

2012

BIKEPLAN



Planning for Greater Akron
March 2012



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Thank you to everyone who participated in the bike planning process. Input from the local communities, park districts and public comments were incredibly valuable in creating a bike plan for the region.

“AMATS will build upon the bicycle recommendations in its’ long-range plan to create a regional bicycle plan. The Plan will help create a regional framework for targeting investments and establishing a regional vision for a bicycle network”.

- *Connecting Communities, 2010*

INTRODUCTION

Bicycling is an important component of the transportation system as both a recreational amenity and a viable transportation choice. It is a very low-cost, sustainable alternative to driving and improves access and mobility for many people. More than just a pleasant amenity, the bikeability of a community can have direct economic, health, social and environmental impacts. Making the Greater Akron area a more bicycle friendly region will connect people and places, promote a healthy lifestyle and stimulate positive economic impacts.

PURPOSE

Having a vision and a plan is critical to creating a comprehensive bicycle network. The purpose of the AMATS Bike Plan is to create a regional bicycle network. It will also serve to promote bicycling as a viable transportation option by providing safe, accessible and efficient bike routes and facilities. The Plan is a guide for enhancing the existing bicycle network by inventorying the existing system, envisioning what it could be and utilizing the tools to get there.

The Bike Plan also represents a significant shift in the region's bicycle planning and investments. Bike planning in the region has historically focused on creating a regional trail network, such as the Ohio & Erie Canal Towpath Trail and the MetroParks Bike & Hike Trail. Creating a complementary on-road bicycle network is now an AMATS priority.

This is an important shift for AMATS and the region. The Bike Plan is AMATS' first step in creating an integrated bicycle network that includes on-road facilities, as well as trails.

ROLE OF AMATS

The Akron Metropolitan Area Transportation Study, AMATS, is the regional planning agency that plans for and funds transportation projects in Summit and Portage counties and Chippewa Township in Wayne County. AMATS produces the long-range transportation plan which recommends projects for funding. The bicycle recommendations in the Bike Plan will be considered for inclusion in the long-range plan. AMATS funds approximately one million dollars in bicycle and pedestrian infrastructure each year.

The regional Bike Plan was also recommended in AMATS *Connecting Communities – A Guide to Integrating Land Use and Transportation* report. *Connecting Communities* analyzed land use and transportation patterns, including bikeways, to encourage more vibrant livable communities that provide transportation choices, coordinate land use decisions and improve neighborhood connectivity.

BACKGROUND

Bicycle facilities have often been viewed as amenities, or non-essential add-ons, by many communities. However, with the current shift toward healthier, cleaner and more economical modes of transportation, bicycling is becoming more attractive to residents, visitors and community leaders. Bikeways can connect people to and from their homes, shopping, work, school and recreational opportunities. These amenities are a great asset for local communities and can help to improve the quality of life in the region. The major benefits of having a well-connected road and trail bicycle network are discussed in more detail below.

ECONOMIC

Bicycling is a low-cost form of transportation, readily affordable to almost everyone. The current low-density and disjointed residential and commercial land use patterns that dominate most of the region virtually requires car ownership in order to get to work, school or the grocery store. The average annual cost of operating a car is approximately \$8,590 (based on 15,000 miles per year), while the annual operating cost of a bicycle is approximately \$120 (American Automobile Association). While many people may not be able to completely substitute a bicycle for a car, substituting a bike for some trips will still provide a cost savings.

Bicycle facilities also provide an attraction for residents, tourists and local businesses. Bikeway connections to residential neighborhoods are often selling

points and are increasing in demand. Bicyclists in the community and tourists support local businesses such as restaurants along the bikeways and area recreational stores. There are currently twelve local bicycle shops in the region.

HEALTH

At a time when physical activity is decreasing and obesity increasing, bicycling is a great way to get more active. The impact of bicycling in promoting healthier lifestyles is far reaching. Its role in the prevention and management of coronary heart disease, hypertension, obesity, diabetes, and depression is well documented. Increased bicycling can have a positive effect on the overall health of a community. Living in a bicycle friendly environment can encourage children and adults to exercise more and develop healthy habits for life.

ENVIRONMENTAL

Bicycling is an environmentally sustainable form of transportation. It is not dependent on any fossil fuels to operate and does not pollute. Nearly 40% of trips in the U.S. are two miles or less – the perfect length for a bike ride (Bureau of Transportation Statistics). Bicycling is a great alternative for short trips that would otherwise involve a motor vehicle. These short trips are the least fuel-efficient and generate the most pollution per mile traveled. Decreasing the number of trips made by car will also decrease wear and tear on personal vehicles and may help to reduce traffic congestion.

EXISTING BIKEWAYS

There are currently many existing trails and a small number of bike lanes in the region. In 2000, there were 75 miles of bikeways in the region. With the recent completion of the Ohio & Erie Canal Towpath Trail through Summit County, the area has over 100 miles of off-road trails completed. According to MetroParks Serving Summit County, visitor rates have continued to increase.

These trends demonstrate the growing demand for and popularity of trails. The existing trails provide a strong framework for creating a comprehensive bicycle network. Trails are used primarily for recreation, but also serve as portions of routes for commuter trips.

While there are only 24 miles of bike lanes currently in the region, support for them from cyclists and local communities is increasing. The City of Kent has 4.6 miles of bike lanes and the City of Hudson approved over \$400,000 to add bike lanes on Stow Road. These investments provide a starting point for an on-road bicycle network to complement the off-road trails.

DISTANCE AKRON

Distance Akron is a new program sponsored by the City of Akron which places signs along roads to accommodate bicyclists and pedestrians. These signs display mileage and information to guide people to various sites and attractions in the City.

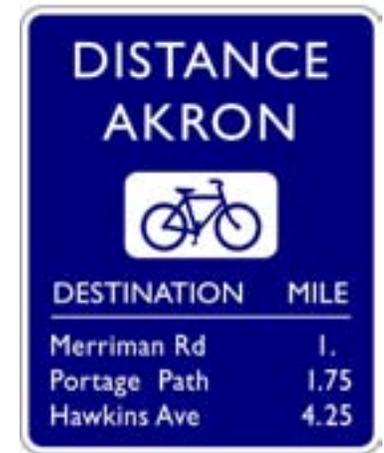
Akron completed signage for two routes in 2011. The orange route is a 10.6 mile north-south route along Manchester (SR 93)/ Portage Path/Akron Peninsula Roads. The blue route runs east and west for 11 miles along Market Street (SR 18). Other routes have been proposed. The Distance Akron map is shown along with the area's bike lanes on the *Existing On-Road Bikeways* map.

MOUNTAIN BIKING

Mountain biking also has become very popular in the region. It is a sport that consists of off-road bicycling, often over rough terrain, using specially adapted mountain bikes.

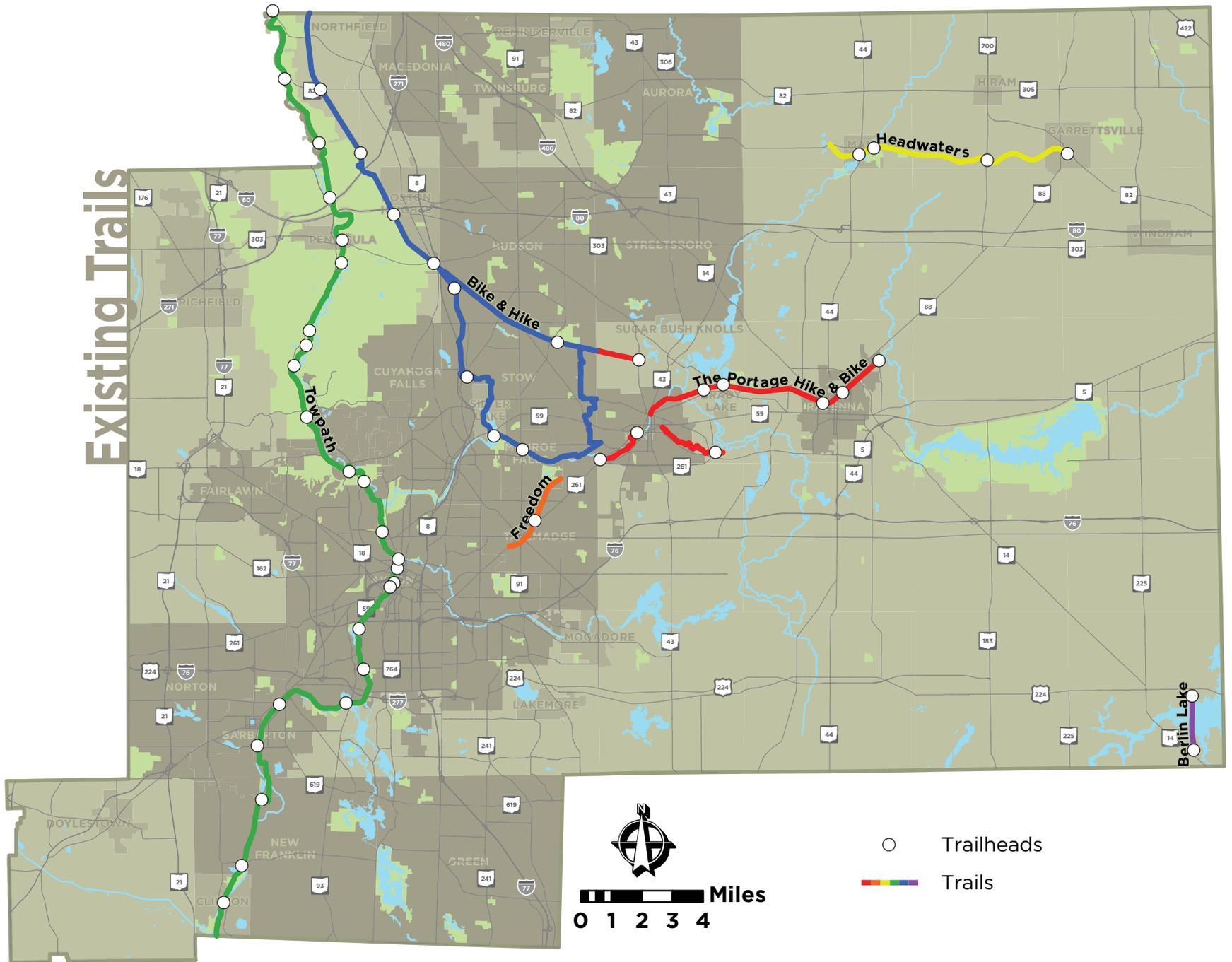
West Branch State Park in Portage County has 12 miles of mountain biking trails. Mountain biking is permitted on snowmobile trails and designated trails. Just outside of the AMATS area, Quail Hollow State Park in Stark County has a five mile mountain bike trail that is an easy, beginner-friendly loop.

There is a high demand for more mountain bike trails in the region. The Cuyahoga Valley National Park in Summit County is updating its trail plan and has proposed mountain biking areas in the park. Metro Parks Serving Summit County has also heard a need for mountain bike trails and is looking to incorporate them into the future of the park district.

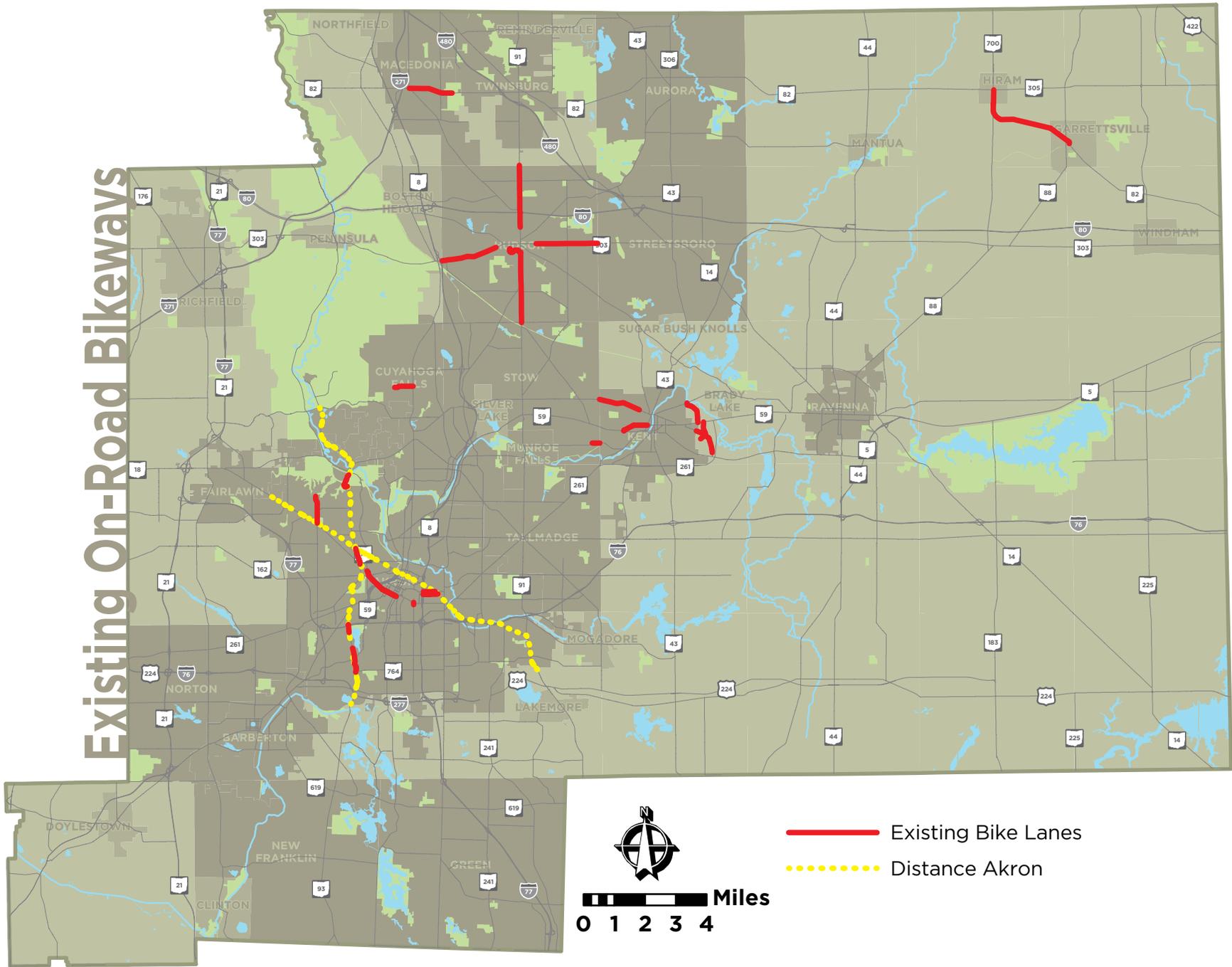


Top: Distance Akron sign, City of Akron
Bottom: Berlin Lake Trail, Portage Park District

Existing Trails



Existing On-Road Bikeways



AMATS FUNDED BIKEWAYS

Bikeway projects, just like roadway projects, are planned, engineered and funded well in advance of the project being built. They are usually funded through a variety of sources and usually require several to fully fund a project. AMATS is one source from which local communities can apply to for bikeway funding.

The funded bikeways include those for which money is programmed to be spent and are identified in the AMATS Transportation Improvement Program (TIP). AMATS currently has funded eleven projects that are scheduled to be constructed over the next six years.

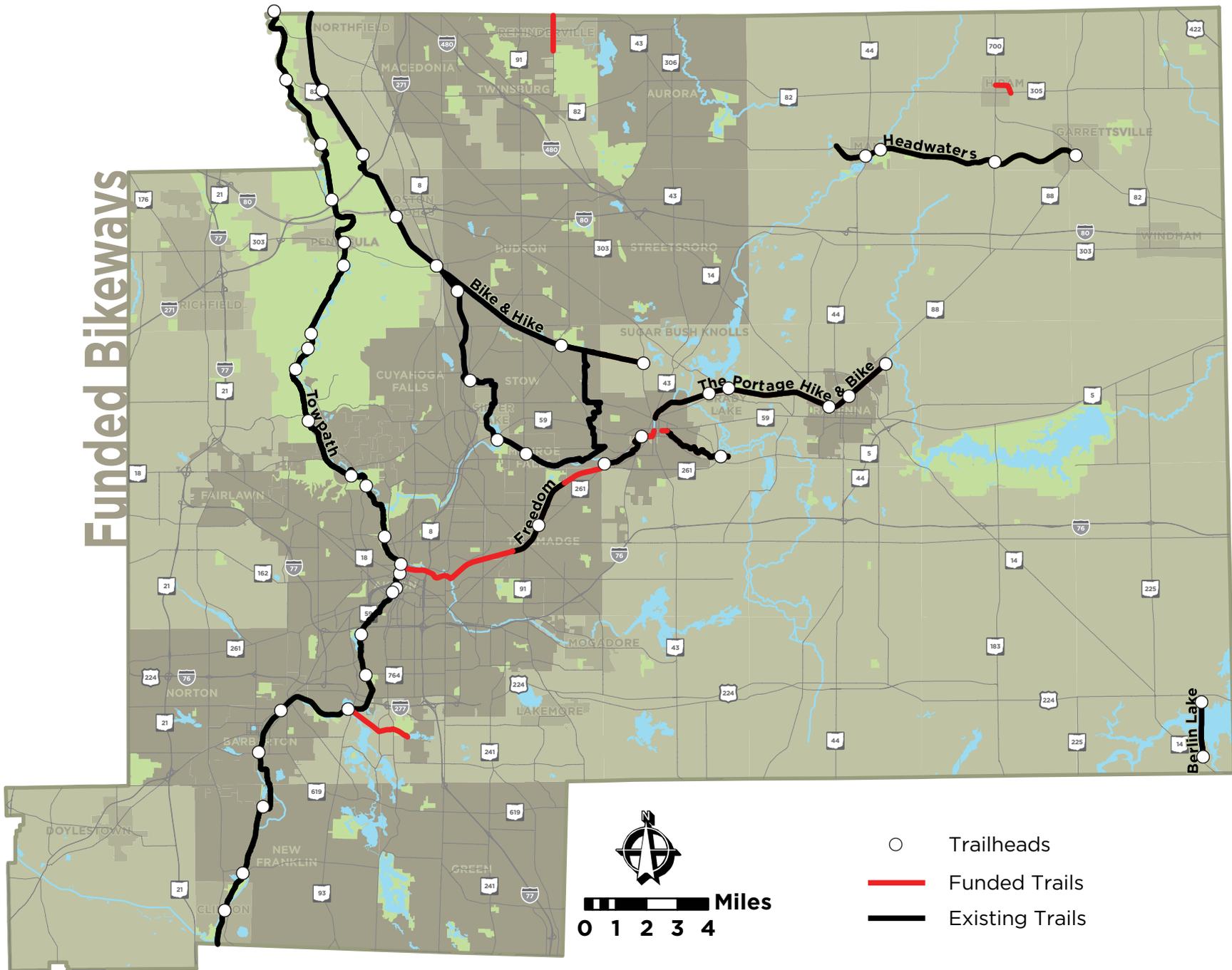
The *Funded Bikeways* map highlights these projects. The following section details recently completed projects and those that have been funded.



Recently completed section of the Towpath Trail over Summit Lake in Akron



Funded Bikeways



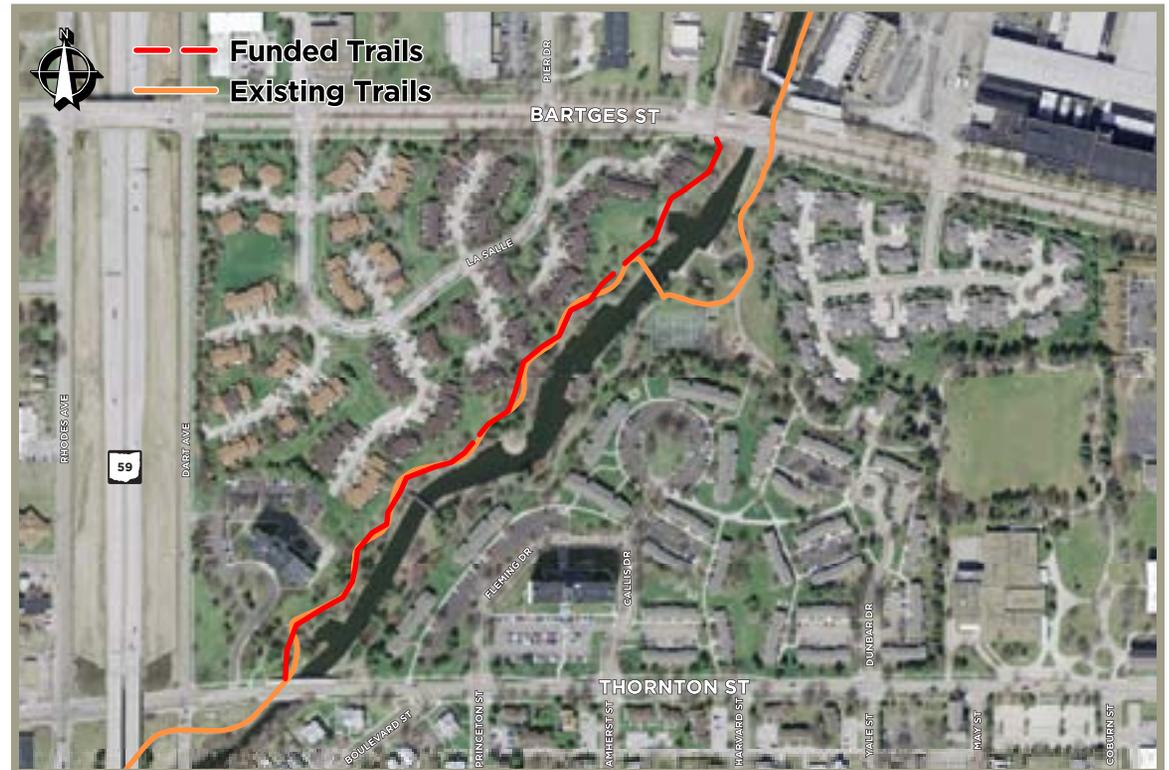


Park East Section

The Ohio & Erie Canalway Towpath Trail

Sponsor: City of Akron
 AMATS Funding: \$700,000
 Total Project Cost: \$945,000
 Status: Complete

Construction of a 10' wide concrete bike and pedestrian trail between Bartges and Thornton Streets. Project includes decorative LED lighting, construction of a new steel pedestrian bridge spanning the Ohio & Erie Canal, and signage/lighting at three at-grade crossings. The project will replace outdated infrastructure, originally built in 1972, with a fully ADA compliant trail. This was the last remaining section to be completed in Akron, and one of the final overall segments in Summit County.



Southern Barberton

The Ohio & Erie Canalway Towpath Trail

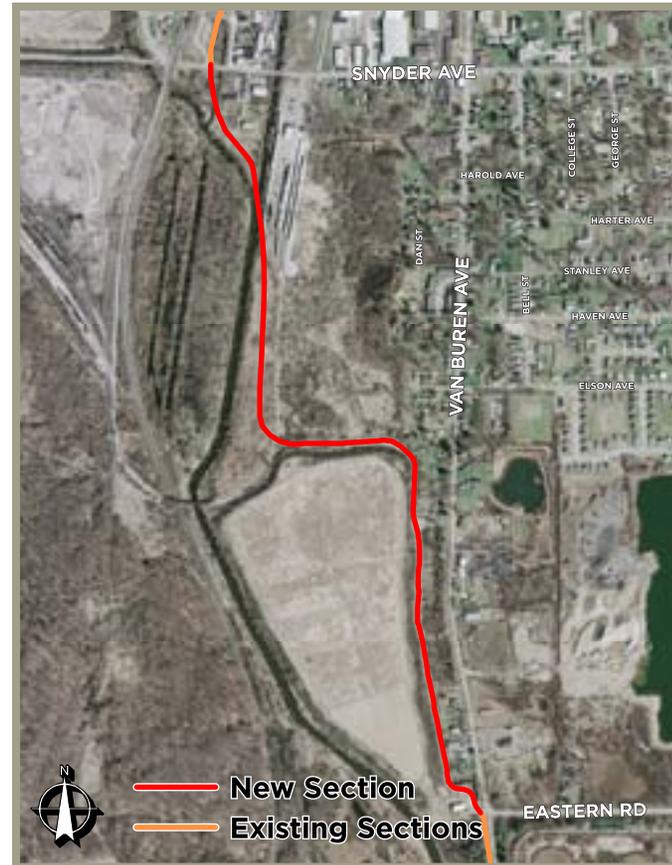
Sponsor: Cities of Barberton & New Franklin

AMATS Funding: \$700,000

Total Project Cost: \$2,600,000

Status: Complete in 2012

Starting at the Snyder Ave trailhead in Barberton, this project extends the trail to fill the previously existing gap between Snyder Ave and the eastern side of the Wheeling and Lake Erie railroad tracks. Two bridges were constructed, a short one spanning the canal and a 494' wooden-deck bridge spanning the scenic confluence of Wolf Creek and the Tuscarawas River. At the southern end of this project, the trail passes through a tunnel under the active rail line. The tunnel is illuminated by five solar powered lights. This project was the last remaining section of the Towpath Trail in Summit County, which now runs continuously for 41.1 miles through the county.



Brandywine Realignment

The Bike & Hike Trail

Sponsor: MetroParks, Serving Summit County
AMATS Funding: \$700,000
Total Project Cost: \$1,300,000
Status: Complete in 2012

Prior to this improvement, those using the MetroParks Hike & Bike Trail had to share Brandywine Road with automobile traffic in the vicinity of the Brandywine Falls. Now nearing completion, this project will result in the construction of a new trail segment, as well as a new bridge over I-271. Upon completion, trail users will enjoy a grade-separated trail and a more direct path through the Brandywine Falls area.



TANNERY PARK SECTION

The Portage Bike & Hike

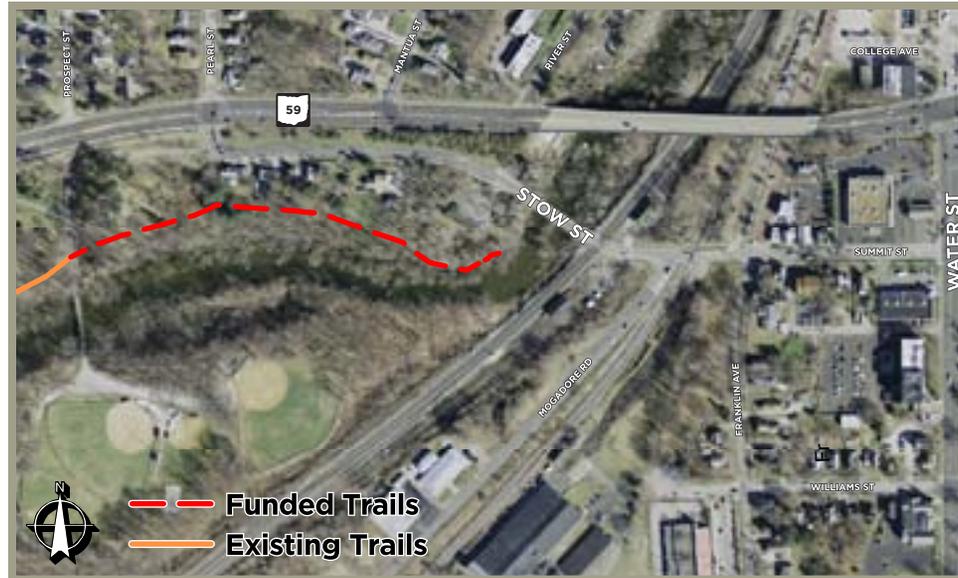
Sponsor: City of Kent

AMATS Funding: \$700,000

Total Project Cost: \$1,200,000

Status: Construction in 2012

Construction of a 10' wide asphalt multi-purpose trail, connecting a trailhead in John Brown Tannery Park to an existing segment of the Portage Trail at Fred Fuller Park. This trail would lie just southwest of Downtown Kent, and will connect to other proposed sections of the Portage Trail to the east. Completion of these segments will allow continuous bicycle and pedestrian access between Kent State University, most of the City of Kent and beyond to communities in Summit County.



TANNERY PARK EAST SECTION

The Portage Bike & Hike

Sponsor: City of Kent

AMATS Funding: \$700,000

Total Project Cost: \$1.3 million

Status: Construction in 2017

Construction of a 10' concrete multi-purpose, off-street trail adjacent to SR 59, followed by an 1,100' signed bike route, which will run along area collector streets. The completed segment will bridge a key gap in the Portage Bike & Hike Trail, connecting the Tannery Park section to the KSU Gateway segment.



KSU GATEWAY

The Portage Bike & Hike

Sponsor: City of Kent

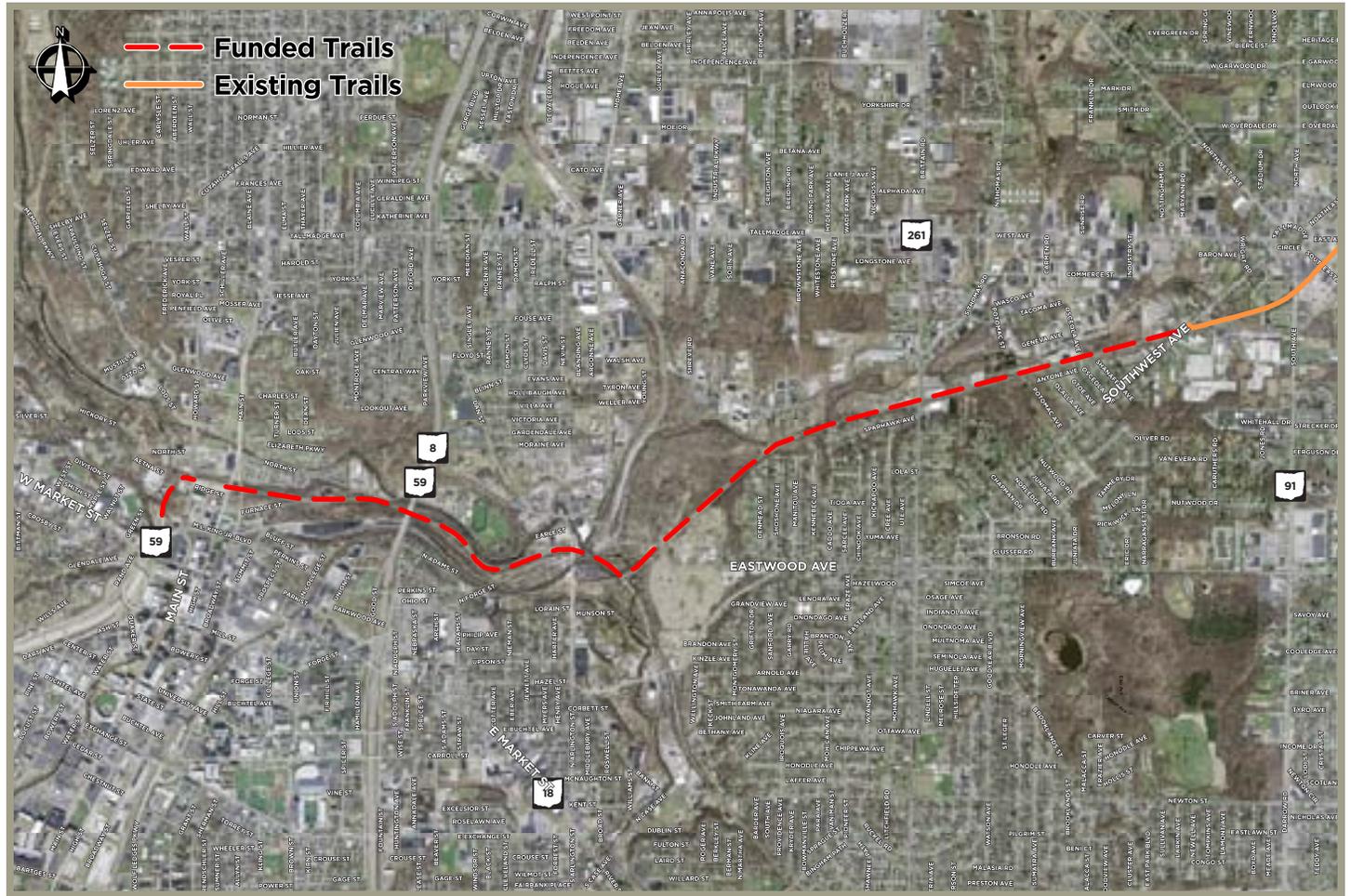
AMATS Funding: \$700,000

Total Project Cost: \$2,383,700

Status: Construction in 2014

Construction of a 24' wide hard surface path that will connect S.R. 59 at Downtown Kent to the existing Kent State University Esplanade just east of Lincoln St. This new segment will form the preeminent pedestrian and bicycle connection between the university and Downtown Kent. In addition, this segment will connect with the soon-to-be constructed Kent Central Gateway transportation terminal, providing a diverse multi-modal transportation hub. At a larger scale, this project will complete a link in the Portage Hike & Bike Trail which will connect the Western Reserve Greenway to the Ohio & Erie Canal corridor.





NORTHSIDE TRAIN STATION CONNECTOR

Sponsor: City of Akron
AMATS Funding: \$700,000
Total Project Cost: \$1,165,000
Status: Construction in 2013

The Northside Train Station Connector will provide a key connection between the Ohio & Erie Canal Towpath Trail and the Northside Train Station, which is served by the Cuyahoga Valley Scenic Railroad. An 8' wide paved trail will be constructed from the existing Beech Street trailhead, curve slightly northeast, and will cross over busy N. Howard Street via a prefabricated steel bridge. The bridge and this segment of trail will end at the train station's parking lot. Upon its completion, the Freedom Secondary Trail will directly connect to the Towpath Trail in this parking lot. Pedestrians and cyclists will then be able to proceed to eastward from Downtown Akron to Tallmadge, Munroe Falls and Kent.

FREEDOM TRAIL

(Phase I)

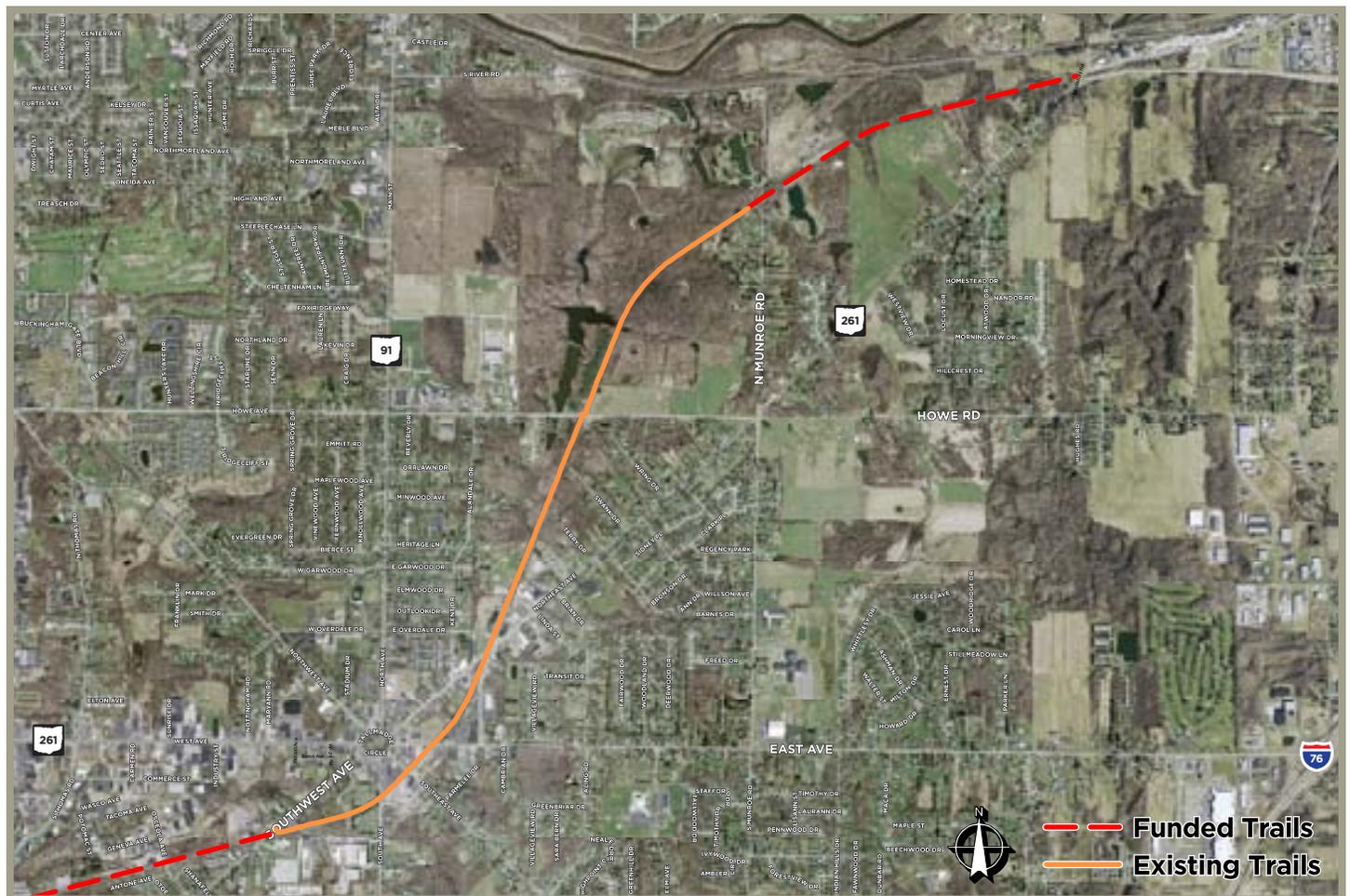
Sponsor: City of Tallmadge
AMATS Funding: \$700,000
Total Project Cost: \$1,800,000
Status: Construction in 2012

This project will consist of the reconstruction of an existing portion of the Tallmadge Trail, from Southwest Ave to Howe Road, as well as the construction of a new portion of the multi-purpose trail from Howe Road to Middlebury Rd in the City of Kent, where it will connect with the Portage Hike & Bike Trail. This trail will run through the Munroe Falls MetroPark and has great potential for both recreational and commuter uses. The trail will consist of a 10' wide, ADA compliant, asphalt paved trail.

FREEDOM TRAIL (Phase 2)

Sponsor: MetroParks, Serving Summit County & METRO RTA
 AMATS Funding: \$700,000
 Total Project Cost: \$5.1 million
 Status: Construction in 2013

Construction of an extension of the existing Tallmadge Trail from Southwest Ave in Downtown Tallmadge to the Northside Train Station in Downtown Akron. Trail will be built along a vacant railroad line, and will result in a continuous bicycle and pedestrian linkage between Akron and Kent.



Headwaters Trail - Hiram Extension

The Headwaters Trail

Sponsor: Portage Parks District
AMATS Funding: \$700,000
Total Project Cost: \$875,000
Status: Construction in 2014

Construction of an ADA accessible 10' wide asphalt multi-purpose trail and trailhead. This segment will begin at the Hiram College campus and terminate at SR 305. This segment of trail is the first phase of a planned extension to connect Hiram to the Headwaters Trail, approximately two miles south of the village.



ANALYSIS

In order to plan an efficient bicycle network it is necessary to conduct analysis of the region's existing conditions. Analysis of the existing conditions helps determine where new investments in bicycle infrastructure should be made and helps prioritize those investments.

Three planning tools were used to evaluate and analyze the bicycle network. The three tools used were:

- Benchmarking similar sized cities
- Bike Users Map
- Bike destinations analysis

The following section will describe these tools and explain how they help guide the recommendations of the Bike Plan.



BENCHMARK CITIES

Benchmarking is a tool used by agencies to compare themselves with others, to identify their strengths and weaknesses and learn how to improve. Benchmarking can be used as a way to identify and adopt best practices. In the context of the Bike Plan, benchmarking can be used to compare the Greater Akron area's existing bike network to that of other cities of similar size and demographics.

In order to get the most out of the benchmarking analysis, the staff chose several cities that were considered comparable to Akron both in size of population, university influence, and weather. The five cities selected were:

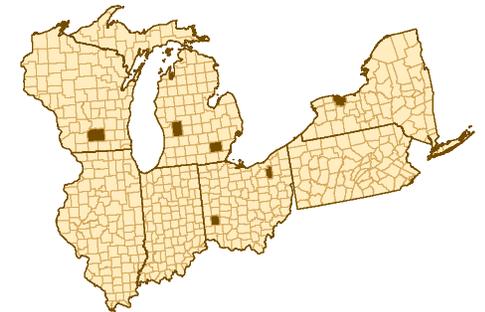
- Ann Arbor, Michigan
- Dayton, Ohio
- Grand Rapids, Michigan
- Madison, Wisconsin
- Rochester, New York

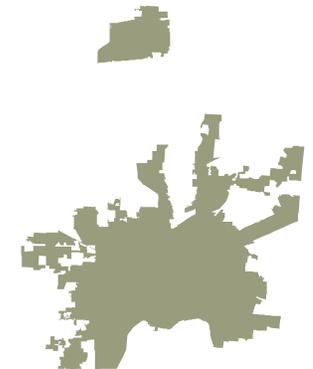
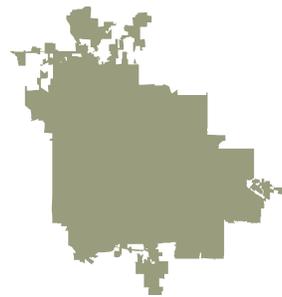
The analysis was based on three main inputs from each city. The staff reviewed how many miles of bike lanes and bike trails were in each city. The staff also documented any innovative infrastructure that had been developed relating to the bicycle network. The data gathered came only from the central city of each area because typically that is where most bike infrastructure exists and data is readily available. The following table contains the data collected.

The data collected allows us to see some interesting differences between all six cities examined. First, Madison, WI by far has been the most successful in developing bike infrastructure. With already 87 miles of bike lanes and 43 miles of bike paths built within the city it is safe to assume Madison has made bike infrastructure a priority. Right behind Madison is Ann Arbor, Michigan. With 48 miles of bike lanes and 57 miles of bike paths, Ann Arbor is the leader for recreational trail miles. Meanwhile, Dayton, OH, Grand Rapids, MI, Rochester, NY, and Akron, OH lag far behind when it comes to bike lanes. However, each city does have more than 10 miles of recreational bike paths.

Because Madison and Ann Arbor have had the most success in terms of bike infrastructure, it makes sense to compare them with Akron and identify similarities and differences.

Akron, Madison, and Ann Arbor all have large Universities located near their downtowns. Each city is located in the Midwest where there are changes in seasons and cold and snowy winters. Madison and Akron are somewhat close in population with Madison being the larger of the two. Ann Arbor is significantly smaller, comparatively.



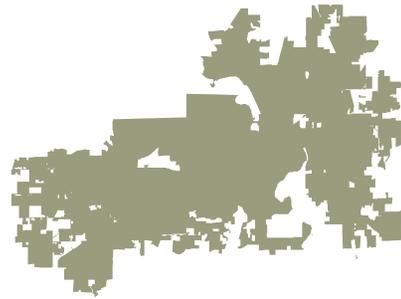
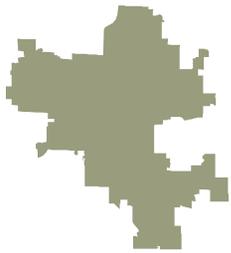


Akron, OH

Ann Arbor, MI

Dayton, OH

Population	199,110	113,934	141,527
Bike Lane Miles	2	48	2
Bike Path Miles	16	57	34
University (Enrollment)	Yes (30,000)	Yes (41,000)	Yes (7,500)
Innovative Infrastructure	Sharrows	Sharrows On-Street Bike Parking	Sharrows



Grand Rapids, MI

Madison, WI

Rochester, NY

188,040	233,209	210,565	Population
0	87	6	Bike Lane Miles
11	43	22	Bike Path Miles
Yes (10,000)	Yes (42,000)	Yes (4,500)	University (Enrollment)
	Bike Boulevards Bike Boxes Bike and Ped Hybrid Beacon	Sharrows	Innovative Infrastructure

BIKE USER MAP

To help cyclists plan rides in the region, based on their individual comfort level and ability, AMATS created a Bike User Map. The Bike User Map rates major area roadways and classifies them as suitable for a beginner, intermediate, advanced or expert rider. The Bike User Map is a tool to encourage cyclists of all abilities to ride on roadways that best suit their individual skill levels.

The map focuses on the existing conditions of major roadways, mainly arterials and collectors, and examines the bikeability of roadways, which is an estimate of how comfortable it is to bike along a roadway.

Arterial roads play an important role in bicycle mobility because of the retail and attractions along them, yet are often the most stressful for the average bicyclist. The typical length of bicycle trips along arterial roads are about 2 to 6 miles. It is therefore appropriate for bicycle facilities to be located in areas where use can be maximized since bicyclists have the same origins and destinations as do motorists.

The Bike User Map ratings are based off of the following five criteria and also public input regarding their accuracy.

1. Daily car & truck volumes
2. Posted speed limits
3. Road width (mostly outside lane)
4. High vehicle crash locations
5. User comments and feedback

The map is user driven and will be adjusted periodically as input is received, based on user's experiences.

The four road ratings range from easy/beginner to very difficult/expert. The majority of roads in the region are rated intermediate and apply to bicyclists with moderate skill level (identified in yellow). This shows that roadway bicycle improvements are needed to encourage more people to ride on-road for commuter trips.

The Bike User Map ratings are:

Easy/Beginner – Low traffic roadways where interaction between bicyclists and motorists is safer. Recommended for bicyclists of all skill levels.

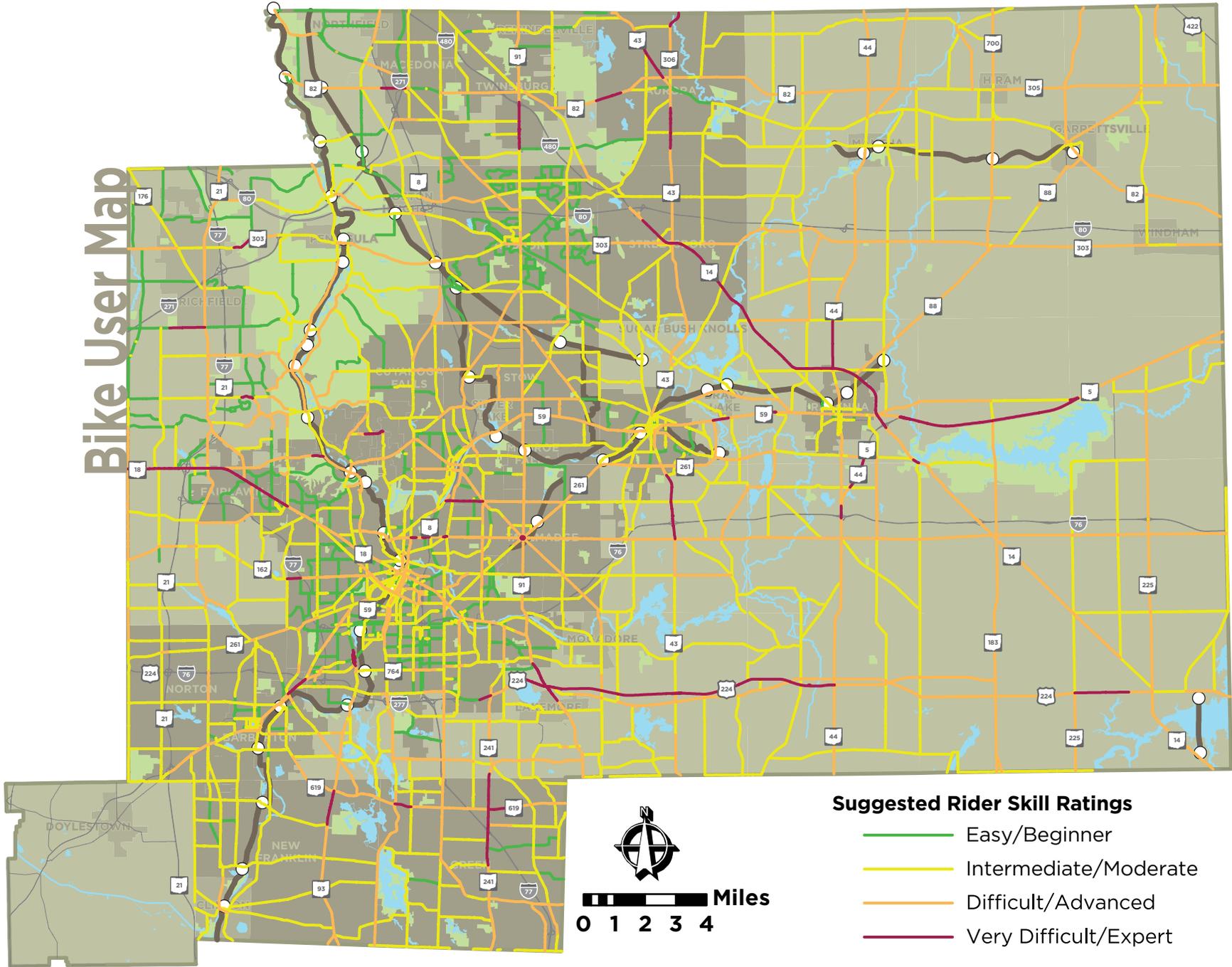
Intermediate/Moderate – Increased traffic volume and speeds, making roadways more challenging than Easy roadways. Recommended for bicyclists with at least moderate experience.

Difficult/Advanced – Roadways with high traffic volumes or speeds. Recommended for experienced bicyclists.

Very Difficult/Expert – Roadways that are heavily traveled with fast moving traffic and other potential challenges, such as steep grades or limited visibility. Recommended for very experienced bicyclists only. An alternate route should be followed if possible.

The Bike User Map is available online at amatsplanning.org and is also linked to AMATS' bicycle website, Switching-Gears.org.

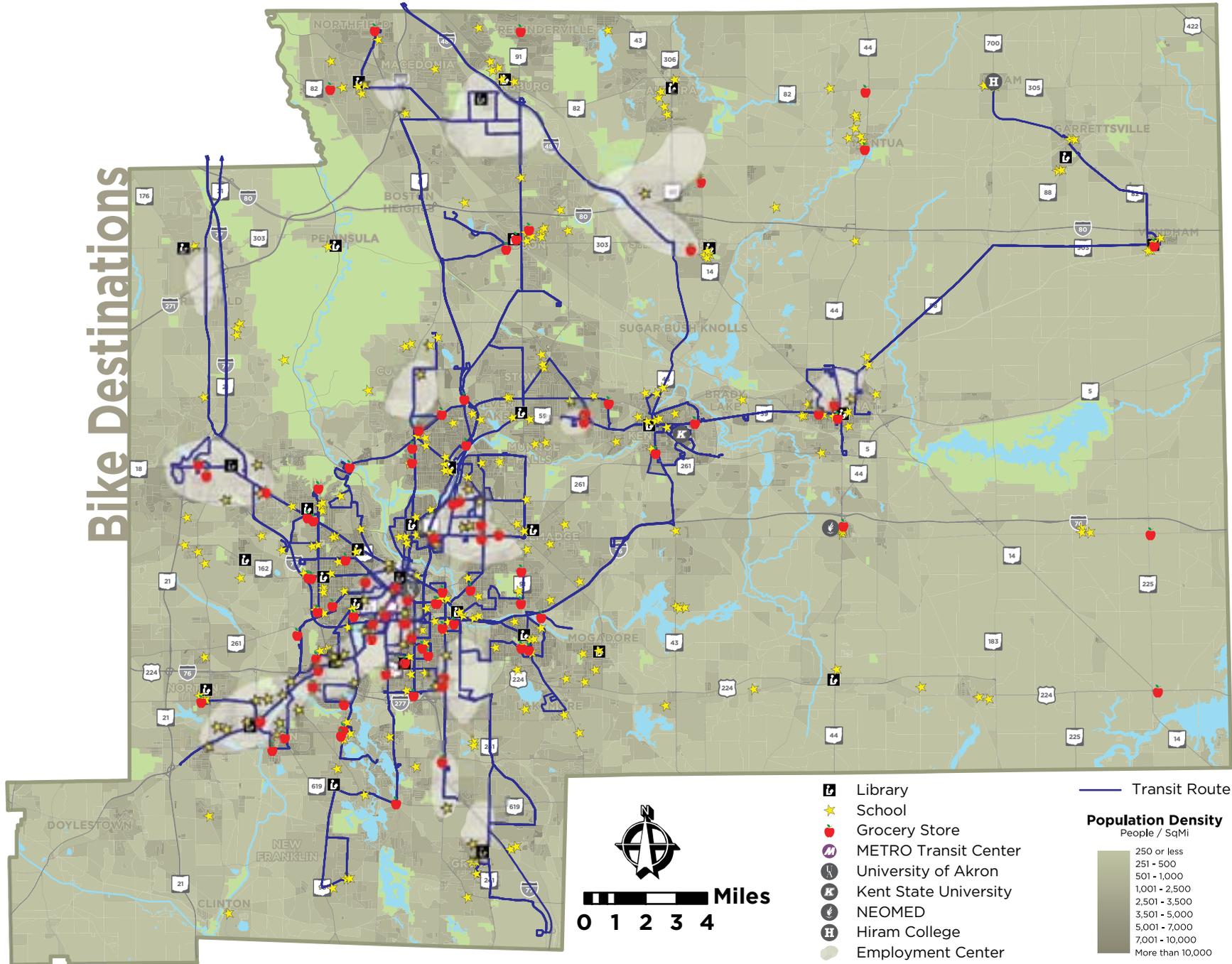
Bike User Map



BICYCLE DESTINATIONS

Currently, there is no method for tracking the origins and destinations of bicyclists to plan for on-road routes. The bike destinations map was created as a first step in evaluating the destinations where cyclists may be trying to reach. The *Bike Destinations* map identifies key destinations in the region such as libraries, schools, colleges, grocery stores, public transportation and major employment centers. Population density from the 2010 Census was also examined to show the potential level of bicycle trip generation that could occur in a given area.

Bike Destinations



BICYCLES & TRANSIT

Transit agencies nationwide have acknowledged the importance of accommodating bicyclists on buses and trains. Our two local transit agencies, METRO and PARTA, are no exception. Both agencies provide a number of amenities to help cyclists reach their ultimate destinations comfortably and conveniently.

BENEFITS TO CYCLISTS

Although avid cyclists enjoy riding their bicycles wherever they need to go, many cyclists prefer to bike for distances of only a few miles or less. Public transit vehicles equipped to accommodate bicycles greatly expand the geographical reach and attractions available to those who would rather leave their automobiles behind. Transit is an affordable, efficient and environmentally sustainable option for overcoming extreme weather and terrain that could serve as deterrents to potential cyclists. Transit service is generally constrained to limited corridors; cyclists simply need to take transit to the approximate location of their destination, and then rely on the versatility of their bikes the rest of the way.

AKRON METRO RTA

All fixed-route METRO buses (including the North-coast Express commuter lines to Cleveland) are equipped with storage racks for two bicycles, located on the outside front of each bus. METRO has created a useful internet video illustrating how to use these racks (<http://youtu.be/03V5RvzRRreg>).

Nearly all METRO bus lines converge at the Downtown Akron Transit Center, where amenities such as fixed bike racks, restrooms, and a café and vending machines are available only blocks away from the Towpath Trail.

PARTA

The majority of PARTA's fixed-route bus fleet is equipped with bicycle racks. Currently, the Kent State University campus serves as the transfer point for all bus lines. However, that will change in 2013 with the completion of the Kent Central Gateway project. The Central Gateway is a \$24 million multi-modal center which will allow for easy transfers between buses, bicycles, pedestrians and automobiles. PARTA had cyclists in mind throughout the design of the facility, stating as a primary goal on their website (www.kentcentralgateway.com) to "provide bicycle amenities and be both an entrance to and a destination along the Portage Hike and Bike Trail." Upon completion, cyclists will have excellent access to Downtown Kent, the university, and thanks to the many regional trails and connectors in the area, communities all throughout the region.

CVSR (Cuyahoga Valley Scenic Railroad)

Limited passenger rail service is provided between the cities of Independence and Downtown Akron, with multiple stops in between. The CVSR's Bike Aboard! Program allows cyclists to ride their bike in one direction along the Towpath Trail and then ride the train back for only \$2.00.



PARTA Multimodal Center, Kent Central Gateway rendering (kentcentralgateway.com)

RECOMMENDATIONS

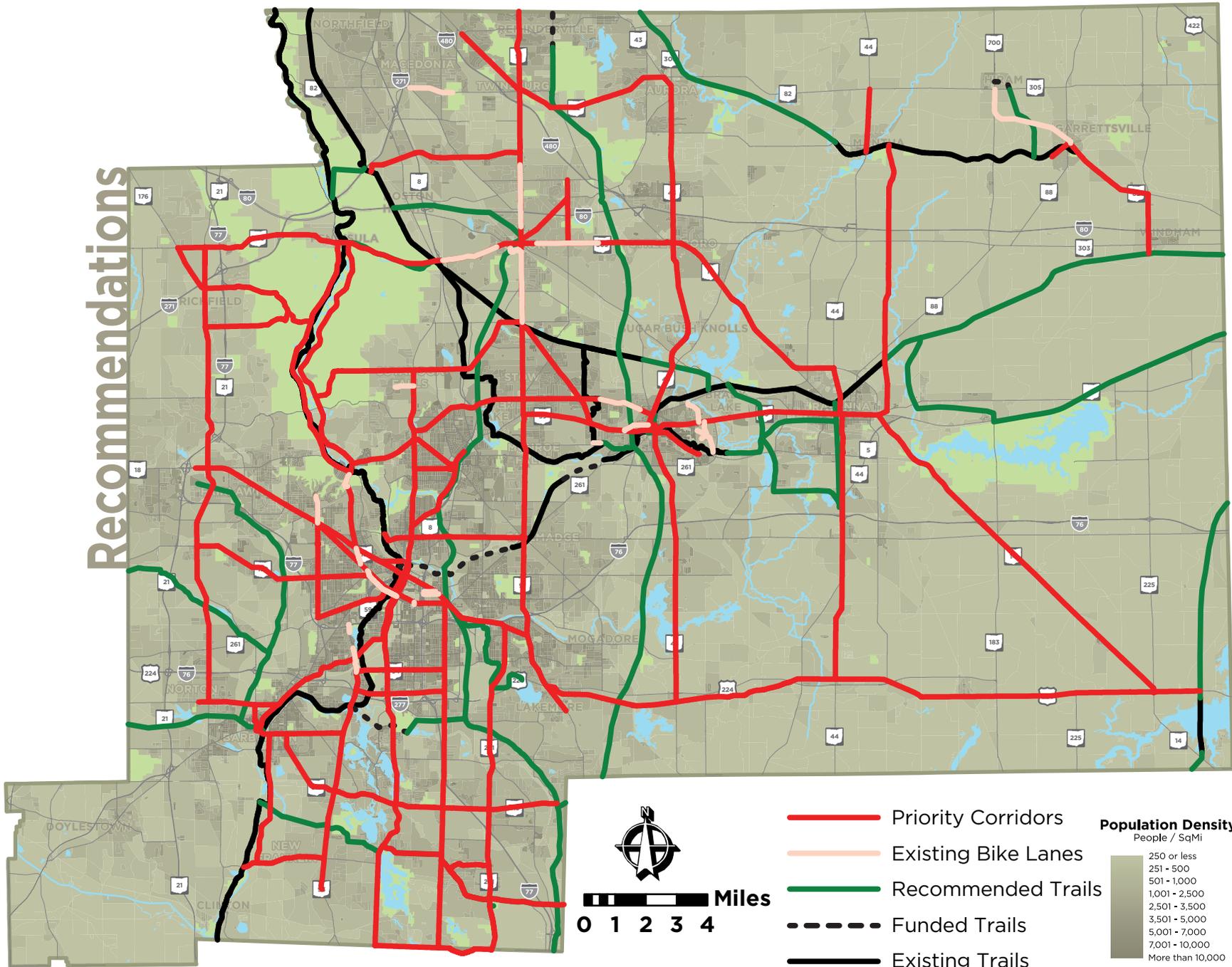
The purpose of the Bike Plan is to promote bicycling in the AMATS region as both a viable transportation option and for recreation. To address both aspects of bicycling, the recommendations are separated into off-road trail recommendations and on-road priority investment corridors.

The selection of a bicycle facility depends on many factors including vehicular and bicycle traffic characteristics, adjacent land use, and expected growth patterns.

The recommendations in this Bike Plan are aimed at developing off-road and on-road bicycle facilities within and around the Greater Akron region. These new connections between existing bikeways and facilities would enable bicyclists to go further by providing links to the many attractions in the region.



Recommendations



TRAIL RECOMMENDATIONS

Off-road bicycle trails and infrastructure play an important role in creating a regional bicycle network. Trails continue to be a very popular amenity for residents and provide an attraction for people outside the region. They are also often used by bicycle commuters as part of their route.

Summit County is the first county to complete its section of the Ohio & Erie Canal Towpath Trail. While maintaining this asset is important, building and completing other regional trails is AMATS' new focus. As regional trails are completed, connections between trails and to residential areas will increase in importance and should be considered for funding.

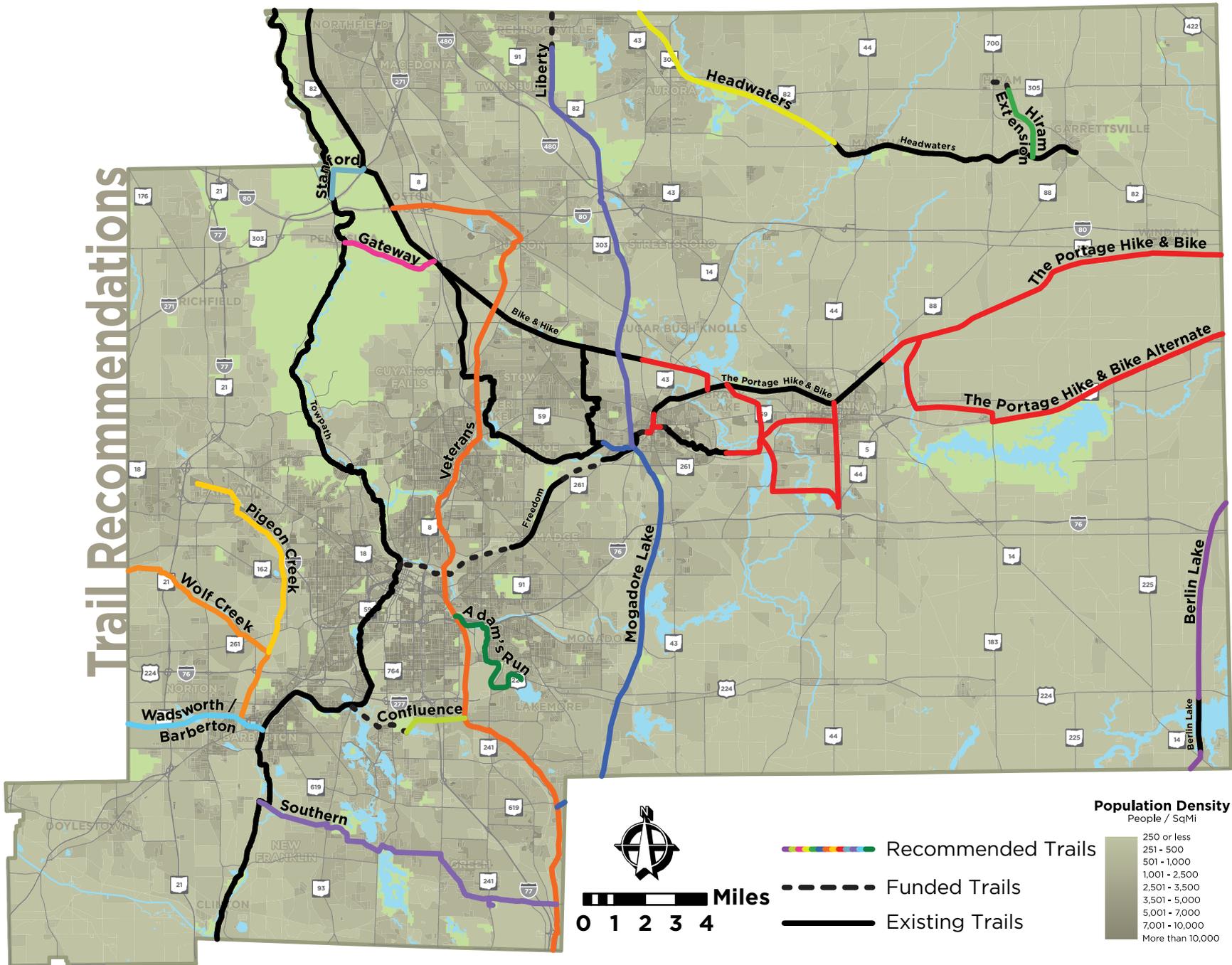
The trails will also increase access to open space and recreational opportunities throughout the region.

The off-road recommendations were evaluated in partnership with the Portage Park District and Metro Parks Serving Summit County. All other existing or future trails on the Summit County Trails and Greenways Plan and the 2030 Portage County Parks, Trails and Greenways Plan are also recommended.

TRAIL RECOMMENDATIONS

- The Portage Hike & Bike Trail
- The Portage Hike & Bike Trail Alternate
- Veterans Trail
- Headwaters Trail
- Hiram Extension Trail
- Southern Trail
- Wadsworth/Barberton Trail
- Confluence Trail
- Wolf Creek Trail
- Pigeon Creek Trail
- Mogadore Lake Trail
- Gateway Trail
- Stanford Trail

Trail Recommendations



PRIORITY BICYCLE CORRIDORS

AMATS' bicycle planning has historically focused on creating a regional trail network. On-road bike facilities, such as bike lanes, have occasionally been funded, but typically as part of a roadway project.

In an effort to become more involved in the bicycling community, AMATS has held several public meetings to get input on regional bikeway needs. The participants identified on-road bike improvements and expanded advocacy efforts for cyclists who use the roads as high priority needs.

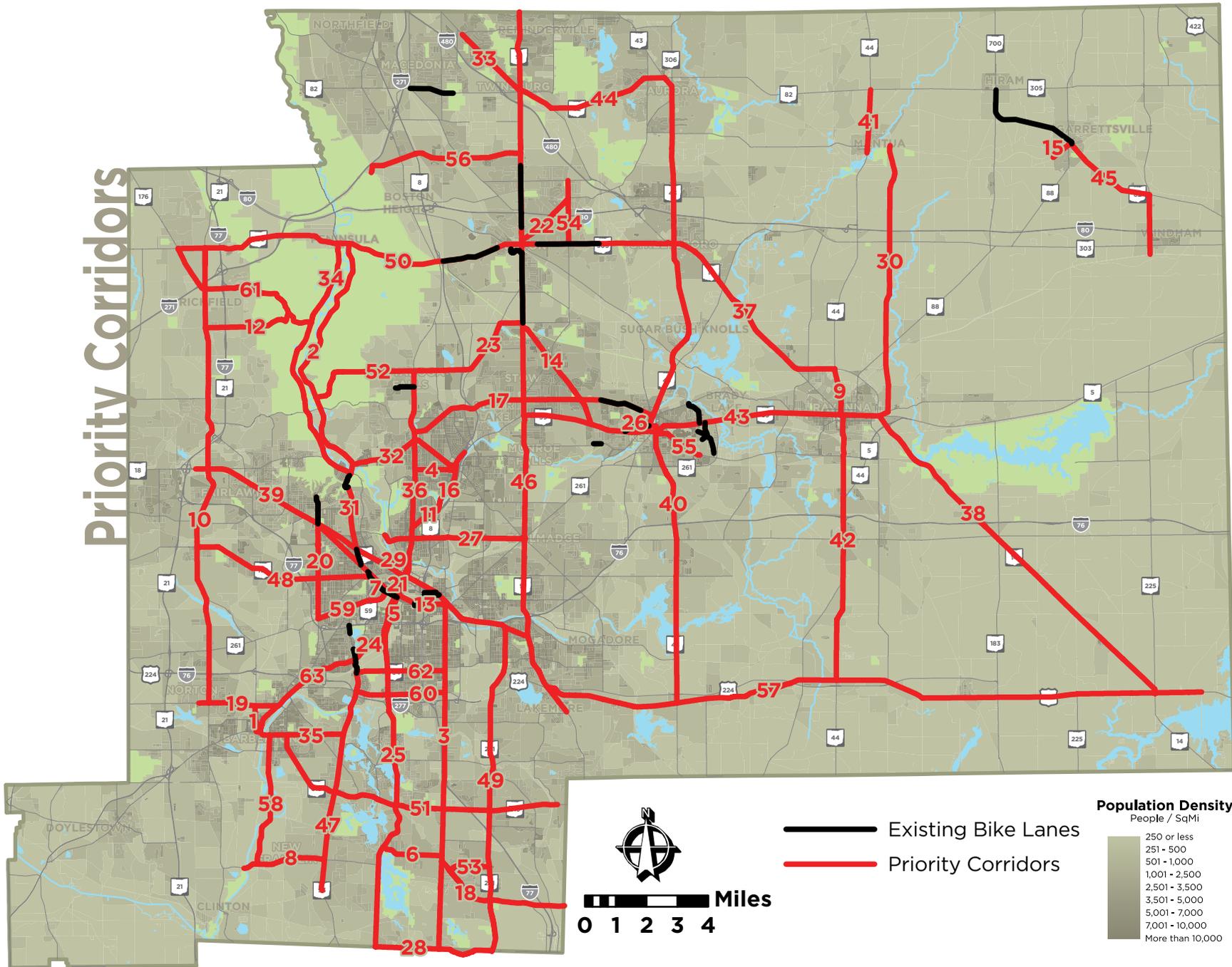
Good planning and adequate funding for on-road bicycle improvements are critical to help cycling become a viable travel alternative. People are less likely to bicycle to work, school or other destinations if there are not safe, convenient routes to get them there. Providing well-defined routes and better facilities for on-road biking will improve safety and encourage more residents to consider cycling as an option.

Identifying priority corridors is an important first step in creating better regional bicycle connections. These corridors (see map) create connections between communities and major attractions, many of which are clustered along busy highway corridors. These specific roadways were selected with both commuters and recreational cyclists in mind, based on input from cyclists, local communities, and regional park districts.

The priority corridors are intended to provide a framework for creating a regional on-road bicycle network. These are not the only roadways that should be made more bike friendly, nor are they the only corridors that would be eligible for AMATS funding.

Many of these corridors are admittedly along high traffic volume and/or high speed roadways, therefore an alternative route that would offer a similar connection should be considered whenever possible. On the other hand, many important travel destinations of interest to cyclists are located along these roadways. Ultimately, a balance between safety and accessibility will need to be struck as more detailed plans are developed.

Priority Corridors

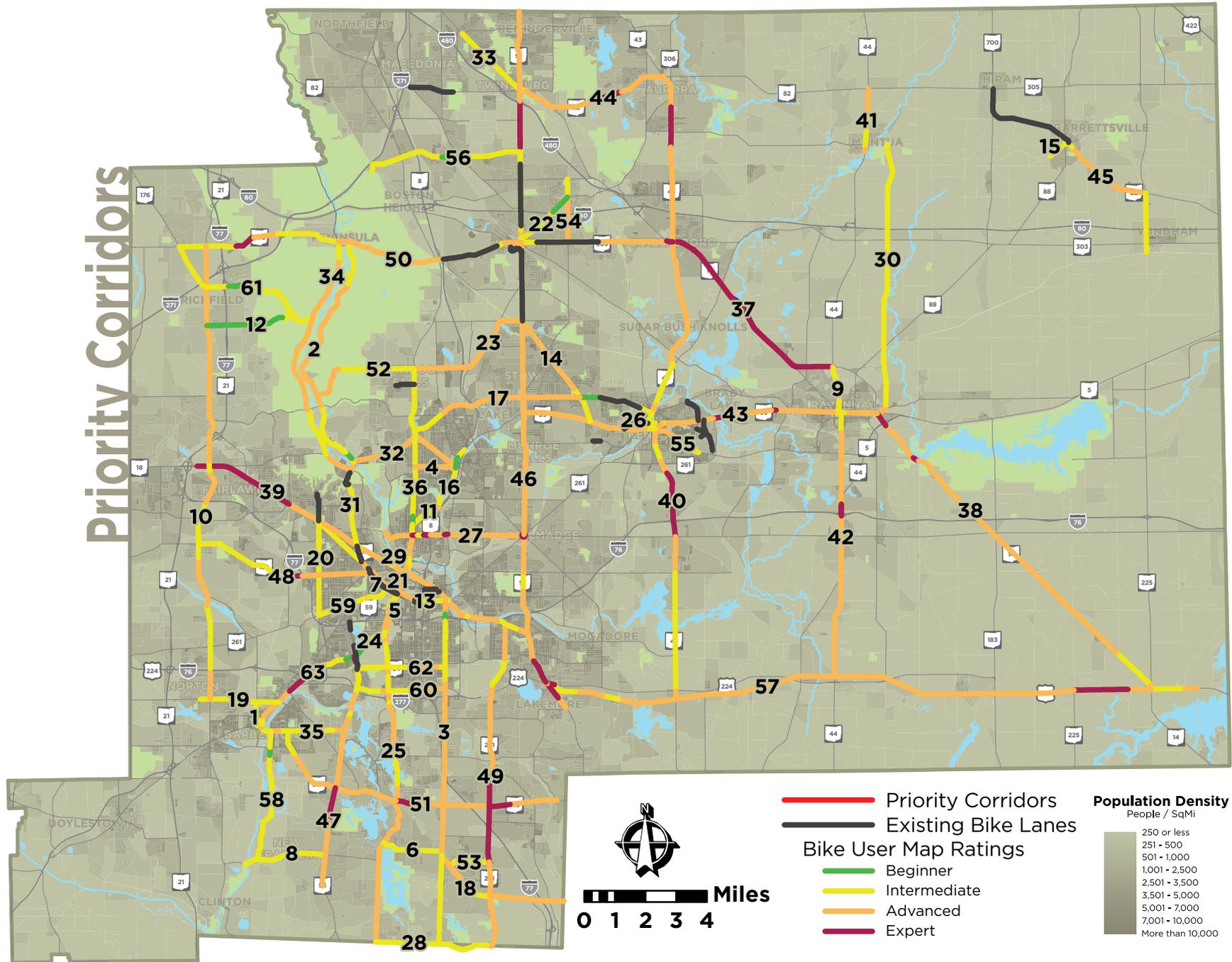


PRIORITY CORRIDORS

MAP #	NAME	FROM	TO
1	4th St	W Lake Ave (Barberton)	Norton Ave (Barberton)
2	Akron Peninsula Rd	Portage Tr (Cuyahoga Falls)	SR 303/Streetsboro Rd (Peninsula)
3	Arlington Rd	Mt Pleasant St (Green)	SR 18/Market St (Akron)
4	Broad Blvd	State Rd (Cuyahoga Falls)	Front St (Cuyahoga Falls)
5	Broadway St	E Miller Ave (Akron)	N Main St (Akron)
6	Caston Rd	S Main St (Green)	S Arlington Rd (Akron)
7	Cedar St	W Exchange St (Akron)	S Broadway St (Akron)
8	Center Rd	Towpath Trail (New Franklin)	SR 93/Manchester Rd (New Franklin)
9	Chestnut St	SR 59 (Ravenna)	Loomis Pkwy (Ravenna)
10	Cleveland Massillon Rd/Brecksville Rd	Greenwich Rd/Norton Ave (Norton)	SR 303/W Streetsboro Rd (Richfield)
11	Cuyahoga Falls Ave	N Main St (Akron)	Front St (Akron)
12	Everett Rd	Brecksville Rd (Richfield)	Riverview Rd (Boston Township)
13	Exchange St	S Hawkins Ave (Akron)	Arlington St (Akron)
14	Fishcreek Rd	SR 91/Darrow Rd (Stow)	SR 59/Kent Rd (Stow)
15	Freedom St	Garrettsville western border	SR 88/South St (Garrettsville)
16	Front St	E Cuyahoga Falls Ave (Akron)	Northland St (Cuyahoga Falls)
17	Graham Rd/Fairchild Rd	State Rd (Cuyahoga Falls)	SR 43 (Kent)
18	Greensburg Rd	S Arlington Rd (Green)	Aultman Rd (Green)
19	Greenwich Rd/Norton Ave	Rangely Rd (Norton)	Wooster Rd (Barberton)
20	Hawkins Ave	SR 261/Vernon Odom Blvd (Akron)	Thurmont Rd (Akron)
21	High St/Main St	Old Main St (Akron)	State Rd (Cuyahoga Falls)
22	Hudson Aurora Rd	SR 91/Darrow Rd (Hudson)	Stow Rd (Hudson)
23	Hudson Dr/Norton Rd	MetroParks Bike & Hike near SR 8 (Stow)	SR 91/Norton Rd (Stow)
24	Kenmore Blvd	East Ave (Akron)	S Main St (Akron)
25	Main St	Mt Pleasant St (Green)	S Broadway St (Akron)
26	Main St	SR 59 (Kent)	S Willow St (Kent)
27	Memorial Parkway/Tallmadge Ave	Memorial Parkway Trailhead (Akron)	Tallmadge Circle (Tallmadge)
28	Mt. Pleasant St	S Main St (Green)	SR 241/Massillon Rd (Green)
29	North St	W Market St (Akron)	N Howard St (Akron)
30	Peck Rd	SR 14 (Ravenna Twp)	The Headwaters Trail (Mantua Township)
31	Portage Path	SR 18/Market St (Akron)	Portage Tr (Cuyahoga Falls)
32	Portage Trail	Portage Path (Cuyahoga Falls)	2nd St (Cuyahoga Falls)

MAP #	NAME	FROM	TO
33	Ravenna Rd	Glenwood Dr (Twinsburg)	Aurora Rd (Twinsburg)
34	Riverview Rd	Portage Path (Akron)	SR 303/Streetsboro Rd (Peninsula)
35	Robinson Ave	4th St (Barberton)	SR 93/Manchester Rd (New Franklin)
36	State Rd	Main St (Akron)	Steels Corners Rd (Cuyahoga Falls)
37	State Route 14/Cleveland Rd	SR 43/Cleveland Canton Rd (Streetsboro)	Loomis Pkwy (Ravenna)
38	State Route 14/Cleveland East Liverpool Rd	SR 59 (Ravenna Township)	US 224 (Deerfield Township)
39	State Route 18/Market St	Springside Dr (Bath)	SR 91/Canton Rd (Akron)
40	State Route 43	Waterloo Rd (Suffield Twp)	SR 82/Garfield Rd (Aurora)
41	State Route 44	Canada Rd (Mantua)	The Headwaters Trail (Mantua)
42	State Route 44/Prospect St	Waterloo Rd (Randolph Twp)	SR 59/Main St (Ravenna)
43	State Route 59	SR 91/Darrow Rd (Stow)	14/44/Cleveland East Liverpool Rd (Ravenna Twp)
44	State Route 82	Ravenna Rd (Twinsburg)	SR 43/Aurora Rd (Aurora)
45	State Route 82/Windham Parkman Rd	North/South St (Garrettsville)	SR 303/Portage Hike & Bike (Windham)
46	State Route 91	Sanitarium Rd (Springfield)	Twinsburg northern border
47	State Route 93	Nimisila Rd (New Franklin)	Waterloo Rd (Akron)
48	State Route 162	Cleveland Massillon Rd (Copley)	W Exchange St (Akron)
49	State Route 241	Mt Pleasant St (Green)	SR 18/E Market St (Akron)
50	State Route 303	Broadview Rd (Richfield)	SR 43 (Streetsboro)
51	State Route 619/Turkeyfoot Lake Rd	Robinson Ave (Barberton)	Veterans Trail (Green)
52	Steels Corners Rd	Akron-Peninsula Rd/Towpath (Akron)	MetroParks Bike & Hike near SR 8 (Stow)
53	Steese Rd	Greensburg Rd (Green)	SR 241/Massillon Rd (Green)
54	Stow Rd	SR 303/Streetsboro Rd (Hudson)	Middleton Rd (Hudson)
55	Summit St	SR 43/Water St (Kent)	Eastern Kent City Line (Kent)
56	Twinsburg Rd	Brandywine Rd (Boston Township)	SR 91/Darrow Rd (Twinsburg Township)
57	U.S. Route 224/Waterloo Rd	Canton Rd (Springfield Twp)	Berlin Lake Trail (Deerfield Township)
58	Van Buren Ave	Center Rd (New Franklin)	Robinson Ave (Barberton)
59	Vernon Odom Blvd	S Hawkins Ave (Akron)	W Exchange St (Akron)
60	Waterloo Rd	SR 93/Manchester Rd (Akron)	S Arlington St (Akron)
61	Wheatley Rd/Broadview Rd	Everett Rd (Boston Township)	SR 303/W Streetsboro Rd (Richfield)
62	Wilbeth Rd	SR 93/Manchester Rd (Akron)	SR 764/S Arlington St (Akron)
63	Wooster Rd	Robinson Ave (Barberton)	Kenmore Blvd (Akron)

Priority Corridors



IMPLEMENTATION

While AMATS has recommended a number of on-road and off-road bicycle facilities, other implementation strategies can be used to improve the region for biking. The following section describes strategies that AMATS will carry out and encourage as part of its planning process.

DESIGN IMPROVEMENTS

Complete Streets

There are many projects communities can undertake to make their roadways more accommodating for bicyclists and pedestrians. Since most communities have fully developed roadway systems, it is necessary to work within the confines of what already exists. That's where the concept of "Complete Streets" comes into play. Complete Streets are roadways that are designed for everyone, bicyclists, pedestrians, motorists and transit users, and allow people of all ages and abilities to feel safe while using the road. Elements of Complete Streets include facilities such as bike lanes, sidewalks, bus pull-offs and crosswalks.

AMATS believes that context sensitive design is of utmost importance when determining what Complete Streets treatments are feasible for a project. In an urban environment, bicyclists needs may be accommodated by constructing a bike lane or side path whereas in a more rural setting, widening the shoulders may suffice.

AMATS is currently working on a Complete Streets Policy to ensure AMATS funded projects consider elements of complete streets. The Complete Streets Policy is scheduled for completion in May 2012.

Example Complete Streets Treatments by Planning Area Type			
PLANNING AREA TYPE	Transportation Mode		
	BIKE	PEDESTRIAN	TRANSIT
URBAN	<p>Bike lanes, side paths, bike storage, signals, grade-separated crossings</p> 	<p>Enhanced street furniture, median islands, curb bulb outs, high visibility crosswalks, planting strip buffers, mid-block crossings</p> 	<p>Independent bus lanes, signal prioritization, enhanced bus shelters</p> 
SUBURBAN	<p>Community trails, bike-crossing signage, bike racks</p> 	<p>High visibility crosswalks, on-street parking, handicapped accessible sidewalks</p> 	<p>Enhanced shelters along arterials, park-and-rides, commuter buses</p> 
RURAL	<p>Rails-to-trails, wide shoulders</p> 	<p>Rails-to-trails, wide shoulders</p> 	<p>Potential park-and-rides</p> 

Lane Width Accommodation for Bicyclists

Bicyclists have legal access to all city streets and state roadways with the exception of limited access free-ways. The 2012 Bike Plan recommends a number of priority investment corridors to be considered as part of the AMATS bikeway network. However, bicyclists will need to use streets outside of the network in order to reach their destinations. It is important that all roadways be designed to consider bicycling. Depending on the context, there are many options to help make roads safer for bicyclists. The following list are some examples of improvements that may be considered.

- Conventional Bike Lanes
- Wide Shoulders
- Bike Routes
- Sharrows
- Signage

Rumble Strips

Rumble strips are raised or grooved patterns in a road's shoulder that alert drivers via noise and vibrations that they are drifting off the roadway. AMATS staff heard from a number of citizens concerned about rumble strips.

Rumble strips are virtually impossible to ride a bicycle on or over. They are at best uncomfortable, even for a very short distance, and at worst can cause a cyclist to lose control of their bike and fall. They can damage a bicycle wheel, cause a flat tire and/or shake loose parts off a bicycle. As a result, cyclists will avoid riding over them and when rumble strips leave no room on a shoulder, the cyclist will have no other option than to ride in the travel lane. It has become apparent that rumble strips have a detrimental impact on bicycle travel and have ruined popular cycling routes.

The negative impact of rumble strips on the rideability of a roadway has prompted American Association of State Highway and Transportation Officials (AASHTO) and the Federal Highway Administration (FHWA) to recommend that rumble strips should not be used indiscriminately on roadways that are not limited access. When used, it is recommended that there remains four feet of unobstructed roadway shoulder after the rumble strips have been installed.



More information and findings regarding best practices can be found at:

http://www.bikeleague.org/resources/reports/pdfs/rumble_strips.pdf.

Bike Parking and Amenities

Bicycle parking is an important strategy for promoting bicycling as transportation, encouraging people to replace some of their car trips with bicycle trips. Recreational riders also need bike racks along trail amenities and destinations, such as restaurants. Bike racks and lockers near public spaces such as the workplace, storefronts, bike shops and parks can promote more bicycle use by providing a secure location to store a bike.

Currently under construction, the PARTA multimodal facility in Downtown Kent will include bike lockers and parking for cyclists.



Ohio City, Cleveland bike rack by Rick Hawksley

EDUCATION

AMATS supports the education of both cyclists and automobile users to increase the safety of all roadway users. The 5 E's approach has been a successful way of framing cycling education and is the approach AMATS has chosen to use.

5 E's

Since 1993, the Federal Highway Administration (FHWA) has supported the 5 E's of Bicycling: Engineering, Education, Enforcement, Encouragement, and Evaluation. Evaluating these elements in a comprehensive bicycle assessment allows the Greater Akron area to measure the success of service provided in terms of physical biking facilities and bicycling patterns. Indicators of success will include increased bicycling in the region for both commuting and recreation and decreased automobile-bicycle crashes. The 5 E's are described below.

Engineering

Successful bicycle networks begin with the planning and design of safe facilities, as well as incorporating ancillary elements into the design of residential and commercial developments.

Education

Education includes the coordinated distribution of information regarding existing facilities and their role in the overall system. This information should be pertinent to riders of all levels. Education should also convey the "rules of the road" to ensure bicyclists and motorists follow established rules while

operating on, or adjacent to, existing facilities. AMATS provides education outreach through its Bike User's Map and its new website Switching-Gears.org that aims to encourage and support bicycling in the region. Other links to educational outreach include Greater Cleveland's Ohio City Bicycle Co-op at www.ohiocitycycles.org and the National Institute of Health Bicycle Commuter Club at <http://www.recgov.org/r&w/nihbike/>.

Enforcement

The proper use and full value of the bicycle network hinges on the enforcement of laws pertaining to the interaction between motorists and cyclists to ensure traffic laws are obeyed.

Encouragement

Even with well-engineered facilities and ample education, people still need to be encouraged to bike, whether it be through special events, riding groups, public advertising campaigns, health promotions, local cycling media and websites. AMATS continues to encourage bicycling by participating in and planning events to promote bicycling such as Bike to Work Week and commuter challenges.

Evaluation & Planning

A community is judged on the systems that it has in place to evaluate current programs and planning for the future. Focus is placed on measuring the amount of cycling taking place in the community, the existing bike network and access to community attractions.

Communities are asked about whether or not they have a bike plan, how much of it has been implemented and what the next steps for improvement are. AMATS kicked off an annual bicycle count program in the summer of 2011 to better evaluate the number of people currently bicycling, and to track how this number changes over time. The program is also used to record characteristics of cyclists such as helmet usage and to identify locations needing improvements.



INDICATORS

AMATS will evaluate the region's performance in improving the bicycle network using several indicators. These indicators will quantitatively help gauge the region's performance on improving its bike network. Indicators AMATS will collect include:

Miles of Trails

There are some 75 miles of bikeways in Summit County, with 41 miles of them comprising the Tow-path Trail. Portage County includes about 25 miles of bikeways. The region includes more than 100 miles of bikeways.

Miles of Bike Lanes

The number of bike lane miles continues to increase in the region. Currently there are 8 miles of lanes in Portage County and 16 miles of lanes Summit County.

Number of Bicycle Facilities

AMATS will begin to collect data on the number of bicycle facilities that exist in the region. These facilities could include bike lockers, bike sharing stations, or bike racks. Investments in these types of facilities would indicate more demand for biking in the region.

Bike Counts

AMATS will continue its bike counting program at select locations throughout the year. Creating a database of bike counts will help AMATS gauge if more people are choosing to cycle.

Bike Crashes

Reducing bike crashes is an important goal for AMATS. A reduction of bike crashes would indicate that roadways are becoming safer for cyclists. The ODOT Division of Planning – Systems Planning & Program Management of Highway Safety collects data at the county level for crashes involving bicycles. Table X summarizes relevant crash data for Portage and Summit counties. These crashes represent only those reported to the police. According to Table X, a total of 564 crashes occurred from the Years 2006-2010.

In January 2012, a bicycle accident analysis was completed by the City of Akron Traffic Engineering department for the Years 2006-2011. The table below highlights some of the data specific to the City of Akron.

Bike Crash Data for Portage & Summit Counties

Year	Total Crashes
2006	111
2007	114
2008	117
2009	106
2010	116
Total	564

Bicycle Accident Analysis 2006 – 2011 for City of Akron

	2006	2007	2008	2009	2010	2011
Total Accidents	48	47	56	49	49	61
Accidents between 7-9 am	3	2	4	0	2	1
Accidents between 4-6 pm	11	11	15	14	20	11
Fatalities	0	0	0	1	0	1
Helmets Worn	1	3	7	3	1	0
Peak Months:						
May	6	7	6	5	5	8
June	8	5	10	3	8	9
July	6	7	8	14	5	10
August 3	6	8	10	8	10	
September	7	2	8	8	7	9
October	2	4	7	4	4	8

ADVOCACY

AMATS is helping to advocate for bicycling in the region by developing and maintaining a website, *Switching-Gears.org*, devoted to improving and supporting bicycling in the region. The website will provide community and event forums, interactive maps, information on area trails and information on regional bicycle planning and projects.

The purpose of Switching Gears is to provide a regional public forum for cyclists, to receive feedback on AMATS initiatives and to create a centralized place for bicycling information, such as routes and local rides.



Switching Gears

APPENDICES

RESOURCES

AASHTO.com – American association of state highway and transportation officials. This site contains copies of the Guide for the Development of Bicycle Facilities, 1999.

Activelivingresources.org – The Active Living Resource Center (ALRC) is a major program of the National Center for Bicycling & Walking. ALRC works with community advocates, stakeholders, elected officials and professionals to remove barriers to physical activity in their communities.

Americabikes.org - A nonprofit organization of bicycle community leaders that advocates for bike and pedestrian initiatives under the federal transportation bill.

Apbp.org – Association of Pedestrian and Bicycle Professionals (APBP) is a membership organization that offers frequent webinars on bike/pedestrian topics.

Bicyclinginfo.org – This site has information to assist communities in planning and design of bike facilities as well as including general bicycling statistics.

Bikeleague.org – This is the site of the League of American Bicyclists. The League is a national organization promoting bicycling for fun, fitness, transportation, and work through advocacy and education.

Bikeplan.com – Resource for bike planning, design, and mapping, bicyclist education programs, enforce-

ment projects, and awareness-building projects.

Bikewalk.org – Site of the National Center for Bicycling and Walking. This organization aims to create bicycle-friendly and walkable communities.

Completestreets.org – This is the site of the National Complete Streets Coalition which promotes complete streets policies to create roads that safely accommodate all users, including bicyclists, pedestrians, automobiles, and public transit.

Doi.gov – The site of the Department of the Interior, which offers the Rivers, Trails, and Conservation Assistance Program Grant, and Land and Water Conservation Funds Grant.

Dot.state.oh.us/bike/Default.htm – ODOT's bicycling home page. ODOT provides support to local governments, governmental and non-governmental organizations and private citizens to encourage, educate, plan, and design pedestrian and bicycle facilities.

Dot.state.oh.us/bike/MAPList.htm – ODOT's map and list of bikeways.

Enhancements.org – National Transportation Enhancements Clearinghouse. This site produces a number of useful resources including reports on the economic development benefits of Transportation Enhancements (TE) and a state database of all TE projects.

Fhwa.dot.gov/environment/bikeped – The bicycle and pedestrian program of the Federal Highway Administration’s Office of Human Environment that promotes bicycle and pedestrian transportation use, safety, and accessibility. The site includes information about the amount of federal funding spent on pedestrian and bicycle projects in your state, available federal funding sources, existing legislation, and guidance about accessible design.

Fhwa.dot.gov/environment/te/index.htm – FHWA’s Transportation Enhancements Program. Includes guidance on the 12 permitted uses of transportation enhancement funds and a directory of state TE program managers.

Nacto.org – Cities for Cycling is a project of the National Association of City Transportation Officials (NACTO). The Urban Bikeway Design Guide features innovative design treatments for accommodating cyclists in congested urban areas where competition for pavement is high.

NHTSA.dot.gov – The National Highway Traffic Safety Administration has information, resources, and free handouts available from the website.

Ntl.bts.gov - The National Transportation Library’s (NTL) website. It includes statistical and other information needed for transportation decision-making at the Federal, State, and local levels and contains

information on bicycle and pedestrian issues. NTL was established in 1998 by the Transportation Equity Act for the 21st Century (TEA-21).

Railstotrails.org – The Rails-to-Trails Conservancy website. This organization works to create a nationwide network of trails from former rail lines and connect corridors to build healthier places for healthier people.

Saferoutesinfo.org – The site of the National Center for Safe Routes to School. This site contains information and technical assistance for implementing FHWA’s Safe Routes to School Program.

Thunderheadalliance.org – The site of Thunderhead Alliance, a national coalition of bicycle and pedestrian advocacy organizations working to break down barriers to safe bicycling and walking in North America.

Walkinginfo.org – The site for the Pedestrian and Bicycle Information Center. This is the official information and technical assistance clearinghouse for FHWA’s bicycle and pedestrian program. Includes design guidance, a public photo library of facilities, and research.

DEFINITIONS

Bicycle Facilities – A general term denoting improvements and provisions made by public agencies to accommodate or encourage bicycling, including parking and storage facilities, and shared roadways not specifically designated for bicycle use.

Bike Lane – A dedicated lane for bicyclists that is separated from motor vehicle traffic by pavement markings and is signed for preferential or exclusive use by bicyclists. Bike lanes widths can range from 4 to 6 feet and should be striped, signed, and marked in accordance with the Manual on Uniform Traffic Control Devices (MUTCD).

Bike Route – A system of bikeways designated by the jurisdiction having authority that includes appropriate directional and informational route markers. Bike routes can be an option where room does not permit or the need does not exist to create additional pavement width for cyclists. Bike routes are typically found on low volume, low speed streets. They are especially helpful in way finding to link neighborhoods with networks of greenways and other types of bike facilities.

Bikeway – A generic term for any road, street, path or way which in some manner is specifically designated for bicycle travel, regardless of whether such facilities are designated for the exclusive use of bicycles or are to be shared with other transportation modes.

Green Colored Pavement – This pavement was

granted statewide interim approval for bike lanes to ODOT in 2011. Green colored pavement within a bicycle lane increases the visibility of the facility, identifies potential areas of conflict, and reinforces priority to bicyclists in conflict areas. The pavement may be installed within bicycle lanes as a supplement to other pavement markings and is commonly applied at intersections, driveways, conflict areas, and along non-standard or enhanced facilities such as cycle tracks. Motorists are expected to yield right of way to bicyclists at these locations.

Greenways and Park Trails – A greenway is a linear parcel of land set aside to preserve open space. Greenways are generally located in floodplain areas and along wooded stream corridors that are unsuitable for development. Greenway and park trails typically are 8 to 10+ feet wide and may or may not be paved.

Rail-Trail – A shared use path, either paved or unpaved, built within the right-of-way of an existing or former railroad.

Right-of-Way – A general term denoting land, property or interest therein, usually in a strip, acquired for or devoted to transportation purposes.

Right of Way – The right of one vehicle or pedestrian to proceed in a lawful manner in preference to another vehicle or pedestrian.

Roadway – The portion of the highway, including

shoulders, intended for vehicular use.

Rumble Strips – A textured or grooved pavement sometimes used on or along shoulders of highways to alert motorists who stray onto the shoulder.

Shared Roadway – A lane within the roadway that indicates through a sharrow pavement marking symbol and/or Share the Road signage that bicyclists may be positioned within the lane.

Shared Use Path – A bikeway physically separated from motorized vehicular traffic by an open space or barrier and either within the highway right-of-way or within an independent right-of-way. Shared use paths may also be used by pedestrians, wheelchair users, and other non-motorized users. Shared use includes side paths and rail to trails.

Sharrow - A shared lane pavement marking consisting of a bicycle symbol placed in the roadway lane to indicate that motorists should expect to see and share the lane with bicycles. Unlike bicycle lanes, they do not designate a particular part of the roadway for the exclusive use of bicycles.

Shoulder – The portion of the roadway contiguous with the travel lane for accommodation of stopped vehicles, emergency use and for lateral support of sub-base, base and surface courses. The shoulder is on the same level as the existing roadway surface.

Sidewalk – The portion of a street or highway right-

of-way designed for preferential or exclusive use by pedestrians.

Signed Shared Roadway (Signed Bike Route) – A shared roadway which has been designated by signing as a preferred route for bicycle use.

Traveled Way – The portion of the roadway for the movement of vehicles, exclusive of shoulders.

Wide Curb Lane Facility – Travel lane that is 14 feet or more, allowing a bicyclist to be safely passed by a 4 wheel car.

This report was prepared by the Akron Metropolitan Area Transportation Study (AMATS) in cooperation with the U.S. Department of Transportation, the Ohio Department of Transportation, and the Village, City and County governments of Portage and Summit Counties and Chippewa Township in Wayne County. The contents of this report reflect the views of AMATS, which is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official view and policies of the Ohio and/or U.S. Department of Transportation. This report does not constitute a standard, specification or regulation.



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