aspx
Nature Works	ODNR	The NatureWorks grant program provides up to 75% reimbursement assistance for local government subdivisions (townships, villages, cities, counties, park districts, joint recreation districts, and conservancy districts) to for the acquisition, development, and rehabilitation of recreational areas.	http://realestate.ohiodnr.gov/outdoor-recreation-facility-grants
Recreational Trails	ODNR	Eligible projects include development of urban trail linkages, trail head and trailside facilities; maintenance of existing trails; restoration of trail areas damaged by usage; improving access for people with disabilities; acquisition of easements and property; development and construction of new trails; purchase and lease of recreational trail construction and maintenance equipment; environment and safety education programs related to trails. Cities and villages, counties, townships, special districts, state and federal agencies, and nonprofit organizations are eligible to apply. Up to 80 percent matching federal funds is reimbursed.	http://realestate.ohiodnr.gov/outdoor-recreation-facility-grants
Section 402	ODOT	Section 402 supports State highway safety programs, designed to reduce traffic crashes and resulting deaths, injuries, and property damage. A State may use these grant funds only for highway safety purposes; at least 40 percent1 of these funds are to be used by or for the benefit of political subdivisions of the State to address local traffic safety problems.	https://safety.fhwa.dot.gov/legislationandpolicy/policy/section402/
Clean Ohio Trails Fund	ODNR	The Clean Ohio Trails Fund works to improve outdoor recreational opportunities by funding trails for outdoor pursuits of all kinds. Up to 75 percent matching State of Ohio funds are reimbursed under Clean Ohio Trails Fund. Eligible project costs include land acquisition for a trail, trail development, trailhead facilities, engineering and design. Eligible applicants include local governments, park and joint recreation districts, conservancy districts, soil and water conservation districts, and non-profit organizations.	https://development.ohio.gov/cleanohio/RecreationalTrails/
CDBG	ODSA	The Community Development Block Grant (CDBG) program is a flexible program that provides communities with resources to address a wide range of unique community development needs. each activity must meet one of the following national objectives for the program: benefit low- and moderate-income persons, prevention or elimination of slums or blight, or address community development needs having a particular urgency because existing conditions pose a serious and immediate threat to the health or welfare of the community for which other funding is not available.	https://portal.hud.gov/hudportal/HUD?src=/program_offices/comm_planning/communitydevelopment/programs
ODOT 629 Monies	ODSA	Roadwork Development (629) funds are available for public roadway improvements, including engineering and design costs. Funds are available for projects primarily involving manufacturing, research and development, high technology, corporate headquarters, and distribution activity. Projects must typically create or retain jobs. Grants are usually provided to a local jurisdiction and require local participation.	https://development.ohio.gov/cs/cs_r629.htm
Permissive License Plate Fees	County	Permissive tax revenue is used by the counties and taxing districts per ORC Chapter 4504, which includes planning, constructing, improving maintaining and repairing public roads, highways, streets, and for the maintaining and repair of bridges and viaducts.	http://www.bmv.ohio.gov/links/bmv_Permissive_Tax_FAQs.pdf
ARRA	ODOT	The American Recovery and Reinvestment Act funded transit construction projects aimed at creating jobs and driving economic growth.	https://www.transit.dot.gov/regulations-and-guidance/legislation/arra/american-recovery-and-reinvestment-act-arra
Highway Safety Improvement Program (HSIP)	ODOT	The Ohio Department of Transportation (ODOT) administers the Program. ODOT funds a mix of spot safety projects, such as intersection improvements and curve realignment, as well as systematic safety treatments including upgrading signs, signals, pavement markings, guardrails etc. Funding is available for all stages of development and typically requires a minimum 10% local match; however, some safety improvements are eligible for 100% funding.	http://www.dot.state.oh.us/Divisions/Planning/ProgramManagement/HighwaySafety/HSIP/Pages/default.aspx
State Capital Improvement Program (SCIP)	OPWC	The Ohio Public Works Commission (OPWC) administers the SCIP. Townships, villages, cities and counties are eligible to apply for improvements to roads, bridges, culverts, water supply systems, wastewater systems, storm water collection systems, and solid waste disposal facilities. Grants are available for up to 90% of the total project costs for repair/replacement, and up to 50% for new/expansion. Loans can be provided for up to 100% of the project costs. Grant/loan combinations are also available. There is no minimum or maximum loan amount.	http://www.pwc.state.oh.us/OPWCOverview.html?m
Small Government Program	OPWC	A small pot of funding is set aside under the SCIP for the Small Government Program administered by the Ohio Public Works Commission. This program funding is restricted to villages and townships with populations in the unincorporated areas of less than 5,000 in population. This is a "second chance" for selected village and township projects that have not been funded through other OPWC programs.	http://www.pwc.state.oh.us/OPWCOverview.html?m
Local Transportation Improvement Program (LTIP)	OPWC	The Ohio Public Works Commission administers the LTIP. Project eligibility for the LTIP is limited to roads and bridges. Townships, villages, cities and counties are eligible to apply for improvements to roads and bridges. Applicants may apply for grants up to 100% of the project cost.	http://www.pwc.state.oh.us/OPWCOverview.html?m

APPENDIX D AT FUNDING SOURCES (Continued)			
Fund Type	**Agency**	**Description**	**More Info**
Clean Ohio Green Space Conservation Program	OPWC	The Clean Ohio Green Space Conservation Program is administered by the Ohio Public Works Commission. The Program is dedicated to environmental conservation including acquisition of green space and the protection and enhancement of river and stream corridors. Grant funds are available for open space acquisition, including easements, and related development necessary to make the open space accessible and useable by the general public. This includes structures providing for accessibility (e.g. parking lots, trails, benches, trash receptacles), however, public access is not mandated. Eligible costs include planning, design, engineering, appraisals, environmental assessments, and archaeological surveys. Grant recipients agree to maintain the properties in perpetuity so that they can be enjoyed and cherished for generations to come.	http://www.pwc.state.oh.us/GSCdefault.html
The Land and Water Conservation Fund	ODNR/National Park Service	Program funding provides up to 50% reimbursement assistance for state and local government subdivisions (townships, villages, cities, counties, park districts, joint recreation districts, and conservancy districts) to for the acquisition, development, and rehabilitation of recreational areas. Eligible projects might include acquisition of parks and recreational lands, recreation facilities including improved access for people with disabilities.	https://www.nps.gov/subjects/lwcf/stateside.htm
Capital Improvement Community Recreation Grant Program	ODNR	The Capital Improvement Community Recreation Projects must, when complete, provide new or improved recreation opportunities to the public. Up to 1/3 of project costs are reimbursed. Non construction projects, i.e. land acquisition, should be completed within 12 months of contract execution. Eligible project costs include land acquisition, facilities improvement, design, engineering, surveying and appraisal costs. Eligible applicants include local governments, park and joint recreation districts, conservancy districts, soil and water conservation districts, and non-profit organizations.	http://realestate.ohiodnr.gov/capital-projects
Cooperative Park Improvement Program	JAMPD	The Johnny Appleseed Metropolitan Park District (JAMPD) supports a Cooperative Park Improvement Program in Allen County. Eligible applicants that have park and recreation responsibilities can apply for financial assistance for capital improvement projects including repairs on an annual basis. Applications are considered on a priority basis.	http://www.jampd.com/