The Metropolitan Planning Organization for the Greater Kalamazoo Area

2045

METROPOLITAN TRANSPORTATION PLAN

Kalamazoo Area Transportation Study
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2045 Metropolitan Transportation Plan

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Public notice of public involvement activities and time established for public review and comments on the Metropolitan Transportation Plan (MTP) will satisfy the Program of Projects (POP) requirements for the following grantees: Kalamazoo Metro Transit, the Kalamazoo County Transportation Authority, the Central County Transportation Authority, and Van Buren Public Transit.

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Chapter 1: Introduction

The Kalamazoo Area Transportation Study (KATS) is the Metropolitan Planning Organization (MPO) for the Kalamazoo urbanized area which includes of all Kalamazoo County and Almena Township, Antwerp Township, Paw Paw Township, and Waverly Township in Van Buren County. The purpose of the Study is to fulfill the Federal, State, and Policy Committee directives to ensure distribution of transportation funding in the Metropolitan Planning Area to best benefit the transportation system, as well as plan for the future of the transportation network within financially feasible goals.

Within the federal guidelines of Moving Ahead for Progress in the 21st Century (MAP-21) and continuing with the Fixing America's Surface Transportation (FAST) Act, KATS is responsible for the development of a Metropolitan Transportation Plan (MTP). The Metropolitan Transportation Plan discusses the goals, investment decisions, policies, and priorities for the transportation system in the KATS Metropolitan Planning Area. Overall, this plan provides the backbone for the KATS planning activities and the future transportation system of the Metropolitan Planning Area.

Kalamazoo Area Transportation Study History

Planning for transportation systems has always been a part of the transportation planning process, but to varying degrees. It was not until 1962 that there was benchmark federal legislation for urban transportation planning.[1] In summary, the Act mandated that *". . . after July 1, 1965, the Secretary of Transportation shall not approve . . . any project in any urban area of more than 50,000 population unless he finds such projects are based on a continuing, comprehensive transportation planning process carried on cooperatively by the state and local communities."* Features of the Act emphasized:

- The requirement of creating an intergovernmental committee made up of principal elected officials of general purpose local government to facilitate cooperation and coordination.
- The identification of a formal comprehensive process with inherent flexibility to reflect local issues, goals, and policies.
- All activities be fully coordinated between the State (Michigan Department of Transportation) and local governments to assure proper integration of the respective state and local systems.

In response to the regulations, in 1966, the Kalamazoo Area Transportation Study Policy Committee was created through agreements by and between local units of government in the Kalamazoo urban area and the Michigan Department of Transportation (MDOT). [2] This organizational effort was led by MDOT. Although fully vested with responsibility for carrying out the requirements of the legislation, the Policy Committee was not formally designated as the Metropolitan Planning Organization (MPO) until 1978. Prior to that action, the Kalamazoo Area Transportation Study Policy Committee acted to incorporate as an "Intermunicipality Committee" under Act 200 of the Public Acts of Michigan of 1957.

The Intermunicipality Committee Act provides for the cooperative establishment of a forum (the KATS Policy Committee) by local units of government for the purposes of conducting specifically designated intergovernmental activities in a coordinated manner. KATS continues to be organized under the Intermunicipality Committee Act. In 1993, under the provision of the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991, the KATS Policy Committee extended its area boundaries to include all of Kalamazoo County within the Metropolitan Area Boundary (MAB). In 2012, the Policy Committee took action to extend the planning area to include Almena Township, Antwerp Township, Paw Paw Township, Waverly Township, and the villages of Lawton, Paw Paw, and Mattawan in Van Buren County.

The organization and concept of an Intermunicipality Committee fully supports and addresses the clear intent of the federal legislation's reference to "cooperative." The KATS Policy Committee represents

[1] Federal-Aid Highway Act of 1962.
[2] At that time, the Michigan Department of Transportation (MDOT) was officially the Michigan Department of State Highways and Transportation (MDSHT).

"principal elected officials of general purpose local government" working cooperatively in the transportation decision making process.

All work and activities of the Kalamazoo Area Transportation Study are initiated and conducted under the policy direction of the KATS Policy Committee. Activities are conducted cooperatively either working with the Technical Committee or, as appropriate, with the individual planning or public transportation agencies. Agency staffs work in the cooperative conduct of these activities within this framework. Their efforts are integral, in fact, are critical to the successful conduct of the process.

The Policy Committee organizational emphasis is on the representation of the units of general purpose local government. Although they work in cooperation and coordination with a range of other forums, decision making is the collective responsibility of these elected and appointed officials.

The Technical Committee, made up of professional and technical representatives of local transportation agencies, acts both collectively and individually to provide evaluation, analysis, and product for the consideration of the Policy Committee. The individuals and agencies jointly making up the Technical Committee are involved in the Study on a continuing basis.

Policy Committee Voting Membership

Michigan Department of Transportation Bureau of Transportation Planning
Michigan Department of Transportation Kalamazoo Transportation Service Center

City of Kalamazoo
City of Parchment
City of Portage
City of Galesburg

Alamo Township
Brady Township
Climax Township
Cooper Charter Township
Comstock Charter Township
Kalamazoo Charter Township
Oshtemo Charter Township
Pavilion Township
Prairie Ronde Township
Richland Township
Ross Township
Schoolcraft Township
Texas Charter Township

Village of Augusta
Village of Lawton
Village of Mattawan
Village of Paw Paw
Village of Richland
Village of Schoolcraft
Village of Vicksburg

Kalamazoo County Transportation Authority
Kalamazoo Metro Transit Authority Board
Kalamazoo County Board of Commissioners
Road Commission of Kalamazoo County

Van Buren County Board of Commissioners
Van Buren Public Transit
Van Buren County Road Commission

Western Michigan University

Technical Committee Voting Membership

(Indicates more than 1 individual representing the organization)

Michigan Department of Transportation
Bureau of Transportation Planning
Kalamazoo Transportation Service Center
Southwest Region Office

City of Galesburg

City of Kalamazoo
Department of Public Services (3)
Department of Economic Development & Planning
Metro Transit

City of Parchment

City of Portage
Transportation and Utilities (3)
Community Development

Kalamazoo County
Planning and Community Development
Road Commission of Kalamazoo County (2)

Van Buren County
Van Buren County Road Commission
Van Buren Public Transit

Comstock Charter Township
Oshtemo Charter Township
Texas Charter Township

Village of Augusta
Village of Lawton
Village of Mattawan
Village of Paw Paw
Village of Schoolcraft
Village of Vicksburg

Kalamazoo Area Transportation Study Staff

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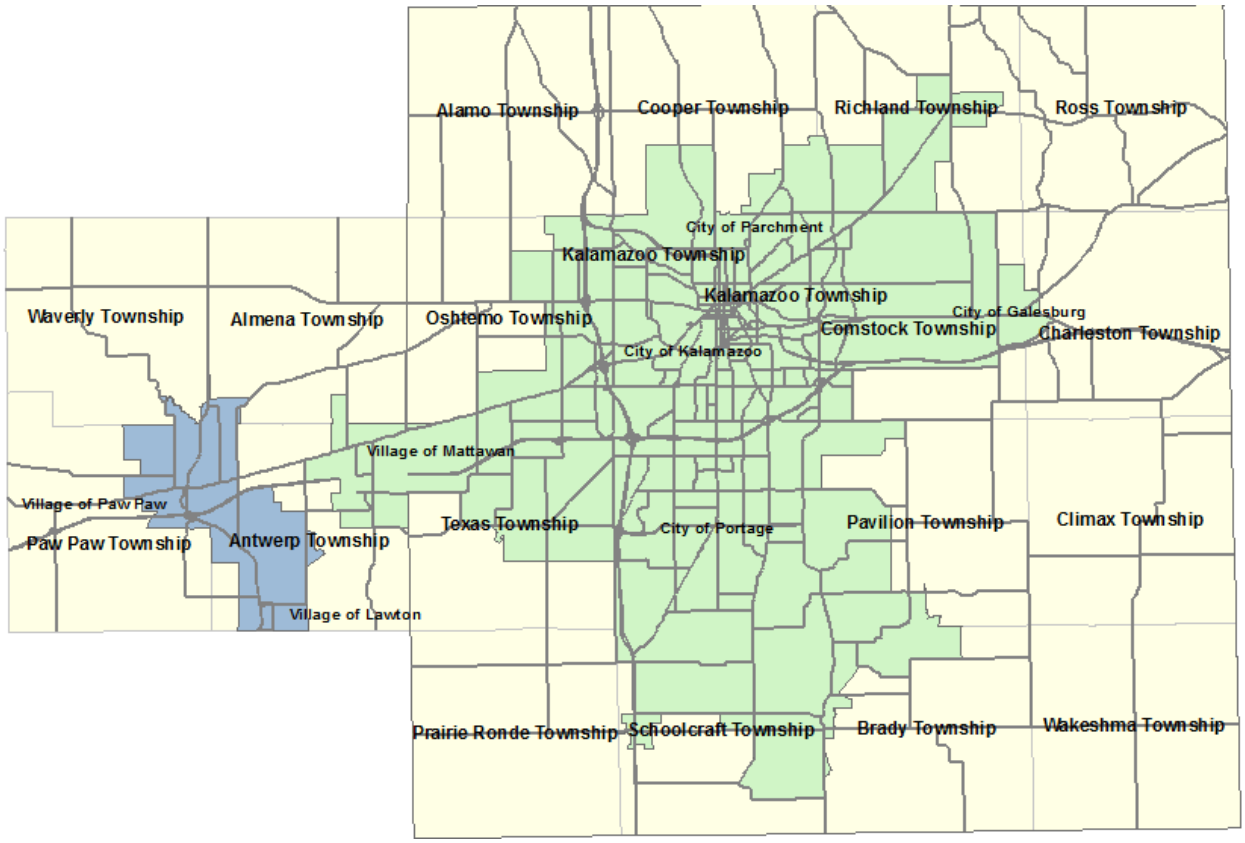
Megan Arndt, Associate Planner
Fred Nagler, Associate Planner
Monica Zehner, Office Manager

Map: Kalamazoo Area Transportation Study Urban, Rural, and Small Urban Funding Areas



All federal funding in the planning area is subject to the Kalamazoo Area Transportation Study transportation planning process.

Chapter 2: Vision and Goals

The development of an overall vision and goals is an important first step in the preparation of the 2045 Metropolitan Transportation Plan. The vision and goals serve as a broad framework to guide the planning process in the identification of efficient and effective short and long range transportation strategies, decisions, and investments.

It should be noted that some of the stated goals and strategies may conflict with one another. This situation is to be expected and reflects the realistic conflicts, trade-offs and choices which must be weighed by policy makers in the course of the transportation decision process.

The goals and strategies were developed using public input via a Transportation Survey (see Chapter 6), the 2035 Metropolitan Transportation Plan objectives, additional citizen and policy input, and MAP-21 national performance goals in a consultation process involving the Technical Committee and the Policy Committee. To keep the planning process dynamic, the Metropolitan Transportation Plan will be updated every four years as required by the current federal transportation legislation. Throughout the development, KATS worked to simplify the vision and goals for the 2045 Metropolitan Transportation Plan to provide a clearer vision for the area's transportation system, while better linking them to the community wide responses received in the Transportation Survey.

Under MAP-21 and continuing legislation, the metropolitan planning process shall be continuous, cooperative, and comprehensive, and provide for consideration and implementation of projects, strategies, and services that will address the following factors [23USC §150(b)]:

Safety: To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.

Infrastructure Condition: To maintain the highway infrastructure asset system in a state of good repair.

Congestion Reduction: To achieve a significant reduction in congestion on the National Highway System.

System Reliability: To improve the efficiency of the surface transportation system.

Freight Movement and Economic Vitality: To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.

Environmental Sustainability: To enhance the performance of the transportation system while protecting and enhancing the natural environment.

Reduced Project Delivery Delays: To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices.

Regional Transportation Vision: To provide a safe and balanced regional multimodal transportation system that increases the vitality of our society, economy and environment for business, residents and future generations.

Goal 1: Improve the Safety and Security of the Transportation System

Strategies:

- Provide a surface transportation system that is safe through best engineering practices.
- Include appropriate methods to enhance the security of the surface transportation system.
- Encourage educational efforts to improve motorized and Non-Motorized user behavior and the joint use of the transportation system.

Measures:

- Decrease number of annual crash fatalities.
- Decrease number of annual disabling injuries.
- Decrease number of pedestrian/Non-Motorized crashes.

Goal 2: Increase the Accessibility, Reliability, and Mobility of the System for People, Freight and Services

Strategies:

- Provide transportation opportunities to people who are transportation disadvantaged.
- Promote the efficient management of the public transportation, Non-Motorized and pedestrian components of the transportation system.
- Leverage technology, communications and management strategies to maximize the capacities of the existing transportation system.
- Accommodate freight movers in transporting industrial, commercial, and agricultural products while minimizing adverse impacts to other transportation system users.

Measures:

- Increase transit total revenue service hours.
- Increase number of obligated TIP projects with bicycle, pedestrian and transit related infrastructure.
- Decrease the percentage of congested urban roadways.

Goal 3: Invest Strategically in Transportation Infrastructure to Enhance the Area's Livability and Sustainability

Strategies:

- Increase the availability of modes other than single occupant motor vehicles through public transit, ridesharing, and Non-Motorized usage.
- Reduce on-road mobile source emissions affecting air quality.
- Minimize and/or mitigate any disproportionate impact of transportation projects within residential areas and to traditionally transportation disadvantaged populations.
- Encourage the development of policies and programs that promote context-sensitive highway design that preserves a communities' aesthetic and natural resources.

Measures:

- Increase percentage of work trips using alternative modes (Transit, bicycling, walking, etc.)
- Increase percentage of total federal funds invested in environmental justice tracts.

Goal 4: Emphasize the Preservation of the Existing Transportation System

Strategies:

- Preserve the functional, structural, and operational integrity of the transportation network.
- Provide an adequate capital equipment replacement program to assure reliability and minimize maintenance costs for the public transportation service providers.

Measures

- Decrease percentage of structurally deficient bridges.
- Decrease percentage of roads in region classified as "poor" through PASER rating system.
- Increase the percentage of transit vehicles operating within their remaining service life.

Chapter 3: Existing Transportation System Facilities

The transportation system in the Metropolitan Area is an integrated multi-modal system. On or adjacent to the road network, passenger vehicles, public transportation, freight haulers, bicyclists, and pedestrians, move and interact. Other modes of transportation, including intercity buses, trucks, freight and passenger rail, and the airport, connect the Metropolitan Area to the rest of the regional and worldwide transportation system.

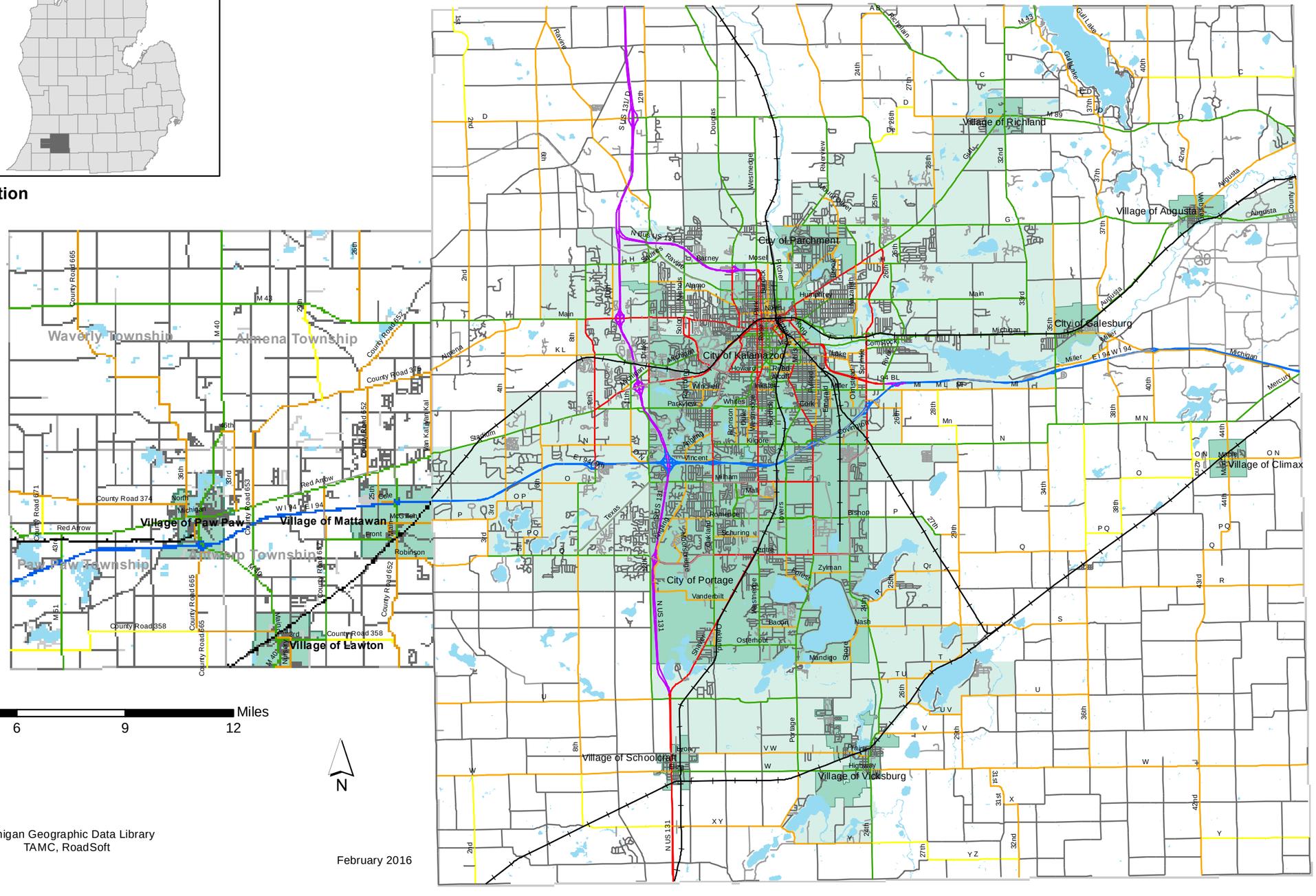
Existing Major Roadways

The Kalamazoo Area Transportation Study's primary study focus is the network of roads that are on the National Functional Classification (NFC) system and are classified as following:

- Rural and Urban Interstate Highways;
- Rural and Urban Other Freeways;
- Rural and Urban Other Principal Arterials;
- Rural and Urban Minor Arterials;
- Rural and Urban Major Collectors;
- Rural and Urban Minor Collectors.

Roads classified as local or private/non-classified roads are not typically studied.

The current Kalamazoo Area Transportation Study road network is shown on the map on the next page. These roads have from two to seven lanes of traffic and many have adjacent bicycle or pedestrian facilities. The major road system carries private passenger and public transportation vehicles, intercity buses, bicyclists, pedestrians and freight vehicles, connecting the region to local properties and businesses.



National Functional Classification for the KATS MPO Boundary

Michigan Geographic Data Library
TAMC, RoadSoft

February 2016

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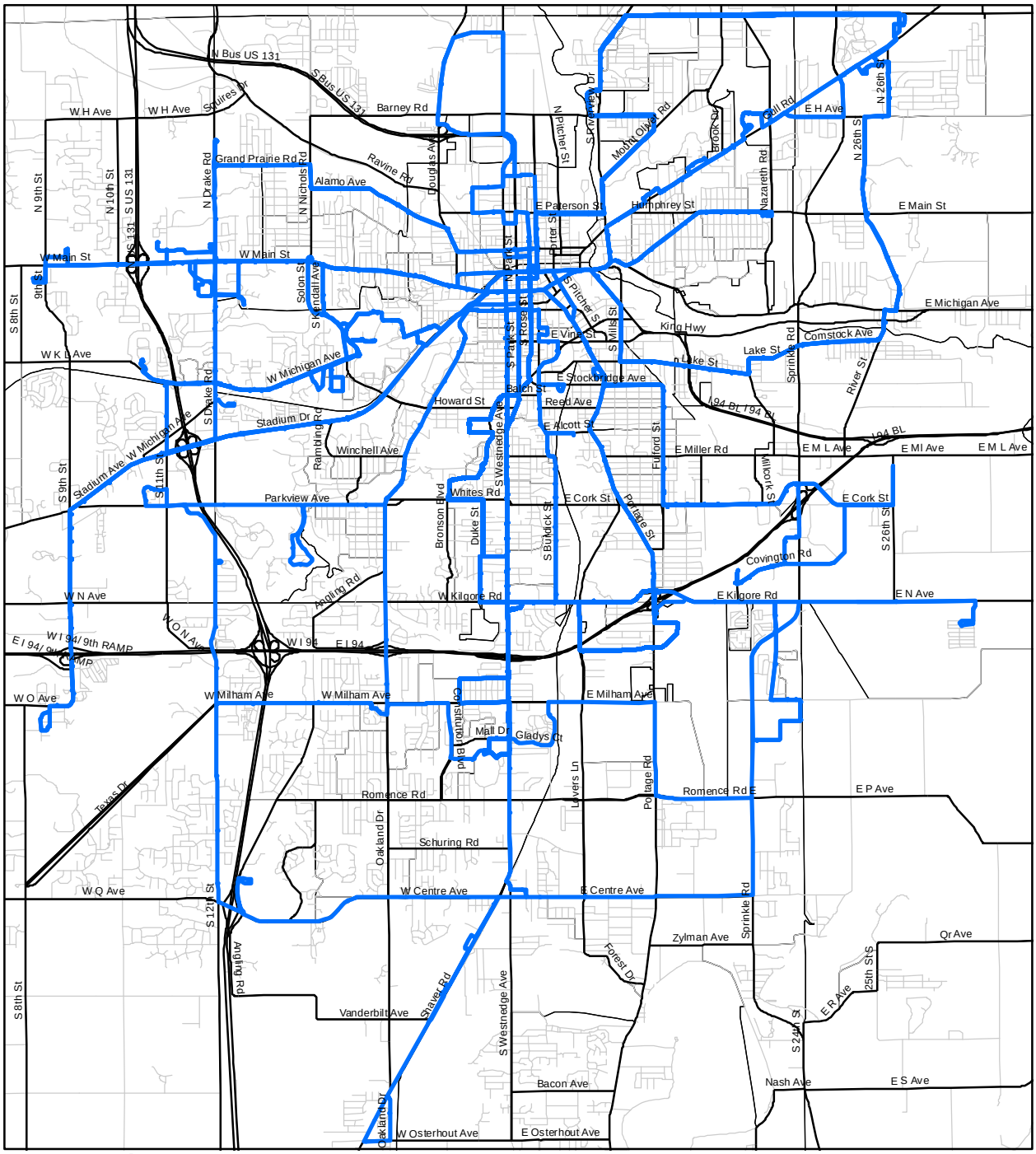
Transit Existing Routes



Legend

- Transit Routes
- Federal Aid Roads
- Non-Federal Aid Roads

0 0.5 1 2 3 4 5 Miles

N

Source: Metro Transit, KATS

KATS KALAMAZOO AREA TRANSPORTATION STUDY

Existing Bicycle and Pedestrian Facilities

The urban core of the Metropolitan Planning Area has extensive pedestrian facilities in the form of sidewalks, marked pedestrian road crossings, and pedestrian traffic signals. The Kalamazoo Area Transportation Study has inventoried existing pedestrian and bicycle facilities adjacent to streets on the KATS network. This inventory is not intended to be an exhaustive inventory of pedestrian facilities on all streets. Due to the emphasis placed on Non-Motorized facilities from the Transportation Survey, and consequently the adopted Vision and Goals, KATS placed extra emphasis on the development of a Non-Motorized Element while developing the 2045 Metropolitan Transportation Plan. The Non-Motorized Element can be found in Appendix A of this document.

Airport

Kalamazoo/Battle Creek International Airport

Located on Portage Road, south of I-94 in the east central urban area, the Kalamazoo/Battle Creek International Airport provides both commercial (3 airlines) and general aviation services to the metropolitan and southwestern Michigan areas. This airport primarily provides passenger services. The W.K. Kellogg Regional Airport in Battle Creek, Michigan, handles much of the air freight into and out of this region. The Kalamazoo/Battle Creek International Airport is one of 14 air carrier airports in Michigan and is classified by the Federal Aviation Administration as a Class 1 airport. The airport facilities are owned and operated by Kalamazoo County. In addition to scheduled commercial passenger services, the airport facilities support a broad range of aviation activities, including instructional flight schools, corporate aircraft facilities, flying clubs, military operations, charter services, air freight, and air ambulance. A new terminal was recently opened at the airport.

Land use surrounding the airport facility is primarily dedicated to commercial/retail and industrial purposes. A mobile home park is located adjacent to the northeastern edge of the airfield. The industrial and commercial areas serve as a buffer between airfield activities and larger residential areas located north of I-94, west of Portage Road, and east of South Sprinkle Road.

Portage Road is the main link that connects the airport to the rest of the surface transportation system. The airport is accessible by major transportation corridors linking to Portage Road from I-94, Kilgore Road, East Milham Avenue, and East Centre Avenue. The airport has reconfigured its long and short term parking areas and its access/egress road to improve connections to the major street network. A new terminal building is under construction which, when complete, will improve airport customer service and airport operations. Intermodal services linking to the facility include several taxi companies, limousine services, a variety of specialized transportation providers and the public transportation providers with Metro County Connect and Metro Transit services. Metro Transit maintains a fixed route bus stop at the airport, providing interconnected bus service from all routes within their service area during normal operating hours.

Current Operations and Aviation Forecast

The Kalamazoo Battle Creek International Airport does provide transportation services from training to commercial passenger service to air freight operations. The commercial passenger service is the largest part of the airport's operations.

Rail

Rail Freight

Rail freight service to the Kalamazoo area is provided by three rail carriers. Norfolk Southern, operating on both north-south and east-west rail lines through the mid-section of the urban area, provides freight movements between Detroit and northern Indiana (and points beyond). Norfolk Southern also maintains a switching yard near the east side of the City of Kalamazoo's central business district. Grand Trunk/CN North America operates freight movement from two rail lines which serve Kalamazoo from the southwest, with continued service through Battle Creek and onto Detroit and Canada. A main line connects at the

southern urban area which runs to Battle Creek. Grand Trunk maintains a switching yard near South Sprinkle Road. Grand Elk Railroad also leases north/south track rights from Norfolk Southern Railroad and provides freight service along this corridor between Elkhart, Indiana and Grand Rapids, Michigan. Small spur lines serve major industrial locations near the Pfizer facilities east of Portage Road and along the Fulford Street industrial area.

Rail Passenger Service

Rail passenger service is provided by Amtrak using the east-west Amtrak/Norfolk Southern corridor between Detroit and Kalamazoo. The Amtrak station is housed in the Kalamazoo Transportation Center located on the north side of the City of Kalamazoo's central business district. Passengers can reach numerous national destinations using the Amtrak Wolverine and Blue Water routes that pass through Kalamazoo.

In 2012, The Michigan Department of Transportation (MDOT), Federal Railroad Administration (FRA) and Norfolk Southern Railway Co. (NS) signed a sales agreement that transferred ownership of 135 miles of NS railroad to MDOT for $140 million. The line is part of Amtrak's Wolverine and Blue Water passenger rail services between Kalamazoo and Dearborn.

This purchase was one step in a multi-step process that will pave the way for track improvements designed to accommodate passenger train speeds up to 110 mph. This will reduce travel time between Detroit and Chicago, reducing the overall trip time between the two cities to about five hours. The Michigan Department of Transportation has aggressively promoted the development of this corridor and has completed work towards high speed train service including in-cab signaling and improved road crossings between Kalamazoo and the state line west of Kalamazoo. Details of passenger and freight rail planning activities are included in MDOT's MI Transportation Plan which is available from the Michigan Department of Transportation.

Intercity and Charter Bus Services

Two intercity bus companies operate regularly scheduled passenger services in and out of the metropolitan area. Greyhound Bus Lines and Indian Trails Motorcoach are both stationed at the Kalamazoo Transportation Center.

Charter bus service is provided by approximately seven local companies.

Taxicab/Limousine Services

The Kalamazoo area is served by several locally based, independently owned taxi companies and one limousine service. Rides are available on an on-call basis, seven days a week, 24 hours a day for most taxi services. Due to its more rural nature, taxicab service is limited within Van Buren County.

Ridesharing

Kalamazoo Metro Transit serves as the community ridesharing office for Kalamazoo, Barry, Branch, Calhoun, and St. Joseph counties. The office coordinates and provides updated names and address information for people requesting ridesharing information to locations within and out of the county area.

Other activities of the community ridesharing program include contacts with local employers to set up carpool/vanpool programs within their companies and surveys and interviews with users of the carpool lots in the Kalamazoo area. MDOT maintains several carpool lots in the metropolitan area.

Other Transportation Providers

Several organizations, including church groups, senior care centers, and special interest providers maintain small scale transportation services for their members or clients.

Kalamazoo Transportation Center

The Kalamazoo Transportation Center is located on Kalamazoo Avenue between North Burdick Street and Rose Street and houses Kalamazoo Metro Transit bus service, Amtrak, and intercity bus passenger services. The facility is the downtown transfer center for Metro Transit's fixed route bus system and has a space for food and convenience purchases. Dedicated taxicab pick-up spaces are provided near the building. Sidewalk connections provide pedestrian access. The Kalamazoo Transportation Center is currently owned and operated by the City of Kalamazoo.

Van Buren Transit does not operate fixed route service and therefore does not have a transfer center.

Identification of Existing Intermodal Connections

The existing transportation system in the Metropolitan Area has numerous existing intermodal connections that facilitate the movement of people and goods between modes of transportation. These connections include:

Sidewalks connecting pedestrians to:

- cars parked in, off, and on street parking facilities;
- public transportation service;
- rail and intercity passenger service at the Kalamazoo Transportation Center; and
- bicycle facilities.

Bicycle facilities connect to:

- pedestrian facilities;
- public transportation through bicycle racks on the fixed route buses; and
- to intercity bus and rail passenger service at the Kalamazoo Transportation Center (future direct trail).

Road system that connects people and freight using passenger vehicles and commercial vehicles to:

- residences, recreation, education, employment, and other sites;
- the airport; and
- intercity and passenger rail services at the Kalamazoo Transportation Center.

Public transportation service connecting to:

- the airport;
- intercity bus and passenger rail service at the Kalamazoo Transportation Center;
- bicycle users; and
- pedestrians.

Existing Multimodal Transportation System

The transportation system in the Metropolitan Planning Area is clearly a multi-modal system consisting of air, rail, freight, pedestrian, bicycle, and passenger vehicle transportation modes. All are connected to provide transportation to move people and goods and are included in the Kalamazoo Area Transportation Study's continuing transportation planning process. Based on the available data and amount of transportation levels provided, the amount of emphasis spent on these modes may vary in the transportation plan, but all are important aspects of the total transportation system and will be considered in the planning process.

Chapter 4: Transportation Issues Facing the Region

As a growing Metropolitan Area, there are many transportation issues facing the region. Many of these issues are identified in our Transportation Survey, while others are national or global in their scope. The following list is not exhaustive, and is meant to highlight areas that KATS has identified throughout the transportation planning process as overarching issues facing the region.

Aging Population

Transportation needs of older residents continue to evolve as they age. In order for older residents to remain living in their own home, alternatives to a personal vehicle become increasingly important for both life line needs such as medical appointments and groceries, and for quality of life needs. As driving becomes increasingly difficult, transit is an alternative that provides a level of continued independence while not placing a burden on family members or the limited transportation resources of health care providers. Allowing older residents to age in place also has a notable effect on stabilizing property values. The dramatic increase in older residents necessitates planning for increased transit service, particularly rural transit and door-to-door service.

People with Disabilities

All transportation improvements must be constructed based on the American's with Disabilities Act and all transportation facilities and amenities must be constructed for all legal users. KATS should work with local advocates of people with disabilities to identify areas that do not meet the needs of all legal users and take steps to fix them. In 2014, the KATS adopted a Complete Streets Policy, to help strengthen the ties between funding priorities and the needs of all users of the roadway.

National Security

The Department of Homeland Security and Federal Highway Administration have charged transportation agencies with evaluating transportation infrastructure security. Michigan's Department of Transportation (MDOT) is responsible for a relatively large and diverse number of critical transportation facilities. These facilities support supply chains, passenger movement, and assets so vital to the people and businesses of the state of Michigan and the nation that their incapacity or destruction would have a debilitating impact and seriously weaken the state's security, economic stability, and public safety. More than 25% of all trade between the United States and Canada passes through Detroit's international crossing, the nation's busiest. To protect these important economic assets MDOT, Michigan State Police, and local agencies regularly cooperate to identify contraband security issues and potential targets.

Security

Security of the streets and highways portion of the transportation system is provided in part by arrangements between enforcement and street departments to provide temporary traffic control at critical locations in the event of an inoperable traffic signal and response to incidents that disrupt operations on critical parts of the system. On the Transit side, security is provided through the use of onboard communications equipment and video equipment. Video and public safety patrols are used at the main transportation transfer center in downtown Kalamazoo.

Climate Change

During the past century, the Earth has experienced a gradual warming trend. Human- induced greenhouse gases, largely from fossil fuel combustion, are recognized as one of the major causes. To mitigate the effects of urbanization and development, Federal Highway Administration (FHWA) regulations require transportation agencies to include the environment in the planning process. FHWA supports environmental planning through its Planning and Environment Linkages program. Planning and Environment Linkages (PEL) represents a collaborative and integrated approach to transportation decision- making that:

1. Considers environmental, community, and economic goals early in the transportation planning

process.
2. Uses the information, analysis, and products developed during planning to inform the environmental review process.

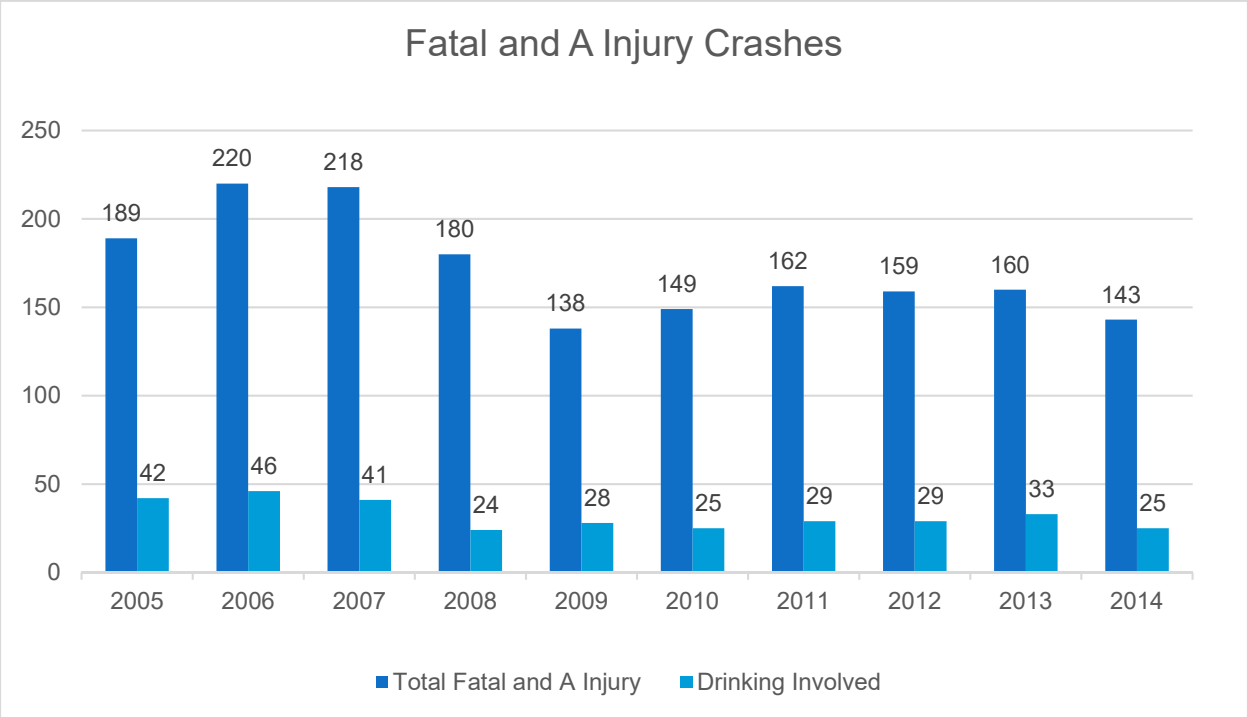
Health, Livability, and Access

Addressing livability issues in transportation planning, development and implementation ensures that transportation investments support both mobility and broader community goals. A well-crafted transportation project can be the catalyst for achieving these goals, including economic growth and job creation. Based on the Transportation Survey results, there is growing demand to design facilities that meet the needs for all users, while balancing the different access and mobility needs of motorists, freight, bicyclists, pedestrians, and transit riders at the same time.

Safety

Tens of thousands of people die each year in automobile crashes across the United States. In the State of Michigan, nearly 1,000 die each year. While the overall number of fatalities has been trending down, the Metropolitan Area should make investing in safety a priority. Congestion, alternative transportation modes, driving habits, and changing design standards can render infrastructure functionally outdated. Crashes are a critical indicator when this happens, allowing engineers and planners to identify high frequency traffic conflicts. Since most crashes occur due to human error, no level of improvement can prevent all crashes. However, the process of using crash data to justify improvements to mitigate human error remains an important part of developing a safer roadway system.

The Kalamazoo Area Transportation Study supports the State of Michigan's Strategic Highway Safety Plan. The fatal and incapacitating (A) injury crash history in the KATS area from 2005 through 2014 shows a decreasing pattern between 2006 and 2009. Following 2009, the pattern is somewhat static with minor variations between the years until 2014. The number of drinking involved crashes followed a similar pattern.



The types of crashes that comprised the fatal and incapacitating (A) injury crashes in the KATS area involved fixed object or off road crashes and on-road crashes with other vehicles, bicyclists or pedestrians. The percentage of all fatal and Incapacitating (A) injury crash types for the 2005 through

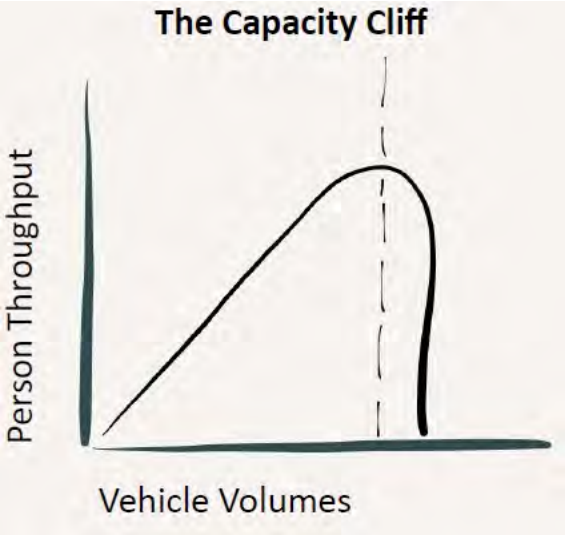
2014 period is shown in the following table. By far, the two crash types that resulted in fatal and (A) injury crashes involve collisions with Fixed Objects and Angle Straight. Pedestrian involved crashes represent almost 10% of these fatal and (A) injury crashes and are also a concern.

KATS and its members will continue to review the road system to identify locations with correctable crash patterns and develop countermeasures to address identified correctable sites. Public education and enforcement actions are also part of an effective safety improvement program.

2005 to 2014 Fatal and A Injury Crashes	
Crash Type	% of Crashes
Fixed object	23.17
Angle straight	14.09
Rear end straight	10.01
Pedestrian	9.72
Head on	7.16
Overturn	6.17
Head on left turn	4.77
Bicycle	3.73
Angle turn	3.43
Misc. Multiple vehicle	3.32
Misc. Single vehicle	3.14
Angle drive	2.21
Side swipe same	2.21
Side swipe opposite	1.98
Other drive	1.11
Animal	0.99
Rear end left turn	0.64
Rear end drive	0.52
Hit train	0.41
Backing	0.35
Hit parked vehicle	0.29
Other object	0.29

Congestion

Congestion limits the effectiveness of previous investments. When a roadway reaches capacity, traffic slows and fewer people are able to travel through a corridor. This is referred to as the capacity cliff.



As vehicle volumes increase, the number of people passing through a corridor increases, until a point where the road becomes saturated and it reaches its highest capacity. KATS identified future congestion deficiencies using a model that simulates travel using regional travel survey data, projected employment, and household data. The KATS also employs a Congestion Management Process in evaluating the multi-modal options to address congestion within the MPO.

Freight

The overall need to move freight across the country and the world is increasing. As our population grows, we will continue to consume more commodities. The American Association of State Highway and Transportation Officials (AASHTO) recently wrote an article titled "Unlocking Freight" giving the following statistics:

- The U.S. population reached 308 million in 2010, and is expected to reach 420 million by 2050. By 2020, the U.S. trucking industry will move three billion more tons of freight than currently hauled today. To meet this demand, the industry will put another 1.8 million trucks on the road. In 20 years, for every two trucks now on the road, there will be an additional one right behind it, carrying the expected growth in food deliveries, goods, and manufacturing equipment.
- In 40 years, overall freight demand will double, from 15 billion tons today to 30 billion tons by 2050. Freight carried by trucks will increase 41 percent and by rail 38 percent from today's quantities. The number of trucks on the road compared to today will also double.[3]

Meanwhile, the current capacity of our nation's freight corridors and railroads is not keeping up with the overall demand. Since 1980, traffic on the Interstate highway system has increased by 150 percent, while the actual roadway capacity has only increased by 15 percent.[4]

Freight and freight movement has an impact on everyone. Freight is directly tied to the economic vitality of many companies within the Kalamazoo area. Within the area, The W.E. Upjohn Institute's REMI model (Regional Economic Model Incorporated) projects over twenty-four billion dollars in gross regional product generated by 2035 in three areas directly tied to freight and freight movement. However, ease of freight movement can conflict with compact urban development. As the Kalamazoo Urbanized Area continues to develop, KATS will need to weigh many of the other issues identified here and in our Transportation Survey results against the needs of the freight community.

At the state level, trucking moves approximately 70 percent of the freight tonnage into, out of, and within Michigan according to the MDOT Long Range Transportation Plan's Freight Profile Technical Report. The I-94 corridor going through Kalamazoo County carries approximately 100 million tons of freight annually and is the highest freight volume highway facility in Michigan. Kalamazoo County is the ninth highest Michigan county for originating intrastate truck freight movements with 6.32 million tons annually leaving the county. It is the sixth highest destination county for intrastate truck freight movements with 5.60 million tons annually arriving in the county. Freight is vital to the Kalamazoo area's economic prosperity. Having

[3] Transportation Reboot: Unlocking Freight http://expandingcapacity.transportation.org pg. ii
[4] Transportation Reboot: Unlocking Freight http://expandingcapacity.transportation.org pg. iii

an integrated freight network within the Kalamazoo area that is connected to different modes of transportation will be critical to the area's economic future.

Pavement

The condition of major streets and highwasy ranked as the second worst aspect of the transportation system in our community (43.01% rated Poor or Very Poor). Pavement preservation is therefore an important issue facing the region and is consequently reflected throughout this Plan.

PASER (Pavement Surface Evaluation and Rating) is the pavement evaluation program used to evaluate the condition of Michigan's federal-aid eligible roads. The PASER system evaluates, on a rating scale from 1 to 10, the surface distresses pavement develops over time.

These ratings support the pavement asset management system which encourages municipalities to think strategically to reduce the life-cycle cost of roadways. The pavement asset management system promotes preserving the existing roadway before more intensive and costly improvements are required.

Based on the ratings, pavement segments are grouped into subgroups of Good, Fair, and Poor pavement condition, each requiring a different intensity of improvement.

Reconstruction (for poor pavement)

Reconstruction involves the complete replacement of the pavement structure. This repair has the longest life expectancy, but is also the costliest fix.

Preventive Maintenance (for fair pavement)

Preventive maintenance involves lower- cost treatments over large lengths of roadway to extend the pavement's service life. Treatments include asphalt patching and crack sealing.

Routine Maintenance (for good pavement)

Routine maintenance is used to keep pavement in the Good subgroup as long as possible at minimal cost. Routine maintenance often involves spot specific application of preventive maintenance techniques.

Bridge

Bridges are important investments in an efficient transportation system, increasing access while decreasing travel time. Bridge funding has not increased despite the improvement needs of aging structures. Closed and weight restricted bridges can reduce the timeliness of law enforcement and emergency services. Establishing sustainable transportation funding is necessary to ensure the structural integrity of bridges across the region.

Other Transportation Assets

Maintenance and improvements to other transportation system assets, including culverts, signs, signals, and pavement markings need to improve to meet the changing needs of the population as it ages, diversifies, and seeks alternative modes of transportation.

Chapter 5: Congestion Management Process and Operational Management Strategies

Congestion Management Process

The Congestion Management Process for the Kalamazoo Area Transportation Study is a regionally accepted, systematic approach for managing congestion. It is a multi-modal approach to assess alternative strategies for congestion management and move these strategies into the funding and implementation stages. The Congestion Management Process is a tool used by road and transit agencies to determine what level of capacity improvement is most suitable for a corridor and uses data from the KATS Travel Demand Model, verified and supported by real world data, to analyze submitted capacity improvement projects.

The KATS Congestion Management Process identifies four objectives based off the Goals identified in the 2035 KATS Metropolitan Transportation Plan:

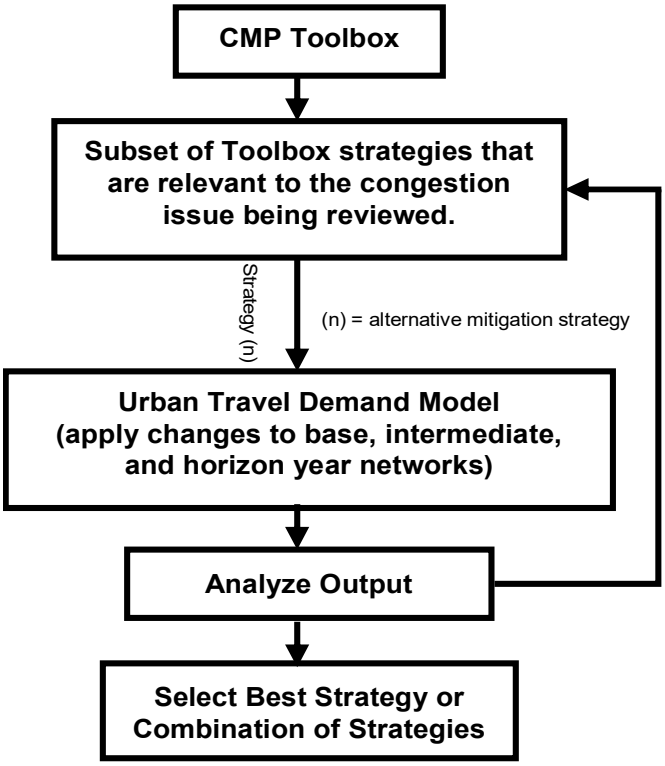
Objective 1: Decrease model based Vehicle Hours Traveled (VHT) by 5% by 2040.
Objective 2: Promote an increase in Non-Motorized commuting by increasing the access (mileage) to Non-Motorized facilities by 10% by 2040.
Objective 3: Increase or upgrade the number of corridors by 10% on the CMP network using modern Intelligent Transportation Systems (ITS) by 2040 to improve intersection performance.
Objective 4: Improve average on-time (real world) performance for transit routes located on the CMP network by 10% by 2040.

KATS works with local communities as they implement congestion mitigation strategies in their project development. Congestion solutions range from low cost education campaigns and travel demand management strategies to high cost travel lane expansion.

Congestion is often a subjective determination; it can be recurring (rush hour traffic) or event- driven (a traffic crash). Transportation planners use metrics such as level of service to evaluate the efficiency of a road or intersection. In the KATS Metropolitan Area, congestion is most significant in the morning and evening periods as people commute to and from work. The congestion issues in the KATS Metropolitan Area are largely caused by the amount of single occupant vehicles on the road, not by the amount of people traveling along a corridor. Efficient use of previous and future investments requires a focus on moving the greatest number of people in the least amount of space. This concept is demonstrated in the image below where the space required for 60 people to travel is compared by mode.

Improvements that address congestion should consider multiple options before increasing automobile capacity, per the KATS Congestion Management Process. Alternative congestion management techniques include transportation demand management, creating attractive transportation options, and traffic operations improvements. While alternative transportation improvements may not completely alleviate congestion, they do provide travelers a real choice between sitting through heavy traffic while in a car or moving along via bicycle or enhanced transit, all while helping alleviate congestion issues. A more detailed look at Congestion and the goals associated with its management can be found in the KATS Congestion Management Process document.

Travel Demand Model Strategy Selection



KATS employs four "toolbox" strategies in evaluating those areas identified as being congested with the KATS Travel Demand Model. Those four strategies are:

Strategy #1: Reduce Person Trips or Vehicle Miles/Hours Traveled (VMT/VHT)

Strategy #2: Shift Automobile Trips to Other Modes

Strategy #3: Improve Roadway Operations (signal timing, turning lanes, etc.)

Strategy #4: Adding Thru-Lane Capacity

Each deficient segment identified through the KATS Travel Demand Model was evaluated using the following flow chart to the left. While the KATS Congestion Management Process is defined as those roadways with a National Functional Classification of principal arterial or higher, KATS evaluated all deficient segments identified with the KATS Travel Demand Model within the Study Area. Because the KATS Travel Demand Model is calibrated as an area-wide model; analysis on individual corridors must take into account the calibration of each corridor which can vary from corridor to corridor and within one corridor itself. Therefore, the use of qualitative data, such as local knowledge, will be used to help assess the potential impact a strategy has on the system in instances where it is found that modeling is not feasible.

Deficient Road Segments: Congestion Management Process Strategies

Road Name	Location	Proposed Action
D Avenue	From N US-131 Ramp to 12th St.	Strategies 1, 2, and 3
M-43	From Mills St. to Michigan Ave.	Strategies 1, 2, and 3
	From M-40 to VanKal Ave.	Strategies 1, 2, and 3
	From 8th St. to US 131	Strategies 1, 2, and 3
	From Sage to Northampton	Strategies 1, 2, and 3
	E. C Avenue to North Kalamazoo County Line	Strategies 1, 2, and 3
Howard Street	From Stadium Dr. to Van De Giessen	Strategies 1, 2, and 3
US 131	From Shaver Rd to VW Ave	Strategies 1, 2, and 3
M-89	From Kimberly to 34th	Strategies 1, 2, and 3
	From 37th to 38th	Strategies 1, 2, and 3

Road Name	Location	Proposed Action
M-89	From 42nd to 44th	Strategies 1, 2, and 3
M-96	From 35th St. to 37th St.	Strategies 1, 2, and 3
Sprinkle Road	From I-94 to I-94 BL	Strategies 1, 2, and 3
Stadium Drive	From 9th St. to Parkview Ave.	Strategies 1, 2, and 3
	From 11th St to US 131 Ramp	Strategies 1, 2, and 3
	From US 131 Ramp to Drake Rd.	Strategies 1, 2, and 3
Oakland Drive	From Kilgore Rd. to Skyler Rd.	Strategies 1, 2, and 3
	From I-94 to W. Milham Rd.	Strategies 1, 2, and 3
9th Street	From KL Ave to Buckham Wood	Strategies 1, 2, and 3
I-94 Ramps	From US131 to Sprinkle Road- multiple locations	Strategies 1, and 3

Operational and Management Strategies

Federal legislation emphasizes the inclusion of operational and management strategies to improve the performance of existing transportation facilities to relieve congestion and maximize the safety and mobility of people and goods.

The management tools that the Kalamazoo Area Transportation Study uses outside of the Congestion Management Process for these activities are management systems in the following areas:

- Pavement (Asset)
- Bridge
- Safety
- Public Transportation
- Intermodal

The Kalamazoo Area Transportation Study uses the Michigan Department of Transportation's management system known as the Transportation Management System. KATS and its members also maintain and use local transportation system management tools similar to the components of the Michigan Department of Transportation's system but containing local data exclusively.

The transportation management systems used by KATS were developed as a result of a requirement introduced by the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) with continued emphasis in the Transportation Equity Act for the 21st Century (TEA-21). KATS has replaced its previous Pavement Management System with the Asset Management System that was implemented statewide. The Study has added tools available from Michigan State Police and the Roadsoft asset management programs to augment its Safety Management System. In addition, KATS local members use microsimulation, capacity software, and other methods to optimize traffic signal corridors.

The primary purpose of the management systems is to provide the information and data needed to make effective decisions on the use of limited resources to improve system efficiency and protect existing and future infrastructure investments. The states have been assigned the lead role in developing and implementing the management systems. In metropolitan areas, state-Metropolitan Planning Organization cooperation is emphasized. Recognizing that decision making on over 90% of the system miles is vested in local officials at various levels. This cooperative or joint effort is important to the successful implementation and application of the management systems. Within the Kalamazoo metropolitan area, the local transportation agencies have advanced their management system activities, acting in coordination with and cooperatively through the Metropolitan Planning Organization. Coordination with the system development efforts by MDOT has focused on that same approach. The Kalamazoo Area Transportation Study has been both a direct and indirect participant in the development of the management systems.

Each local agency uses a combination of their own and other management systems for their planning, operation, and management of their systems. The Kalamazoo Area Transportation Study also uses a combination of local and state systems for its planning and programming purposes.

Chapter 6: Public Participation

Transportation Survey Summary

As part of the Public Participation process for the development of the 2045 Metropolitan Transportation Plan, the Kalamazoo Area Transportation Study conducted a public survey to help develop the Vision and Goals identified in Chapter 2. KATS included opportunity for public participation at every stage of plan development. With the 2045 Plan, KATS began the public participation process prior to initiating plan development by engaging the public with a Transportation Survey. The Survey was developed to assess the public's attitudes toward desired transportation modes and improvement types to be included in the 2045 Plan. KATS developed the Survey internally with review by committee members to ensure its effectiveness in identifying transportation priorities before offering the survey to the public. Survey distribution included the KATS website, social media, and distribution to our partner agencies

2045 Metropolitan Transportation Plan (MTP)

Transportation Survey Summary

Question 1: In your opinion, what's is the biggest transportation issue facing the Kalamazoo area? **Responses:** 286; Responses consisted of **286 individual comments**. Comments are available at www.katsmpo.org.

Numerous comments and statements identified more than one transportation issue. Key themes were the current state of road conditions, limited (or lack of) public transit services, lack of Non-Motorized facilities (bike lanes and sidewalks), lack of connections between Non-Motorized facilities, transportation funding, and safety concerns.

Key Words Used:				
Bike/Bicycle	79		Access	27
Public Transportation / Bus	74		Funding/Money	20
Safety	46		Non-Motorized	17
Road Conditions/Repair/Potholes/Fix	46		Connections	8
Pedestrian / Walkability	38		Congestion	7

Question 2: How would you rate each of the following aspects of the transportation system in your community? Please rate each aspect based on the following scale: Excellent, Good, Fair, Poor, or Don't Know/No Response. **Responses:** 286

Answer Options and Response	**Excellent**	**Good**	**Fair**	**Poor**	**Very Poor**	**% Ranked Poor or Very Poor**
Condition of major streets and highways	0	44	117	89	34	**43.01%**
Congestion levels on major streets during peak time	9	77	116	60	18	27.27%
Neighborhood traffic safety	14	111	104	32	9	14.34%
Availability of public transit	10	79	106	50	18	23.78%
Availability of bike paths/lanes	12	48	79	96	40	**47.55%**
Traffic safety and controls on major streets	10	129	100	30	10	13.99%
Sidewalks and crosswalk areas	8	71	115	65	16	28.32%

Question 3: Please rank the relative level of importance you would give each of the following on a scale of 1 to 5, with 1 being "High Importance" and 5 being "Low Importance." (Please rank in order of importance by selecting each number 1-5 only once)**Responses:** 251 **Skipped Question:** 35

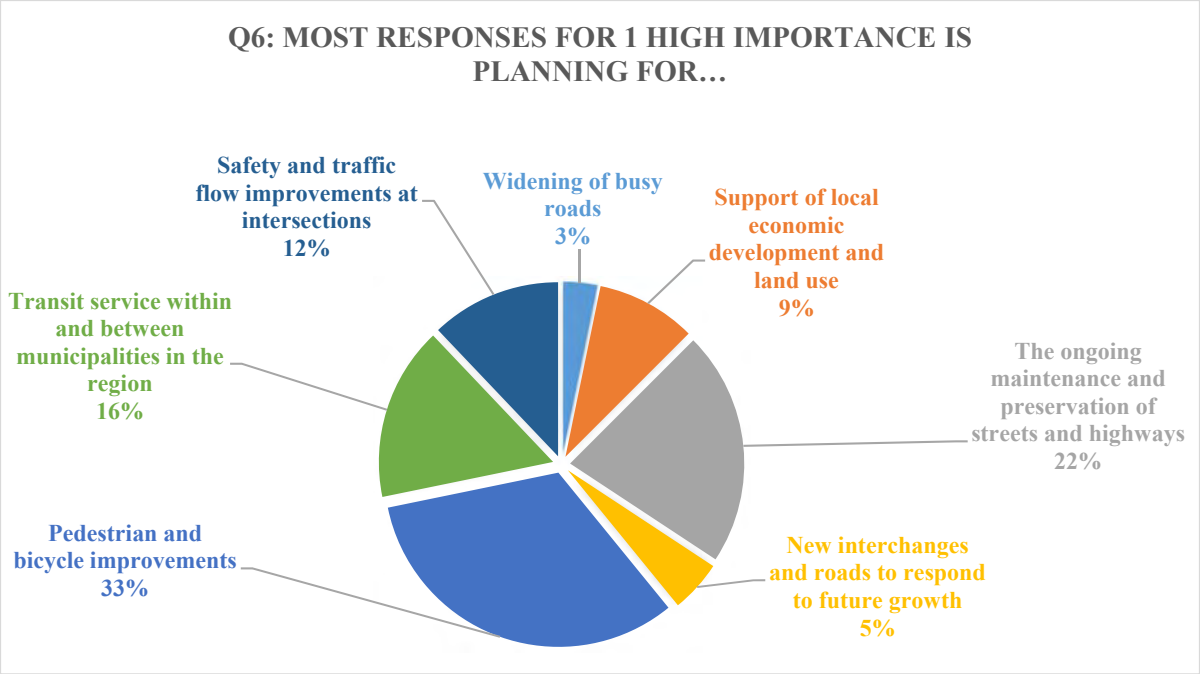
Answer Options and Responses	High 1	2	3	4	Low 5
Completing missing portion of the sidewalk system along major streets	**82**	57	43	38	31
Widening shoulders or adding bike lanes on roadways to accommodate "on-road" bicycling	80	42	53	37	39
More recreational biking trails linking communities, parks and open spaces	20	48	53	70	60
Building more dedicated "off-road" paths for walking and biking	29	35	55	67	**65**
Enhancing the safety of crosswalks across major streets	40	69	47	39	56

Question 4: Please rank the relative level of importance you would give each of the following on a scale of 1 to 5 with 1 being "High Importance" and 5 being "Low Importance." (Please rank in order of importance by selecting each number 1-5 only once). **Responses:** 251 **Skipped Question:** 35

Answer Options and Responses	High 1	2	3	4	Low 5
The condition and smoothness of roadway pavements	73	74	38	45	21
The level of traffic flow and congestion	24	39	49	63	**76**
Designing and constructing to accommodate all users of all modes of transportation (Walking, biking, other)	**122**	29	29	18	53
Adequate lane and shoulder widths with turn lanes at all major intersections	12	58	85	65	31
Sufficient sight distance to detect a hazard in a roadway to allow for safe maneuvering	20	51	50	60	70

Question 5: Please rank the relative level of importance you would give each of the following on a scale of 1 to 6 with 1 being "High Importance" and 6 being "Low Importance." (Please rank in order of importance by selecting each number 1-6 only once). **Responses:** 241 **Skipped Question:** 45

Answer Options and Responses	High 1	2	3	4	5	Low 6
Developing and maintaining adequate public transportation (buses, bus stops, routing, other)	49	62	48	32	34	16
Bikeway construction on roads and greenways	66	39	33	31	42	30
Widening and building of major streets and highways	6	20	36	38	44	**97**
Improving condition of roadways (fix potholes, resurface, better signage, other)	**84**	64	51	23	15	4
Improving street aesthetics (street trees, street lighting, planted medians, other)	13	20	32	49	61	66
Improving traffic flow (control number of driveways, medians, coordinated signals, other)	23	36	41	68	45	28



Question 6: Please rank the relative level of importance you would give each of the following on a scale of 1 to 7 with 1 being "High Importance" and 7 being "Low Importance." (Please rank in order of importance by selecting each number 1-7 only once) **Responses:** 241 **Skipped Question:** 45

Answer Options and Responses	High 1	2	3	4	5	6	Low 7
Planning for widening of busy roads	8	18	24	21	34	57	**79**
Planning in support of local economic development and land use	23	34	42	41	45	24	32
Planning for the ongoing maintenance and preservation of streets and highways	54	50	43	48	23	17	6
Planning for new interchanges and roads to respond to future growth	12	13	25	28	52	62	49
Planning for pedestrian and bicycle improvements	**81**	35	32	26	13	25	29
Planning for transit service within and between municipalities in the region	40	60	27	32	24	33	25
Planning for safety and traffic flow improvements at intersections	30	34	53	42	46	20	16

Question 7: Please rank the relative level of importance you would give each of the following on a scale of 1 to 5 with 1 being "High Importance" and 5 being "Low Importance." (Please rank in order of importance by selecting each number 1-5 only once) **Responses:** 238 **Skipped Question:** 48

Answer Options and Responses	High 1	2	3	4	Low 5
Increase the gas tax to do more transportation projects	**94**	46	45	34	19
Charging new developers for the full cost of needed transportation improvements to address traffic growth	75	65	44	36	18
Funding the maintenance of roads with a utility fee (tolls on roads)	24	30	41	46	**97**
Using government bonds (borrowing) to fund high priority transportation projects	22	45	54	61	56
Funding the maintenance of roads with a local millage (higher property tax)	23	52	54	61	48

Question 8: In your opinion, what is the most important improvement that can be made to our transportation system in the next 0-5 years (Short Term)? **Responses:** 234 **Skipped Question:** 52; Responses consisted of **234 individual comments**. Comments are available at www.katsmpo.org.

Question 9: In your opinion, what is the most important improvement that can be made to our transportation system in the next 5 to 25 years (Long Term)? **Responses:** 234 **Skipped Question:** 52 Responses consisted of **234 individual comments**. Comments are available at www.katsmpo.org.

Question 10: How frequently do you use each of the following modes of transportation? **Responses:** 234 **Skipped Question:** 52

Answer Options and Responses	% Used Frequently	Frequently	Occasionally	Rarely	Never
Personal motor vehicle	89.74%	210	14	9	1
Buses and/or demand response transit	5.56%	13	33	83	105
Bicycle	38.46%	90	64	49	31
Walking	48.93%	114	91	21	7
Rail (Amtrak)	1.32%	3	68	102	55

Responses for Other: 16; Plane (5), Carpool (4), Car Service or Company Vehicle (2), Scooter (1), Skateboard (2), Rollerblading (1), *(Some specified more than 1 choice in the response. 2 Responses did not pertain to mode of transportation used by the person taking the survey.)*

Chapter 7: Environmental Justice

In 1964, the Civil Rights Act under Title VI was enacted and stated that "No Person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance." The Civil Rights Restoration Act of 1987 broadened the scope of Title VI, clarified the intent, and expanded the definition of the terms "programs and activities" to include all programs and activities of Federal-aid recipients, sub-recipients and contractors, whether such programs are Federally assisted or not.

In 1994, an Executive Order (Number 12898) directed every Federal agency, including the U.S. Department of Transportation to identify and address the effects of all programs, policies, and activities on "minority populations and /or low-income populations." This Order was consistent with Title VI in considering fundamental environmental justice principles affecting low income and minority populations. The three fundamental environmental justice principles are:

1. To avoid, minimize or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects on minority populations and low-income populations.

2. To ensure the full and fair participation by all potentially affected communities.

3. To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.

In 1997, the U.S. Department of Transportation issued an Order that summarized and expanded on environmental justice requirements, stating that the Order applies to all transportation planning policy decisions and activities undertaken, funded, or approved by the Federal Highway Administration, Federal Transit Administration, and Metropolitan Planning Organizations among other U.S. Department of Transportation components.

The Environmental Justice office of US Environmental Protection Agency defines Environmental Justice as: *"…the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies."*

The Kalamazoo Area Transportation Study, through its Environmental Justice analysis, uses the following process to identify and analyze Environmental Justice areas within the Planning Area:

1. Delineation and mapping of Minority Areas, Low Income Areas, and Aging Population Areas.
2. Analysis of Impacts on Minority, Low Income, and Aging Population Areas.

While requirements for Environmental Justice only include the analysis of Minority and Low Income Areas, KATS has included Aging Population Areas to further address issues identified through public comment on this plan.

Delineation of Environmental Justice Areas

Environmental Justice (EJ) areas were identified to determine what areas could be impacted by projects being identified in the 2045 Metropolitan Transportation Plan. In order to determine what areas are considered low income, minority, or aging population areas in the Metropolitan Planning Area, Demographic Indicators in the Environmental Protection Agency's web based EJSCREEN were used.

KATS set a standard of the 80th percentile in each area of analysis through the EJSCREEN tool. Through the planning process, it was felt that this standard provided the appropriate level of emphasis within the Planning Process while still reaching the defined EJ emphasis areas.

The EJSCREEN tool uses the following definitions for these categories:

Percent Minority: Percent of individuals where minority is defined as all but Non-Hispanic White Alone. Calculated from the Census Bureau's American Community Survey 2008-2012.

Percent Low-Income: Percent of individuals whose ratio of household income to poverty level in the past 12 months was less than 2 (as a fraction of individuals for whom ratio was determined). Calculated from the Census Bureau's American Community Survey 2008-2012.

Aging Population: Percent of individuals over age 64 as a fraction of the population. Calculated from the Census Bureau's American Community Survey 2008-2012.

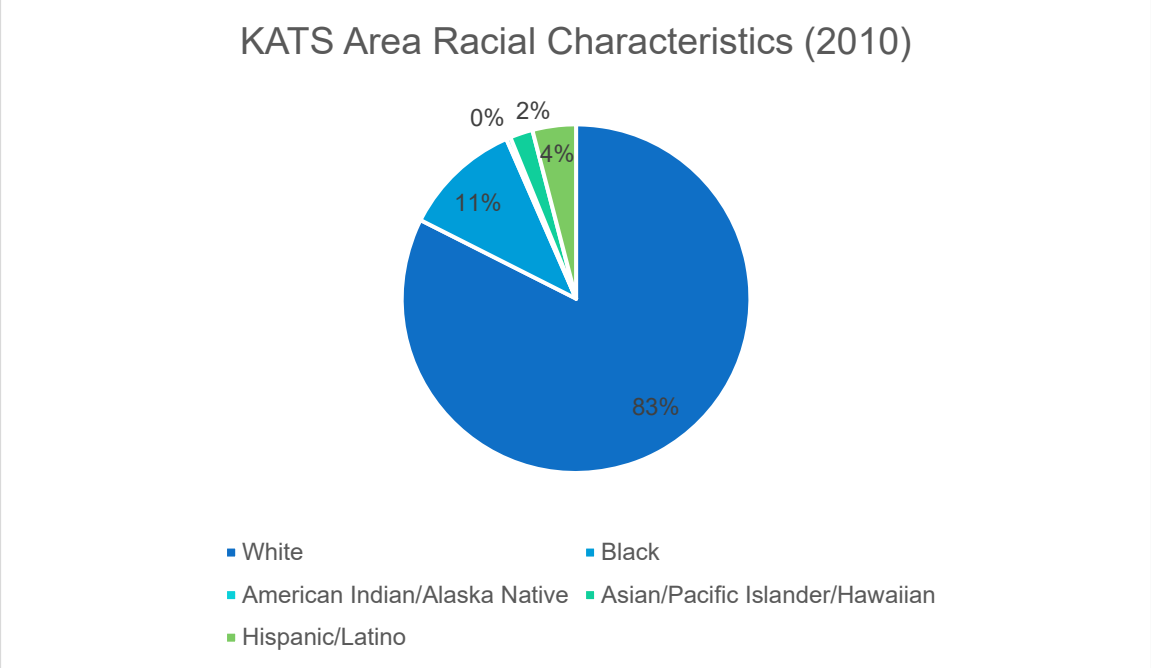
While the EJSCREEN tool provides a solid basis for decision making, KATS further analyzed the demographic data. Understanding the makeup of any community is the starting point for understanding its unique characteristics. Knowledge of the nature and makeup of the community will assist in fine tuning the importance of transportation projects in the MPO area and assessing their impact on EJ Populations.

Being aware of age characteristics of the MPO area can also assist planning and funding decisions by indicating the specific economic, transportation, recreational, educational, and other community needs each age group will require. By examining the demographic mix of residents, the MPO and local agencies can better plan for transportation services and needs.

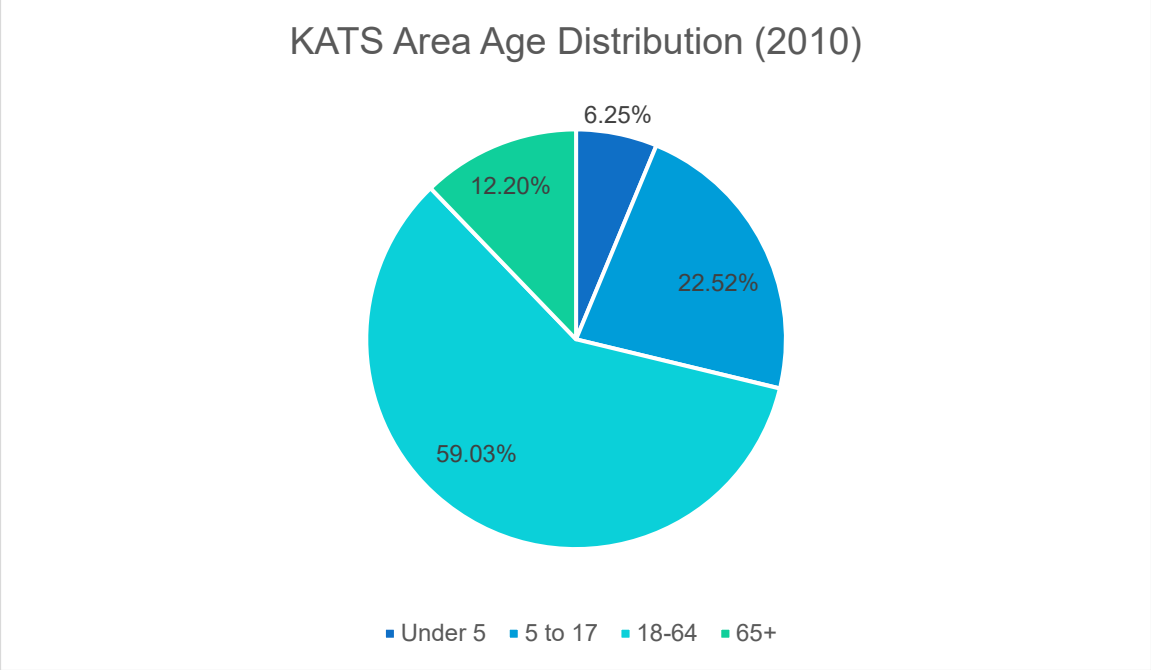
The Federal Office of Management and Budget's (OMB) 1997 Policy Directive 15, Revisions to the Standards for the Classification of Federal Data on Race and Ethnicity, established five minimum categories for data on race. Therefore, to conduct the Minority EJ analysis, KATS used the following categories for race:

- White
- Black/African American
- American Indian and Alaskan Native
- Asian, Pacific Islander, and Hawaiian
- Hispanic and Latino

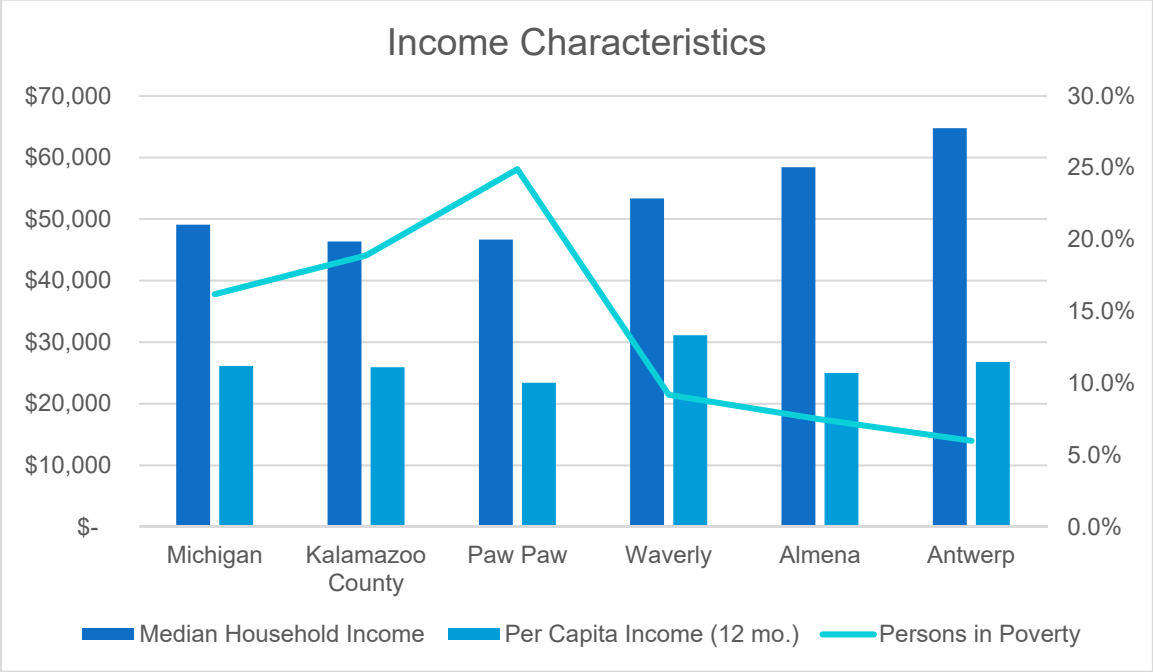
In order to determine the effects of any Federal-aid transportation project, it was necessary to identify areas within the MPO that met the above criteria for the identified population groups.



A breakdown of age groups within the Planning Area is useful when the age groups are broken into four main categories: under 5, 5 -17, 18-64, and 65 and older. This provides a better sense of the needs and desires of the population, especially those who are unable to drive themselves. A significant percentage of the population within the KATS Planning Area is 65 or older.



Median household income, per capita income, and percent poverty level for the KATS Planning Area have been collected for 2010 and are shown below in 2014 dollars. The data is compared to the average in Michigan to illustrate that the MPO area is within the average range in the state.



Maps of the identified locations follow this chapter, along with a summary table identifying capacity projects located in the Environmental Justice areas.

Analysis of Impacts on Minority, Low Income, and Aging Population Areas

Once Minority, Low Income, and Aging Population Areas were identified, KATS analyzed projects based on their implications to each group. In order to conduct the analysis, several assumptions were made:

Projects with Potentially Positive Neighborhood Impacts

- Pavement Preservation
- Reconstruction of Existing Roadways
- Signal Installation
- Transit Service Expansion
- Non-Motorized Projects

Projects with Potentially Negative Neighborhood Impacts

- Road Widening
- New Roads
- Transit Service Reduction
- Freeway Access Improvements

Furthermore, for purposes of this analysis, staff makes the assumption that the improvement of the condition of the transportation system through preservations projects, transit projects, Non-Motorized projects, safety projects (etc.), is improving the overall well-being of the community. KATS makes this assumption, in part, because of the MPO's adopted Complete Streets Policy's requirements to address all users within project development.

Potential Positive Impacts

Throughout the EJ Analysis, staff considered a variety of improvement types and related impacts. Road preservation projects are the main project type in the 2045 Plan throughout the MPO area, including EJ areas. It is important to note that potential low levels of investment do not necessarily reflect unfair treatment, but may rather reflect that an area's existing transportation system is complete and in good condition, or may need only minor investments to maintain the condition of the system.

Since the 2045 Metropolitan Transportation Plan is multi-modal in nature, it contains expenditures on road, transit, and illustrative Non-Motorized projects, that when built will provide access to additional modes of transportation to the EJ Areas.

KATS also reviewed the public transportation fixed route service to determine if adequate coverage of the populations are being served. Maps showing the fixed bus routes and the EJ areas follow this chapter. With the recent creation of the Central County Transportation Authority (CCTA), increased transit frequency and service hours are planned. This will directly benefit the service to public transit users within the EJ areas, with two exceptions. In addition to fixed route services, demand response public transportation access is available throughout the EJ areas and the entire metropolitan planning area. Based on the current fixed public transportation system, areas that are typically used by these identified populations have access to public transportation.

Due to the dispersed nature of the aging population, demand response transit service plays a critical role. The 2045 Metropolitan Transportation Plan identifies continued support for demand response service across the MPO area to help address the needs of the aging population and assist their ability to age in place.

Analysis shows the 2045 Metropolitan Transportation Plan includes a larger percentage of identified "positive" improvements throughout the MPO area, many in or adjacent to EJ areas. The planned expansion of I-94 has already obtained the necessary right-of-way, and should have a positive impact on travel time for the corridor. All other roadway projects are planned to be contained within existing right-of-way and foster improvements to Non-Motorized and transit accessibility. KATS will encourage the local road agencies to inform residents of upcoming projects through various sources, including public meetings, newsletters, and website information.

The following table shows the capacity projects in the identified EJ areas.

Capacity Projects within Environmental Justice Areas

Project ID	Project	Limits	Description	Year
5	I-94	E. of Portage Rd. to W. of Sprinkle	Reconstruct	2020
6	Whites Road	Parkview to Westnedge	Resurface	2021-2025
9	Howard St.	Gar Lane to W. Michigan	Facility	2021-2025
31	US-131 BR	I-94 BL to Kalamazoo North City Limit	Resurface	2017
32	Portage Road	Osterhout Ave. to Centre Ave.	Reconstruct	2041-2045

Potential Negative Impacts

Through the Environmental Justice Analysis, the Kalamazoo Area Transportation Study has identified two potential changes to transit service that may have a negative impact on EJ Populations. Currently, Kalamazoo Metro Transit is proposing the elimination of service in two areas:

1. Service west of US-131 on West Main Street to 9th Street.
2. Service to N Avenue in Pavilion Township.

These two changes are proposed as of adoption of this Plan. This loss of service is the result of areas opting out of the Central County Transportation Authority (CCTA), the newly created authority to provide fixed route bus service to the urban area. The local units of government opted to not include these two areas in the CCTA. The Transit provider is currently working with the units of government to address and mitigate the potential loss of service. KATS will continue to monitor the potential impacts and work with Kalamazoo Metro Transit, which is currently working with its partners to develop ways to eliminate or mitigate any potential negative impacts on the identified EJ Areas.

Environmental Justice Finding

Noting the two potential negative impacts within the transit system, the overall Metropolitan Transportation Plan has a largely positive impact on the identified EJ Areas. Identified road projects have generally accepted benefits to all areas including the identified EJ Areas. The only capacity expansion project that adds lanes is I-94, which is an existing facility with no right of way impacts on residential areas.

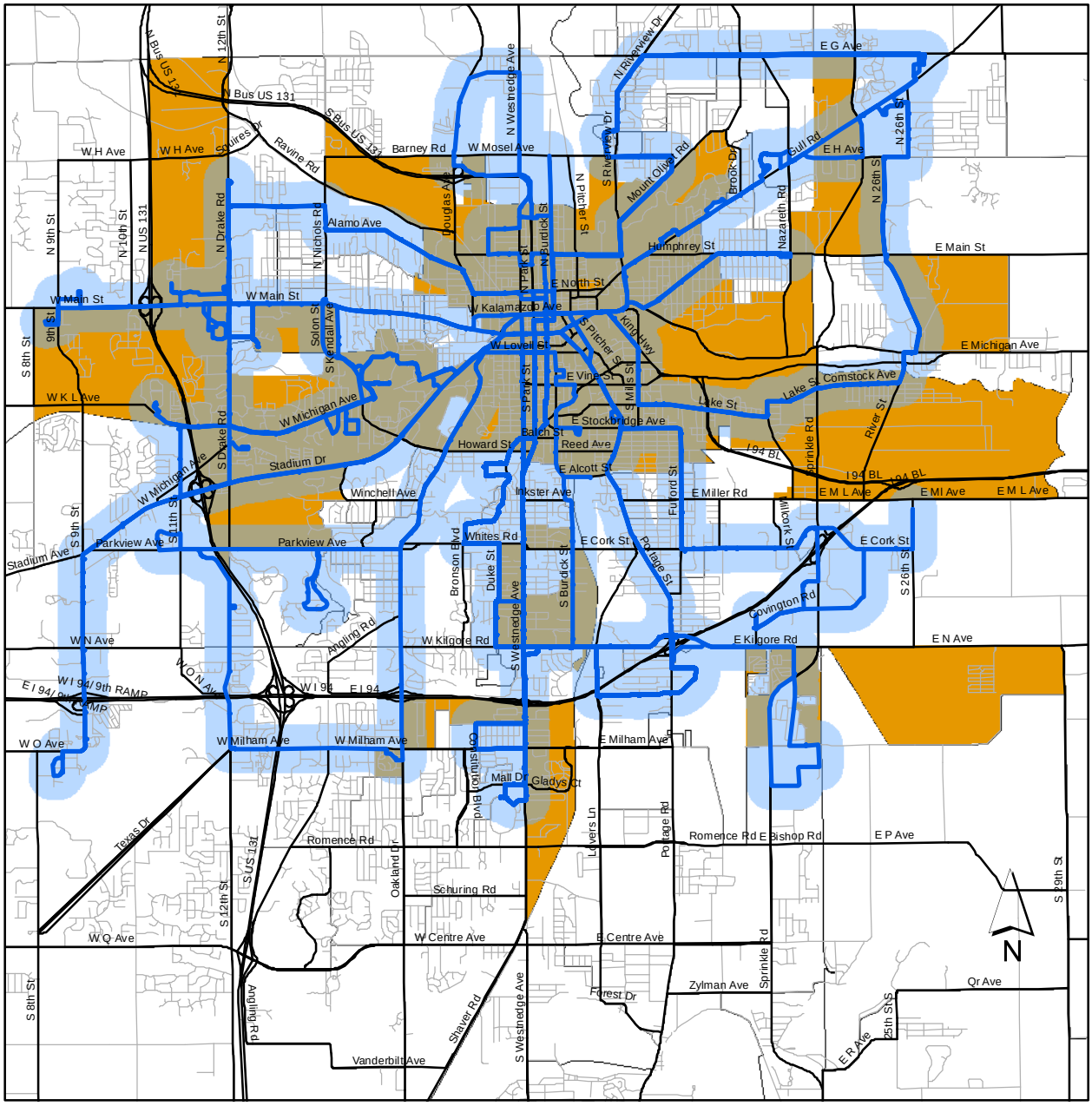
There have been no negative comments received from the EJ areas on the 2045 Metropolitan Transportation Plan and its potential impact on the Environmental Justice population areas. Therefore, the analysis of impacts on residents in the Environmental Justice areas, as a result of implementing the 2045 Transportation Plan, shows there is not a disproportionately negative impact in the Environmental Justice areas in regards to high and adverse health impacts, minimization of access to the transportation system; or any neglect, reduction, or delay in the receipt of transportation benefits or restriction of public access to public transit services. These findings demonstrate that implementing the projects contained in

this MTP do not result in any violations of Executive Order 12898 and the overall principles of Environmental Justice.

Process Improvements

KATS, through its Consultation Process, contacted all known neighborhood associations including those in the identified Environmental Justice areas, requesting feedback on proposed projects. However, KATS was unable to engage these neighborhoods at a high level. As KATS looks to improve its EJ Analysis, special attention will be placed on outreach activities in the future.

Metro Transit Routes Buffer & Environmental Justice Areas



Legend

- Federal Aid Roads
- Non-Federal Aid Roads
- Transit Routes
- 1/4 Mile Buffer
- Environmental Justice Areas

Environmental Justice Areas include block groups that are either minority or low-income in the 80-100 percentile. Please refer to the Environmental Justice chapter of the plan for more information regarding these demographic indicators.

3 1.5 0 3 Miles

February 2016

Source: 2010 Census, MCGI, KATS, OEI, OEJ

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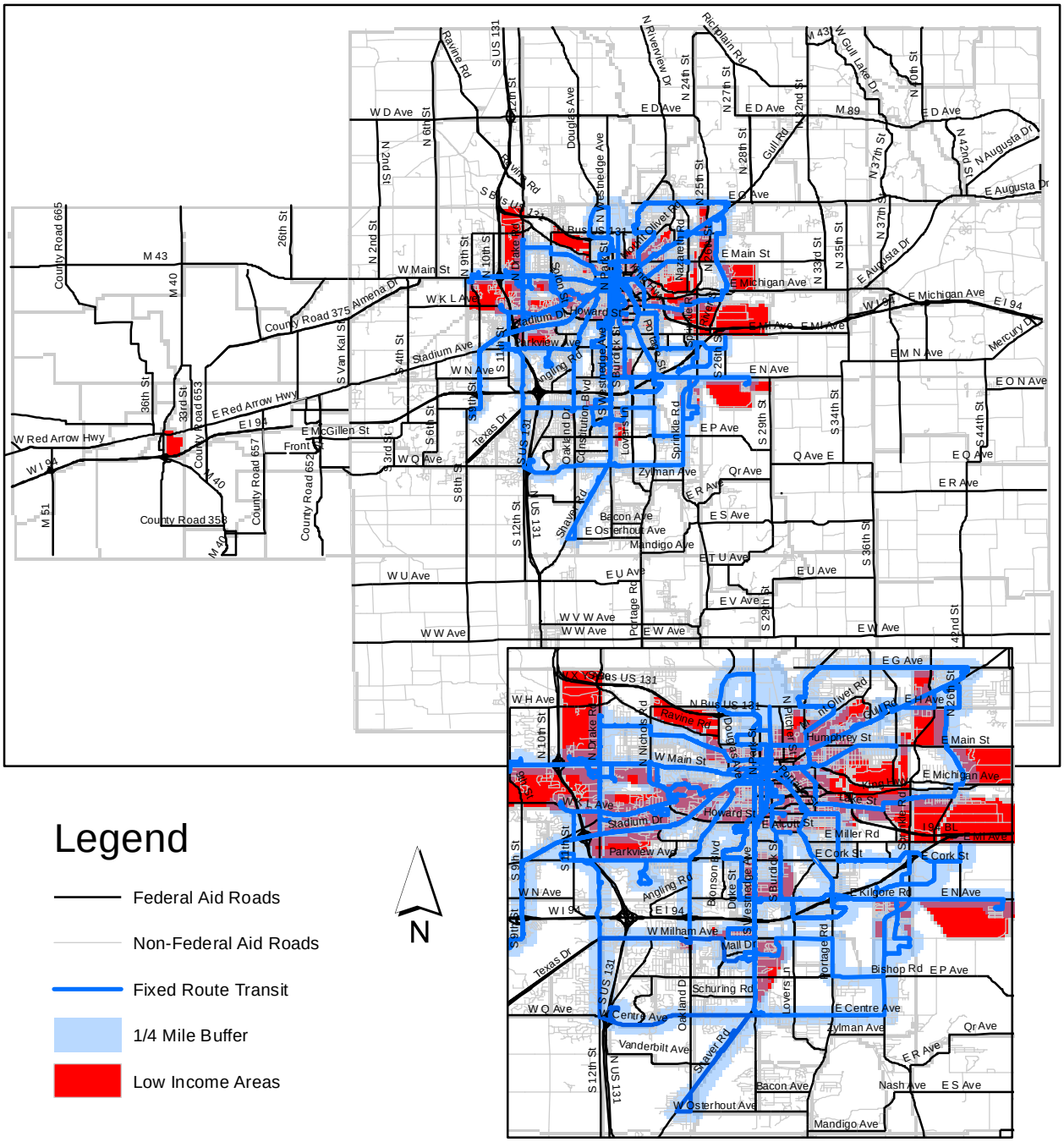
Transit & Low Income Areas



Percent of individuals whose ratio of household income to poverty level in the past 12 months was less than 2 (as a fraction of individuals for whom ratio was determined). Selected are block groups in the 80-100 percentile.Calculated from the Census Bureau's American Community Survey 2008-2012.Please refer to the Environmental Justice chapter of the plan for more information regarding this demographic indicator.

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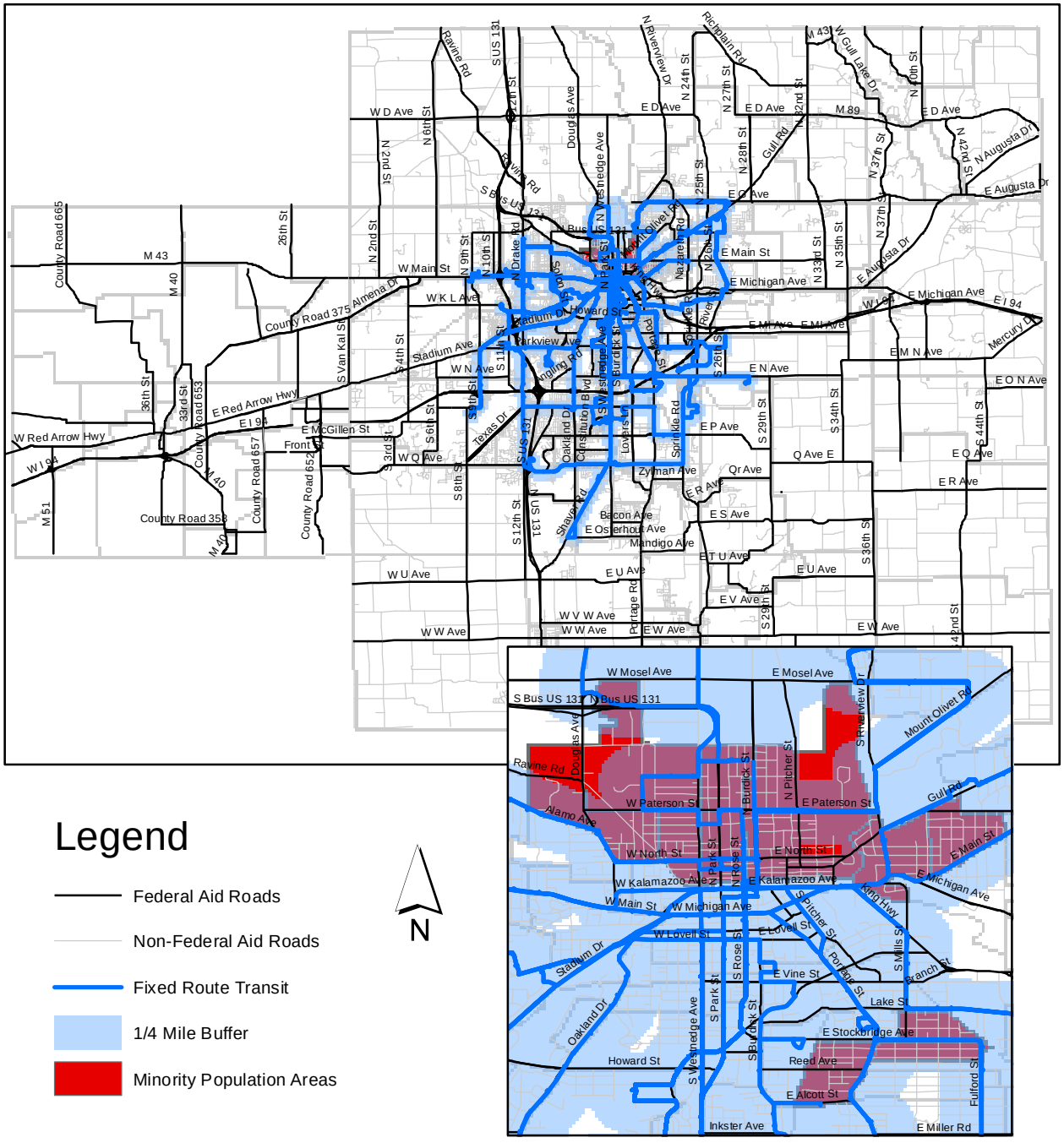
Source: Metro Transit, KATS

March 2016

Transit & Minority Population Areas



Legend

- Federal Aid Roads
- Non-Federal Aid Roads
- Fixed Route Transit
- 1/4 Mile Buffer
- Minority Population Areas

N

Percent minority as a fraction of population, where minority is defined as all but Non-Hispanic White Alone in the 80-100 percentile. Calculated from the Census Bureau's American Community Survey 2008-2012. Please refer to the Environmental Justice chapter of the plan for more information regarding this demographic indicator.

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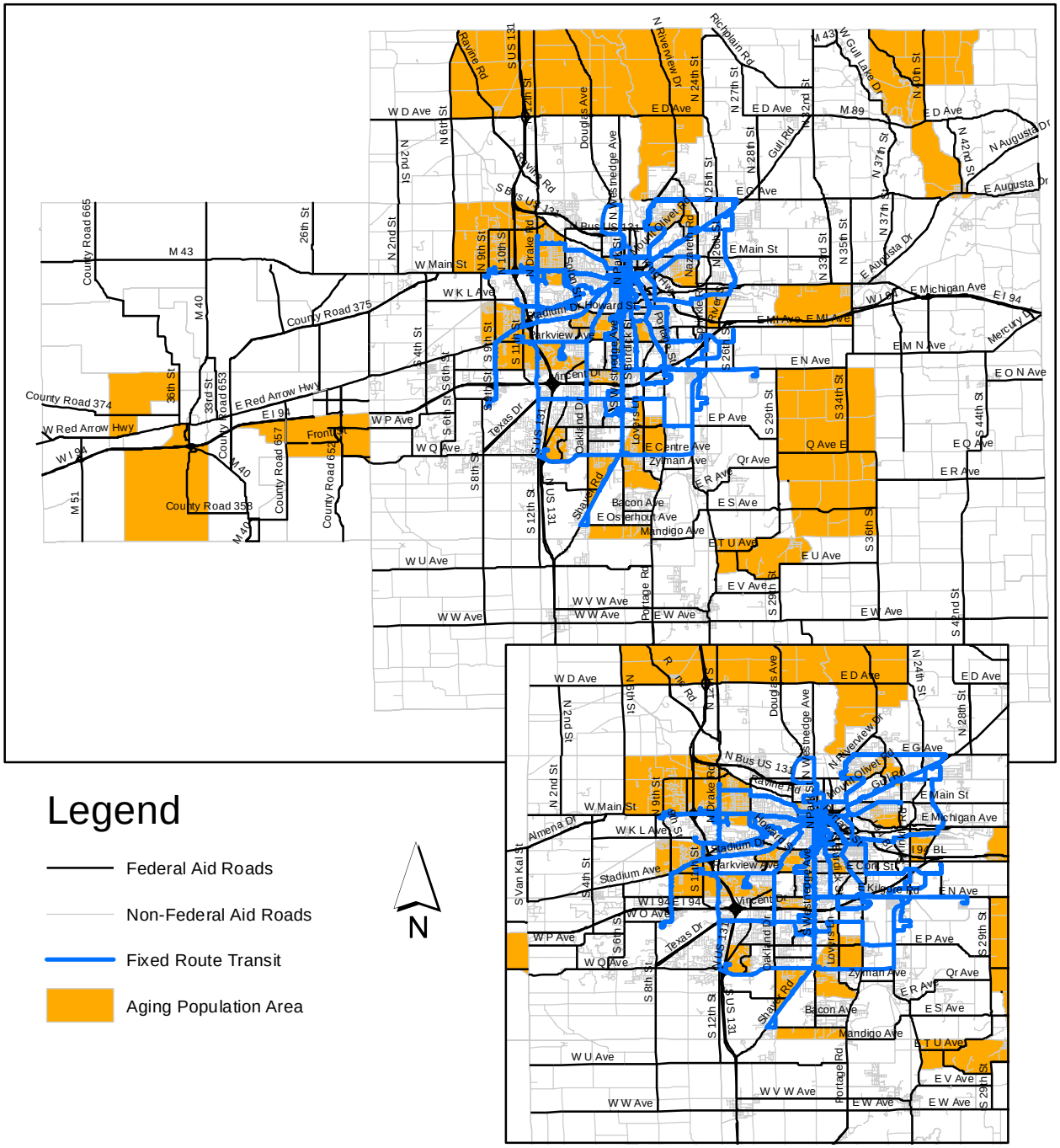
0 2 4 8 12 16 20 Miles

Source: Metro Transit, KATS

March 2016

Transit & Aging Population Areas



Percent of individuals over age 64 as a fraction of the population. Calculated from the Census Bureau's American Community Survey 2008-2012. Selected areas are in the 80-100 percentile. Please refer to the Environmental Justice chapter of the plan for more information regarding this demographic indicator.

KATS
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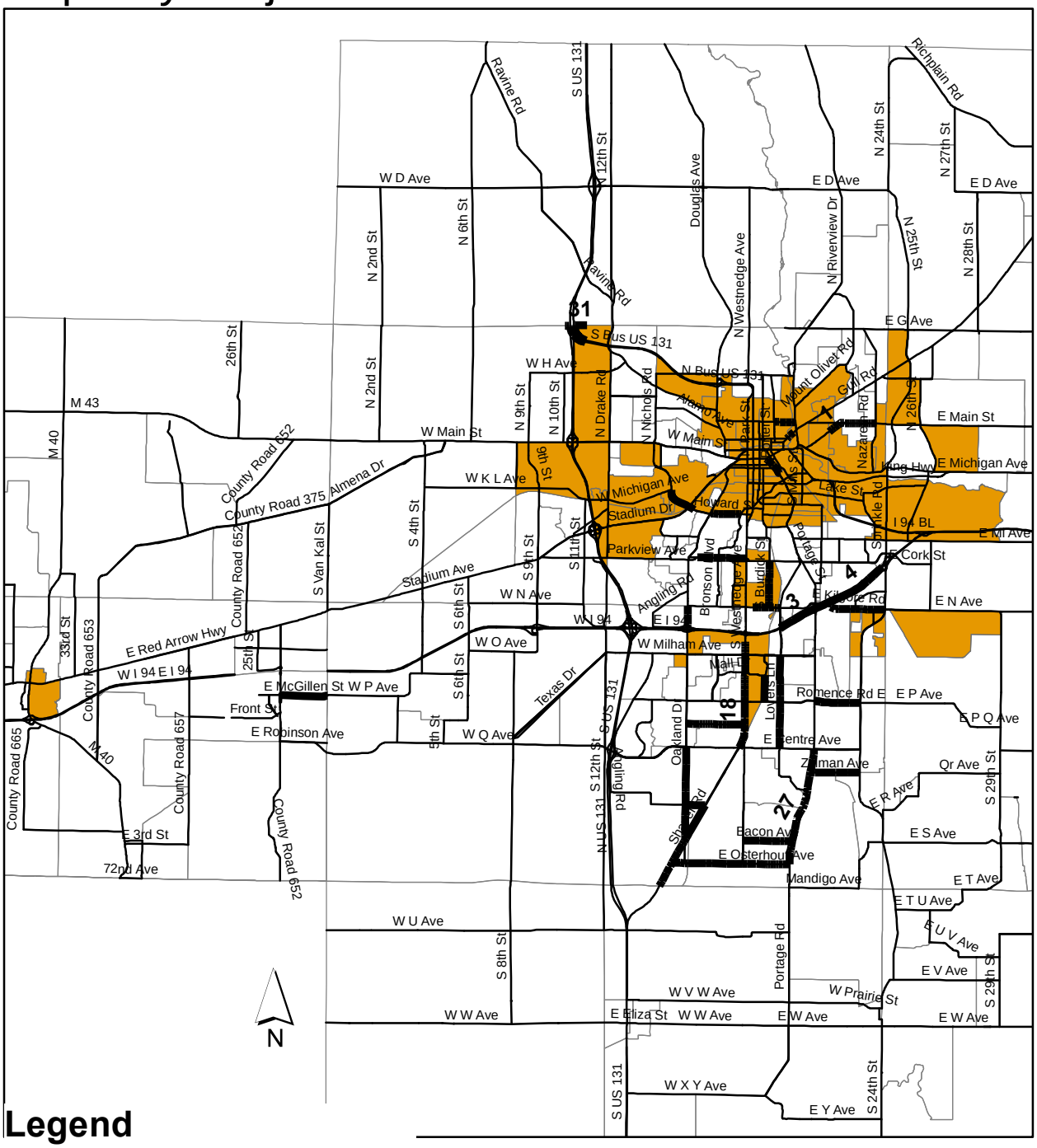
0 2 4 8 12 16 20 Miles

Source: Metro Transit, KATS

March 2016

Capacity Projects & Environmental Justice Areas



Legend

- Capacity Projects
- Federal Aid Roads
- Environmental Justice Areas

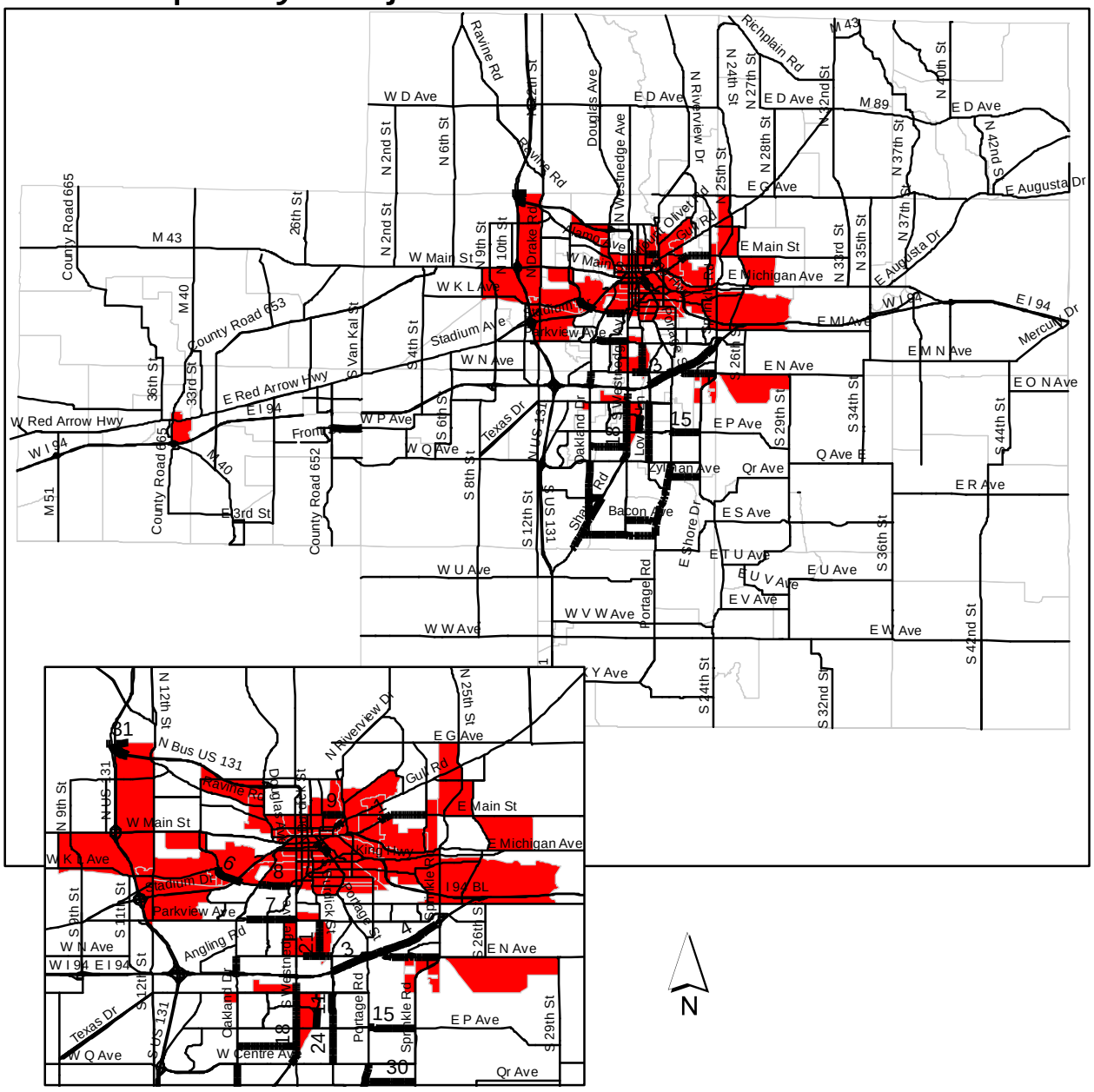
Environmental Justice Areas include block groups that are either minority or low-income in the 80-100 percentile. Please refer to the Environmental Justice chapter of the plan for more information regarding these demographic indicators.

Source: MiGDL, KATS, ACS 2008-2012
January 2016

0 1 2 4 6 Miles

KATS
KALAMAZOO AREA TRANSPORTATION STUDY

Capacity Projects & Low Income Areas



Legend

- Capacity Projects
- Federal Aid Roads
- Low Income Areas

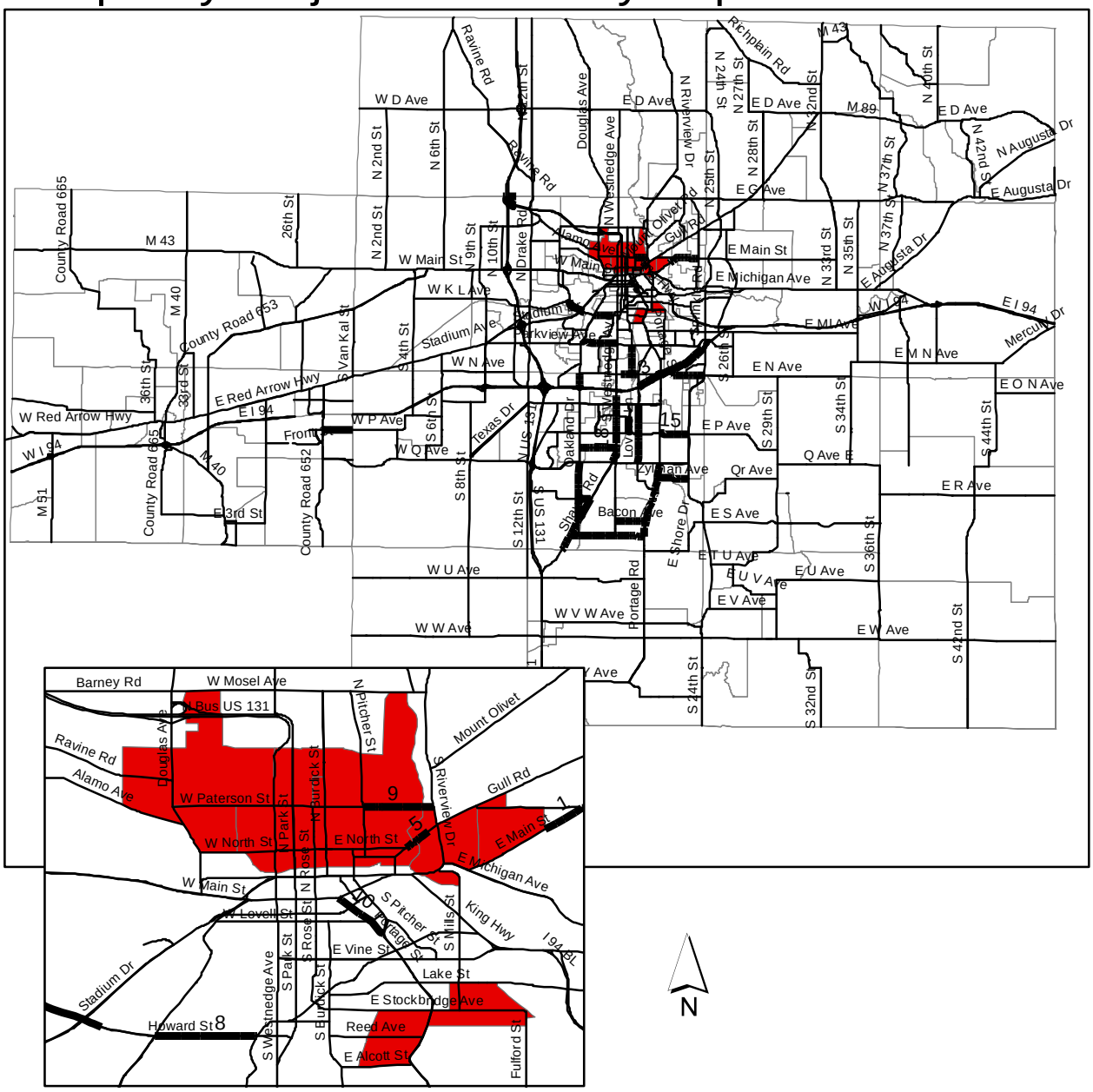
Percent of individuals whose ratio of household income to poverty level in the past 12 months was less than 2 (as a fraction of individuals for whom ratio was determined). Selected are block groups in the 80-100 percentile.Calculated from the Census Bureau's American Community Survey 2008-2012.Please refer to the Environmental Justice chapter of the plan for more information regarding this demographic indicator.

Source: MiGDL, KATS, ACS 2008-2012
March 2016

0 2 4 8 12 Miles

KATS KALAMAZOO AREA TRANSPORTATION STUDY

Capacity Projects & Minority Population Areas



Legend

- Capacity Projects
- Federal Aid Roads
- Minority Population

Percent minority as a fraction of population, where minority is defined as all but Non-Hispanic White Alone in the 80-100 percentile. Calculated from the Census Bureau's American Community Survey 2008-2012. Please refer to the Environmental Justice chapter of the plan for more information regarding this demographic indicator.

Source: MiGDL, KATS, ACS 2008-2012
March 2016

KATS KALAMAZOO AREA TRANSPORTATION STUDY

Chapter 8: Consultation and Environmental Mitigation

In order to foster cooperation while promoting communication within Federal, State and local agencies responsible for land use management, natural resources, environmental protection, conservation and historic preservation, the Kalamazoo Area Transportation Study (KATS) initiated a consultation process for the 2045 Transportation Plan. The goal being to eliminate or minimize conflicts with other agencies' plans that may impact transportation in the Kalamazoo metropolitan area.

Federal legislation, beginning with SAFETEA-LU, requires metropolitan planning organizations (MPOs) to seek input under Environmental Mitigation. The legislation requires a *"discussion of types of potential environmental mitigation activities and potential areas to carry out these activities, including activities that may have the greatest potential to restore and maintain the environmental functions affected by the plan. This discussion shall be developed in consultation with Federal, State and tribal wildlife, land management, and regulatory agencies."*

KATS compiled a list of Federal, State, Indian Tribes, local, and private agencies to contact in order to open a dialog concerning the 2045 Transportation Plan. The agencies below were contacted by mail:

Arcadia Neighborhood Association
BC/CAL/KAL Inland Port Development Corp
City of Portage Environmental Board
City of Portage Parks Department
City of Kalamazoo – Historic Preservation
Consumers Energy
Disability Resource Center
Downtown Kalamazoo Inc.
Eastside Neighborhood Association
Edison Neighborhood Association
Environmental Concerns Committee
Environmental Protection Agency – Region 5
Fish and Wildlife Service
Gateway Coalition
Gun Lake Tribe
Historical Preservation Committee
Homecrest Circle Neighborhood Association
Housing Resources Inc.
Interfaith Strategy for Advocacy and Action in the Community (ISAAC)
Kalamazoo River Watershed Council
Kalamazoo Community Foundation
Kalamazoo Environmental Concerns Council
Kalamazoo Co. Convention and Visitors Bureau
Kalamazoo County Chamber of Commerce
Kalamazoo County – Farm Service Agency
Kalamazoo Neighborhood Association
Kalamazoo Battle Creek International Airport
Portage Environmental Board
Potawatomi RC&D Council
Region III Area Agency on Aging
Schoolcraft Community Schools
Senior Services Inc.
Sierra Club – Kalamazoo Valley Group
South Whites Lake
Southwest Michigan First
Southwest Michigan Land Conservancy
State Representative
Kalamazoo Valley Walkers
Kalamazoo Public Schools
Kalamazoo County Drain Commissioner's Office
Kalamazoo Regional Education Service Agency
Kalamazoo Community College
Kalamazoo Conservation District
Lakeside Beach Corporation
Michigan Department of Agriculture
Michigan Economic Development Corporation
Michigan Historical Center
Michigan Commission for the Blind
MI Dept. of Environmental Quality - Kalamazoo
Michigan Department of Community Health
Michigan State University Extension, Kalamazoo
MI Department of Natural Resources - Plainwell
Milwood Neighborhood Association
Minority Business Alliance
MRC Industries Inc.
National Trust for Historic Preservation
Northside Economic Potential
Northside Association for Comm. Development
Nottawaseppi Huron Band of Potawatomi
Oakland Drive/Winchell Neighborhood Assoc.
Oakwood Neighborhood Association
Oshtemo Business Association
Parker-Duke Neighborhood Association
Parkview Neighborhood Association
Parkwyn Village Association
USGS – Lansing District Office
Vicksburg Community Schools
Vine Neighborhood Association
West Douglas Neighborhood Association
West Main Hill Neighborhood Association
Western Gateway Coalition
Western Michigan University
WMU – Campus Planning
Westnedge Hill Association
Westwood Neighborhood Association

Stuart Area Restoration Association
The Forum for Kalamazoo County
USDA – Michigan State Office
White/Edgemoor/Bronson Neighborhood Assoc.
Woods Lake Association

KATS recorded all comments while consulting with these agencies. It is KATS' intent to maintain this dialog into the future in order to facilitate the planning process. The following summarizes the responses received by each agency. Copies of each agency's response are contained in the appendices. At this time, no comments have been received.

Additionally, KATS discussed the development of the 2045 Metropolitan Transportation Plan and invited participation at public meetings for the following agencies and stakeholders:

City of Kalamazoo Greenway Committee
Southwest Michigan Safety Committee
Kalamazoo County Metropolitan Planning Commission
Kalamazoo Metro Transit Ten Year Vision Service Plan Stakeholders' Meeting
Bike Friendly Kalamazoo
Downtown Kalamazoo Transportation, Parking, and Mobility Committee

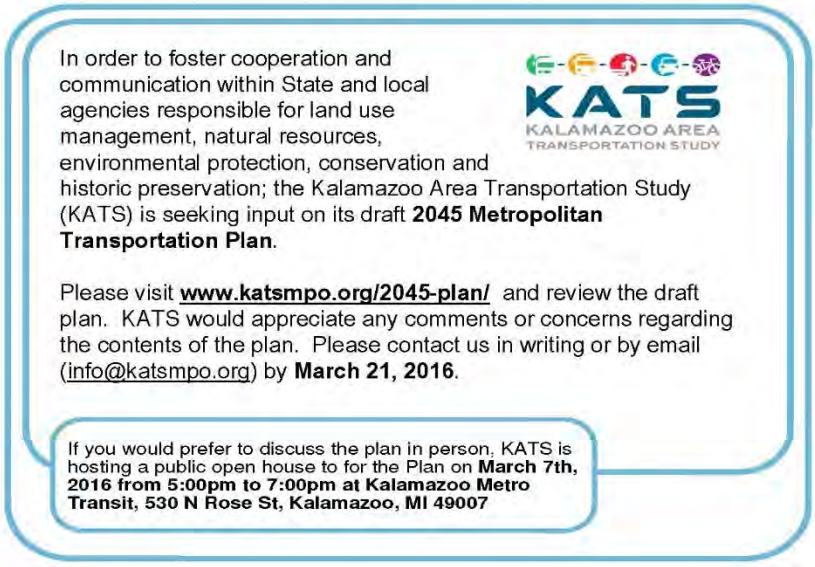
2045 Metropolitan Transportation Plan

Request for Consultation

In order to foster cooperation while promoting communication within State and local agencies responsible for land use management, natural resources, environmental protection, conservation and historic preservation; the Kalamazoo Area Transportation Study (KATS) is seeking input on its **2045 Metropolitan Transportation Plan list of Proposed Projects**.

Please visit **www.katsmpo.org/2045-plan/** and review the Proposed Project lists. These projects are for both capacity increases, non-motorized, public transit and general maintenance. All are strictly in the developmental stage. This is only a draft list and inclusion in the 2045 Metropolitan Transportation Plan does not guarantee construction.

Please look over the Proposed Projects and reference them to your organization. KATS would appreciate any comment or concern regarding these projects. Please contact us in writing or by email (info@katsmpo.org) by **November 25, 2015**.



In order to foster cooperation and communication within State and local agencies responsible for land use management, natural resources, environmental protection, conservation and historic preservation; the Kalamazoo Area Transportation Study (KATS) is seeking input on its draft **2045 Metropolitan Transportation Plan**.

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Please visit **www.katsmpo.org/2045-plan/** and review the draft plan. KATS would appreciate any comments or concerns regarding the contents of the plan. Please contact us in writing or by email (info@katsmpo.org) by **March 21, 2016**.

If you would prefer to discuss the plan in person, KATS is hosting a public open house to for the Plan on **March 7th, 2016 from 5:00pm to 7:00pm at Kalamazoo Metro Transit, 530 N Rose St, Kalamazoo, MI 49007**

Environmental Mitigation

Transportation projects can have a significant impact on the surrounding landscape. The intent of the Environmental Mitigation process is to assure decision makers take into account potential environmental impacts when adopting the transportation plan so that consideration is given to how such impacts might be mitigated. KATS will also inform and educate road agencies regarding the potential environmental factors. Road agencies will also be given "best practices" on how to properly mitigate environmental issues at the project level.

The Kalamazoo Area Transportation Study chose to analyze the projects within the 2045 Metropolitan Transportation Plan at a system wide level. Each of the proposed capacity and preservation projects were entered into a Geographic Information System (GIS), where they could then be compared to available Environmentally Sensitive Resources. Six Environmentally Sensitive Resources were identified and available in a digital format.

Environmentally Sensitive Resources

Well Heads
Wetlands (Lakes, Rivers, Streams, and Wetlands)
Parks and Recreation Areas
Cemeteries
Schools
Probability of Rare Species or High Quality Natural Communities

Using these six resources, KATS analyzed the likely impacts of proposed projects. Using GIS, projects were mapped and then buffered in order to display an area around the projects that might be affected. The buffer sizes used vary by environmental resource.

Project Buffers by Resource Type

Environmental Resource	*Buffer Size*
Well Heads	2,500 feet
Wetlands (Lakes, Rivers, Streams, and Wetlands	¼ mile (1,320 feet)
Parks and Recreation Areas	¼ mile (1,320 feet)
Cemeteries	¼ mile (1,320 feet)
Schools	¼ mile (1,320 feet)
Probability of Rare Species or High Quality Natural Communities	¼ mile (1,320 feet)

With these buffers in place, KATS was able to show which projects intersect an environmentally sensitive resource. While these intersections do not guarantee the project will impact an environmentally sensitive area, they were able to show policy makers the impact the projects may have. It is also possible that a project showing no intersections with any of the environmental resources may have an environmental impact or that an impact may occur outside the buffer area. This potential of possible impacts from planned transportation projects should not be used to justify the elimination of a project. It is simply intended to show the range of possible impacts while noting the importance of the environment in all phases of the project planning, design, construction and maintenance. KATS will inform the road agencies of the noted potential environmental impacts so that they may investigate, identify, and mitigate potential environmental impacts appropriately during project design and construction.

For more information on the data and terms used on the following maps, please visit these websites:

- Michigan Geographic Data Library: http://www.mcgi.state.mi.us/mgdl/
- Michigan Natural Feature Inventory: http://web4msue.msu.edu/mnfi/data/rarityindex.cfm

Best Practices Guidelines[5]

Regardless of the type of project or the resource that may be impacted, these guidelines deserve consideration during the planning, design, construction, and maintenance of transportation projects. These "best practices" guidelines will help to ensure good planning practice that will assist in the overall environmental mitigation objectives.

Planning and Design Guidelines

- Employ the Context Sensitive Solutions (CSS) process. CSS identifies the physical, visual, and social context in which a project is situated while involving all stakeholders in a collaborative effort. A project using CSS is highly responsive to the environmental conditions, both cultural and natural, in which it occurs.
- Identify an area of potential impact related to each transportation project, regardless of project type or scope.
- Catalog areas of environmental sensitivity that may be impacted by proposed projects.
- Use the areas' Hazard Mitigation Plan in coordination with the transportation plan to mitigate project impacts.
- Identify "historic properties" prior to construction. A "historic property" is a district, site, building, structure or object included or eligible for the National Register of Historic Places. Historic buildings and archaeological sites are the best-known kinds of historic properties, but expansive urban and rural districts, landscapes, roads and trials, natural areas of traditional cultural importance, and even highways themselves may be eligible for the Register.
- If impacts cannot be avoided, mitigate them as much as possible. Coordinate the evaluation of impacts, alternatives, and mitigation strategies with the required federal, state, and local authorities.
- Design projects to accommodate wildlife, habitat connectivity, and safe crossings. Wildlife related concerns include habitat fragmentation and connectivity for wildlife, loss of habitat, increasing numbers of threatened and endangered species, and secondary and cumulative impacts. The federal Endangered Species Act prohibits harm to any listed species or adverse modification of designated critical habitat. Maintenance and construction staffs are responsible for ensuring that no threatened or endangered species within areas they are working are injured, destroyed, or their habitat impacted without proper permits.
- Design projects to minimize air quality issues. Air quality and pollution have been concerns in the United States for many years, especially in metropolitan areas.
- Integrate storm water and erosion management into the design of the project.
- Design for sustainability and energy conservation. These decisions can be a factor in mode choice decisions made in Planning, as part of Major Investment Studies, or in Project Development as part of an alternatives analysis for projects.
- Conduct pre-construction meetings with local community officials, contractors, and subcontractors to discuss environmental protection.

Construction and Maintenance Guidelines

- Include all special requirements that address environmentally sensitive resources into plans and estimates provided to construction contractors. Bring to attention the kinds of activities that are not appropriate in sensitive areas.
- Limit the size of construction and staging areas to the smallest necessary. Clearly mark our boundaries.
- Use fencing or flagging around sensitive areas where appropriate.
- Avoid disturbing the site as much as possible.
- Protect established vegetation.

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[5] SEMCOG. Integrating Environmental Issues in the Transportation Planning Process: Guidelines for Road and Transit Agencies. January, 2007.

- Implement sediment and erosion control.
- Protect water quality by preventing direct run off, sweeping streets to reduce sediment, implementing salt management techniques, and controlling storm water drains to prevent construction debris from polluting waterways.
- Protect culture and historic resources by limiting impact and disturbance near them.
- Minimize noise and vibration.
- Provide for proper solid waste disposal.
- Conduct on-site monitoring during and after construction to ensure environmental resources are protected as planned.
- Keep equipment in good working condition and free of leaks. Avoid fueling or maintenance near environmentally sensitive areas.
- Reduce land disturbances by properly organizing construction activities.
- Use Integrated Pest Management techniques if using pesticides during maintenance operations.

Environmental Mitigation Finding

The Environmental Mitigation consultation process has identified potential environmental impacts associated with the 2045 Transportation Plan road projects. These potential impacts are just that, potential, not confirmed. The responsible road agencies have been informed of these potential environmental impacts so that they can investigate and determine if there will be actual impacts and evaluate how best to avoid or mitigate impacts.

These determinations and evaluations by the responsible road agencies will be made as the projects are scoped, designed, and constructed. No further findings can be made at this time with the information actually known.

Preservation projects are in the right-of-way and typically do not impact environmental areas. They would not adversely affect the environment based on the scope of a preservation project.

Environmental Factors Near Capacity Projects

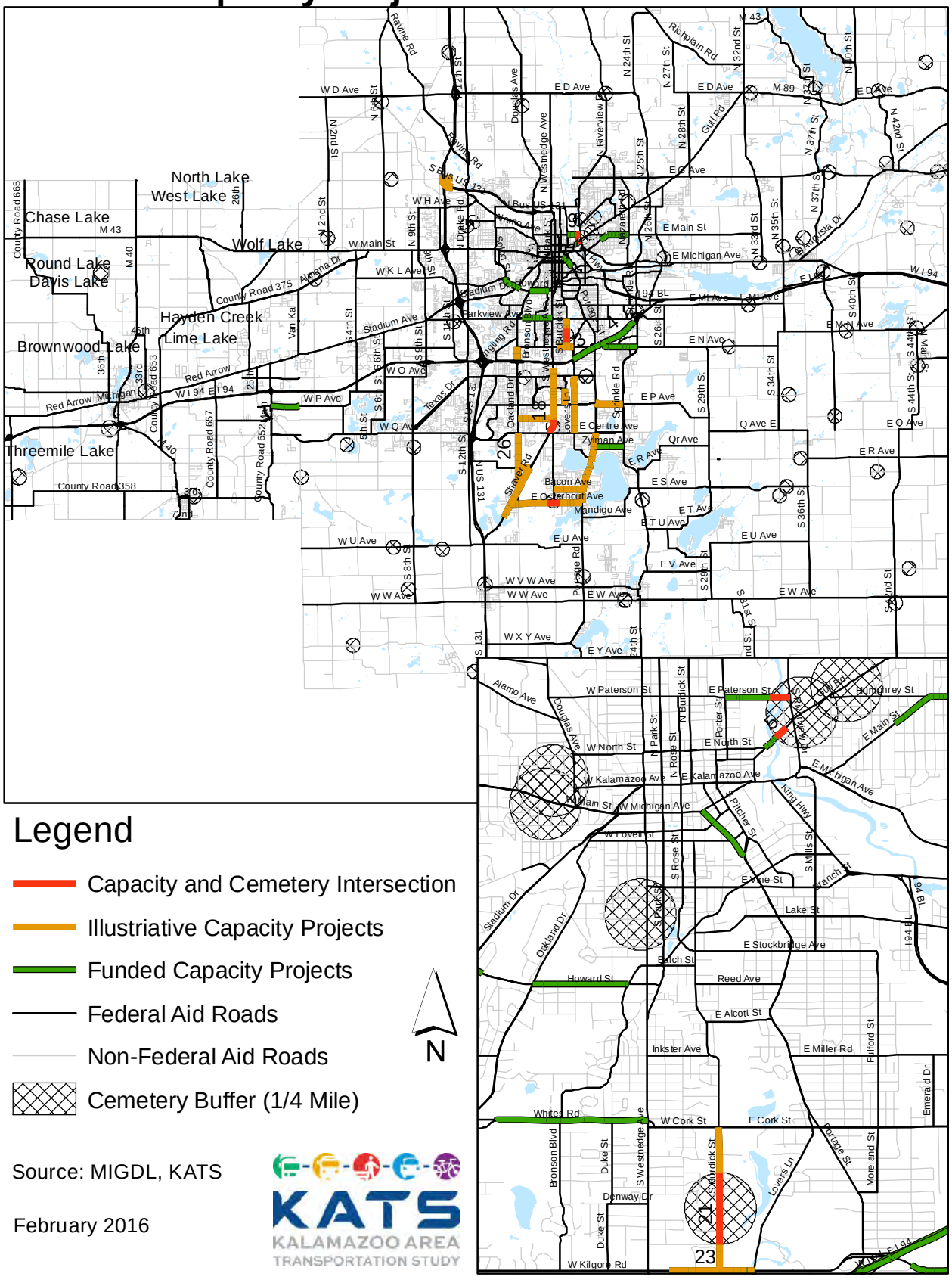
Project ID	Wells	Schools	Parks	Cemeteries	Wetlands	Rare Species
1			Yes		Yes	High
2	Yes					High
3	Yes		Yes		Yes	Low
4	Yes				Yes	
5			Yes	Yes	Yes	Low
6					Yes	Moderate
7		Yes				Low/Moderate
8	Yes	Yes			Yes	
9				Yes	Yes	Low
10			Yes			Low
11	Yes	Yes			Yes	Low/High
12						Low/Moderate
13	Yes			Yes		High
14		Yes				Low
15	Yes					Low/Moderate
16					Yes	High
17						High
18		Yes	Yes	Yes		Low
19	Yes				Yes	High

Environmental Factors Near Capacity Projects (continued)

Project ID	Wells	Schools	Parks	Cemeteries	Wetlands	Rare Species
20						High
21				Yes		Low
22		Yes				High
23	Yes	Yes				Low
24	Yes				Yes	Low
25	Yes				Yes	High
26					Yes	High
27						Low
28	Yes					Low/Moderate
29	Yes					Low
30			Yes			High
31						Low/High
32	Yes				Yes	

The maps that follow only display the Metropolitan Planning Area where capacity projects are proposed.

Capacity Projects Near Cemeteries



Legend

- Capacity and Cemetery Intersection
- Illustriative Capacity Projects
- Funded Capacity Projects
- Federal Aid Roads
- Non-Federal Aid Roads
- Cemetery Buffer (1/4 Mile)

N

Source: MIGDL, KATS

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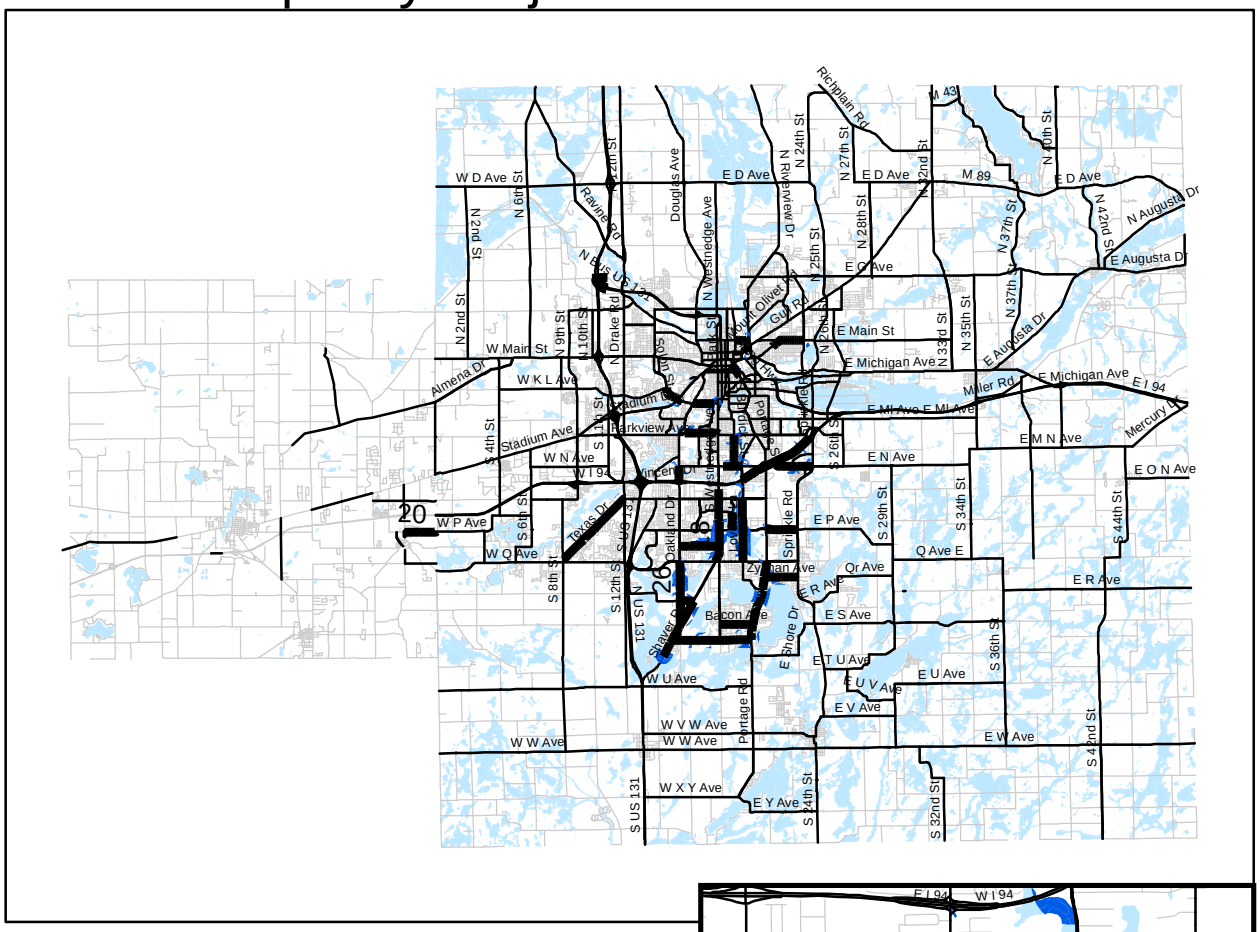
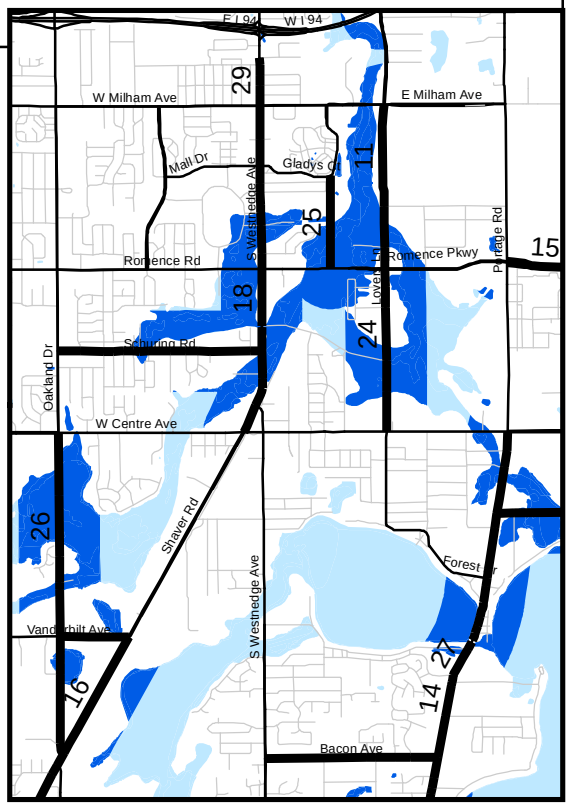
Capacity Projects Near Wetlands





Legend

- Capacity Projects
- Wetlands & Water Bodies
- Federal Aid Roads
- Non-Federal Aid Roads
- Wetlands within 1/4 Mile of Project

N

Source: MCGI, KATS

February 2016

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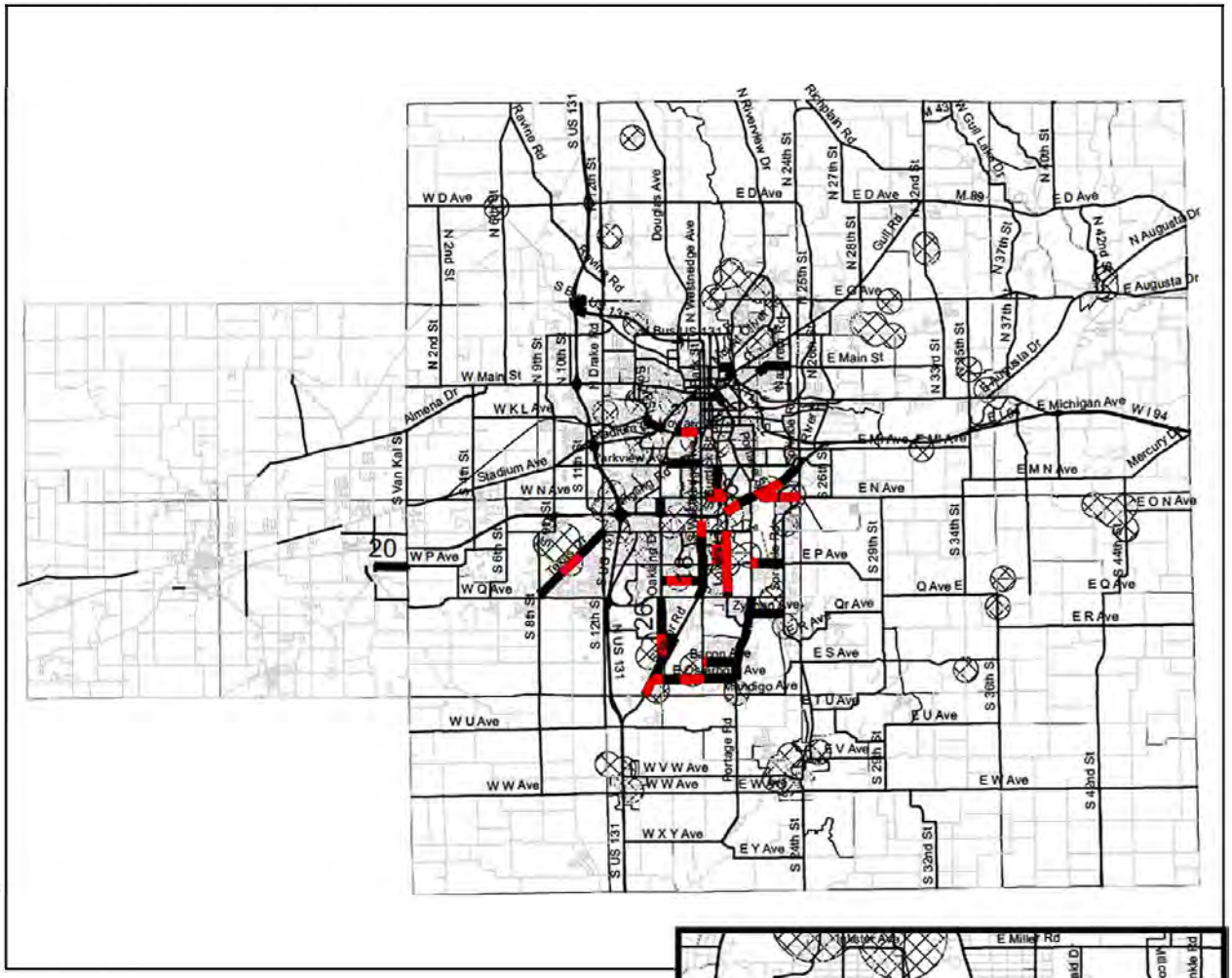
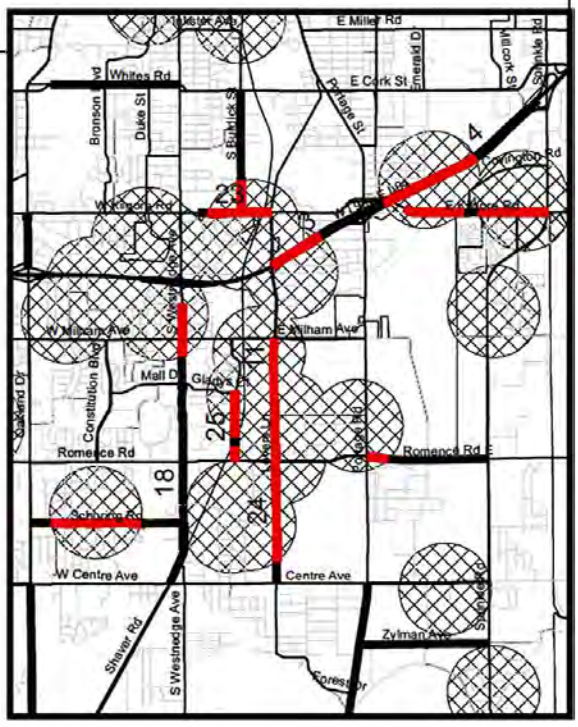
Capacity Projects Near Wells





Legend

- Capacity and Well Intersection
- Capacity Projects
- Federal Aid Roads
- Non-Federal Aid Roads
- Well Buffer (2500 ft.)

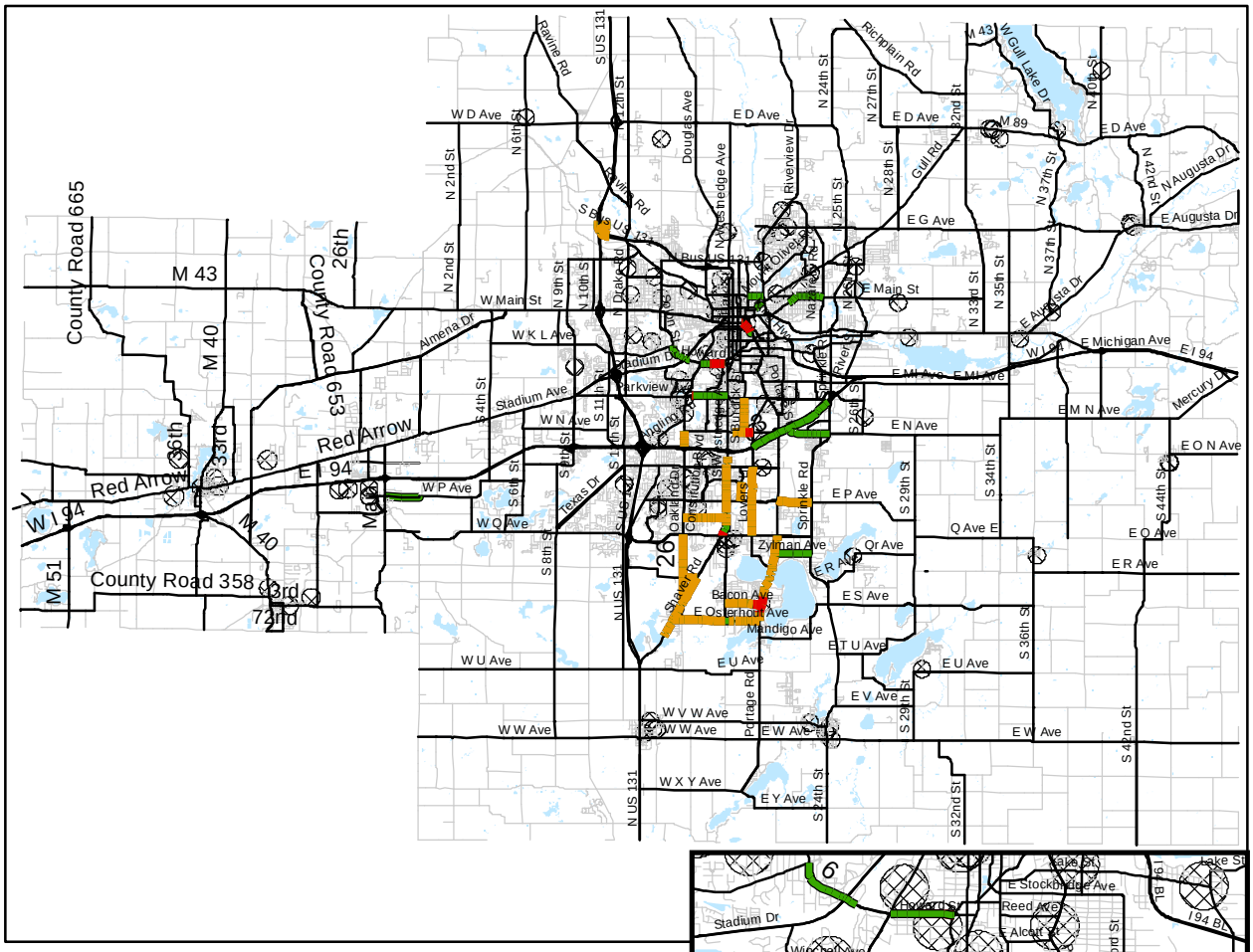
N

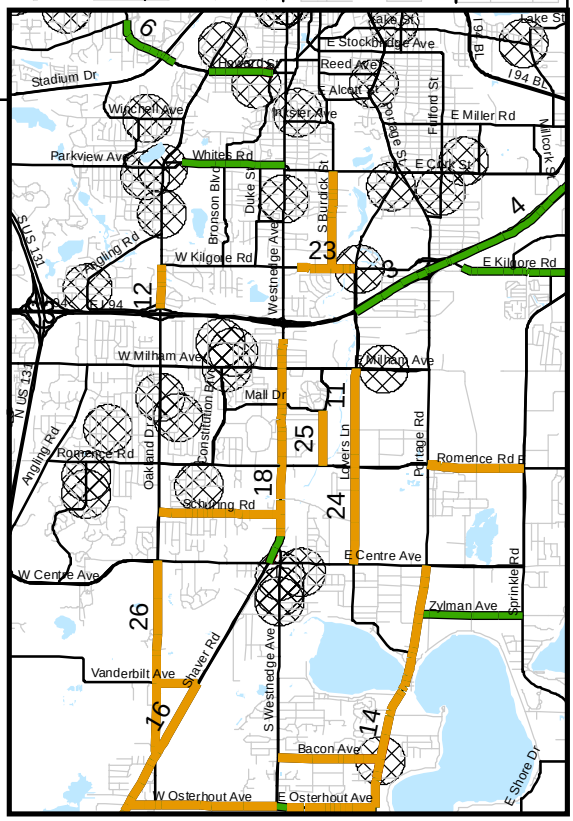
KATS
KALAMAZOO AREA
TRANSPORTATION STUDY

Data Source: MCGI, KATS

February 2016

Capacity Projects Near Schools





Legend

- Intersection of Capacity & Schools
- Illustrative Capacity Projects
- Funded Capacity Projects
- Federal Aid Roads
- Non-Federal Aid Roads
- Buffer of Schools (1/4 Mile)

N

Data Source: MGDL, KATS

February 2016

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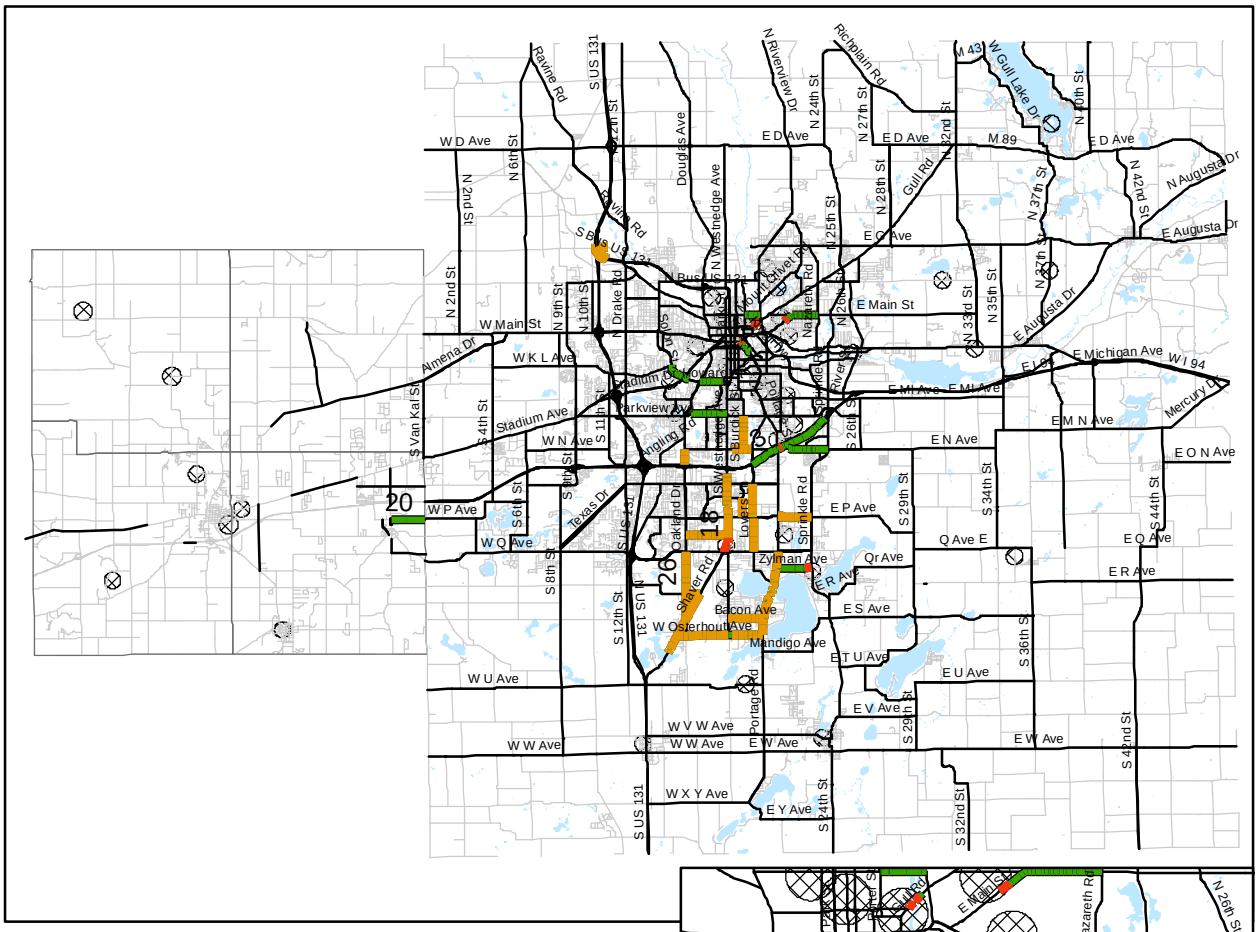
Capacity Projects Near Parks



Source: MIGDL, KATS

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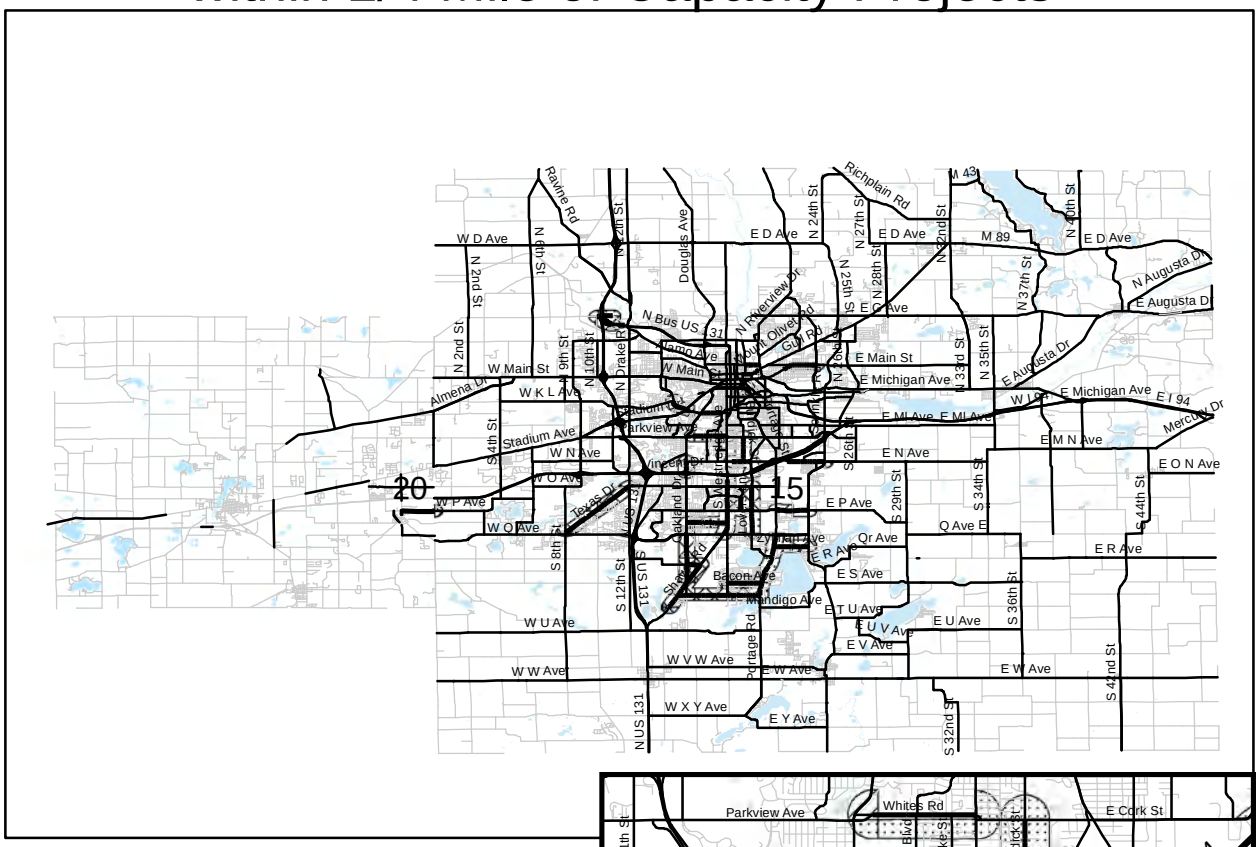
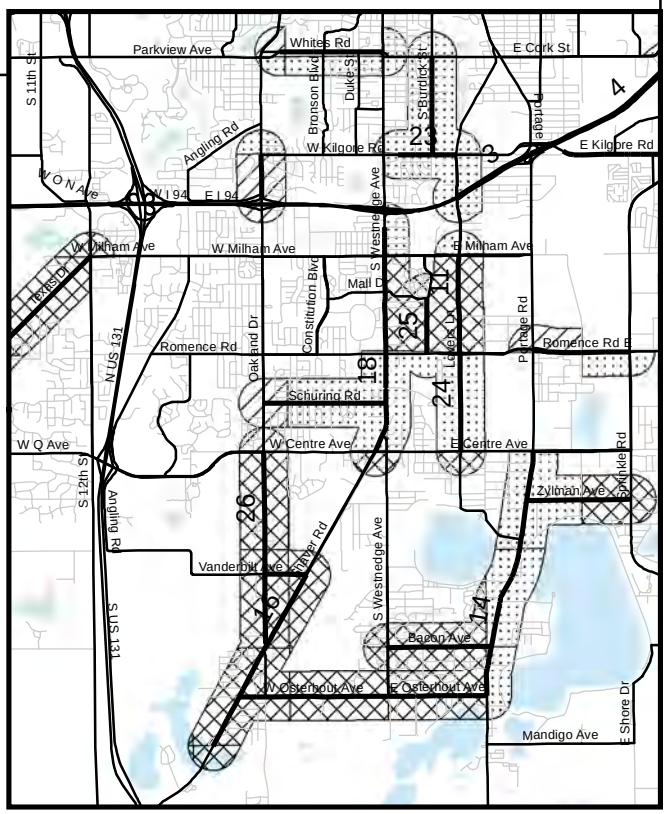
Probability of Rare Species Community within 1/4 Mile of Capacity Projects





N

Legend

- Capacity Projects
- Federal Aid Roads
- Non-Federal Aid Roads
- High
- Low
- Moderate

Source: MIGDL, KATS, MI Natural Features Inventory

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February 2016

Chapter 9: Financial Analysis

The KATS 2045 Metropolitan Transportation Plan consists of projects identified in the FY 2014-2017 Transportation Improvement Program (TIP) and the 2035 Metropolitan Transportation Plan. The TIP is a subset of the MTP and contains the short-range list of road and transit projects communities and agencies plan to implement over a four-year period. The MTP contains the TIP and also projects that will most likely be implemented from FY 2018 through FY 2045. Therefore, this transportation plan covers a period of 30 years. The MTP list of projects is required to be fiscally constrained; that is, the cost of projects listed in the MTP cannot exceed the amount of funding reasonably expected to be available during that time. The financial plan is the section of the MTP that documents the method used to calculate funds reasonably expected to be available and compares this amount to proposed projects to demonstrate that the MTP is fiscally constrained. The financial plan also identifies the costs of operating and maintaining the transportation system within the KATS.

Sources of Transportation Funding

The basic sources of transportation funding are motor fuel taxes and vehicle registration fees. Both the federal government and the State of Michigan tax motor fuel. The federal government taxed motor fuel, prior to the passage of the Fixing America's Surface Transportation Act (FAST Act), at $0.184 per gallon on gasoline and $0.244 per gallon on diesel. Michigan, prior to the road funding package, of bills taxed motor fuel at $0.19 per gallon on gasoline and $0.15 per gallon on diesel. Michigan also charges sales tax on motor fuel, but this funding is not applied to transportation. The motor fuel taxes are excise taxes, which mean they are a fixed amount per gallon. The Michigan fuel tax under the recently adopted funding package is $0.263 cents per gallon for both gasoline and diesel and will inflate with the Consumer Price Index after 2021.

The State of Michigan also collects annual vehicle registration fees when motorists purchase license plates or tabs. This is a very important source of transportation funding for the state. Currently, roughly half of the transportation funding collected by the state is in the form of vehicle registration fees. Under the new Michigan Road funding package General Fund dollars are scheduled to be included in road funding beginning in 2019. The sustainability of these General Fund dollars is not known.

Cooperative Revenue Estimation Process

Estimating the amount of funding available for the MTP planning period is a complex process. It relies on a number of factors, including economic conditions, miles traveled by vehicles, and federal and state transportation funding received in previous years. Revenue forecasting relies on a combination of data and experience and represents a "best guess" of future trends.

The revenue forecasting process is a cooperative effort. The Michigan Transportation Planning Association (MTPA), a voluntary association of public organizations and agencies responsible for the administration of transportation planning activities throughout the state, formed the Financial Working Group (FWG) to develop a statewide standard forecasting process. The FWG is comprised of members from the Federal Highway Administration (FHWA), the Michigan Department of Transportation (MDOT), transit agencies, and Metropolitan Planning Organizations, including KATS. It represents a cross-section of the public agencies responsible for transportation planning in our state. The revenue assumptions in this financial plan are based on the factors formulated by the FWG and approved by the MTPA. They are used for all financial plans in the state.

Highway Funding Forecast—Federal Funding

Sources of Federal Highway Funding

Federal transportation funding comes from motor fuel taxes (mostly gasoline and diesel). Receipts from these taxes are deposited in the Highway Trust Fund (HTF). Funding is then apportioned to the states. Apportionment is the distribution of funds through formulas in law. Since the detailed apportionment to Michigan under the FAST Act is not known at this time, numbers from Moving Ahead for Progress in the

21st Century (MAP-21) will be used. These numbers will be a little conservative overall underestimating revenue. Under this law, Michigan receives approximately $1 billion in federal transportation funding annually. This funding is apportioned through a number of programs designed to accomplish different objectives, such as road repair, bridge repair, safety, and congestion mitigation. A brief description of the major funding sources follows.

National Highway Performance Program (NHPP): This funding is used to support condition and performance on the National Highway System (NHS) and to construct new facilities on the NHS. The National Highway System is the network of the nation's most important highways, including the Interstate and US highway systems. In Michigan, most roads on the National Highway System are state trunk lines (i.e., "I-," "US-," and "M-" roads. However, MAP-21 expanded the NHS to include all principal arterials (the most important roads after freeways), whether state or locally owned. As a result of this change, local agencies within KATS will receive approximately $15.69 million through NHPP through FY2045.

Surface Transportation Program (STP): Funds for construction, reconstruction, rehabilitation, resurfacing, restoration, preservation, or operational improvements to federal-aid highways and replacement, preservation, and other improvements to bridges on public roads. Michigan's STP apportionment from the federal government is evenly split, half to areas of the state based on population and half that can be used in any area of the state. Over the 30 year period KATS will receive approximately $160.795 million, which will be used by cities, villages, and county road commissions. STP can also be flexed (transferred) to transit projects.

Highway Safety Improvement Program (HSIP): Funds to correct or improve a hazardous road location or feature or address other highway safety problems. Projects can include intersection improvements; shoulder widening; rumble strips; improving safety for pedestrians, bicyclists, or disabled persons; highway signs and markings; guardrails; and other activities. The State of Michigan retains all Safety funding and uses a portion on the state trunk line system, distributing the remainder to local agencies through a competitive process. In FY 2016 and 2017 KATS has received $1.50 million in HSIP. KATS includes a projection based upon recent funding levels.

Congestion Mitigation and Air Quality Improvement (CMAQ): Intended to reduce emissions from transportation-related sources. MAP-21 has placed an emphasis on diesel retrofits, but funds can also be used for traffic signal retiming, actuations, and interconnects; installing dedicated turn lanes; roundabouts; travel demand management such as ride share and vanpools; transit; and Non-Motorized projects that divert non-recreational travel from single-occupant vehicles. The State of Michigan has allocated funding to KATS based on population. MDOT uses half of the funding for CMAQ-eligible projects on the state trunk line system; the other half is distributed by KATS to eligible projects. Traditionally, KATS has divided local funding between highway and transit projects. KATS's share of this funding traditionally used for street associated projects is estimated to be approximately $43.42 million over the 30 year period.

Transportation Alternatives Program (TAP): Funds can be used for a number of activities to improve the transportation system environment, including (but not limited to) Non-Motorized projects, preservation of historic transportation facilities, outdoor advertising control, vegetation management in rights-of-way, and the planning and construction of projects that improve the ability of students to walk or bike to school. The funding will then be split, 50% being retained by the state and 50% to various areas of the state by population, much like the STP distribution. KATS's share of this funding is estimated to be approximately $8.62 million over the 30 year period and will be distributed to local agencies on a competitive basis. In addition to its local allocation, local agencies may apply for a competitive, state-wide allocation of Transportation Alternatives Program funding. Due to the competitive nature of the State-wide TAP funding, future amounts cannot be guaranteed and are not included in the revenues of the MTP.

Base and Assumptions Used in Forecast Calculations of Federal Highway Funds

Each year, the targets (amount KATS is expected to receive) are calculated for each of these programs based on federal apportionment documentation and state law. Targets can vary from year to year due to many factors, including how much funding was actually received by the Highway Trust Fund, the authorization (the annual transportation funding spending ceiling), and the appropriation (how much money is actually approved to be spent). Targets for fiscal year 2016, as provided by MDOT, are used as the baseline for the forecast.

The Financial Work Group of the MTPA developed a 2% per year federal revenue growth rate for the FY 2014 - 2017 TIP period then increasing to 2.62% annually from FY 2018 through FY 2045. If targets for the FY 2014-2017 near term TIP years are known (such as NHPP), those amounts were used without adjustment. While this is less than the 5% growth rate over the past 20 years, the decrease in motor fuel consumption (due to less driving and more fuel efficient vehicles) and the economic downturn and restructuring experienced by the nation in general and Michigan in particular made assumptions based on long-term historical trends unusable. Table 1 contains the federal transportation revenue projections for the 2016-2045 MTP period.

Table 1. Federal Highway Transportation Revenue Projections for the 2016-2045 MTP Available to Local Agencies (Thousands of Dollars)

Year	STP (STU+STL) ($1,000s)	CMAQ ($1,000s)	NHPP ($1,000s)	TAP ($1,000s)	HSIP ($1,000s)	TOTAL ($1,000s)
2016	$3,431	$931	$609	$243	$1,357	$6,571
2017	$3,365	$1,073	$726	$248	$151	$5,563
2018	$3,522	$974	$354	$254	$465	$5,569
2019	$3,680	$999	$363	$261	$476	$5,779
2020	$3,793	$1,025	$373	$268	$487	$5,946
2021-2025	$20,773	$5,543	$2,015	$1,448	$2,618	$32,397
2026-2030	$23,659	$6,308	$2,293	$1,648	$2,946	$36,853
2031-2035	$25,627	$7,179	$2,609	$1,876	$3,315	$40,606
2036-2040	$30,683	$8,170	$2,969	$2,135	$3,730	$47,688
2041-2045	$34,942	$9,298	$3,379	$243	$4,198	$52,060
Plan Total	$153,475	$41,500	$15,690	$8,624	$19,743	$239,032

Highway Funding Forecast—State Funding

Sources of State Highway Funding

The state law governing the collection and distribution of state highway revenue is Public Act 51 of 1951, commonly known as “Act 51.” All revenue from these sources is deposited into the Michigan Transportation Fund (MTF). Act 51 contains a number of complex formulas for the distribution of the funding, but essentially, once funding for certain grants and administrative costs are removed, 10% of the remainder is deposited in the Comprehensive Transportation Fund (CTF) for transit. The remaining funds are then split between the State Trunk-line Fund, administered by MDOT, county road commissions, and municipalities in a proportion of 39.1%, 39.1%, and 21.8%, respectively.

MTF funds are critical to the operation of the road system in Michigan. Since federal funds cannot be used to operate or maintain the road system (items such as snow removal, mowing grass in the right-of-way, paying the electric bill for streetlights and traffic signals, etc.), MTF funds are local communities’ and road commissions’ main source for funding these items. Most federal transportation funding must be matched with 20% non-federal revenue. In Michigan, most “match” funding comes from the MTF. Finally, federal funding cannot be used on local public roads, such as subdivision streets. Here again, MTF is the main source of revenue for maintenance and repair of these roads.

Funding from the MTF is distributed statewide to cities, villages, and county road commissions, collectively known as "Act 51 agencies." The formula is based on population and public road mileage under each Act 51 agency's jurisdiction.

Base and Assumptions Used in Forecast Calculations of State Highway Funds

The base for the financial forecast of state funding is the FY 2016 distribution of MTF funding as found in MDOT Report 139. This report details distribution of funding to each eligible Act 51 agency in the state. Adding all of the distributions to cities, villages, and county road commissions within KATS provides an overall distribution total for the region.

The Financial Work Group adopted an increase of 0.4% in state revenues for FY 2014-2017 increasing to 2.16% annually during the FY 2018-2045 time period. Since then, the State of Michigan passed a new road funding package which increases MTF revenues to local and state agencies. FY 2016 revenues were based upon the approved 0.4% funding increase. The FY 2017-2021 MTF revenues are the funding estimates provided by MDOT. A 2.16% annual increase was applied for years 2022 and beyond. Table 2 shows the amount of MTF funding cities, villages, and road commissions within KATS are projected to receive during the FY 2016-2045 period.

Table 2. Projected MTF Distribution to Local Act-51 Agencies for Highway Use, FY 2016 through FY 2045 (Thousands of Dollars)

Fiscal Year	MTF to Locals ($1,000s)
2016	$ 27,211
2017	$ 33,597
2018	$ 35,668
2019	$ 38,186
2020	$ 41,114
2021 - 2025	$ 239,189
2026 - 2030	$ 267,991
2031 - 2035	$ 300,260
2036 - 2040	$ 336,415
2041 - 2045	$ 376,924
Plan Total	**$ 1,696,555**

Highway Funding Forecast—Hybrid State/Federal Funding

Sources of Hybrid State/Federal Funding

Michigan has a number of programs that use both state funding and federal funding. These programs are collectively known as the Transportation Economic Development Fund (TEDF). The TEDF is split into several categories, depending on what that particular category is designed to accomplish. These are:

- TEDF Category A: Highway projects to benefit targeted industries;
- TEDF Category C: Congestion mitigation in designated urban counties
- TEDF Category D: All-season road network in rural
- TEDF Category E: Forest roads; and
- TEDF Category F: Roads in cities that are located in rural counties.

TEDF Category B no longer exists. Categories A and F are awarded on a competitive basis, Category C and Category E is not awarded for KATS. Therefore, this discussion will be limited to Category D and the Local Bridge program.

Category D is a blend of state and federal funding. Act 51 specifies that $36.8 million of each year's MTF receipts be directed to the Transportation Economic Development Fund. The federal portion of TEDF was formerly derived from the Equity Bonus program, but this was discontinued under MAP-21. The State of Michigan has instead funded the TEDF Category D program with additional Surface Transportation Program funding.

The Local Bridge program is funded through a portion of the state motor fuel tax. It is supplemented with Surface Transportation Program (STP) funding retained by the state (for a discussion of local STP funding, see above). The Local Bridge program is competitive, with funds being awarded by Local Bridge Committees in each of the MDOT planning regions. For FY 2016-2017 KATS has been awarded $1.210 in Local Bridge Program funds. KATS includes an estimate of future funds based upon a historical average and the approved growth rates.

KATS is located within the Southwest Region (Berrien, Branch, Calhoun, Cass, Kalamazoo, St. Joseph, and Van Buren counties). The KATS Small Urban Area includes Paw Paw and Lawton villages in Van Buren. While it is likely that the next Census in 2020 will result in the inclusion of this Small Urban Area within the KATS urbanized area, for the purposes of this Plan we are making the assumption that the revenues coming to the area through the Small Urban Program that may be lost will be offset equally with an increase in STP for KATS.

Base and Assumptions Used in Forecast Calculations of Hybrid State/Federal Highway Funds

The base year used to calculate the TEDF Category C and TEDF Category D is FY 2016. The federal amounts are increased by the agreed-upon MTPA/Financial Workgroup factors. However, the state portion is a fixed amount set in Act 51. The forecast assumes no change in Act 51 during the 26-year plan period, so the state portion is not increased. Local Bridge funding is based upon a five-year average of Bridge awards to agencies in the KATS area, and then increased by the agreed-upon rate for federal funds.

Table 3. Projected Transportation Economic Development Fund (Local Rural STP), State TEDF Category D, and Small Urban Funds, FY 2016 - FY 2045 (Thousands of Dollars)

Small Urban ($1,000s)	State D ($1,000s)	Local Bridge ($1,000s)	TOTAL ($1,000s)
$175	$86	$227	$488
$340	$106	$41	$487
$229	$95	$149	$473
$246	$100	$153	$499
$264	$112	$157	$533
$1,536	$611	$841	$2,987
$1,709	$684	$946	$3,339
$1,902	$566	$1,065	$3,533
$2,117	$856	$1,198	$4,171
$2,355	$958	$1,348	$4,661
$10,873	$4,174	$6,125	$21,171

Highway Funding Forecast—Local Funding

Sources of Local Highway Funding

Local highway funding can come from a variety of sources, including transportation millages, general fund revenues, and special assessment districts. Locally funded transportation projects that are not of regional significance are not required to be included in the TIP or MTP. This makes it difficult to determine how much local funding is being spent on roads within KATS. Additionally, special assessment

districts and millages generally have finite lives, so an accurate figure for local transportation funding would require knowledge of what millages and special assessment districts were in force in each year of the TIP/MTP period. Given that there are two counties and 40 cities, villages, and townships within KATS, this level of accuracy is difficult to achieve.

Base and Assumptions Used in Forecast Calculations of Local Highway Funds

Local road agencies prepare Act 51 reports which include local revenues used on the road portion of the transportation system. A four-year average of those non-federal and non-state revenues for KATS local agencies was calculated as a base. These funds were increased 0.4% from 2016 to 2045 in order to be conservative and not having a good base of information to project from. The projected revenue for the Plan from these sources is $156.58 million for the next 30 years.

Table 4. Non-Federal and Non-MTF Projected Plan Revenues (Thousands of Dollars)

Year	Non Federal, Non-MTF Revenue ($1,000s)
2016	$4,923
2017	$4,943
2018	$4,963
2019	$ 4,982
2020	$5,002
2021 - 2025	$25,314
2026 - 2030	$25,824
2031 - 2035	$26,345
2036 - 2040	$26,876
2041 - 2045	$27,417
Plan Total	$156,588

Highway Funding Forecast— MDOT

The state of Michigan maintains an extensive network of highways across the state and within the KATS Region. All highways with an “I,” “M,” or “US” designation, such as I-94, US-131, or M-43 is part of this network, which is known as the State Trunkline System. The portion of the State Trunkline System in KATS is comprised of over 579 lane-miles of highway, hundreds of bridges and culverts, signs, traffic signals, safety barriers, sound walls, and other capital that must be periodically repaired, replaced, reconstructed, or renovated. The agency responsible for the State Trunkline System is the Michigan Department of Transportation (MDOT). This amount includes trunkline road and bridge rehabilitation and reconstruction, Capital Preventive Maintenance, CMAQ, Traffic/Safety and related preservation projects. The amount of funding projected by MDOT to be available for system preservation activities (such as road repaving, rehabilitation, or reconstruction) is shown in Table 5.

Table 5. Long-Range Preservation Revenue Forecast, 2016-2045 (Thousands of Dollars)

Fiscal Year(s)	MDOT Preservation Revenue ($1,000s)
2016	$33,767
2017	$9,782
2018	$12,389
2019	$10,181
2020	$9,111
2021 - 2025	$58,258
2026 - 2030	$65,530
2031 - 2035	$71,550
2036 - 2040	$85,356
2041 - 2045	$101,826
Plan Total	$457,750

Base and Assumptions used by MDOT in its Highway Funding Forecast

MDOT Statewide Transportation Planning Division analyzed historical state highway revenue and historical federal obligations. State revenue and federal revenue growth rates were calculated. The revenue growth used in the long range revenue forecast for the near term has virtually flat rates to reflect the current funding conditions. For some years the state forecast assumes additional revenue through a variety of mechanisms to match federal aid. In order to take a conservative approach with the federal and state revenue forecasts beyond the near term, 90% of the 10 year average growth rates were used. The resulting rates beyond the near term are: federal 2.39% annual growth, and state 2.16% annual growth.

MDOT Revenue Available for Capacity/New Roads Capital Outlay

MDOT has capacity projects in the 2016 to 2045 Plan and has identified funding for those Capacity projects. They include I-94 from east of Lovers Lane to West of Sprinkle Road widening from 4 to 6 lanes. Projected resources available for Capacity projects in the 2016 – 2045 Metropolitan Transportation Plan is $106.2 million.

Table 6. Long-Range Capacity/New Road Revenue Forecast, 2016-2045 (Thousands of Dollars)

Fiscal Year(s)	MDOT Capacity ($1,000s)
2016	$440
2017	
2018	
2019	
2020	$67,758
2021 - 2025	$38,000
2026 - 2030	
2031 - 2035	
2036 - 2040	
2041 - 2045	
Plan Total	$106,198

Methodology for MPO Allocation of Capacity Improvement/New Road and Preservation Dollars

Revenues available for local agency preservation and capacity/new roads projects in the 2045 Metropolitan Transportation Plan include the Federal sources discussed above, MTF distributions to Local Agencies, Hybrid revenues, and Non-federal/non-MTF revenues (millages, general fund, etc.). These include the following:

- Surface Transportation Program (STP)
- National High Performance Program (NHPP)
- Congestion Mitigation Air Quality (CMAQ) portion used for street projects
- Transportation Alternatives Program (TAP)
- Michigan Transportation Fund (MTF)
- Rural Surface Transportation Program
- State Economic Development Category – D
- Small Urban, and
- Non-federal/Non-MTF funds

Methodology for MPO Allocation of Highway Program Preservation Dollars

The total of these sources for local agencies was computed. All revenues were grown at the MTF rates for 2017 through 2045 based on the MTPA procedure discussed above and using the growth factors for the MTF to locals for 2017 through 2021. The total of these sources were then reduced to eliminate Secondary/Minor Road revenues, and Operational and Maintenance costs to provide revenues that can reasonably be expected to be available for preservation and capacity/new road projects by local agencies (non-MDOT) during the life of the Plan. The result is that revenues available for local agency road projects contained in the KATS Plans total $529,497,473.

Table 7: Local Revenues Available for the 2045 Metropolitan Transportation Plan (Thousands of Dollars)

Year	STP (STU+STL) ($1,000s)	CMAQ ($1,000s)	NHPP ($1,000s)	TAP ($1,000s)	HSIP ($1,000s)	Small Urban ($1,000s)	State D ($1,000s)	Local Bridge ($1,000s)	MTF ($1,000s)	Non Federal, Non-MTF ($1,000s)	Total ($1,000s)	Local O&M ($1,000s)	Available for Plan ($1,000s)
2016	$3,431	$931	$609	$243	$1,357	$175	$86	$227	$27,211	$4,923	$39,194	$25,688	$13,506
2017	$3,365	$1,073	$726	$248	$151	$340	$106	$41	$33,597	$4,973	$44,620	$31,716	$12,904
2018	$3,522	$974	$354	$254	$487	$229	$95	$149	$35,668	$5,022	$46,755	$33,672	$13,083
2019	$3,680	$999	$363	$261	$499	$246	$100	$153	$38,186	$5,073	$49,563	$36,049	$13,513
2020	$3,793	$1,025	$373	$268	$511	$264	$112	$157	$41,114	$5,123	$52,740	$38,813	$13,927
2021-2025	$20,773	$5,543	$2,015	$1,448	$2,744	$1,536	$611	$841	$239,189	$26,396	$301,096	$225,801	$75,295
2026-2030	$23,659	$6,308	$2,293	$1,648	$3,088	$1,709	$684	$946	$267,991	$27,742	$336,068	$252,990	$83,078
2031-2035	$25,627	$7,179	$2,609	$1,876	$3,475	$1,902	$566	$1,065	$300,260	$29,157	$373,716	$283,454	$90,262
2036-2040	$30,683	$8,170	$2,969	$2,135	$3,911	$2,117	$856	$1,198	$336,415	$30,645	$419,099	$317,585	$101,514
2041-2045	$34,942	$9,298	$3,379	$2,429	$4,401	$2,355	$958	$1,348	$376,924	$32,208	$468,242	$355,827	$112,415
Plan Total	$153,476	$41,500	$15,690	$10,810	$20,625	$10,873	$4,174	$6,125	$1,696,555	$171,263	$2,131,093	$1,601,595	$529,497

Discussion of Innovative Financing Strategies—Highway

A number of innovative financing strategies have been developed over the past two decades to help stretch limited transportation dollars. Some are purely public sector; others involve partnerships between the public and private sectors. Some of the more common strategies are discussed below.

Toll Credits: This strategy allows states to count funding they earn through tolled facilities (after deducting facility expenses) to be used as "soft match," rather than using the usual cash match for federal transportation projects. States have to demonstrate "maintenance of effort" when using toll credits—in other words, they must show that the toll money is being used for transportation purposes and that they're not reducing their efforts to maintain the existing system by using the toll credit program. Toll credits have been an important source of funding for the State of Michigan in the past because of the three major bridge crossings and one tunnel crossing between Michigan and Ontario. Toll credits have also helped to partially mitigate the funding crisis in Michigan, since insufficient non-federal funding is available to match all of the federal funding apportioned to the state.

State Infrastructure Bank (SIB): Established in a majority of states, including Michigan. Under the SIB program, states can place a portion of their federal highway funding into a revolving loan fund for transportation improvements such as highway, transit, rail, and intermodal projects. Loans are available at 3% interest and a 25-year loan period to public entities such as political subdivisions, regional planning commissions, state agencies, transit agencies, railroads, and economic development corporations. Private and nonprofit corporations developing publicly owned facilities may also apply. In Michigan, the maximum per project loan amount is $2 million. The Michigan SIB had a balance of approximately $12 million in FY 2011.

Transportation Infrastructure Finance and Innovation Act (TIFIA): This nationwide program, significantly expanded under MAP-21, provides lines of credit and loan guarantees to state or local governments for development, construction, reconstruction, property acquisition, and carrying costs during construction. TIFIA enables state and local governments to use the borrowing power and creditworthiness of the United States to finance projects at far more favorable terms than they would otherwise be able to do on their own. Repayment of TIFIA funding to the federal government can be delayed for up to five years after project completion with a repayment period of up to 35 years. Interest rates are also low. The amount authorized for the TIFIA program in FY 2014 nationwide is $1.0 billion.

Bonding: Bonding is borrowing, where the borrower agrees to repay lenders the principal and interest. Interest may be fixed over the term of the bond or variable. The amount of interest a borrower will have to pay depends in large part upon its perceived credit risk; the greater the perceived chance of default, the higher the interest rate. In order to bond, a borrower must pledge a reliable revenue stream for repayment. For example, this can be the toll receipts from a new transportation project. In the case of general obligation bonds, future tax receipts are pledged.

States are allowed to borrow against their federal transportation funds, within certain limitations. While bonding provides money up front for important transportation projects, it also means diminished resources in future years, as funding is diverted from projects to paying the bonds' principal and interest. Michigan transportation law requires money for the payment of bond and other debts be taken off the top before the distribution of funds for other purposes. Therefore, the advantages of completing a project more quickly need to be carefully weighed with the disadvantages of reduced resources in future years.

Advance Construct/Advance Construct Conversion: This strategy allows a community or agency to build a transportation project with its own funds (advance construct) and then be reimbursed with federal funds in a future year (advance construct conversion). Tapered match can also be programmed, where the agency is reimbursed over a period of two or more years. Advance construct allows for the construction of highway projects before federal funding is available; however, the agency must be able to build the project with its own resources and then be able to wait for federal reimbursement in a later year.

Public-Private Partnerships (P3): Funding available through traditional sources, such as motor fuel taxes, is not keeping pace with the growth in transportation system needs. Governments are increasingly turning to public-private partnerships (P3) to fund large transportation infrastructure projects. An example of a public-private partnership is Design/Build/Finance/Operate (DBFO). In this arrangement, the government keeps ownership of the transportation asset, but hires one or more private companies to design the facility, secure funding, construct the facility and operate it, usually for a set period of time. The private-sector firm is repaid most commonly through toll revenue generated by the new facility. Sometimes, as in the case of the Chicago Skyway and the Indiana Toll Road, governments grant exclusive concessions to private firms to operate and maintain already-

existing facilities in exchange for an up-front payment from the firm to the government. The firm then operates, maintains, and collects tolls on the facility during the period of the concession, betting that it will collect more money in tolls then it paid out in operations costs, maintenance costs, and the initial payment to the government.

Highway Operations and Maintenance

Construction, reconstruction, repair, and rehabilitation of roads and bridges are only part of the total cost of the highway system. It must also be operated and maintained. Operations and maintenance is defined as those items necessary to keep the highway infrastructure functional for vehicle travel, other than the construction, reconstruction, repair, and rehabilitation of the infrastructure. Operations and maintenance includes items such as snow and ice removal, pothole patching, rubbish removal, maintaining the right-of way, maintaining traffic signs and signals, clearing highway storm drains, paying the electrical bills for street lights and traffic signals and other similar activities, and the personnel and direct administrative costs necessary to implement these projects. These activities are as vital to the smooth functioning of the highway system as good pavement.

Federal transportation funds cannot be used for operations and maintenance of the highway system. Since the TIP and MTP only include federally-funded transportation projects (and non-federally funded projects of regional significance), they do not include many operations and maintenance projects. While in aggregate, operations and maintenance activities are regionally significant (individual projects do not rise to that level). However, federal regulations require an estimate of the amount of funding that will be spent operating and maintaining the federal-aid eligible highway system over the FY 2016-2045 MTP period. This section of the Financial Plan provides an estimate for KATS and details the method used to estimate these costs.

MDOT has provided KATS with its 2016 Operations and Maintenance budget expenditures in the KATS MPO area, of approximately $1.862 million. This does not include road and bridge CPM, CSM, rehabilitation, reconstruction and/or bridge replacement projects, new roads or capacity improvement/modernization projects, which are listed separately in the TIP/MTP. Since MDOT's operations and maintenance funding comes from state motor fuel taxes (the Michigan Transportation Fund), the agreed-upon rate of increase for state funds (0.4% annually) was applied to derive the operations and maintenance costs for FYs 2015-2017, increasing to 2.16% annually from 2018 through 2045. It is assumed that the revenues for MDOT Operations and Maintenance will be fully expended by MDOT during the Plan period.

Local communities' and agencies' costs to operate and maintain their portions of the federal-aid highway system and local system are determined using a four-year average of expenditures on the secondary/minor road system and any cost not considered preservation or construction/capacity on the primary/major road system as reported to Act 51. The primary/major road preservation or construction/capacity expenditures are considered to be available for the 2045 Metropolitan Transportation Plan projects. Much of local agencies' operations and maintenance funding comes from the Michigan Transportation Fund, so the agreed-upon rate of increase for state funds (0.4% annually) was applied to derive the operations and maintenance costs for FYs 2016 for 2017 through 2021 the rates of MTF increase provided with the new road funding package was used to grow these Operations and Maintenance costs. For 2022 through 2045 the agreed upon growth rate of 2.16% was used. MDOT and local operations and maintenance funding available is summarized in Table 8.

Table 8. Projected Available Highway Operations and Maintenance (O&M) Funding, Federal Aid Eligible Roads, FY 2014 through FY 2045 (Thousands of Dollars)

Year	MDOT O&M ($1,000s)	Local O&M ($1,000s)	Total O&M ($1,000s)
2016	$ 1,863	$ 25,688	$ 27,551
2017	$ 2,300	$ 31,716	$ 34,016
2018	$ 2,442	$ 33,672	$ 36,114
2019	$ 2,614	$ 36,049	$ 38,663
2020	$ 2,815	$ 38,813	$ 41,627
2021 - 2025	$ 16,374	$ 225,801	$ 242,175
2026 - 2030	$ 18,346	$ 252,990	$ 271,336
2031 - 2035	$ 20,555	$ 283,454	$ 304,008
2036 - 2040	$ 23,030	$ 317,585	$ 340,615
2041 - 2045	$ 25,803	$ 355,827	$ 381,630
Plan Total	$ 116,139	$ 1,601,595	$ 1,717,735

Highway Commitments and Projected Available Revenue

The MTP must be fiscally constrained; that is, the cost of projects programmed in the TIP/MTP cannot exceed revenues “reasonably expected to be available” during the 30 year period. Funding for core programs such as NHP, STP, HSIP, and CMAQ are expected to be available to the region based on historical trends of funding from earlier, similar programs in past federal surface transportation laws. Likewise, state funding from the Michigan Transportation Fund (MTF) and the hybrid state/federal programs, Transportation Economic Development Fund Category D, are also expected to be available between FY 2016-2045. Funds from other programs are generally awarded on a competitive basis and are therefore impossible to predict. In these cases, projects are not amended into the TIP or MTP until proof of funding availability (such as an award letter) are provided.

All federally-funded projects must be in the MTP. Additionally, any non-federally funded but regionally significant project must also be included. In these cases, project submitters demonstrate that funding is available and what sources of non-federal funding are to be utilized.

Transit Financial Forecast— Federal

Sources of Federal Transit Funding

Federal revenue for transit comes from federal motor fuel taxes, just as it does for highway projects. Some of the motor fuel tax collected from around the country is deposited in the Mass Transit Account of the Highway Trust Fund (HTF). As of the start of fiscal year 2013 (October 1, 2012), the balance of the federal Mass Transit Account was $2.49 billion. Federal transit funding is similar to federal highway funding in that there are several core programs where money is distributed on a formula basis and other programs that are competitive in nature. Here are brief descriptions of some of the most common federal transit programs.

Section 5307: This is the largest single source of transit funding that is apportioned to Michigan. Section 5307 funds can be used for capital projects, transit planning, and projects eligible under the former Job Access Reverse Commute (JARC) program (intended to link people without transportation to available jobs). Some of the funds can also be used for operating expenses, depending on the size of the transit agency. 1% of funds received are to be used by the agency to improve security at agency facilities. Distribution is based on formulas including population, population density, and operating characteristics related to transit service. Urbanized areas of 200,000 in population or larger receive their own apportionment. Areas between 50,000 and 199,999 population are awarded funds by the governor from the governor’s apportionment.

Section 5310: Elderly and Persons with Disabilities: Funding for projects to benefit seniors and disabled persons when service is unavailable or insufficient and transit access projects for disabled persons exceeding Americans with Disabilities Act (ADA) requirements. Section 5310 incorporates the former New Freedom

program. The State of Michigan allocates its funding on a per-project basis, and the KATS urbanized area receives its own sub-allocation.

Section 5311: Non-Urbanized Area Formula Grant: Funds for capital, operating, and rural transit planning activities in areas under 50,000 population. Activities under the former JARC program (see Section 5307 above) in rural areas are also eligible. The state must use 15% of its Section 5311 funding on intercity bus transportation. The State of Michigan operates this program on a competitive basis.

Section 5339: Bus and Bus Facilities: Funds will be made available under this program to replace, rehabilitate, and purchase buses and related equipment, as well as construct bus-related facilities. Each state will receive $1.25 million, with the remaining funding apportioned to transit agencies based on various population and service factors.

In addition to these funding sources, transit agencies can also apply for Surface Transportation Program and Congestion Mitigation and Air Quality Improvement (CMAQ) program funds. Within KATS, a portion of each year's local CMAQ allocation is reserved for transit projects.

Base and Assumptions Used in Forecast Calculations of Federal Transit Funds

The base for the federal portion of the transit financial forecast is the amount of federal funding each transit agency received in the region in FY 2015. It was determined (by the MTPA Financial Workgroup) that the annual growth rate for revenues from FY 2016 through 2019 will be 1.65%. Beyond FY 2019, the annual growth rate will be 3.68%. Table 9 shows the federal transit forecast for the FY2016-2045 MTP period. Flex dollars were calculated using recent averages and projected at the approved growth factors.

Table 9. Federal Transit Revenue Projections for the transit agencies in the KATS area FY2016-2045 MTP (Thousands of Dollars)

Year	5307 ($1,000s)	5310 ($1,000s)	5311 ($1,000s)	5339 ($1,000s)	STL ($1,000s)	STU ($1,000s)	CMAQ ($1,000s)	TOTAL ($1,000s)
2016	$3,047	$185	$26	$309	$25	$170	$45	$3,807
2017	$3,039	$184	$27	$317	$65	$0	$46	$3,678
2018	$3,089	$188	$27	$322	$72	$80	$47	$3,825
2019	$3,140	$191	$28	$328	$84	$80	$48	$3,898
2020	$3,256	$198	$29	$340	$72	$80	$49	$4,023
2021-2025	$18,166	$1,103	$161	$1,895	$581	$446	$263	$22,615
2026-2030	$21,764	$1,321	$193	$2,270	$653	$502	$296	$27,000
2031-2035	$26,074	$1,583	$232	$2,720	$735	$565	$334	$32,242
2036-2040	$31,238	$1,896	$278	$3,258	$828	$636	$375	$38,509
2041-2045	$37,425	$2,272	$333	$3,904	$931	$715	$422	$46,002
Total	$150,238	$9,119	$1,334	$15,663	$4,046	$3,274	$1,925	$185,599

Transit Financial Forecast—State

Sources of State Transit Funding

The majority of state-level transit funding is derived from the same source as state highway funding: the state tax on motor fuels. Act 51 stipulates that 10% of receipts into the MTF, after certain deductions, is to be deposited in a subaccount of the MTF called the Comprehensive Transportation Fund (CTF). This is analogous to the Mass Transit Account of the Highway Trust Fund at the federal level. Additionally, a portion of the state-level auto-related sales tax is deposited in the CTF. Distributions from the CTF are used by public transit agencies for matching federal grants and also for operating expenses.

Base and Assumptions Used in Forecast Calculations of State Transit Funds

The base for calculations of state transit funds is the amount transit agencies in the KATS area received in FY 2015. For state match funds, the MTPA Financial Workgroup determined that the growth rate will be the same as

the federal growth rates as discussed above. The state-level CTF distributions to the KATS transit agency is shown in Table 10, broken down by state match and state operating.

Table 10. State Transit (CTF) Revenue Projections/Match by Federal Funding Category in the KATS area for the 2016-2045 MTP (Thousands of Dollars)

Year	5307 ($1,000s)	5310 ($1,000s)	5311 ($1,000s)	5339 ($1,000s)	STL ($1,000s)	STU ($1,000s)	CTF – Other ($1,000s)	TOTAL ($1,000s)
2016	$5,224	$37	$64	$77	$6	$8	$42	$5,459
2017	$5,377	$37	$65	$79	$16	$0	$43	$5,574
2018	$5,465	$38	$66	$81	$18	$20	$43	$5,688
2019	$5,556	$38	$67	$82	$21	$20	$44	$5,784
2020	$5,760	$40	$70	$85	$18	$20	$46	$5,992
2021-2025	$32,140	$221	$389	$474	$145	$112	$47	$33,480
2026-2030	$38,506	$264	$466	$568	$163	$125	$306	$40,092
2031-2035	$46,132	$317	$558	$680	$184	$141	$366	$48,011
2036-2040	$55,268	$379	$668	$815	$207	$159	$439	$57,496
2041-2045	$66,214	$454	$800	$976	$233	$179	$526	$68,857
Plan Total	$265,643	$1,824	$3,212	$3,916	$1,011	$784	$1,902	$276,432

Transit Financial Forecast—Local

Sources of Local Transit Funding

Major sources of local funding for transit agencies include fare-box revenues, general fund transfers from city governments, and transportation millages. All transit agencies in the KATS area collect fares from riders. This local amount of funding is estimated to be $8,720,000 in 2016.

Base and Assumptions Used in Forecast Calculations of Local Transit Funds

The base amounts for fare-box, general fund transfers, and millages are derived directly from the TIP. Presuming that transit agencies spend all money that they receive each year, this data can be used for revenue projections as well. In addition, the agencies provide data on other miscellaneous funding, such as advertising and contracts (Table 11). The local amounts include fare-box receipts, general fund transfers, millages, and miscellaneous income.

Table 11. Local Transit Revenue Projections in the KATS area for the 2016-2045 MTP Period (Thousands of Dollars)

Year	LOCAL ($1,000s)
2016	$8,720
2017	$9,137
2018	$12,293
2019	$11,950
2020	$12,398
2021-2025	$69,630
2026-2030	$84,544
2031-2035	$102,082
2036-2040	$123,603
2041-2045	$151,150
Plan Total	$585,507

Discussion of Innovative Financing Strategies—Transit

Sources of funding for transit are not limited to the federal, state, and local sources previously mentioned. As with highway funding, there are alternative sources of funding that can be utilized to operate transit service. Bonds can be issued. (See discussion of bonds in the "Innovative Financing Strategies—Highway" section.) The federal government also allows the use of toll credits to match federal funds. Toll credits are earned on tolled facilities, such as the Blue Water Bridge in Port Huron. Regulations allow for the use of toll revenues (after facility operating expenses) to be used as "soft match" for transit projects. Soft match means that actual money does not have to be provided—the toll revenues are used as a "credit" against the match. This allows the actual toll funds to be used on other parts of the transportation system, thus stretching the resources available to maintain the system.

Transit Capital and Operations

Transit expenditures are divided into two basic categories, capital and operations. Capital refers to the physical assets of the agency, such as buses and other vehicles, stations and shelters at bus stops, office equipment and furnishings, and certain spare parts for vehicles. Operations refers to the activities necessary to keep the system operating, such as driver wages and maintenance costs. Most expenses of transit agencies are operations expenses.

Data on capital and operating costs was provided directly from local transit agencies. The average split (from previous TIPs) is 10% capital and 90% operations within KATS. It is assumed that this basic split will continue for the FY 2014 - 2045 MTP period. It is also assumed that the transit agencies are spending all available capital and operations funding, so that the amount expended on these items is roughly equal to the amount available.

Transit Commitments and Projected Available Revenue

The MTP must be fiscally constrained; that is, the cost of projects programmed in the MTP cannot exceed revenues "reasonably expected to be available" during the 26 year MTP period. Funding for core programs such as Section 5307, Section 5339, Section 5310, and Section 5311 are expected to be available to the region based on historical trends of funding from earlier, similar programs in past federal surface transportation laws. Likewise, state funding from the Comprehensive Transportation Fund (CTF), and local sources of revenue such as fare-box, general fund transfers, and millages, are also expected to be available during the FY 2016 - 2045 MTP period. Funds from other programs are generally awarded on a competitive basis and are therefore impossible to predict. In these cases, projects are not amended into the MTP until proof of funding availability (such as an award letter) is provided. Funds from federal competitive programs are not included in the revenue forecast.

All federally funded projects must be in the MTP. Additionally, any non-federally-funded but regionally significant project must also be included. In these cases, project submitters demonstrate that funding is available and what sources of non-federal funding are to be utilized.

Plan Expenditures

Just as Plan revenues are projected at rates of growth, expenditures for the Plan must be changed to account for the year of expenditure. The MTPA Financial Workgroup has adopted a 4% annual increase in project costs to calculate the year of expenditure for Roads and Transit projects. Plan project costs have been adjusted for this factor.

Financial Constraint Demonstration

The Plan revenues are compared to the Plan commitments in Table 12 below. The revenues exceed the commitments, and the Plan is financially constrained.

Table 12: Fiscal Constraint Demonstration (Thousands of Dollars)

Year	Total Projected Revenue ($1,000s)	Total Projected Cost ($1,000s)	Difference ($1,000s)
2016	$65,698	$65,698	$0
2017	$41,117	$41,117	$0
2018	$47,321	$47,321	$0
2019	$45,371	$45,371	$0
2020	$113,257	$113,257	$0
2021-2025	$297,326	$297,326	$0
2026-2030	$300,549	$300,549	$0
2031-2035	$344,515	$344,515	$0
2036-2040	$406,917	$406,917	$0
2041-2045	$480,775	$480,775	$0
Plan Total	$2,142,846	$2,142,846	$0

Chapter 10: Future Transportation System

Travel Demand Model and the Forecasting Process

The urban area travel demand modeling process for Kalamazoo was a cooperative effort between the Kalamazoo Area Transportation Study (KATS), the Michigan Department of Transportation (MDOT), Statewide and Urban Travel Analysis Section, and a consultant team lead by Cambridge Systematics. KATS provided the lead role in the process and assumed responsibility for modeling activities with both agencies reaching consensus on selective process decisions.

Transportation travel demand models are driven, in part, by the relationship of land use activities to the transportation network. Specific inputs of the modeling process are land use activity, including the number of households, vehicles, and employment (Retail, Service and Other) located in a given traffic zone. The modeling process translates this data into vehicle trips on the modeled transportation network. Sets of demographic data were developed to establish the 2010 base year transportation model, the 2045 forecast year travel demand model, and intermediate target year models for 2015, 2020, 2025, 2030, 2035, 2040, and 2045. A further discussion of the modeling process, including Network Development, Traffic Analysis Zone Structure, Household Survey Processing, and Socio-economic Data Development is provided in Appendix E: Travel Demand Model.

The forecasting and distribution of future households and employment data cannot be made with pin point accuracy due to the nature of the data sources, changes in development plans, unforeseen economic or population factors, and the limits imposed by time and financial resources. Although efforts were made to allocate the data as accurately as possible, in a few instances, due to minor errors in address coding or unidentifiable employer names or addresses, some of the employment data allocated to one zone may actually belong in an adjacent zone. This does not change the overall effect of travel demand on the model because travel activity would be loaded onto the same adjacent network corridor. Therefore, household and employment data for individual zones should be considered as an estimate to be used as a guideline and not an exact total.

Deficiency Analysis

The identification of system deficiencies is a prerequisite for the examination of alternatives and selection of projects for the Metropolitan Transportation Plan. The traditional transportation plan development process addressed deficiency analysis near exclusively through the modeling process. While this is still a key analytical tool, the management systems, basic traffic engineering analysis, and other approaches have advanced in relative importance. This advancement has been promoted by the increasing necessity to preserve (and improve) the structural and functional integrity of the existing system. Sensitivity to social, environmental, and economic factors place increased emphasis on making better use of the existing system.

Transportation demand was estimated for the 2045 Transportation Plan base year of 2010 and for interval years to 2045. Transportation demand was estimated and assigned to the Kalamazoo Area Transportation Study (KATS) transportation network of federal aid eligible roads using TransCAD software.

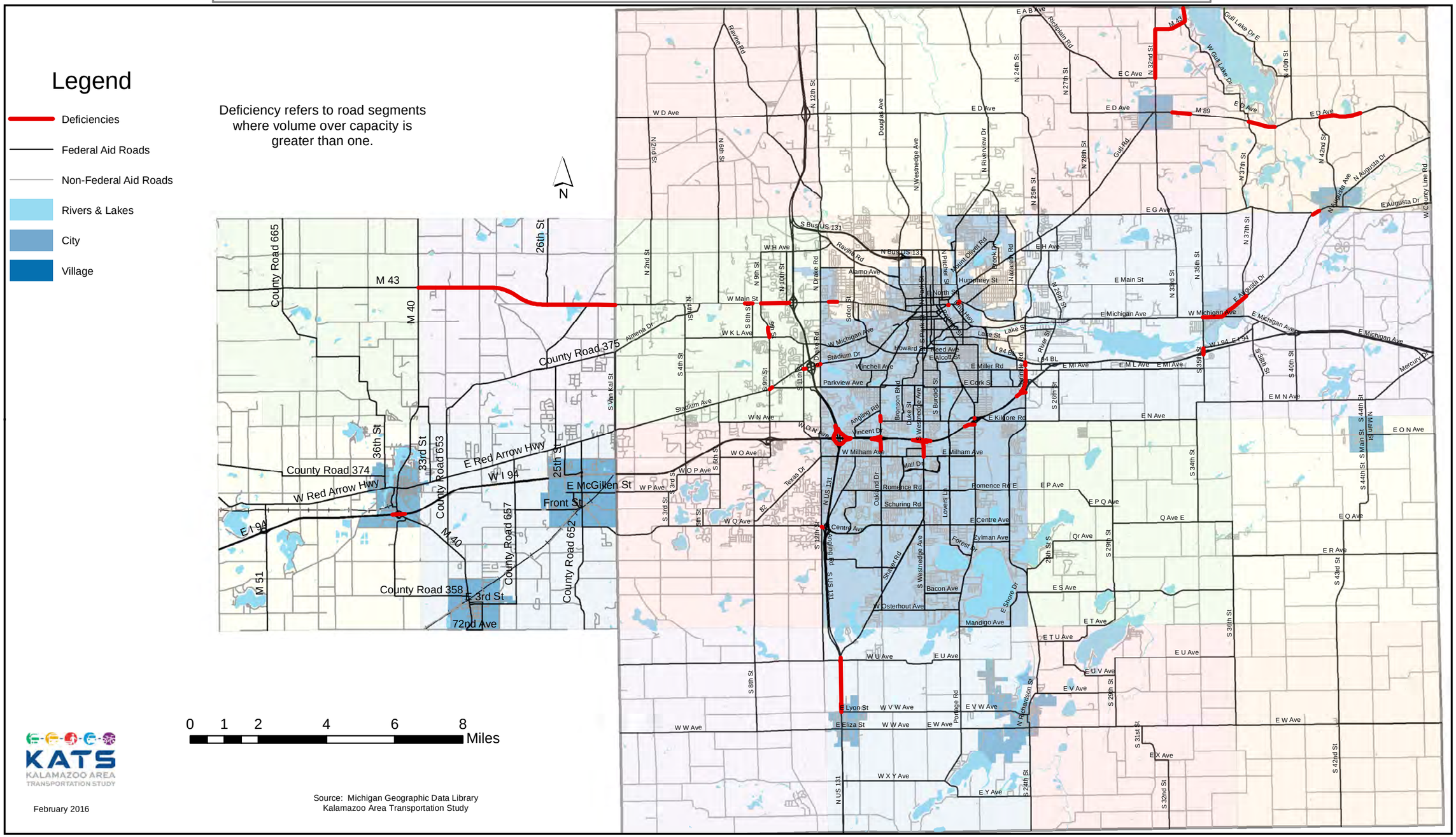
The majority of the segments showing capacity deficiencies are part of the trunkline system, since these roads generally have higher volumes. Because of the KATS's goal to emphasize preserving the system instead of adding to it, segments showing future volumes to capacities ratio greater than 1.00 will be the ones considered to be deficient for capacity in the 2045 Transportation Plan.

Many of the road segments that have future volume to capacity ratios greater than 1.0 are not included in the 2045 Metropolitan Transportation Plan proposed capacity project list. The following table includes capacity deficient road segments that following review were not included in the funded capacity projects. Reasons for not including these projects for added lanes include limited right-of-way, fronting property uses that make widening impractical, financial difficulties, and other community goals and values.

2045 Model Capacity Deficiencies

Road Name	Location	Proposed Action
D Avenue	From N US-131 Ramp to 12th St.	Transportation System Management, Access Management
M-43	From Mills St. to Michigan Ave.	Historic Structure, Transportation System Management
	From M-40 to VanKal Ave.	Transportation System Management, Access Management
	From 8th St. to US 131	Transportation System Management, Access Management
	From Sage to Northampton	Transportation System Management, Access Management
	E. C Avenue to North Kalamazoo County Line	Transportation System management, Access Management, Right-of-way Constraints
Howard Street	From Stadium Dr. to Van De Giessen	Transportation System Management, proposed near term intersection project
US 131	From Shaver Rd to VW Ave	Transportation System management, Access Management, Right-of-way Constraints
M-89	From Kimberly to 34th	Transportation System Management, Access Management
	From 37th to 38th	Transportation System Management, Access Management
	From 42nd to 44th	Transportation System Management, Access Management
M-96	From 35th St. to 37th St.	Transportation System Management, Access Management, Right-of-way Constraints
Sprinkle Road	From I-94 to I-94 BL	Transportation System Management, Access Management
Stadium Drive	From 9th St. to Parkview Ave.	Transportation System Management, Access Management
	From 11th St to US 131 Ramp	Transportation System Management, Access Management
	From US 131 Ramp to Drake Rd.	Transportation System Management, Access Management
Oakland Drive	From Kilgore Rd. to Skyler Rd.	Transportation System Management, Access Management, Right-of-way Constraints
	From I-94 to W. Milham Rd.	Transportation System Management, Access Management, Right-of-way Constraints
9th Street	From KL Ave to Buckham Wood	Transportation System Management
I-94 Ramps	From US131 to Sprinkle Road- multiple locations	Transportation System Management

2045 Network Deficiencies - Existing Plus Committed



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Road Condition Deficiencies

The Kalamazoo Area Transportation Study, in cooperation with the Michigan Department of Transportation, the Road Commission of Kalamazoo County, and the cities of Kalamazoo and Portage rate the surface condition of all federal-aid roads in Kalamazoo County over a two year period as part of the KATS pavement management system. The pavement management system used in Kalamazoo County is the PASER system 10. This system is being used throughout the State of Michigan and is maintained through the Michigan Department of Transportation Asset Management Council and Michigan Technology Institute. Deficiencies in the Road system are further discussed in Chapter 11 of this plan.

Public Transportation System Deficiencies

The identification of public transportation system deficiencies is accomplished differently than the identification of road system deficiencies. The public transportation system deficiencies can involve limitations in areas covered by public transportation service and more demand for service than the system can handle. Since the entire Metropolitan Planning area has public transportation service available through the combination of fixed route and its associated ADA service in the urban area and demand response service, no area in the MPO is excluded from public transportation.

Public market surveys and other public comment has identified the desire to increase the service levels provided. These desired increased service levels include:

- Adding service on Sundays.
- Increasing the hours of service to cover third shift workers or late night business.
- Linking rural areas to fixed route service.

The lack of these identified service level increases can be considered unmet needs or public transportation deficiencies. To address this need, Kalamazoo Metro Transit, in partnership with the Central County Transportation Authority and the Kalamazoo County Transportation Authority will begin Sunday and later hour service in 2016. A deficiency noted in the Public Transit Human Services Coordinated Plan to improve bus shelters is being addressed through a bus stop shelter replacement program and an adopt a shelter program. Current service levels of public transportation will be maintained under this plan.

Alternatives Analysis

KATS develops a forecast of population and employment to project the impact of growth on the transportation system using a travel demand model. The KAT's forecasts are based on existing master plans and current economic forecasts rather than a comprehensive regional growth management strategy. Through the process of developing future transportation alternatives, KATS solicited projects from local agencies to create a pool of proposed and illustrative projects. KATS then analyzed several combinations of these proposed projects and alternative modes of transportation. Through this process, four scenarios were chosen for further analysis and discussion.

Scenario 1: Existing plus Committed (EC) Projects

This scenario looks at the existing transportation system, along with those capacity projects with funding already committed. It can be looked at as a "status quo" alternative.

Scenario 2: EC- Constrained

This scenario is based on the financial realities of the Metropolitan Area, explained more in Chapter 11. This scenario includes only capacity changing projects that can be handled via regular maintenance or rehabilitation work without the need to move the curb (i.e. Road Diet).

Scenario 3: EC- Financially Unconstrained

This scenario represents a financially unconstrained look at the future transportation system. All proposed projects were included to create a "wish list" alternative.

Scenario 4: EC- Transit Emphasis

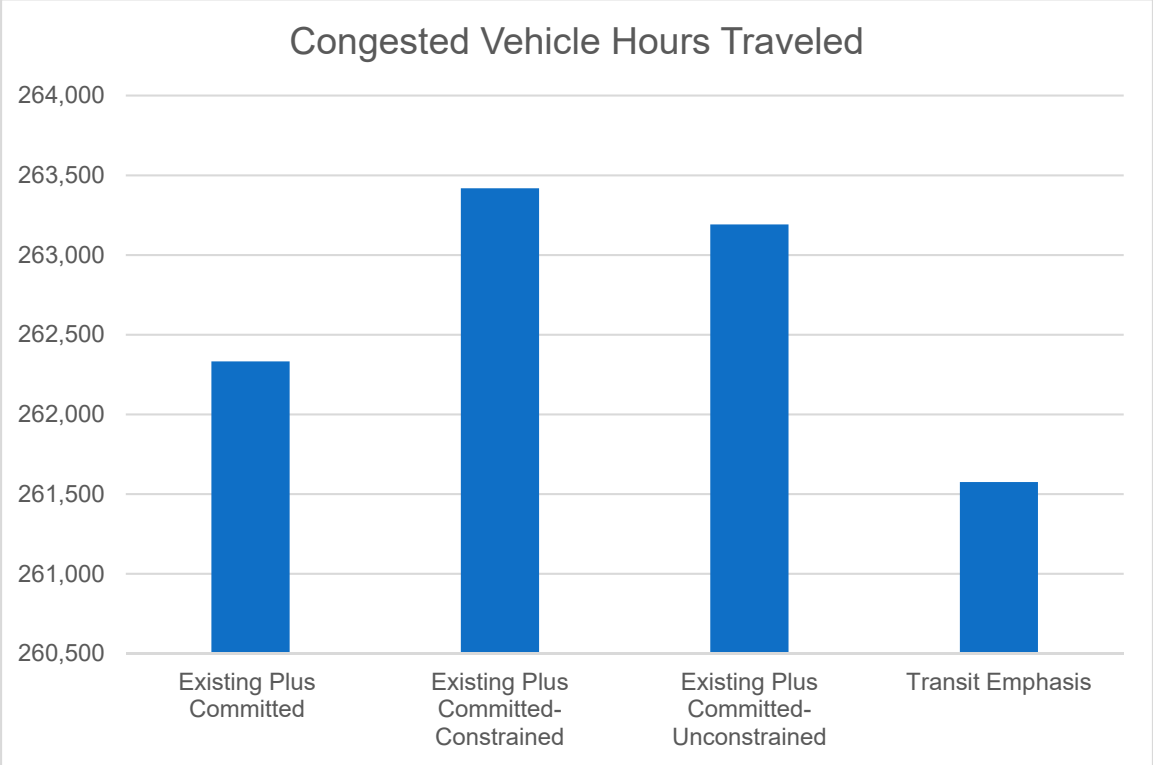
This scenario represents a financially unconstrained look at increased transit ridership. Through the travel demand model, KATS analyzed the impact on the roadway system if current transit ridership doubled over the life of the Metropolitan Transportation Plan. Since the cost of this scenario is nearly impossible to predict, due to the multiple factors that could lead to increased transit ridership (marketing, service expansion, fuel costs, etc.), it is an illustrative look at the impact transit ridership can have on the transportation system.

Outcomes

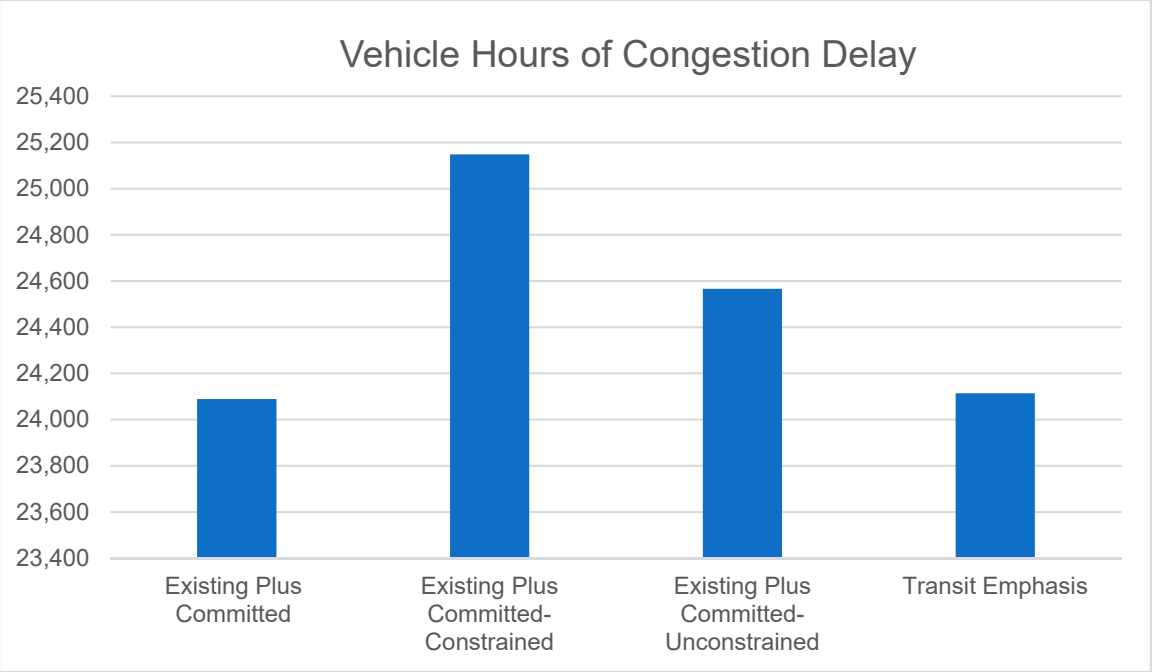
Looking at the four alternatives, the Transit Emphasis model has the most dramatic results. Since this alternative is an illustrative look, further study needs to be completed in future iterations of this plan to assess the cost needed to dramatically increase transit ridership.

The remaining three alternatives are very similar, with only a slight difference in Congested Vehicle Hours Traveled, Vehicle Hours of Congestion Delay, and total Vehicle Miles Traveled.

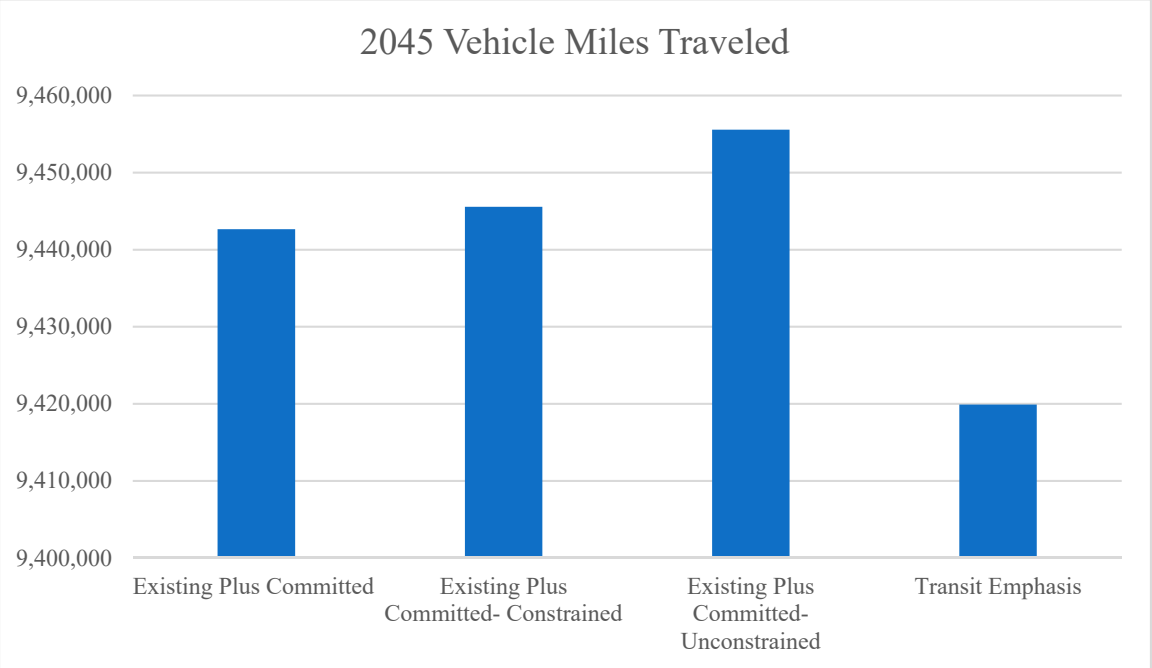
The chart below looks at the impacts of each of the scenarios on the vehicle hours traveled in congestion. The chart shows the impact of the Transit Emphasis scenario compared to the other three scenarios. However, the difference between the low and high numbers, 261,576 and 263,419 respectively, are still very small (less than 1%).



Another way to look at the scenarios is through the hours of congestion delay. This is where the constrained scenario shows limitations on its ability (due to lack of widening) at reducing delay. Once again, the difference between the scenarios is negligible, 24,089 and 25,149.



The overall Vehicle Miles Traveled (VMT) also shows very little difference between scenarios. As to be expected, the Transit Emphasis scenario shows the least total VMT for the 2045 model year. The difference between the lowest, Transit Emphasis 9,419,912, and the highest, Unconstrained 9,455,568, is still very minimal (less than 0.4%).



It is important to note the model does not reflect any change in the way people make their transportation choices. A strategic shift to invest in alternative modes of transportation such as transit and Non-Motorized would increase the attractiveness of those options by being more convenient. That would result in much higher utilization rates of non-single occupant vehicles and maximize the investment, as well as provide air quality benefits, preserve roadway condition, improve health through physical activity and many more benefits.

KATS will continue to investigate the potential impacts of different land use patterns to help in identifying and refining regional priorities and how to better incorporate those priorities into the Transportation Planning Process.

Due to the limited future impact between the proposed scenarios, the holistic need for additional capacity seems very limited when weighed against the financial shortfalls in maintaining the current system.

KATS Project Ranking Process

This scoring process was used to assist in the ranking of worthy roadway, public transportation, bicycle, pedestrian, freight and operational projects for the KATS 2045 Metropolitan Transportation Plan. This process provided a systematic approach to ranking the numerous projects submitted to KATS and assisted in the development of project scenarios

A numeric ranking for each project allows for a relative comparison between projects. This scoring process is meant to guide decision-making. Since the Metropolitan Transportation Plan does not directly assign funding to projects, this ranking is for planning purposes in developing the fiscally constrained and illustrative project lists.

Several criteria are evaluated in the scoring process. The first five criteria apply to all projects and provide a potential of 30 points. A project is then scored under the roadway or transit sections, all of which provide a potential for another 20 points for a total possible 50 points. A description of the criteria and the KATS 2045 Metropolitan Transportation Plan project scoring process follows.

Overall Criteria

There are five criteria that provide a potential of 30 points to each transportation project recommendation:

Environmental Justice

The environmental justice criterion addresses the possible transportation impacts on minority, elderly, low income, disabled and/or zero-car household populations. Impacts could include things such as effects on travel times, division of neighborhoods, and change in noise and/or air pollution, which may occur as a result of project implementation. Projects are awarded point values as follows:

Positive impact	5 points
No impact	0 points
Negative impact	-5 points

Economic Vitality

The economic vitality criterion awards points for projects that serve to support existing, expanding or new non-retail employment centers. Projects are awarded point values by demonstrating:

Significant positive impact for new/expanding economic activity	5 points
Support for existing economic activity	2 points
Projects not demonstrating a significant positive impact	0 points

Air Quality/Congestion

The air quality/congestion criterion relates to continued efforts to improve the region's air quality and encourage investment in more environmentally friendly forms of fuel use. Reduction in vehicle miles of travel (VMT), vehicle hours of travel (VHT), and the use of cleaner vehicles will be considered in the allocation of up to 10 points based on anticipated reduction of vehicle emissions. A maximum score of 10 points could be awarded for projects involving a location with high average daily traffic (ADT), a high percentage of trucks, high current congestion, and a potential for a large improvement in congestion due to project implementation. Examples of potential improvements include construction of a new roadway link reducing circuitous travel (VMT reduced) consistent with the KATS Congestion Management Process, additional intersection turn lanes (VHT reduced), addition of a new bus on an existing route reducing headway (VMT and VHT reduced), or the replacement of older diesel buses with new hybrid electric buses (cleaner vehicles). Projects are awarded point values as follows:

Significant VMT/VHT reduction and increase cleaner vehicles	10 points
Moderate VMT/VHT reduction and/or increase in cleaner vehicles	5 points
Low VMT/VHT reduction and/or increase in cleaner vehicles	1 point

Increase in VMT/VHT or decrease in clean vehicles	-5 points

Complete Streets/Multimodal/Intermodal

The complete streets/multimodal/intermodal criterion awards points based on the project's ability to include or enhance more than the primary mode or specifically address freight intermodal needs. If the proposed project facilitates intermodal integration and connectivity, or includes design elements for more than one transportation mode up to 5 points may be awarded. An example of multimodal integration as well as a complete street improvement would be a roadway reconstruction project that creates adequate space for bicycle use, even though a formal bike path is not part of the design. Another example would be a bus purchase by a transit operator where the specifications called for bicycle racks to be included. An example of multimodal investment is a roadway project that provides bus turnouts at designated bus stops, or a bus preemption feature in the traffic signal design. If a transit operator proposed a project for a park-and-ride lot/transfer center that included a linkage to an existing bike path and provided bike racks, the maximum of 5 points could be scored for this intermodal project. Projects are awarded point values as follows:

Three or more modes or intermodal freight project	5 points
Two mode design	3 points
Primary mode only included in project proposal	0 points

Environmental Impact

The environmental impact criterion addresses the impact transportation projects may have on environmentally sensitive areas. Input received through the environmental consultation process informs the score for this element. Up to five points are awarded. Projects are awarded point values as follows:

Project avoids environmentally sensitive area(s)	5 points
Any environmental impact(s) will be mitigated	3 points
Environmental impact(s) will not be mitigated	-5 points

Roadway Projects

There are four criteria that provide a potential of 20 points to each roadway-specific transportation project recommendation:

Impact on Safety

The scoring process also takes into consideration the extent to which the project will have a positive impact on improving the level of safety for roadway travelers. The impact on safety criterion ranges from one to five points and is based off the most recent five year average number of crashes per million vehicle miles traveled (MVMT) and the overall impact on safety. New facilities will be scored based on existing routes that the project is designed to alleviate, if any. Projects are awarded point values as follows:

Step 1

5 or more crashes per MVMT	2 points
4 or less crashes per MVMT	1 point

Step 2

High positive impact on improving safety	3 points
Medium or low positive impact on improving safety	2 points
No positive impact on improving safety	0 points

Average Daily Traffic (ADT)/Facility Type

The average daily traffic (ADT) or facility type criterion combines two features which are a barometer of a roadway's significance in the regional system. This combination allows for the consideration of both current volume and functional hierarchy. This combination permits the roadways with high volumes to be assigned a high score even if the facility is not high on the functional class system. ADT and functional class are both readily available data. High volume roadways on the interstate system will score highly (up to 5 points) and low volume local roads will be scored zero. Projects are awarded the highest point value of either data source as follows:

40k+ or Freeway/Expressway	5 points
30k+ or Principal Arterial	4 points
20k+ or Minor Arterial	3 points
10k+ or Collector	2 points
Less than 10k or Local	0 points

Preservation of the Transportation System

The extent to which the proposed project preserves the functional, structural, and operational integrity of the transportation network. Up to five points are awarded. Projects are awarded point values as follows:

Preservation Project with Operational Improvements	5 points
Preservation project only	3 points
Capacity project (as defined by the Interagency Workgroup)	1 point

Freight Volume

The freight volumes criterion provides points for roadway projects based on ***the current or projected*** percentage of truck traffic within the project area. Up to five points are awarded. Projects are awarded point values as follows:

Twelve percent truck traffic or greater	5 points
Nine percent to <12% truck traffic	4 points
Six percent to <9% truck traffic	3 points
Three percent to <6% truck traffic	2 points
One percent to <3% truck traffic	1 point
Less than 1% truck traffic	0 points

Transit Projects

There are four criteria that provide a potential of 20 points to each public transportation or transit-specific transportation project recommendation:

Type

The type of project being sought relates to the score assigned. The term “type” may include but not necessarily be limited to vehicle replacement, service support, fixed facilities such as park and ride, stations or bus barns and vehicle expansion. The range reflects the importance of maintaining and supporting the existing service, as opposed to expansion activities. Projects can receive up to 5 points in this category as follows:

Bus replacement	5 points
Service support	4 points
Fixed facility	3 points
Vehicle expansion	2 points
Other	1 point

Ridership Impact

An important component of transit projects is their ridership impact. Investments should be oriented to at least maintaining the existing ridership, if not increasing it. The point values assigned the different measures of this criterion echo this philosophy and are awarded as follows:

Increases ridership	5 points
Maintains ridership	0 points
Negative impact on ridership	-5 points

Safety/Security

The safety and security criterion awards points to projects that can be linked to improving safety conditions. The existing safety and security problem must be documented along with a plan to address these problems. Up to 5 points are available and are awarded as follows:

Essential to safety/security	5 points
Moderately impacts safety/security	3 points
No to minimal impact on safety/security	0 points
Decrease level of safety/security	-5 points

Timing and Analysis Level

The sooner a proposal can be put in place, the sooner its impact will be felt in the region. Improvements to, or expansion of the system, such as opening new transit hubs, that are anticipated to be implemented within ten years are awarded 5 points. Those projects anticipated to be implemented after ten years and are included in a local planning study or transit development plan are awarded three points. Those that are anticipated to be implemented after ten years and are not included in a local planning study or transit development plan are awarded zero points. The point values for timing and analysis level are summarized as follows:

Near term (<10 years)	5 points
Mid/long term and part of local plan (10+ years)	3 points
Mid/long term and not part of local plan (10+ years)	0 points

2045 Metropolitan Transportation Plan Constrained Project List

Score	Year	Project Type	Agency	Road	Limits	Description	Cost Year of Expenditure 1,000s
18	2016	Capacity	City of Kalamazoo	Kilgore Road	Kilgore Service Road to Sprinkle	Road resurfacing, road diet to connect future non-motorized facilities, and new sidewalk construction	$911
14	2016	Capacity	RCKC	E. Main Street	Wallace to Nazareth	Signal Safety Improvements with City of Kalamazoo	$1,005
22	2016	System Preservation	RCKC	9th Street	I-94 to Meridian	Mill/ HMA Overlay	$1,300
19	2016	System Preservation	RCKC	42nd Street	Y Avenue to W Avenue	Construct to an All Season Road	$980
18	2016	System Preservation	RCKC	U Avenue	Over Portage Creek	Bridge Rehabilitation	$700
18	2016	System Preservation	RCKC	W Avenue	Over Portage River	Bridge Preventative Maintenance	$220
18	2016	System Preservation	RCKC	D Avenue	Over Kalamazoo River	Bridge Preventative Maintenance	$150
18	2016	System Preservation	RCKC	East Michigan Avenue	Over Kalamazoo River	Bridge Rehabilitation	$580
18	2016	System Preservation	RCKC	Q Avenue	Over Portage River	Bridge Replacement	$805
18	2016	System Preservation	RCKC	S Avenue	Over Portage River	Bridge Replacement	$1,020
17	2016	System Preservation	MDOT	I-94	At East Michigan Avenue (40th Street)	JN 112614 -- Interchange reconfiguration with removal and replacement of the structure and maintenance of the traffic concepts	$11,100
16	2016	System Preservation	City of Kalamazoo	East Michigan	Riverview to Wallace	Road resurfacing, curb and gutter replacement, and striping for bike lanes. Coordinated with East Main safety project to improve intersection.	$875
11	2016	System Preservation	MDOT	I-94	At East Michigan Avenue (40th Street)	JN 118994 - Replace Bridge	$4,538
	2016	System Preservation	Local Agencies	Various	Various locations	System Preservation	$20,005
29	2016	Traffic Operations	City of Kalamazoo	Portage Road	Pitcher to Kilgore	Signal Interconnect and Upgrades	$1,063
16	2016	Traffic Operations	MDOT	Various Freeways	Kalamazoo County	JN 115839 -- Freeway Signing Upgrade	$2,461
Subtotal	2016	Road Projects					$47,713
21	2016	Public Transportation	Kalamazoo Metro Transit	Bus Shelters		Replace, rehabilitate and/or install up to 6 bus shelters for ADA compliance	$15
21	2016	Public Transportation	Kalamazoo Metro Transit	Community Ridesharing		Operating of Community Ridesharing Program	$46
21	2016	Public Transportation	Kalamazoo Metro Transit	Mobility Management		Mobility Management Program	$58

Score	Year	Project Type	Agency	Road	Limits	Description	Cost Year of Expenditure 1,000s
21	2016	Public Transportation	Kalamazoo Metro Transit	Operating Assistance - Rural		Operating Expenses - Demand Response Rural	$165
16	2016	Public Transportation	Kalamazoo Metro Transit	Transit Operations		Transit Operations - Fixed Route and Demand Response Urban	$16,520
11	2016	Public Transportation	Kalamazoo Metro Transit	Community Service Program		Community Service Program	$30
11	2016	Public Transportation	Kalamazoo Metro Transit	Community Service Van		Community Service Van Replacement	$40
11	2016	Public Transportation	Van Buren Transit	Facility Expansion			$150
11	2016	Public Transportation	Kalamazoo Metro Transit	Fixed Vehicle Replacements		Fixed Route Bus Replacements	$513
11	2016	Public Transportation	Kalamazoo Metro Transit	Vehicle Replacement		Up to 6 Demand Response Van Replacements	$127
9	2016	Public Transportation	Kalamazoo Metro Transit	Demand Response Vehicles		Up to 2 Demand Response Vehicles ($24,748 STL funds identified in 2014-2017 TIP = $30,926 Total); ($32,204 STU funds identified in 2014-2017 TIP = $40,255)	$71
9	2016	Public Transportation	Kalamazoo Metro Transit	Facility Renovations		Facility Renovations	$50
9	2016	Public Transportation	Kalamazoo Metro Transit	Security Maintenance and Upgrades		Facility Security Maintenance and Upgrades	$100
6	2016	Public Transportation	Kalamazoo Metro Transit	ITS Equipment		ITS Equipment Hardware, Software, and Licenses	$40
6	2016	Public Transportation	Kalamazoo Metro Transit	Vehicle		Maintenance/Staff Vehicle Replacement	$60
Subtotal	2016	Public Transportation Projects					$17,985
Total	2016	Road and Public Transportation Projects					$65,698
19	2017	System Preservation	RCKC	28th Street	South of E Avenue to D Avenue	Pulverize/ HMA overlay/ Construct to All Season	$900
19	2017	System Preservation	RCKC	Stadium Drive	9th Street to US-131	Reconstruct/Pulverize	$1,500
19	2017	System Preservation	RCKC	33rd Street	M-96 to G Avenue	Mill/ HMA Overlay	$550
19	2017	System Preservation	RCKC	42nd Street	Z Avenue to Y Avenue	Construct to an All Season Road	$980
19	2017	System Preservation	RCKC	N Avenue	Sprinkle Road to 26th Street	Mill/ HMA Overlay Roadside Improvement	$800
18	2017	System Preservation	City of Kalamazoo	Vine Street	Westnedge to Crosstown	Road resurfacing, bike lanes, and sharrows	$689
14	2017	System Preservation	City of Kalamazoo	Portage Road	Sheridan to Stockbridge	Road resurfacing, Non-Motorized connection from Miller to Phillips	$1,162
12	2017	System Preservation	MDOT	M-43	US-131 to Stadium; Pitcher to West Main	JN 123262 - Cold Milling and HMA resurfacing with ADA sidewalk ramps	$2,636

Score	Year	Project Type	Agency	Road	Limits	Description	Cost Year of Expenditure 1,000s
10	2017	System Preservation	MDOT	I-94	Near I-94/US-131 interchange	JN 122746 - Healer sealer, bridge crack sealing, resealing joints, and deck patching	$1,168
7	2017	System Preservation	MDOT	US-131 BR	I-94 BL to Kalamazoo north city limit	JN 127456 - Cold Milling and HMA One Course Overlay	$1,099
	2017	System Preservation	Local Agencies	Various	Various locations	System Preservation	$8,382
28	2017	Traffic Operations	City of Kalamazoo	Burdick Street	Alcott St to South St	Signal Interconnect and Upgrades	$504
28	2017	Traffic Operations	City of Kalamazoo	Drake Road	Grand Prairie to Croyden	Signal Interconnect and Upgrades	$496
19	2017	Traffic Operations	RCKC	Drake Road	At Grand Prairie	Traffic Signal Upgrade	$237
18	2017	Traffic Operations	MDOT	Various	Various locations in Kalamazoo County	JN 116716 - Wrong-way crash reduction improvements to ramp terminals (only partially in KATS area)	$183
13	2017	Traffic Operations	MDOT	M-40	At the intersection of 62nd St, 32nd St and CR 653	JN 124079 - Construct Roundabout	$1,400
Subtotal	2017	Road Projects					$22,686
21	2017	Public Transportation	Kalamazoo Metro Transit	Community Ridesharing		Operating of Community Ridesharing Program	$47
19	2017	Public Transportation	Kalamazoo Metro Transit	Mobility Management		Mobility Management Program	$58
16	2017	Public Transportation	Kalamazoo Metro Transit	Bus Shelters		Replace, rehabilitate and/or install up to 6 bus shelters for ADA compliance	$15
11	2017	Public Transportation	Kalamazoo Metro Transit	Community Service Program		Community Service Program	$30
11	2017	Public Transportation	Kalamazoo Metro Transit	Community Service Van		Community Service Van Replacement	$40
11	2017	Public Transportation	Kalamazoo Metro Transit	Demand Response Vehicles		Up to 7 Demand Response Vehicles ($64,690 STL funds identified in 2014-2017 TIP = $80,862 Total)	$81
11	2017	Public Transportation	Kalamazoo Metro Transit	Fixed Vehicle Replacements		Fixed Route Bus Replacements	$504
11	2017	Public Transportation	Kalamazoo Metro Transit	Operating Assistance - Rural		Operating Expenses - Demand Response Rural	$170
11	2017	Public Transportation	Kalamazoo Metro Transit	Vehicle Replacement		Up to 6 Demand Response Van Replacements	$127
9	2017	Public Transportation	Kalamazoo Metro Transit	Security Maintenance and Upgrades		Facility Security Maintenance and Upgrades	$50
9	2017	Public Transportation	Kalamazoo Metro Transit	Transit Operations		Transit Operations - Fixed Route and Demand Response Urban	$17,059
8	2017	Public Transportation	Kalamazoo Metro Transit	Facility Renovations		Facility Renovations	$50

Score	Year	Project Type	Agency	Road	Limits	Description	Cost Year of Expenditure 1,000s
6	2017	Public Transportation	Kalamazoo Metro Transit	ITS Equipment		ITS Equipment Hardware, Software, and Licenses	$200
Subtotal	2017	Public Transportation Projects					$18,431
Total	2017	Road and Public Transportation Projects					$41,117
23	2018	System Preservation	RCKC	KL Avenue	0.45 Mile West of Drake to Drake Road	Widen to 3 lanes/ HMA Overlay	$600
22	2018	System Preservation	RCKC	D Avenue	At Douglas Avenue	Intersection Improvement	$175
18	2018	System Preservation	RCKC	Almena Drive	820' East of Van Kal Avenue to M-43	Mill/ HMA Overlay	$525
18	2018	System Preservation	Portage	South Westnedge Avenue	Romence Road to Mall Drive	HMA mill and resurface with traffic signal improvements, and ADA sidewalk and transit upgrades (Bus shelters)	$1,027
18	2018	System Preservation	RCKC	28th Street	M-43 to F Avenue	Pulverize/ HMA Overlay/ Construct to All Season	$300
18	2018	System Preservation	RCKC	38th Street	O Avenue to MN Avenue	Pulverize/ HMA Overlay/ Construct to All Season	$700
17	2018	System Preservation	RCKC	North Burdick	Kalamazoo City Limit to Mosel Avenue	Reconstruct/ HMA Overlay	$250
17	2018	System Preservation	RCKC	Sprinkle Road	Milham Avenue to N Avenue	HMA Overlay/ Culvert	$1,250
17	2018	System Preservation	Portage	West Centre Avenue	12th Street to Oakland Drive	HMA mill and resurface, sidewalk upgrades and bike trail improvements. Traffic signal modernization and transit upgrades (Bus shelters/turnouts).	$2,000
17	2018	System Preservation	RCKC	12th Street	Q Avenue to Texas Drive	Mill/ HMA Overlay	$600
17	2018	System Preservation	RCKC	Grand Prairie	Drake Road to Nichols Road	Mill/ HMA Overlay/ Construct to All Season	$350
17	2018	System Preservation	MDOT	I-94 BL	At Howard Street	JN 101089 -- Reconstruct to install dual left turn lanes at the intersection	$8,506
15	2018	System Preservation	RCKC	Sprinkle Road	Centre to Milham	Mill/ HMA Overlay	$1,000
14	2018	System Preservation	MDOT	I-94 BL	East of Seneca to Michigan Avenue	JN 113129 - Resurface and Repair Roadway	$2,128
14	2018	System Preservation	City of Kalamazoo	Cork Street	Portage to Sprinkle	Road resurfacing, fill in sidewalk gaps	$1,671
13	2018	System Preservation	RCKC	Texas Drive	N/ E of 8th Street to 12th Street	Mill/ HMA Overlay/ Left Turn Lane	$750
	2018	System Preservation	Local Agencies	Various	Various locations	System Preservation	$710
29	2018	Traffic Operations	City of Kalamazoo	West Michigan & Howard St	11th Street to Howard, Valley to Crosstown	Signal Interconnect and Upgrades	$1,175

Score	Year	Project Type	Agency	Road	Limits	Description	Cost Year of Expenditure 1,000s
17	2018	Traffic Operations	MDOT	I-94 EB	Miller Road to 40th Street	JN 120543 - Widen and resurface outside shoulder	$1,550
8	2018	Traffic Operations	MDOT	M-96	at G Avenue	JN 120545 - Install right-turn lane	$205
Subtotal	2018	Road Projects					$25,472
21	2018	Public Transportation	Kalamazoo Metro Transit	Community Ridesharing		Operating of Community Ridesharing Program	$48
21	2018	Public Transportation	Kalamazoo Metro Transit	Mobility Management		Mobility Management Program	$59
16	2018	Public Transportation	Kalamazoo Metro Transit	Bus Shelters		Replace, rehabilitate and/or install up to 6 bus shelters for ADA compliance	$15
11	2018	Public Transportation	Kalamazoo Metro Transit	Community Service Program		Community Service Program	$30
11	2018	Public Transportation	Kalamazoo Metro Transit	Community Service Van		Community Service Van Replacement	$40
11	2018	Public Transportation	Kalamazoo Metro Transit	Fixed Vehicle Replacements		Fixed Route Bus Replacements	$899
11	2018	Public Transportation	Kalamazoo Metro Transit	Operating Assistance - Rural		Operating Expenses - Demand Response Rural	$170
11	2018	Public Transportation	Kalamazoo Metro Transit	Security Maintenance and Upgrades		Facility Security Maintenance and Upgrades	$150
11	2018	Public Transportation	Kalamazoo Metro Transit	Transit Operations		Transit Operations - Fixed Route and Demand Response Urban	$19,804
11	2018	Public Transportation	Kalamazoo Metro Transit	Vehicle Replacement		Up to 6 Demand Response Van Replacements	$131
8	2018	Public Transportation	Kalamazoo Metro Transit	Facility Renovations		Facility Renovations	$50
7	2018	Public Transportation	Kalamazoo Metro Transit	Hybrid Buses		Hybrid Bus Batteries	$255
6	2018	Public Transportation	Kalamazoo Metro Transit	ITS Equipment		ITS Equipment Hardware, Software, and Licenses	$200
Subtotal	2018	Public Transportation Projects					$21,849
Total	2018	Road and Public Transportation Projects					$47,321
18	2019	System Preservation	City of Kalamazoo	Portage Road	Stockbridge to Portage/Pitcher Connector	Road resurfacing, partial reconstruction, (include Portage/Pitcher connector - add 0.23 mile)	$1,811
18	2019	System Preservation	RCKC	Sprinkle Road	M-43 to G Avenue	Mill/ HMA Overlay	$850
18	2019	System Preservation	Portage	West Milham Avenue	South Westnedge Avenue to Oakland Drive	HMA mill and resurface on West Milham Avenue from South Westnedge Avenue to Oakland Drive, including ADA sidewalk improvements and traffic signalization upgrades	$2,700
18	2019	System Preservation	RCKC	H Avenue	26th Street to 26th Street	Mill/ HMA Overlay/ Drainage	$75
17	2019	System Preservation	RCKC	U Avenue	29th Street to 32nd Street	Pulverize/ HMA Overlay	$975

Score	Year	Project Type	Agency	Road	Limits	Description	Cost Year of Expenditure 1,000s
17	2019	System Preservation	RCKC	12th Street	Ravine Road to D Avenue	Pulverize / HMA overlay	$750
17	2019	System Preservation	RCKC	Nazareth Road	South of E. Main to M-43	Mill/ HMA Overlay/ Drainage	$450
17	2019	System Preservation	RCKC	Portage Road	XY Avenue to W Avenue	HMA Overlay	$600
17	2019	System Preservation	RCKC	Ravine Road	Drake Road to 12th Street	Reconstruct- Mill/ HMA Overlay	$650
17	2019	System Preservation	RCKC	Ravine Road	F Avenue to D Avenue	Reconstruct- Mill/ HMA Overlay	$1,400
17	2019	System Preservation	RCKC	Riverview Drive	G Avenue to Mt. Olivet	HMA Overlay/ Drainage	$410
14	2019	System Preservation	Portage	Meredith Street	Kilgore Road to Sprinkle Road	Project will consist of concrete white topping on Meredith Street from Kilgore Road to Sprinkle Road. Sidewalk upgrades to include widening and extensions to Kilgore Road on the west side of Meredith Street.	$230
13	2019	System Preservation	Van Buren County Road Commission	Red Arrow Highway	28 Street to 30th Street	Trench and widen to achieve a 3-lane section. mill 2" of existing HMA, install fabric, repave to achieve new section. Install C & G at intersections and upgrade access control at commercial drives. Tree removal/trimming and minor drainage corrections.	$925
9	2019	System Preservation	Portage	Romence Road	Oakland Drive to Constitution Blvd	Mill and resurface Romence Road from Oakland Drive to Constitution Boulevard. Bike path and sidewalk with ADA compliance improvements is included in this project.	$522
8	2019	System Preservation	Village of Mattawan	Murray	McGillen to Murray	Grind existing road and repave	$750
4	2019	System Preservation	MDOT	US-131	Over Amtrak and KL Avenue	122664 - Deck Replacement	$10,181
	2019	System Preservation	Local Agencies	Various	Various locations	System Preservation	$190
19	2019	Traffic Operations	RCKC	G Avenue	At Riverview Drive	Traffic Signal	$225
Subtotal	2019	Road Projects					$23,694
24	2019	Public Transportation	Kalamazoo Metro Transit	Mobility Management		Mobility Management Program	$61
21	2019	Public Transportation	Kalamazoo Metro Transit	Community Ridesharing		Operating of Community Ridesharing Program	$50
16	2019	Public Transportation	Kalamazoo Metro Transit	Bus Shelters		Replace, rehabilitate and/or install up to 6 bus shelters for ADA compliance	$15
11	2019	Public Transportation	Kalamazoo Metro Transit	Community Service Program		Community Service Program	$30

Score	Year	Project Type	Agency	Road	Limits	Description	Cost Year of Expenditure 1,000s
11	2019	Public Transportation	Kalamazoo Metro Transit	Community Service Van		Community Service Van Replacement	$40
11	2019	Public Transportation	Kalamazoo Metro Transit	Fixed Vehicle Replacements		Fixed Route Bus Replacements	$1,000
11	2019	Public Transportation	Kalamazoo Metro Transit	ITS Equipment		ITS Equipment Hardware, Software, and Licenses	$100
11	2019	Public Transportation	Kalamazoo Metro Transit	Operating Assistance - Rural		Operating Expenses - Demand Response Rural	$170
11	2019	Public Transportation	Kalamazoo Metro Transit	Security Maintenance and Upgrades		Facility Security Maintenance and Upgrades	$50
11	2019	Public Transportation	Kalamazoo Metro Transit	Vehicle Replacement		Up to 6 Demand Response Van Replacements	$135
9	2019	Public Transportation	Kalamazoo Metro Transit	Transit Operations		Transit Operations - Fixed Route and Demand Response Urban	$19,976
8	2019	Public Transportation	Kalamazoo Metro Transit	Facility Renovations		Facility Renovations	$50
Subtotal	2019	Public Transportation Projects					$21,677
Total	2019	Road and Public Transportation Projects					$45,371
13	2020	Capacity	MDOT	I-94	East of Lovers Lane to east of Portage Road	JN 105885 - Roadway reconstruction and widening and interchange reconstruction	$33,098
13	2020	Capacity	MDOT	I-94	East of Portage Road to west of Sprinkle	JN 105886 - Road reconstruction and widening and reconstruction and widening of 2 railroad bridges and a large culvert	$34,660
19	2020	System Preservation	Portage	South Westnedge Avenue	Shaver Road to Romence Road	This segment of South Westnedge Avenue is the commercial corridor in the City of Portage. Roadway resurfacing along with traffic signal, sidewalk infrastructure, and pedestrian crossing improvements.	$1,425
18	2020	System Preservation	City of Kalamazoo	Howard Street	Stadium to Oakland	Road resurfacing with installation of a 10 foot sidewalk	$500
15	2020	System Preservation	Portage	Shaver Road	Centre Avenue to South Westnedge Avenue	HMA mill and resurface on Shaver Road from West Centre Avenue to South Westnedge Avenue. Roadway improvements along with traffic signal improvements will enhance vehicular/ pedestrian safety at the intersections.	$468
15	2020	System Preservation	Portage	Centre Avenue	Portage Road to Sprinkle Road	HMA mill and resurface on Centre Avenue from Portage Road to Sprinkle Road	$1,271

Score	Year	Project Type	Agency	Road	Limits	Description	Cost Year of Expenditure 1,000s
15	2020	System Preservation	City of Kalamazoo	Oakland Drive	Parkview to Howard	Road resurfacing, fill in sidewalk gaps, and traffic signal conduit	$880
14	2020	System Preservation	Van Buren County Road Commission	CR 652	Red Arrow Highway to French Road	Trench and widen to complete 5 foot paved shoulders. Mill 2" of existing HMA and replace. Minor drainage corrections. C & G rehabilitation. All included work required to achieve the final section.	$275
8	2020	System Preservation	Village of Mattawan	Main Street	On Main Street from Creek Crossing to 100 feet north of	Sidewalk, storm sewer, add bike lanes, upgrade traffic light and village owned street lights, and grind and repave road	$2,050
3	2020	System Preservation	Village of Mattawan	Main Street	On Main Street from Creek Crossing to 100 feet north of	Replace Culvert, storm sewer, grind and repave road	$1,360
	2020	System Preservation	Local Agencies	Various	Various locations	System Preservation	$13,720
29	2020	Traffic Operations	City of Kalamazoo	S Drake Road	Parkview to KL Ave	Signal Interconnect and upgrades	$1,089
Subtotal	2020	Road Projects					$90,796
24	2020	Public Transportation	Kalamazoo Metro Transit	Mobility Management		Mobility Management Program	$63
21	2020	Public Transportation	Kalamazoo Metro Transit	Community Ridesharing		Operating of Community Ridesharing Program	$51
16	2020	Public Transportation	Kalamazoo Metro Transit	Bus Shelters		Replace, rehabilitate and/or install up to 6 bus shelters for ADA compliance	$15
14	2020	Public Transportation	Kalamazoo Metro Transit	Security Maintenance and Upgrades		Facility Security Maintenance and Upgrades	$50
12	2020	Public Transportation	Kalamazoo Metro Transit	Community Service Program		Community Service Program	$30
11	2020	Public Transportation	Kalamazoo Metro Transit	Fixed Vehicle Replacements		Fixed Route Bus Replacements	$1,000
11	2020	Public Transportation	Kalamazoo Metro Transit	ITS Equipment		ITS Equipment Hardware, Software, and Licenses	$100
11	2020	Public Transportation	Kalamazoo Metro Transit	Operating Assistance - Rural		Operating Expenses - Demand Response Rural	$170
11	2020	Public Transportation	Kalamazoo Metro Transit	Vehicle Replacement		Up to 6 Demand Response Van Replacements	$139
8	2020	Public Transportation	Kalamazoo Metro Transit	Facility Renovations		Facility Renovations	$50
7	2020	Public Transportation	Kalamazoo Metro Transit	Community Service Van		Community Service Van Replacement	$40
6	2020	Public Transportation	Kalamazoo Metro Transit	Transit Operations		Transit Operations - Fixed Route and Demand Response Urban	$20,753
Subtotal	2020	Public Transportation Projects					$22,461
Total	2020	Road and Public Transportation Projects					$113,257

Score	Year	Project Type	Agency	Road	Limits	Description	Cost Year of Expenditure 1,000s
23	2021-2025	Capacity	City of Kalamazoo	Howard Street	Gar Lane to W. Michigan	Installation of a Non-Motorized pathway/sidewalk from Gar Ln to W. Michigan Ave to be completed in conjunction with MDOT's construction of Stadium Drive.	$592
19	2021-2025	Capacity	City of Kalamazoo	Howard Street	Cross Town to Oakland	Road diet to convert 4 lanes to 3 lanes with the addition if a center median island to provide safe passage across Howard for Kalamazoo Magnet School	$925
18	2021-2025	Capacity	City of Kalamazoo	Gull Road	Ampersee to North	Road diet to convert 4 lanes to 3 lanes and add bike lanes	$629
16	2021-2025	Capacity	City of Kalamazoo	Whites Road	Parkview to Westnedge	Road diet to convert 4 lanes to 3 lanes and add bike lanes	$962
20	2021-2025	System Preservation	MDOT	I-94	Over Paw Paw River	JN 126902 - Articulating Concrete Block, Riprap, Slope Repair (one additional location, half of total project cost, located in rural area)	$3,043
17	2021-2025	System Preservation	Portage	Lovers Lane	East Centre Avenue to Romence Road	Mill and resurface Lovers Lane from East Centre Avenue to Romence Road. Pedestrian crossing improvements at Garden Lane to access multi-mode trail on the east side of Lovers Lane.	$1,407
14	2021-2025	System Preservation	Portage	Milham Avenue	South Westnedge Avenue to Portage Road	Mill and resurface of East Milham Avenue from South Westnedge Avenue to Portage Road, including ADA sidewalk improvements	$2,664
14	2021-2025	System Preservation	Portage	Oakland Drive	Centre Avenue to Romence Road	Mill and resurface, ADA sidewalk and dedicated bike lane improvements from West Centre Avenue to Romence Road	$1,406
14	2021-2025	System Preservation	Portage	South Westnedge Avenue	Osterhout Avenue to South Shore Drive	Mill and resurface on South Westnedge Avenue from Osterhout Avenue to South Shore Drive including ADA sidewalk and bike lane improvements	$1,243
12	2021-2025	System Preservation	Portage	Oakland Drive	Romence Road to Milham Avenue	Mill and resurface, ADA sidewalk and dedicated bike lane improvements from Romence Road to Milham Avenue. The Northwest Portage Bikeway Trail crossing on this corridor will be enhanced for all users.	$1,576

Score	Year	Project Type	Agency	Road	Limits	Description	Cost Year of Expenditure 1,000s
9	2021-2025	System Preservation	Van Buren County Road Commission	Red Arrow Highway	CR 671 to 46 1/2 Street	Trench and widen, mill existing HMA surface 2", install fabric and overlay 2" to achieve 34 foot paved surface with shoulders. Some tree removals and trimming. Minor drainage corrections. Slope modifications and all associated work.	$1,347
8	2021-2025	System Preservation	Village of Mattawan	Main Street	On Main Street I- 94 right of way to the north village limits	Sidewalk, storm sewer, add bike lanes, village owned street lights, grind and repave road	$3,109
6	2021-2025	System Preservation	Van Buren County Road Commission	Red Arrow Highway	39th Street to CR 671	Trench and widen, mill existing HMA surface 2", install fabric and overlay 2" to achieve 34 foot paved surface with shoulders. Some tree removals and trimming. Minor drainage corrections. Slope modifications and all associated work required to achieve the final section.	$1,924
4	2021-2025	System Preservation	Van Buren County Road Commission	CR 653	Red Arrow Highway to M 40	Trench and widen and overlay to achieve 28 foot paved surface with shoulders. Some tree removals and trimming. Minor drainage corrections. Slope modifications and all associated work required to achieve the final section.	$1,924
	2021-2025	System Preservation	Local Agencies	Various	Various Locations	System Preservation	$138,620
28	2021-2025	Traffic Operations	RCKC	9th Street	Beatrice Drive to Seeco Drive	Signal Interconnect and upgrades throughout the corridor	$829
28	2021-2025	Traffic Operations	RCKC	Sprinkle Road	G Ave to Zylman	Signal Interconnect and upgrades throughout the corridor	$1,791
28	2021-2025	Traffic Operations	RCKC	Stadium Drive	11th Street to 4th Street	Signal Interconnect and upgrades throughout the corridor	$859
27	2021-2025	Traffic Operations	RCKC	35th Street	Miller Road to M-96	Signal Interconnect and upgrades throughout the corridor	$851
27	2021-2025	Traffic Operations	City of Kalamazoo	Miller Rd	River Street to Portage Rd	Signal Interconnect and upgrades	$1,665
27	2021-2025	Traffic Operations	RCKC	Miller Road	At River Street	Replacement of Traffic Signal	$222
27	2021-2025	Traffic Operations	RCKC	Mosel Avenue	Douglas to Riverview	Signal Interconnect and upgrades throughout the corridor	$1,266
25	2021-2025	Traffic Operations	City of Kalamazoo	Oakland Drive	Kilgore to Lovell	Signal Interconnect and Upgrades	$1,081

Score	Year	Project Type	Agency	Road	Limits	Description	Cost Year of Expenditure 1,000s
24	2021-2025	Traffic Operations	City of Kalamazoo	Douglas St	North St to Patterson St	Signal Interconnect and Upgrades	$355
10	2021-2025	Traffic Operations	MDOT	I-94	EB at MM 83 and WB at MM 82	JN 127501 - Construct Emergency/Crash Investigation Sites	$1,263
Subtotal	2021-2025	Road Projects					$171,553
21	2021-2025	Public Transportation	Kalamazoo Metro Transit	Community Ridesharing		Operating of Community Ridesharing Program	$290
21	2021-2025	Public Transportation	Kalamazoo Metro Transit	Mobility Management		Mobility Management Program	$355
16	2021-2025	Public Transportation	Kalamazoo Metro Transit	Bus Shelters		Replace, rehabilitate and/or install up to 6 bus shelters for ADA compliance	$84
13	2021-2025	Public Transportation	Kalamazoo Metro Transit	Fixed Route Vehicle Expansion		Expansion of Fixed Route Bus Fleet	$3,331
11	2021-2025	Public Transportation	Kalamazoo Metro Transit	Community Service Program		Community Service Program	$169
11	2021-2025	Public Transportation	Kalamazoo Metro Transit	Community Service Van		Community Service Van Replacement	$225
11	2021-2025	Public Transportation	Kalamazoo Metro Transit	Fixed Vehicle Replacements		Fixed Route Bus Replacements	$5,633
11	2021-2025	Public Transportation	Kalamazoo Metro Transit	ITS Equipment		ITS Equipment Hardware, Software, and Licenses	$563
11	2021-2025	Public Transportation	Kalamazoo Metro Transit	Operating Assistance - Rural		Operating Expenses - Demand Response Rural	$958
11	2021-2025	Public Transportation	Kalamazoo Metro Transit	Security Maintenance and Upgrades		Facility Security Maintenance and Upgrades	$282
11	2021-2025	Public Transportation	Kalamazoo Metro Transit	Vehicle Replacement		Up to 6 Demand Response Van Replacements	$781
9	2021-2025	Public Transportation	Kalamazoo Metro Transit	Hybrid Buses		Hybrid Bus Batteries	$377
9	2021-2025	Public Transportation	Kalamazoo Metro Transit	Transit Operations		Transit Operations - Fixed Route and Demand Response Urban	$112,354
8	2021-2025	Public Transportation	Kalamazoo Metro Transit	Facility Renovations		Facility Renovations	$282
6	2021-2025	Public Transportation	Kalamazoo Metro Transit	Vehicle		Maintenance/Staff Vehicle Replacement	$89
Subtotal	2021-2025	Public Transportation Projects					$125,773
Total	2021-2025	Road and Public Transportation Projects					$297,326
15	2026-2030	Capacity	City of Kalamazoo	Portage Street	Pitcher to Michigan	Road diet to convert 4 lanes to 3 lanes and add bike lanes	$468
14	2026-2030	Capacity	City of Kalamazoo	Paterson Street	Riverview to Porter	Road diet to convert 4 lanes to 3 lanes and add bike lanes	$540

Score	Year	Project Type	Agency	Road	Limits	Description	Cost Year of Expenditure 1,000s
1	2026-2030	Capacity	Village of Mattawan	East McGillen	Main Street to east village limits	Add roughly 700 feet of 3rd lane add 200 feet of right turn lane, 4400 feet of bike path, grind existing pavement and repave	$4,340
9	2026-2030	System Preservation	Village of Mattawan	Front Ave	Main Street to west village limits	Grind existing road add a bike path, minor drainage and repave	$4,142
7	2026-2030	System Preservation	Van Buren County Road Commission	CR 375	CR 653 North (Almena) to Van Kal Avenue (22nd Street)	Trench and widen, overlay1.75" to achieve 34 foot paved surface with shoulders. Some tree removals and trimming. Minor drainage corrections. Slope modifications and all associated work required.	$1,261
7	2026-2030	System Preservation	Van Buren County Road Commission	CR 653	Red Arrow Highway to CR 653 North (Almena)	Trench and widen, overlay1.75" to achieve 34 foot paved surface with shoulders. Some tree removals and trimming. Minor drainage corrections. Slope modifications and all associated work required.	$1,486
7	2026-2030	System Preservation	Village of Mattawan	French Ave	Main Street to east village limits	Grind existing road add a bike path, minor drainage and repave	$3,800
7	2026-2030	System Preservation	Village of Mattawan	French Ave	Main Street to west village limits	Grind existing road add a bike path, minor drainage and repave	$3,962
	2026-2030	System Preservation	Local Agencies	Various	Various Locations	System Preservation	$125,421
26	2026-2030	Traffic Operations	City of Kalamazoo	Rose St	Crosstown to Patterson	Signal Interconnect and Upgrades	$1,981
25	2026-2030	Traffic Operations	City of Kalamazoo	Burdick Street	At Reed Street	Replace Traffic Signal	$180
25	2026-2030	Traffic Operations	City of Kalamazoo	Patterson St	Riverview to Douglas	Signal Interconnect and Upgrades	$1,027
Subtotal	2026-2030	Road Projects					$148,608
19	2026-2030	Public Transportation	Kalamazoo Metro Transit	Bus Shelters		Replace, rehabilitate and/or install up to 6 bus shelters for ADA compliance	$103
19	2026-2030	Public Transportation	Kalamazoo Metro Transit	Community Ridesharing		Operating of Community Ridesharing Program	$352
16	2026-2030	Public Transportation	Kalamazoo Metro Transit	Fixed Route Vehicle Expansion		Expansion of Fixed Rroute Bus Fleet	$4,052
16	2026-2030	Public Transportation	Kalamazoo Metro Transit	Mobility Management		Mobility Management Program	$432
6	2026-2030	Public Transportation	Kalamazoo Metro Transit	Community Service Program		Community Service Program	$206
6	2026-2030	Public Transportation	Kalamazoo Metro Transit	Community Service Van		Community Service Van Replacement	$274

Score	Year	Project Type	Agency	Road	Limits	Description	Cost Year of Expenditure 1,000s
6	2026-2030	Public Transportation	Kalamazoo Metro Transit	Fixed Vehicle Replacements		Fixed Route Bus Replacements	$6,853
6	2026-2030	Public Transportation	Kalamazoo Metro Transit	ITS Equipment		ITS Equipment Hardware, Software, and Licenses	$685
6	2026-2030	Public Transportation	Kalamazoo Metro Transit	Operating Assistance - Rural		Operating Expenses - Demand Response Rural	$1,165
6	2026-2030	Public Transportation	Kalamazoo Metro Transit	Security Maintenance and Upgrades		Facility Security Maintenance and Upgrades	$343
6	2026-2030	Public Transportation	Kalamazoo Metro Transit	Vehicle Replacement		Up to 6 Demand Response Van Replacements	$950
4	2026-2030	Public Transportation	Kalamazoo Metro Transit	Transit Operations		Transit Operations - Fixed Route and Demand Response Urban	$135,724
3	2026-2030	Public Transportation	Kalamazoo Metro Transit	Facility Renovations		Facility Renovations	$343
2	2026-2030	Public Transportation	Kalamazoo Metro Transit	Hybrid Buses		Hybrid Bus Batteries	$459
Subtotal	2026-2030	Public Transportation Projects					$151,941
Total	2026-2030	Road and Public Transportation Projects					$300,549
9	2031-2035	System Preservation	Village of Mattawan	Robinson	Main to east limit	Grind existing road, raise the first 80 feet with roughly 10 feet of fill, add retaining wall to south east corner of intersection for sight distance and add 12-ft bike lane repave	$5,040
9	2031-2035	System Preservation	Village of Mattawan	Main	Kinne to Robinson	Grind existing road and add 12-ft bike lane repave	$2,629
Subtotal	2031-2035	System Preservation	Local Agencies	Various	Various locations	System Preservation	$153,814
24	2031-2035	Traffic Operations	City of Kalamazoo	Burdick Street	North Street	Replacement of the traffic signal at Burdick and North Street	$329
Subtotal	2031-2035	Road Projects					$161,812
16	2031-2035	Public Transportation	Kalamazoo Metro Transit	Mobility Management		Mobility Management Program	$525
14	2031-2035	Public Transportation	Kalamazoo Metro Transit	Community Ridesharing		Operating of Community Ridesharing Program	$429
11	2031-2035	Public Transportation	Kalamazoo Metro Transit	Bus Shelters		Replace, rehabilitate and/or install up to 6 bus shelters for ADA compliance	$125
6	2031-2035	Public Transportation	Kalamazoo Metro Transit	Community Service Van		Community Service Van Replacement	$334
6	2031-2035	Public Transportation	Kalamazoo Metro Transit	Fixed Vehicle Replacements		Fixed Route Bus Replacements	$8,338
6	2031-2035	Public Transportation	Kalamazoo Metro Transit	ITS Equipment		ITS Equipment Hardware, Software, and Licenses	$834
6	2031-2035	Public Transportation	Kalamazoo Metro Transit	Operating Assistance - Rural		Operating Expenses - Demand Response Rural	$1,417

Score	Year	Project Type	Agency	Road	Limits	Description	Cost Year of Expenditure 1,000s
6	2031-2035	Public Transportation	Kalamazoo Metro Transit	Security Maintenance and Upgrades		Facility Security Maintenance and Upgrades	$417
6	2031-2035	Public Transportation	Kalamazoo Metro Transit	Vehicle Replacement		Up to 6 Demand Response Van Replacements	$1,156
4	2031-2035	Public Transportation	Kalamazoo Metro Transit	Community Service Program		Community Service Program	$250
4	2031-2035	Public Transportation	Kalamazoo Metro Transit	Transit Operations		Transit Operations - Fixed Route and Demand Response Urban	$167,771
3	2031-2035	Public Transportation	Kalamazoo Metro Transit	Facility Renovations		Facility Renovations/Rehabilitation	$417
2	2031-2035	Public Transportation	Kalamazoo Metro Transit	Hybrid Buses		Hybrid Bus Batteries	$559
1	2031-2035	Public Transportation	Kalamazoo Metro Transit	Vehicle		Maintenance/Staff Vehicle Replacement	$131
Subtotal	2031-2035	Public Transportation Projects					$182,703
Total	2031-2035	Road and Public Transportation Projects					$344,515
	2036-2040	System Preservation	Local Agencies	Various	Various locations	System Preservation	$186,870
Subtotal	2036-2040	Road Projects					$186,870
19	2036-2040	Public Transportation	Kalamazoo Metro Transit	Community Ridesharing		Operating of Community Ridesharing Program	$522
16	2036-2040	Public Transportation	Kalamazoo Metro Transit	Mobility Management		Mobility Management Program	$639
14	2036-2040	Public Transportation	Kalamazoo Metro Transit	Bus Shelters		Replace, rehabilitate and/or install up to 6 bus shelters for ADA compliance	$152
6	2036-2040	Public Transportation	Kalamazoo Metro Transit	Community Service Program		Community Service Program	$304
6	2036-2040	Public Transportation	Kalamazoo Metro Transit	Community Service Van		Community Service Van Replacement	$406
6	2036-2040	Public Transportation	Kalamazoo Metro Transit	Fixed Vehicle Replacements		Fixed route bus replacements	$10,145
6	2036-2040	Public Transportation	Kalamazoo Metro Transit	ITS Equipment		ITS Equipment Hardware, Software, and Licenses	$1,014
6	2036-2040	Public Transportation	Kalamazoo Metro Transit	Operating Assistance - Rural		Operating Expenses - Demand Response Rural	$1,725
6	2036-2040	Public Transportation	Kalamazoo Metro Transit	Security Maintenance and Upgrades		Facility Security Maintenance and Upgrades	$507
4	2036-2040	Public Transportation	Kalamazoo Metro Transit	Transit Operations		Transit Operations - Fixed Route and Demand Response Urban	$202,040
3	2036-2040	Public Transportation	Kalamazoo Metro Transit	Facility Renovations		Facility renovations	$507
2	2036-2040	Public Transportation	Kalamazoo Metro Transit	Hybrid Buses		Hybrid Bus Batteries	$680

Score	Year	Project Type	Agency	Road	Limits	Description	Cost Year of Expenditure 1,000s
6	2036-2040	Public Transportation	Kalamazoo Metro Transit	Vehicle Replacement		Up to 6 Demand Response Van Replacements	$1,406
Subtotal	2036-2040	Public Transportation					$220,047
Total	2036-2040	Road and Public Transportation Projects					$406,917
	2041-2045	System Preservation	Local Agencies	Various	Various locations	System Preservation	$214,241
Subtotal	2041-2045	Road Projects					$214,241
19	2041-2045	Public Transportation	Kalamazoo Metro Transit	Community Ridesharing		Operating of Community Ridesharing Program	$635
16	2041-2045	Public Transportation	Kalamazoo Metro Transit	Mobility Management		Mobility Management Program	$777
15	2041-2045	Public Transportation	Kalamazoo Metro Transit	Bus Shelters		Replace, rehabilitate and/or install up to 6 bus shelters for ADA compliance	$185
11	2041-2045	Public Transportation	Kalamazoo Metro Transit	Operating Assistance - Rural		Operating Expenses - Demand Response Rural	$2,098
6	2041-2045	Public Transportation	Kalamazoo Metro Transit	Community Service Program		Community Service Program	$370
6	2041-2045	Public Transportation	Kalamazoo Metro Transit	Community Service Van		Community Service Van Replacement	$494
6	2041-2045	Public Transportation	Kalamazoo Metro Transit	Fixed Vehicle Replacements		Fixed Route Bus Replacements	$12,343
6	2041-2045	Public Transportation	Kalamazoo Metro Transit	ITS Equipment		ITS Equipment Hardware, Software, and Licenses	$1,234
6	2041-2045	Public Transportation	Kalamazoo Metro Transit	Security Maintenance and Upgrades		Facility Security Maintenance and Upgrades	$617
6	2041-2045	Public Transportation	Kalamazoo Metro Transit	Vehicle Replacement		Up to 6 Demand Response Van Replacements	$1,710
4	2041-2045	Public Transportation	Kalamazoo Metro Transit	Transit Operations		Transit Operations - Fixed Route and Demand Response Urban	$244,432
3	2041-2045	Public Transportation	Kalamazoo Metro Transit	Facility Renovations		Facility Renovations	$617
2	2041-2045	Public Transportation	Kalamazoo Metro Transit	Hybrid Buses		Hybrid Bus Batteries	$827
1	2041-2045	Public Transportation	Kalamazoo Metro Transit	Vehicle		Maintenance/Staff Vehicle Replacement	$195
Subtotal	2041-2045	Public Transportation Projects					$266,534
Total	2041-2045	Road and Public Transportation Projects					$480,775
						Grand Total	$2,142,846

Chapter 11: Unfunded Transportation Needs

Introduction

To date, KATS long-range needs analyses have focused mainly on current and projected capacity shortfalls rather than on what would be necessary to maintain or improve existing assets. The road network constitutes the largest single physical part of the area transportation system and is where condition information and asset management tools are most robust. Specifically, the ubiquity of the use of the PASER road condition rating system and Roadsoft asset management software across all KATS member road agencies made assembling the data for road needs analysis likely to be easier than for other aspects of the transportation system.

While the software and data exist, it is still not a simple matter to determine needs across a system with the diversity of road types and jurisdictions encompassed by the KATS area. Agencies with road responsibilities within the KATS MPO area include the State of Michigan, two county road commissions, and 10 cities/villages, all of which are distributed among 20 townships. Road types range from rural gravel roads carrying mainly agriculture-related traffic to concrete paved freeways serving upwards of 70,000 vehicles per day, a high percentage of them commercial. Along with the wide variety of roads, each agency has its own preferred maintenance and improvement methods. Given these conditions, an in-depth analysis and optimization was not attempted. Rather, a high-level view of the system, using few fix types was employed to obtain results that should reflect the order of magnitude of the area's road needs.

Assumptions

"Unmet needs" is a broad term with no single definition to offer guidance for analysis. What conditions constitute the "need" in question? For instance, should all roads be brought to and maintained in like-new condition? Should they simply be passable? Both questions relate to extreme ends of the needs spectrum. Fortunately, the PASER system ratings numbers correlate to real-world conditions, which enables the meaningful setting of goals. The use of Roadsoft's optimization algorithms help to further refine them.

PASER is the most widely used system in the State of Michigan to rate roads for asset management purposes. It uses surface condition features to rate road segments on a scale from 1 to 10. Roads rated from 1 to 4 are in the "poor" category and are considered past their useful life and in need of complete reconstruction. Those rated 5 to 7 are in the "fair" category and considered candidates for rehabilitation, generally milling/resurfacing or structural overlay. Those rated 8 to 10 are in the "good" category and are candidates for preventive maintenance, which typically consists of crack filling, seal coat or chip seal. One of the major goals of most asset management plans is to perform as much preventive maintenance as possible to prevent "good" roads from becoming "fair", as the costs for doing so are substantially lower than performing rehabilitation or reconstruction. It is logical, then, to set an average PASER rating of 8 as a tall goal for the 10 year window of the analysis. It also seemed reasonable to set a lower goal of an average PASER rating of 6, the value representing the middle of the "fair" range.

Methodology

Determining Costs for Roadsoft Treatment Definitions

The use of Roadsoft to model costs requires that treatments and their unit prices be assigned to pavement types and subtypes. Unit costs per square yard are entered for pavements and shoulders for each treatment. The program then uses those numbers to calculate a cost per lane mile, which is considered by the program to be half of the width as defined in the pavement subtype. The KATS Roadsoft database contains pavement treatment definitions shared by member jurisdictions. For the asphalt pavement type, there are five subtypes. Each subtype contains 63 preventive maintenance, 46 rehabilitation and 39 reconstruction treatment definitions and respective costs. Because the exercise was not intended to be in-depth and in order to keep the work relatively simple, it was decided to determine

one representative treatment/cost each for preventative maintenance, rehabilitation and reconstruction, and to limit the analysis to asphalt pavements, which make up the vast majority of the network.

Using the Michigan Engineering Resource Library's (MERL) Average Unit Price (AUP) database, costs per square yard for Preventative Maintenance, various intensities of Rehabilitation and various depths of Reconstruction were calculated.

Costs were then assigned appropriately to each National Functional Class (NFC) of roadway. Weighted costs for each NFC class were obtained by multiplying the total mileage of that class in the KATS MPO area by an assumed number of lanes and assumed lane width, then multiplying the resulting product by the assigned unit cost and percentage of total area represented by that class. Weighted costs for each NFC class were then summed to obtain a reasonable representative cost to be applied in a Roadsoft treatment definition for the entire region.

Results were checked against treatment definitions used by KATS member agencies for similar work to see if they were appropriate. Calculated unit prices were very close to the Roadsoft users' averages for each subtype. Costs calculated did not include replacement/ installation of driveways and sidewalk, curb and gutter or slope restoration as the recording of quantities and/or conditions of those items is not uniform so there is no reliable measure of their needs. An example of the calculation methodology to determine treatment costs can be found in Appendix C.

Roadsoft Optimization

Once treatment costs were obtained they were entered into the Roadsoft treatment definition database to be used by the program's optimization tool. A filter was created to include the predominant pavement subtypes for all asphalt surfaced roadways of every jurisdiction in the KATS MPO area. The optimization tool was used to run scenarios given budgets of $5M per year and $10M to $100M per year in increments of $10M. A final set of optimizations were run, increasing the yearly budget until the system would spend no more in year one, in order to determine the cost of upgrading all roads in the KATS area to a minimum PASER rating of 8 in one year. The maximum amount utilized by the program to perform all needed work in one year was slightly over $339M.

Results

Data and Graphs

For each budget scenario, Roadsoft applied the treatments to maximize Remaining Service Life (RSL) per year for ten years. Separated by pavement subtype, output was given as lane miles and cost of work performed for each work type (reconstruction, rehabilitation, preventive maintenance), and resulting average RSL, resulting lane miles of each PASER rating, and resulting lane miles of each RSL value. Data for each optimization run were exported as comma separated value files, then imported into Excel and converted to workbook files.

Three pavement subtypes predominate the asphalt pavement category, making up all but 0.68 lane miles, so the optimization runs were filtered to include only those three. The separate results for each subtype were combined and compiled into one matrix for each budget amount. First, individual subtype PASER information was compiled and average ratings calculated for each year. Then the individual subtype cost, average RSL and average PASER ratings calculations were combined to summarize yearly results for the Asphalt surface type. These operations were performed for each budget scenario. Results were compiled and the data were graphed to determine trends and costs at desired rating points.

Due to size, the Roadsoft data export and Excel spreadsheets used to calculated and summarize data are not included in the 2045 Metropolitan Transportation Plan. This information is available upon request by contacting the Kalamazoo Area Transportation Study at info@katmspo.org or 269-343-0766.

Chart: Average Paser Rating per Year at Various Rates of Investment

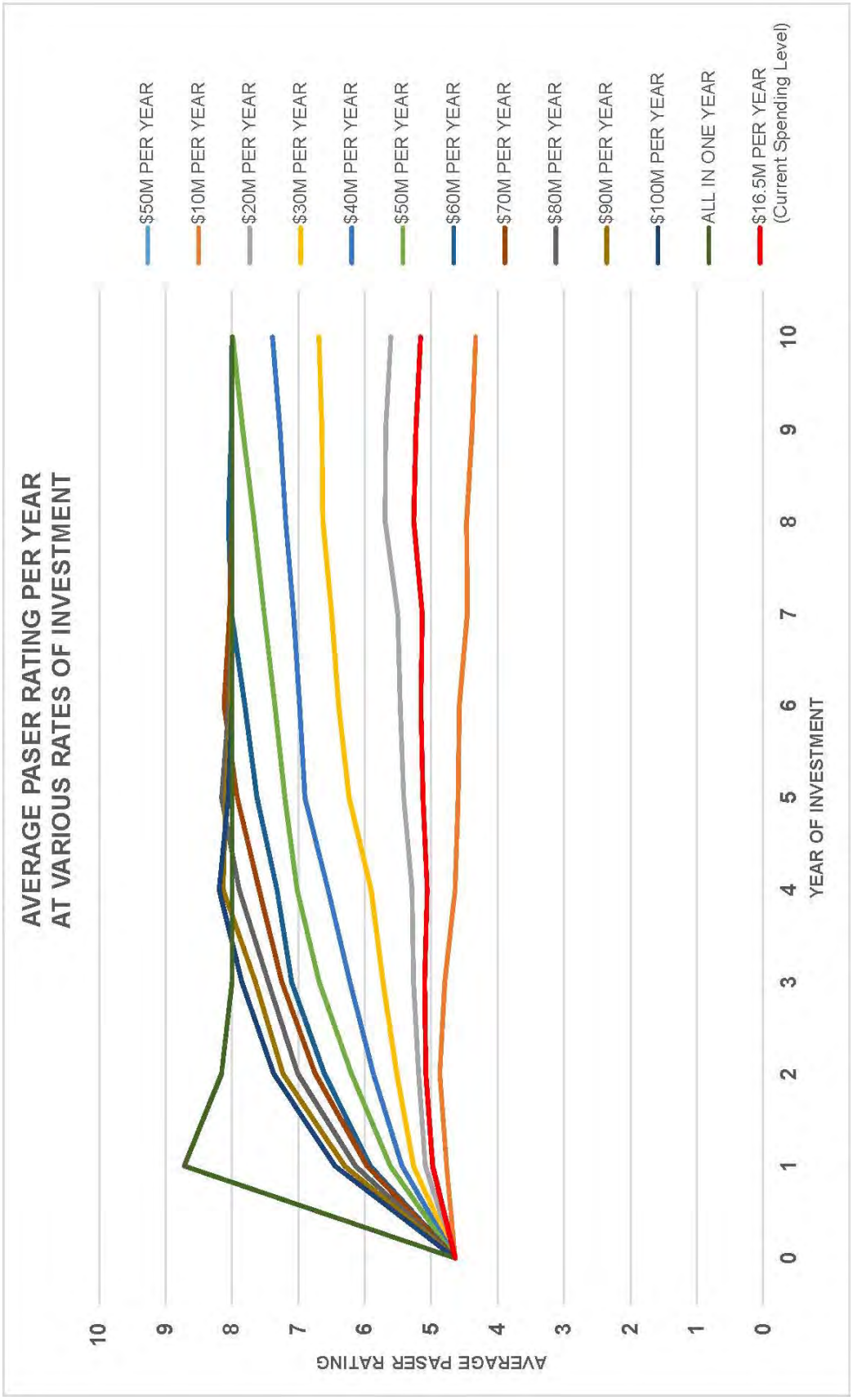


Chart: Average Remaining Service Life per Year at Various Rates of Investment

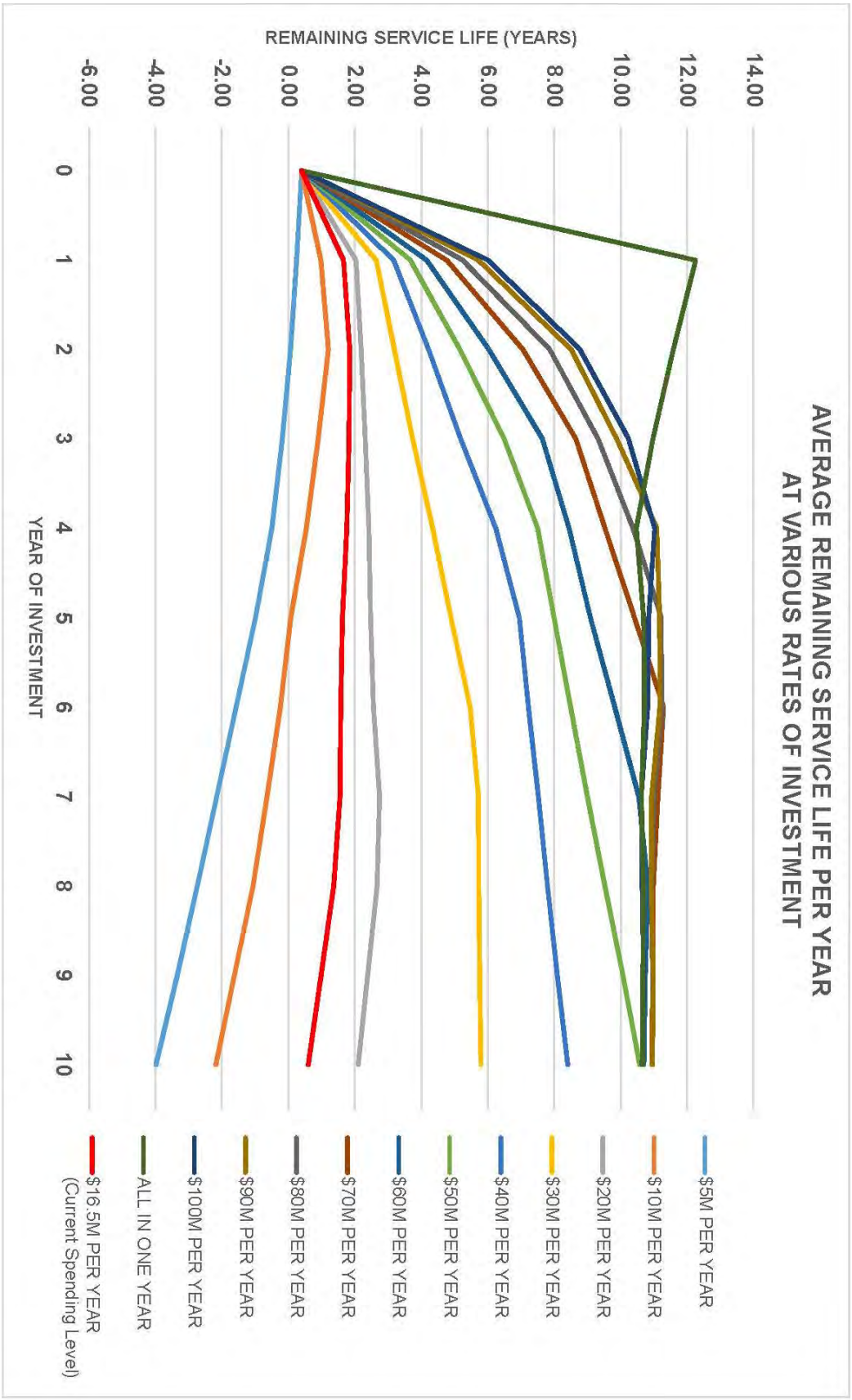
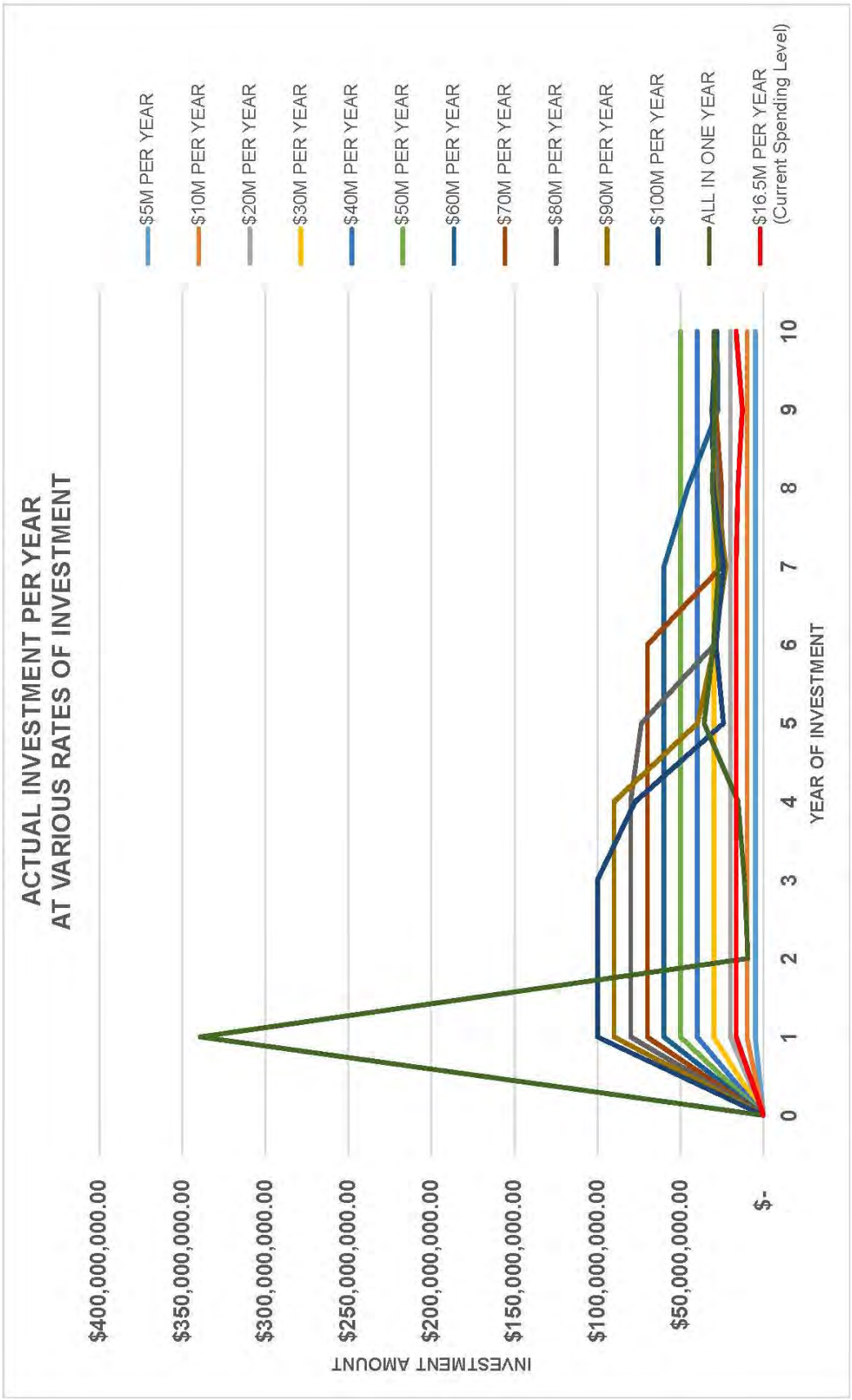


Chart: Actual Investment per Year at Various Rates of Investment



Interpretation

In viewing the graphs it becomes apparent that Roadsoft puts a priority on PM work, applying budgets and fixes to maximize the amount of roads with PASER rating 8. Regardless of the budget applied, the program will not spend more than is needed to maintain roads at that rating.

According to the program, using the treatments and definitions supplied by KATS, a yearly budget of $50M would be required to achieve an MPO-wide PASER rating average of 8 in 10 years. Thereafter the program applies approximately $30M per year in PM to maintain that rating. Interpolating, one arrives at a yearly budget of approximately $23.6M per year in order to achieve an MPO-wide PASER rating average of 6 in the same timeframe. Even applying that budget indefinitely, the system would never achieve an average rating of 8, however, as it is less than the amount required to simply maintain roads already at that rating let alone upgrade the system to that level.

Adjustments

There are two areas where adjustments to the previous results are appropriate and relatively easily determined. The first lies in how Roadsoft determines the quantities of pavement on which its calculations are based. The second adjustment is for pavements that exist but were not included in the Roadsoft optimizations.

In its calculations for the optimization tool, Roadsoft uses values defined in the pavement subtypes portion of the treatment definition section, including pavement width. Costs per lane mile are derived by halving the area formed by a mile of pavement at the user-specified width for the pavement subtype and multiplying the result by the user-defined unit cost. For calculating treatment costs, the program merely doubles the lane mile cost. In other words, the program simply assumes that all roads assigned to a pavement subtype are two lanes of half the stated width each. This assumption would be essentially true if there were subtypes in the system for every width of road, but that is not the case. In order to check the accuracy of the results, a report was generated from Roadsoft of total centerline mileage of roads from 1 to 8 lanes wide. Each length was multiplied by its respective number of lanes at 11.5 feet per lane to determine an approximate total area of pavement. The resulting 32,071,396 yd. total is 1,435,683 yd^2 more than the 30,635,713 yd^2 total used by Roadsoft.

In addition to the asphalt subtypes included in the optimization runs previously summarized, there are 223.296 lane miles of roads in the MPO area of other classifications. These are made up of other asphalt subtypes (0.680 lane miles), concrete (160.708 lane miles) or miscoded (61.908 lane miles). Multiplying the total length by 11.5 feet per lane yields an additional 1,506,504 yd^2 of pavement not accounted for in the original calculations.

Added together, the two adjustment categories total 2,932,187 yd^2 or approximately 10% more area than included in the initial Roadsoft analysis. Because treatment costs are based on area and unit costs and concrete pavement is generally more expensive per unit to construct, it is appropriate to adjust the results of the Roadsoft analysis upwards by 10% as a conservative method of accounting for the difference.

Conclusion

Cost Summary

Incorporating the 10% increase to the Roadsoft optimization results yields the following:

- Needed to bring KATS MPO-wide streets to average PASER rating of 6 in 10 years: $36M/Year
- Needed to bring KATS MPO-wide streets to average PASER rating of 8 in 10 years: $65M/Year
- Needed to maximize KATS MPO-wide streets PASER rating in 1 year: $373M
- Needed to maintain streets at average PASER rating of 8 after upgrading: $33M/Year

Unmet Needs

The current total for all MPO road agencies for roads capital projects is approximately $28M. This includes funding for non-pavement and non-road capital work including curbs, sewers, bridges, Non-Motorized projects and congestion mitigation/air quality projects. When adjusted to account for pavement-only work, it is estimated that applicable MPO-wide funding is approximately $16.5M which means that there is a minimum shortfall of $19.5M per year simply to improve roads to “fair” condition. Improving the system to “good” in ten years would require an additional $48.5M per year, which could be reduced to approximately $33M per year for preventive maintenance. This cost is actually low, as Roadsoft assumes PM can be performed indefinitely, which in real world conditions is not possible. Eventually more intensive and costlier treatments will be required as roads continue to wear under traffic and weather loading.

Other Needs

The results obtained though this study represent needs for paved sections of motorized vehicular roadways only. Thus despite the inclusion of the adjustments for known factors, it is virtually certain that the calculated costs are still well under what is needed for the overall transportation system. Within roadway category, for instance, curb and gutter, driveway, culvert, storm drainage infrastructure, increased width for parking, Non-Motorized lanes, and sidewalk replacement cost are not addressed as there is currently insufficient data on which to base need calculations. Other infrastructure categories, such as bridges, traffic signals and transit are not included either. As data and methods are further explored, these unrepresented needs can be accounted for. In the meantime, the results presented herein provide a picture of the scope and magnitude of transportation infrastructure needs.

2045 Metropolitan Transportation Plan Illustrative Project List

Score	Year	Project Type	Agency	Road	Limits	Description	Cost Year of Expenditure 1,000s
13	2016	Non-Motorized	RCKC	Drake Road	West Main Street to Stadium Drive	Installation of a 10-foot shared use pathway on the west side of Drake Road from West Main Street to Stadium Drive	$1,493
13	2016	Non-Motorized	RCKC	Kendall Avenue	West Main Street to Kalamazoo Township Limits	Installation of a 5-foot sidewalk on both sides of Kendall Avenue to fill in the gaps in the existing sidewalk system that exists between West Main Street and the Kalamazoo Township	$61
13	2016	Non-Motorized	RCKC	Solon Street	West Main Street to Kalamazoo Township Limits	Installation of a 5-foot sidewalk on both sides of Solon Street from West Main Street to the Kalamazoo Township limits	$129
13	2016	Non-Motorized	RCKC	West Main Street	Nichols Road to Sage Street	Installation of a 5 foot sidewalk on the south side of West Main Street from Nichols Road to Sage Street	$190
7	2016	Non-Motorized	Kalamazoo County Parks Department	Kalamazoo River Valley Trail	35th in Galesburg to Kalamazoo/Calhoun County line	An eight-mile addition to the Kalamazoo River Valley Trail that will connect the current terminating point at 35th St in Galesburg, to the Village of Augusta. With this addition, the Kalamazoo River Valley Trail will link together the Kal-Haven Trail to the Battle Creek Linear Path, connecting over 140 miles of regional trail systems.	$2,843
16	2017	Non-Motorized	RCKC	Lake Street	Olmsted Road to Kalamazoo Twp limits	Installation of a 5 foot sidewalk on the both sides of Lake Street from Olmsted Road east to the Kalamazoo Township limits. Wide shoulders are included for the full extent of the project.	$139
16	2017	Non-Motorized	RCKC	Olmsted Road	Miller Road to Lake Street	Installation of a 5 foot sidewalk on both sides of Olmsted Road from Miller Road to Lake Street. Wide shoulders are included for the full extent of the project.	$280
14	2017	Non-Motorized	RCKC	Grand Prairie Road	Nichols Road to Stone Mill Street	Installation of a 5 foot sidewalk on both sides of Grand Prairie Road from Nichols Road to Stone Mill Street. Stone Mill Street represents the border with the City of Kalamazoo and from that point west, the south side of the road is in the City. Partner project continues the non- motorized facility to Drake Road. Wide shoulders are included for the full extent of the project.	$121

Score	Year	Project Type	Agency	Road	Limits	Description	Cost Year of Expenditure 1,000s
14	2017	Non-Motorized	RCKC	Grand Prairie Road	Stone Mill Street to Drake Road	Installation of a 5 foot sidewalk on the north side of Grand Prairie Road from Stone Mill Street to Drake Road. Stone Mill Street represents the border with the City of Kalamazoo and from that point west, the south side of the road is in the City. A partner project continues the non-motorized facility to Nichols Road. Wide shoulders are included for the full extent of the project.	$65
14	2017	Non-Motorized	RCKC	KL Avenue	Drake Road to Copper Beech	Installation of a 10 foot shared use pathway on the north side of KL Avenue from Drake Road to the entry drive of the Copper Beech Apartments. A subsequent project will continue the facility to the west and connect to 9th Street. Wide shoulders are included for the full extent of the project.	$900
.11	2017	Non-Motorized	RCKC	Nichols Road	Alamo Avenue to G Avenue	Installation of a 5 foot sidewalk on both sides of Nichols Road between Alamo Avenue and G Avenue with exception of a few places where an existing sidewalk facility is already located	$350
14	2017	System Preservation	Van Buren County Road Commission	Red Arrow Highway	26th Street to 28th Street	Trench and widen to achieve a 3-lane section. mill 2" of existing HMA, install fabric, repave to achieve new section. Install C & G at intersections and upgrade access control at commercial drives. Tree removal/trimming and minor drainage corrections including all associated work.	$910
16	2018	Non-Motorized	RCKC	Mosel Road	Douglas Avenue to Westnedge Avenue	Installation of a 5 foot sidewalk on both sides of Mosel Road from Douglas Avenue to Westnedge Avenue. Wide shoulders are included for the full extent of the project.	$176
14	2018	Non-Motorized	RCKC	Barney Road	Nichols Road to Douglas Avenue	Installation of a 5 foot sidewalk on both sides of Barney Road from Nichols Road to Douglas Avenue. Wide shoulders are included for the full extent of the project.	$189
14	2018	Non-Motorized	RCKC	Nazareth Road	Gull Road to East Main Street	Installation of a 5 foot sidewalk on the both sides of Nazareth Road from Gull Road to East Main Street. Wide shoulders are included for the full extent of the project.	$240

Score	Year	Project Type	Agency	Road	Limits	Description	Cost Year of Expenditure 1,000s
14	2018	Non-Motorized	RCKC	Douglas Avenue	G Avenue to Kalamazoo Township Limits	Installation of a 5 foot sidewalk on both sides of Douglas Avenue from G Avenue south to the Township border with the City of Kalamazoo. Wide shoulders are included for the full extent of the project.	$342
14	2018	Non-Motorized	RCKC	Miller Road	Sprinkle Road to Kalamazoo Township Limits	Installation of a 5 foot sidewalk on both sides of Miller Road from Sprinkle Road east to the Township limits with the City of Kalamazoo. Wide shoulders are included for the full extent of the project.	$65
13	2018	Non-Motorized	RCKC	Brook Drive	Gull Road to Spring Valley Park	Installation of a 10 foot asphalt shared use pathway on Brook Drive from Gull Road to Spring Valley Park	$122
13	2018	Non-Motorized	RCKC	Business Loop 94	Lake Street to KRVT (via King Highway)	Installation of a 10 foot asphalt shared use pathway on Business Loop 94 from Lake Street to King Highway and then continuing east to access the KRVT. This is a project included in the BL-94 Gateway Plan.	$90
13	2018	Non-Motorized	RCKC	Stadium Drive	8th Street to 11th Street	Installation of a 5 foot sidewalk on both sides of Stadium Drive from 8th Street to 11th Street. There are some existing sections of sidewalk on the north side of Stadium toward the eastern edge of this corridor but they are in poor condition and need replacement. Close to the 9th Street intersection, as part of the DDA's streetscape improvement program, it is likely that the sidewalk will increase in width considerably in order to serve a more commercial oriented environment.	$116
7	2018	Non-Motorized	Kalamazoo County Parks Department	Kalamazoo River Valley Trail	M-96 in Augusta north to M-89/Gull Lake in Ross Township	A 3.5-mile addition to the Kalamazoo River Valley Trail that will connect the eventual Village of Augusta segment north to Gull Lake/M-89	$2,000
19	2019	Non-Motorized	RCKC	10th Street	West Main Street to Kal Haven Trailhead	Installation of 10 foot wide asphalt shared use pathway on east side of 10th Street from West Main Street to H Avenue with a 5 foot wide sidewalk facility on the west side of the road. A 10 foot wide asphalt shared use pathway would continue on the west side of the road from H Avenue to the Kal Haven Trail Head to the north. Wide shoulders are also proposed to be added to the corridor.	$645

Score	Year	Project Type	Agency	Road	Limits	Description	Cost Year of Expenditure 1,000s
16	2019	Non-Motorized	RCKC	Squires Drive	Ravine Road to Drake Road	Installation of a 10-foot asphalt shared use pathway on Squires Drive from Ravine Road to Drake Road	$100
13	2019	Non-Motorized	RCKC	Off Road (near King Hwy)	King Highway to East Michigan Avenue	Installation of a 10-foot asphalt shared use pathway on Township property from King Highway north to East Michigan Avenue	$46
11	2019	Non-Motorized	RCKC	Nazareth Road	East Main Street to Kenilworth	Installation of a 10-foot asphalt shared use pathway on Nazareth Road from East Main Street to Kenilworth Avenue	$94
5	2019	Non-Motorized	Kalamazoo County Parks Department	Kalamazoo River Valley Trail	M-89/Gull Lake in Ross Township eastward to the Village of Richland	A 5-mile addition to the Kalamazoo River Valley Trail that will connect the eventual Gull Lake/M-89 segment eastward to the Village of Richland	$3,800
19	2019	Public Transportation	Kalamazoo Metro Transit	Farebox Upgrades		Illustrative Project: Farebox Upgrades for fixed route line haul system with improved technology for various pay methods	$1,135
19	2020	Non-Motorized	RCKC	KL Avenue	9th Street to Copper Beech	Installation of a 10-foot shared use pathway on the north side of KL Avenue from 9th Street to the entry drive of the Copper Beech Apartments. This connects to a previous project that provided a facility from Drake Road to the apartment entry drive. Wide shoulders are also included in the proposal for the full extent of the project.	$610
16	2020	Non-Motorized	RCKC	9th Street	KL Avenue to H Avenue	Installation of a 5-foot sidewalk on both sides of 9th Street from KL Avenue to West Main Street, the proposal calls for 5-foot sidewalks on both sides of the road. From West Main Street to H Avenue, a 10-foot shared use pathway is called for on the east side of 9th Street. This project corresponds to a subsequent project that will continue the Non-Motorized facility south to N Avenue. Wide shoulders are also included in the proposal for the full extent of the project.	$900
16	2020	Non-Motorized	RCKC	Ravine Road	Nichols Road to Drake Road	Installation of a 5-foot sidewalk on both sides of Ravine Road from Nichols Road to Drake Road. Wide shoulders are also included in the proposal for the full extent of the project.	$328
11	2020	Non-Motorized	City of Kalamazoo	NA	Kalamazoo River Valley Trail to Ransom Street	Construction of an of road Non-Motorized transportation trailway	$300

Score	Year	Project Type	Agency	Road	Limits	Description	Cost Year of Expenditure 1,000s
16	2021-2025	Non-Motorized	RCKC	9th Street	KL Avenue to N Avenue	Installation of a 5-foot sidewalk on both sides of 9th Street from KL Avenue to Stadium Drive with a 5-foot sidewalk proposed on the east side of the road from Stadium Drive to N Avenue. There are some existing facilities along 9th Street in this portion of the project, and the proposed facilities will work around and/or improve those facilities. The exact design may be modified as it goes through the financing and public input process. This project corresponds to a subsequent project that will continue the Non-Motorized facility north to H Avenue. Wide shoulders are included for the full extent of the project.	$2,072
14	2021-2025	Non-Motorized	RCKC	H Avenue	9th Street to Drake Road	Installation of a 5-foot sidewalk on the north and south side of H Avenue from 9th Street to Drake Road. Wide shoulders are also included in the proposed project. The exact design of the facility is subject to change as the project undergoes the public input and financing components of the design process.	$1,311
13	2021-2025	Non-Motorized	City of Kalamazoo	NA	Kilgore to Lake	Construction of an off road Non-Motorized transportation trailway	$2,960
13	2021-2025	Non-Motorized	RCKC	Olmsted Road	Miller Road to Lake Street	Installation of a 10-foot shared use pathway on Olmsted Road from Miller Road to Lake Street including a crossing of BR-94	$347
13	2021-2025	Non-Motorized	RCKC	Quail Run Drive	Stadium Drive to 9th Street	Installation of a 5-foot sidewalk on the east side of Quail Run from Stadium Drive to 9th Street	$64
11	2021-2025	Non-Motorized	RCKC	11th Street	Parkview Avenue to KL Avenue	Installation of a 5-foot sidewalk on the west side of 11th Street from Parkview Avenue to KL Avenue. 11th Avenue already has wide shoulders on its northern extent, but wide shoulders would be incorporated in the southern portion. It is possible that this facility could be changed to a wider shared use pathway during the public input and design process.	$1,406
11	2021-2025	Non-Motorized	RCKC	Grand Prairie Road	Nichols Road to Drake Road	Installation of a 10-foot asphalt shared use pathway on Grand Prairie Road from Nichols Road to Drake Road	$355

Score	Year	Project Type	Agency	Road	Limits	Description	Cost Year of Expenditure 1,000s
7	2021-2025	Non-Motorized	Kalamazoo County Parks Department	Kalamazoo River Valley Trail	D Ave. in Cooper Township north to Allegan County Line	A 3.5-mile addition to the Kalamazoo River Valley Trail that will extend north with plans to link to existing and future trail systems	$3,109
5	2021-2025	Non-Motorized	Kalamazoo County Parks Department	Kalamazoo River Valley Trail	M-89/Gull Lake in Ross Township to Barry County/Kalamazoo	A 5-mile addition to the Kalamazoo River Valley Trail that will connect the eventual Gull Lake/M-89 trail north to the Barry County/Kalamazoo County line	$3,257
18	2021-2025	Public Transportation	Kalamazoo Metro Transit	New Transportation Hub		Illustrative Project: Building of a new transportation hub for bus line haul services within Kalamazoo Metro Transit service area	$1,110
23	2026-2030	Capacity	Kalamazoo County Local Agencies	US-131 Business Route @ US 131	full interchange with connections to surface roads at the US-131/US-131 Business Route (BR)	Illustrative: Construction of a full interchange at the US-131/US- 131 Business Route (BR) in Kalamazoo County to facilitate more northbound and southbound traffic to and from the northern portion of Kalamazoo and the surrounding areas. The project would maintain the existing US-131 freeway configuration and new freeway access would be provided via the local street – G Avenue.	$43,223
13	2026-2030	Capacity	Portage	Oakland Drive	I-94 to Kilgore Road	Widen Oakland Drive from 4 lanes to 5 lanes from I-94 to Kilgore Road for the additions of dedicated left turn lane and bike lanes. As part of this project, the bridge over the west fork of Portage Creek will need to be reconstructed to accommodate the wider road section.	$3,872
12	2026-2030	Capacity	Portage	Lovers Lane	East Milham Avenue to Romence Road Parkway	Widen Lovers Lane from 4 lanes to 5 lanes from Romence Road Parkway to East Milham Avenue. Project will include addition of a dedicated left turn lane into adjacent properties and intersections, bike trail improvements, and sidewalk upgrades.	$3,124
11	2026-2030	Capacity	Portage	Portage Road	Lakeview Drive to East Osterhout Avenue	Widen Portage Road from 4 lanes to 5 lanes to accommodate bike lanes on both sides of the roadway from Lakeview Drive to East Osterhout Avenue. Project will accommodate increase capacity needs in this area.	$3,278

Score	Year	Project Type	Agency	Road	Limits	Description	Cost Year of Expenditure 1,000s
11	2026-2030	Capacity	Portage	Romence Road	Portage Road to Sprinkle Road	Widen Romence Road from 2 and 3 lanes to 4 lane boulevard from Portage Road to Sprinkle Road. The project will include bike lanes and accommodate increased industrial and airport traffic demands.	$3,278
9	2026-2030	Capacity	Portage	South Westnedge Avenue	Milham Avenue to Romence Road	Widen northbound lanes on South Westnedge Avenue from 2 lanes to 3 lanes from Milham Avenue to Romence Road. Project will increase capacity for northbound traffic and provide bus stop areas for Metro Transit. Project includes milling and resurfacing of all lanes from Milham Avenue to Romence Road, and replacement of sidewalks on east side of road to accommodate widening the northbound lane from 2 to 3 lanes.	$6,258
8	2026-2030	Capacity	Portage	Osterhout Avenue	Shaver Road to Portage Road	Widen Osterhout Avenue from 2 lanes to 3 lanes to widen existing bike lanes on both sides of the roadway and install sidewalk on the north side, from Shaver Road to Portage Road. Culvert crossing for Sugarloaf Drain will be replaced to accommodate a wider roadway.	$4,502
8	2026-2030	Capacity	Portage	South Westnedge Ave / Shaver Road	Romence Road to West Centre Avenue	Widen South Westnedge Avenue & Shaver Road from 5 lanes to 7 lanes from Romence Road to West Centre Avenue. Widening the road will provide additional capacity for the project area. Upgrades to sidewalks are included in this project.	$8,659
4	2026-2030	Capacity	Portage	Shaver Road	Vanderbilt Avenue to South City Limits	Widen Shaver Road from 2 and 3 lanes to a 4 lane boulevard or 5 lanes from Vanderbilt Avenue to south city limits. This project will include bike trails and sidewalks to accommodate non-motorist traffic. The project will provide additional capacity for traffic to/from US-131.	$6,483
4	2026-2030	Capacity	Portage	Vanderbilt Avenue	Oakland Drive to Shaver Road	Widen Vanderbilt Avenue from 2 lanes to 3 lanes to accommodate bikes lanes on both sides of the roadway from Oakland Drive to Shaver Road. Project will improve capacity and provide dedicated left turn lane into adjacent properties and intersections.	$792

Score	Year	Project Type	Agency	Road	Limits	Description	Cost Year of Expenditure 1,000s
16	2026-2030	Non-Motorized	RCKC	Atlantic Avenue	9th Street to Parkview Avenue	Installation of a - foot sidewalk on both sides of Atlantic Avenue from 9th Street to Parkview Avenue. It is possible that during the financing, design, and public input process, this project could be modified to become a wider shared use pathway. Wide shoulders are included for the full extent of the project.	$353
16	2026-2030	Non-Motorized	RCKC	Parkview Avenue	Stadium Drive to Drake Road	Installation of a 5-foot sidewalk on both sides of Parkview Avenue from Stadium Drive to Drake Road. It is possible that during the financing, design, and public input process, this project could be modified to become a wider shared use pathway. Wide shoulders are also included in the proposal for the full extent of the project.	$1,345
16	2026-2030	Non-Motorized	RCKC	West Michigan Avenue	Stadium Drive to Drake Road	Installation of a 5-foot sidewalk on the both sides of West Michigan Avenue connecting Drake Road to Stadium Drive. Wide shoulders are also included in the proposal for the full extent of the project. It is possible that during the financing, design, and public input process, this project could be modified to become a wider shared use parkway.	$964
13	2026-2030	Non-Motorized	RCKC	Nazareth Road vicinity	Off road - end of Nazareth Road to KRVT	Installation of a 10-foot asphalt shared use pathway from Nazareth Road south to the KRVT going off road and crossing the railroad tracks along the way	$1,081
13	2026-2030	Non-Motorized	RCKC	Off Road near Lake Street	Lake Street to KRVT	Installation of a 10-foot asphalt shared use pathway from Lake Street north to the KRVT going off road and crossing the Kalamazoo River thereby requiring construction of a Non-Motorized pathway	$900
13	2026-2030	Public Transportation	Kalamazoo Metro Transit	New Transportation Hub		Illustrative Project: Building of a new transportation hub for bus line haul services within Kalamazoo Metro Transit service area	$1,351
21	2031-2035	Public Transportation	Kalamazoo Metro Transit	Fixed Route Vehicle Expansion		Expansion of fixed route bus fleet	$4,930
16	2031-2035	Public Transportation	Kalamazoo Metro Transit	Bus Rapid Transit Line		Illustrative Project: Building of a new bus rapid transit (BRT) line within Kalamazoo Metro Transit service area	$43,822
8	2036-2040	Capacity	City of Kalamazoo	Burdick Street	Cork to Kilgore	Construct Bike lanes by widening roadway	$3,199

Score	Year	Project Type	Agency	Road	Limits	Description	Cost Year of Expenditure 1,000s
21	2036-2040	Public Transportation	Kalamazoo Metro Transit	Fixed Route Vehicle Expansion		Expansion of fixed route bus fleet	$5,998
8	2041-2045	Capacity	Portage	South Westnedge Avenue	Dawnlee Avenue to Milham Avenue	Widen northbound lanes on South Westnedge Avenue from 2 lanes to 3 lane boulevard from Dawnlee Avenue to Milham Avenue. This project will include mill and resurface southbound lanes and replace sidewalk on the west side to accommodate widening of northbound lanes.	$4,865
7	2041-2045	Capacity	Portage	Kilgore Road	Old Kilgore Road to Lovers Lane	Widen Kilgore Road from 4 lanes to 5 lanes (addition of one lane for eastbound traffic) from Old Kilgore Road to Lovers Lane. This project will include the removal and replacement of sidewalk to accommodate widening.	$4,184
7	2041-2045	Capacity	Portage	Portage Road	Osterhout Avenue to Centre Avenue	Reduce Portage Road from 4-5 lanes to 3 lanes from Osterhout Avenue to Centre Avenue. This project would include upgrading/extending sidewalks, adding bike lanes on both sides of the roadway, and constructing a dedicated left turn lane.	$7,006
6	2041-2045	Capacity	Portage	Lovers Lane	Centre Avenue to Romence Road Parkway	Reduce Lovers Lane from 4 lanes to 3 lanes from Centre Avenue to Romence Road Parkway. This project will include bicycle trail improvements/replacement, new landscaping, sidewalk extensions, and a dedicated center left turn lane.	$3,438
5	2041-2045	Capacity	Portage	Zylman Avenue	Portage Road to Sprinkle Road	Widen Zylman Avenue from 2/3 lanes to 5 lanes to accommodate for dedicated left turn lane and bike lanes on both sides of the road	$5,449
3	2041-2045	Capacity	Portage	Bacon Avenue	South Westnedge Avenue to Portage Road	Widen Bacon Avenue from 2 lanes to 3 lanes to accommodate left turns and for bike lanes on both sides of the road from South Westnedge Avenue to Portage Road	$3,243
3	2041-2045	Capacity	Portage	Newport Avenue	Gladys Street to Romence Road Parkway	Construct new 4 lane boulevard to extend Newport Avenue from Gladys Street to Romence Road Parkway. This project will include bike lanes on both sides of the road and adding sidewalks along the east side. The purpose of this project is to improve the traffic carrying capacity and safety on Newport Avenue and Gladys Street.	$17,839

Score	Year	Project Type	Agency	Road	Limits	Description	Cost Year of Expenditure 1,000s
3	2041-2045	Capacity	Portage	Oakland Drive	Shaver Road to Centre Avenue	Widen Oakland Drive from 2 lanes to 4 lane boulevard to accommodate dedicated left turn lane, bike lanes on both sides of the road, and extending sidewalks where needed. As part of this project, the culvert crossing for Portage Creek will be replaced to accommodate a wider roadway.	$16,217
3	2041-2045	Capacity	Portage	Schuring Road	Oakland Drive to South Westnedge Avenue	Widen Schuring Road from 2 lanes to 3 lanes to accommodate for dedicated left turn lane and bike lanes on both sides of the road from Oakland Drive to South Westnedge Avenue	$3,661
15	2041-2045	System Preservation	Portage	South Westnedge Avenue	Kilgore Road to Trade Centre Way	Widening South Westnedge Avenue from 5 lanes to 6 lane boulevard from Kilgore Road to Trade Centre Way. This project will include replacing and extending sidewalks to accommodate widening of road.	$11,676
21	2041-2045	Public Transportation	Kalamazoo Metro Transit	Fixed Route Vehicle Expansion		Expansion of fixed route bus fleet	$7,298
						Grand Total	$267,058

In addition to the proposed projects which were modeled for the 2045 Metropolitan Transportation Plan, a proposal was received from the City of Kalamazoo for a Douglas Avenue and Kalamazoo Avenue project from Westnedge to W. Main to convert Douglas Avenue and Kalamazoo Avenue to two way. This project and others were discussed at the December 3, 2015 Technical Committee meeting. Minutes are available at www.katsmpo.org. Because there has not been sufficient operational analysis and the proposed network configurations have not been determined, it was decided to not to model the project at this time. However, it may be included as a potential project in future plans after additional analysis and information are developed.

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2045 Metropolitan Transportation Plan

Non-Motorized Element

Kalamazoo Area Transportation Study

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Introduction

Purpose of the Plan

The Kalamazoo Area Transportation Study (KATS) is the federally designated Metropolitan Planning Organization (MPO) for all of Kalamazoo County and seven communities in eastern Van Buren County. In this capacity, the KATS must maintain a Metropolitan Transportation Plan (MTP) and Transportation Improvement Program (TIP) to facilitate collaboration between local jurisdictions and determine investment priorities for federal transportation funds. Map 1 depicts the MPO planning boundary and Urban Area.

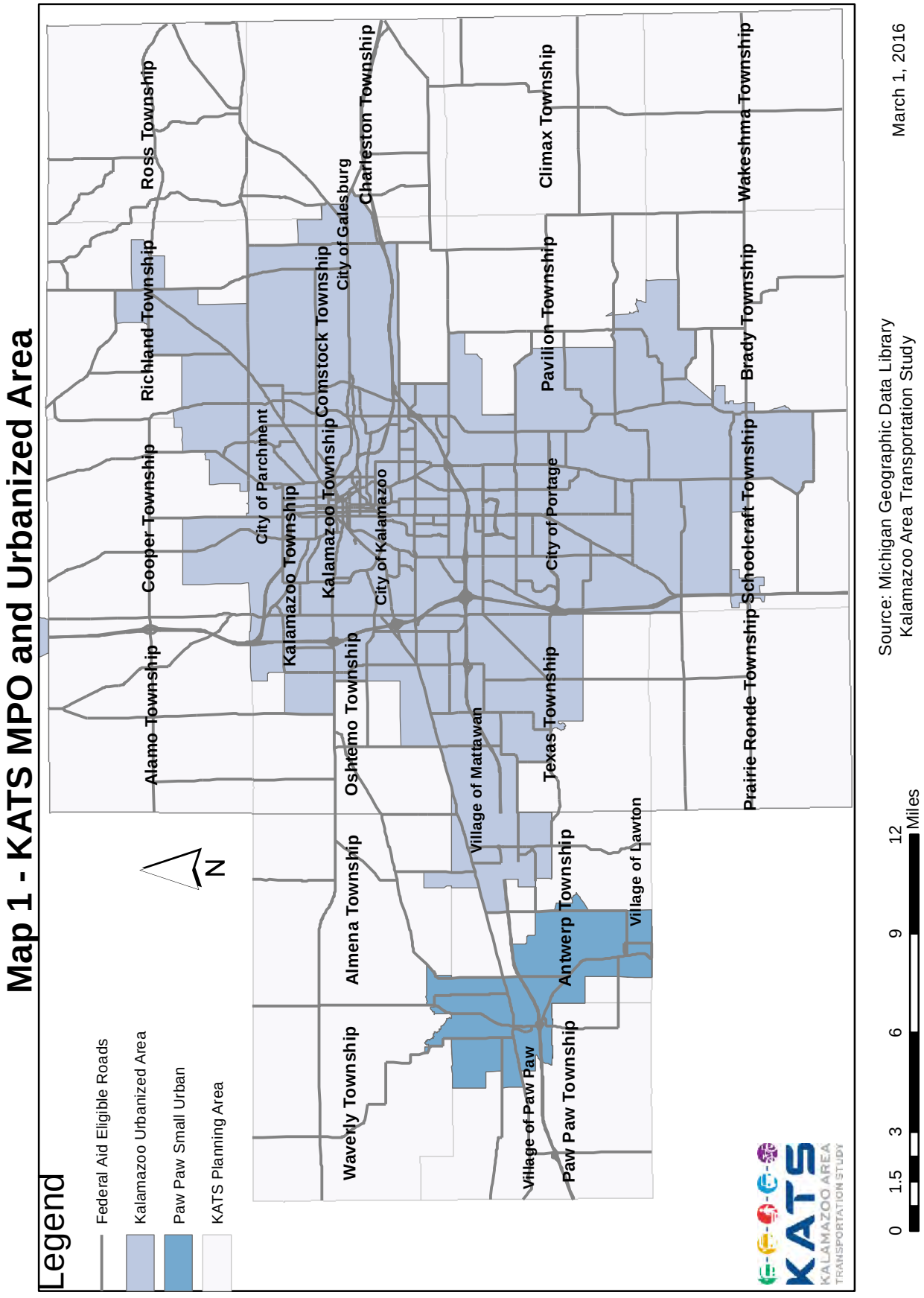
Metropolitan areas, those areas with populations of more than 50,000, are required to plan for the "development and integrated management and operation of transportation facilities (including accessible pedestrian walkways and bicycle transportation facilities) that will function as an intermodal transportation system..." (23 U.S.C 134(c)(2) and 135(a)(2)) (see Appendix D for 23 U.S.C.). Indeed, 23 U.S.C. 217 calls for the planning for bicyclists and pedestrians to be an integral part of the ongoing transportation planning process, and that projects and programs identified in the planning process should be implemented:

> "Bicyclists and pedestrians shall be given due consideration in the comprehensive transportation plans developed by each metropolitan planning organization and State."
>
> "Bicycle transportation facilities and pedestrian walkways shall be considered, where appropriate, in conjunction with all new construction and reconstruction and transportation facilities, except where bicycle and pedestrian use are not permitted."
>
> "Transportation plans and projects shall provide due consideration for safety and contiguous routes for bicyclists and pedestrians."

In essence, the development of a MTP requires consideration of all modes of transportation as part of this planning process. The KATS is therefore responsible for developing a Non-Motorized transportation plan element for Non-Motorized travel.

Bicycle and pedestrian projects may be on-road or off-road facilities. All such facilities that serve a transportation function must be incorporated into the MPO planning process. In particular, bicycle and pedestrian projects using Federal-aid transportation funds must be included in the MPO Transportation Improvement Program.

The Non-Motorized element of the MTP contains information about existing Non-Motorized facilities as well as recommended projects for improving pedestrian and bicycle accessibility. The primary focus being threefold: to identify regionally significant projects, to enhance cooperation and coordination between jurisdictions for Non-Motorized facility development, and to address some of the challenges to Non-Motorized transportation facility development.


Map 1 - KATS MPO and Urbanized Area
Legend
Federal Aid Eligible Roads
Kalamazoo Urbanized Area
Paw Paw Small Urban
KATS Planning Area
N
Ross Township
Richland Township
Cooper Township
Alamo Township
City of Parchment
Kalamazoo Township
Comstock Township
City of Galesburg
Charleston Township
City of Kalamazoo
Oshtemo Township
Almena Township
Wayerly Township
Village of Mattawan
Texas Township
City of Portage
Climax Township
Pavilion Township
Antwerp Township
Village of Lawton
Village of Paw Paw
Paw Paw Township
Wakeshma Township
Brady Township
Schoolcraft Township
Prairie Ronde Township
KATS
KALAMAZOO AREA
TRANSPORTATION STUDY
0 1.5 3 6 9 12
Miles
Source: Michigan Geographic Data Library
Kalamazoo Area Transportation Study
March 1, 2016

Plan Organization

The Non-Motorized element of the KATS Metropolitan Transportation Plan identifies existing bicycle and pedestrian facilities, reviews improvements for a future network, and provides funding information. The Non-Motorized system is envisioned as a single unit and therefore it should be noted that these plans and project recommendations are macro in nature. Prior to proceeding with any of the recommendations, a corridor level assessment should be completed in order to fully investigate the appropriateness of the proposed roadway, bicycle, or pedestrian facility modification. Further project refinement and precise alignments will be determined as projects are implemented.

This Plan document is split into three primary sections:

Existing Non-Motorized Transportation Network

An inventory of Non-Motorized facilities that are currently on the ground were documented and mapped to aid in the identification of network deficiencies and opportunities for improvement.

Future Non-Motorized Transportation Improvements

The KATS Non-Motorized Subcommittee developed a selection methodology and a future network map in order to provide a basis for future investment. This methodology mirrors those used in the overall Metropolitan Transportation Plan and that of the Transportation Improvement Program. It is used in the Non-Motorized element as a high level comparison of projects, not a metric for funding distribution.

Non-Motorized Transportation Funding Options

Research into the various opportunities for Non-Motorized transportation funding was conducted to provide a resource to local agencies dealing with the challenges of securing funding for Non-Motorized infrastructure.

Benefits of Non-Motorized Transportation

Transportation is the act of delivering goods or people from location to location. Non-Motorized transportation consists of pedestrian (ex. walking and running) and bicycle travel, and is the oldest form of transportation—physically moving from location to location with “human” power. As technology has changed, an increasing array of options for movement of people and goods have presented themselves and Non-Motorized or “active” transportation has simply become one of many options.

According to the Bicycle Encyclopedia, bicycling evolved from the velocipede during the 1800s and it still has a strong presence and purpose in transportation. In fact, bicyclists in the United States formed the League of American Wheelman (LAW) in 1880 and lobbied for the construction of roads. Michigan’s own Horatio “Good Roads” Earle is quoted: “I often hear now-a-days, the automobile instigated good roads; that the automobile is the parent of good roads. Well, the truth is, the bicycle is the father of the good roads movement in this country.” The efforts of the LAW at the turn of the twentieth century would form the foundation of a national road network that would eventually stretch across the country and be overtaken by the automobile in the early 1900s.

Transportation and Accessibility Options

Non-Motorized facilities give people the option to walk, bike, or access public transit if they choose. With more than 50% of older Americans who do not drive staying home on a given day because they lack transportation options, a comprehensive Non-Motorized network is crucial to the mobility of some segments of the population.[6] In fact, the U.S. Census Bureau projects that by 2025, the portion of the population over the age of 65 will increase by 8%, totaling 62 million persons. As these individuals age, many will give up driving for

[6] Complete Streets: Improve Mobility for Older Americans, 2007

safety's sake, so nearly 20% of the population will rely upon alternative forms of transportation, particularly walking.[7]

Beyond the aging populace, there is a social equity component to the provision of alternate forms of transportation. According to the National Household Transportation Survey, urban households without cars bicycle to work nearly three-and-a-half times more than households with one car.[8] There are fewer recreational facilities such as parks and trails available in areas where low-income or minority populations live, while the demand for such free facilities may be greater.[9] The disabled community is also in dire need of pedestrian accommodation. If additional Non-Motorized connections to transit stops are provided, the accessibility options for disabled and elderly populations would be expanded. A more complete Non-Motorized network will increase the viability of pedestrian and bicycle transportation as options and provide a mode for those who are unable or unwilling to use motorized vehicles.

Supports Transit

For people who choose to use transit as their preferred mode of travel and those for which it is the only option, Non-Motorized facilities support the transit system by providing access to transit stops. Walking and biking facilities that tie into the transit network are critical for optimal efficiency of the transit system. Locally, Kalamazoo Metro's provision of bicycle racks on mainline bus routes emphasizes the connection between transit and Non-Motorized transportation. See Appendix A for more information about Metro Transit's bus routes.

Air Quality

Regional air quality is an issue for West Michigan, especially as the region has previously been in "non-attainment" with the Environmental Protection Agency (EPA) for ground-level ozone pollution. The majority of this ozone pollution is caused by motor vehicles, which account for 72% of nitrogen oxides and 52% of reactive hydrocarbons, which are principal components of ozone smog.[10] Poor air quality due to motorized vehicle emissions contributes to respiratory problems, especially for the very young and elderly.

Economic

Reduced Congestion
Traffic congestion creates an annual $121 billion cost to the U.S. economy in the form of 5.5 billion lost hours and 2.9 billion gallons of wasted fuel. In Kalamazoo, the estimated annual cost per traveler for traffic congestion is $515 every year.[11] While some trips are not suited to Non-Motorized transportation, many trips could be diverted to this mode, and it doesn't take large reductions in driving to see dramatic improvements in traffic congestion. Every private automobile that is removed from the road reduces the traffic congestion.

Cost Savings
According to the American Automobile Association (AAA), owning and operating a new sedan in 2012 cost an average of 59.6 cents per mile, or $8,946 per year, when driven 15,000 miles annualy.[8] The cost of ownership accounts for more than 15% of a typical household's income.[12] In contrast, the cost of operating a bicycle for a year is $155.[13]

In Michigan, one mile of 4-foot wide concrete sidewalk costs approximately $63,400 while one mile of 10-foot wide asphalt shared-use path costs about $160,000. Materials for installing a bicycle lane on both sides of the street cost $1,700 per mile and four-foot wide asphalt wide shoulders on existing roads run about

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[7] Complete Streets: Improve Mobility for Older Americans, 2007
[8] NHTS, 2001
[9] American Journal of Health Promotion, March/April 2007
[10] 30 Simple Energy Things You Can Do to Save the Earth, 1990
[11] Urban Mobility Scorecards http://mobility.tamu.edu/ums/report/
[12] Consumer Expenditure Survey, Bureau of Labor Statistic, 2010
[13] The League of American Bicyclists, 2011

$100,000 per mile.[14] The inclusion of bike lanes and shared use paths in the initial development and redevelopment of the road networks could save money in the long run by avoiding expensive retrofitting of these facilities later.

Economic Development

There is an economic development component to expanding Non-Motorized transportation that relates to the bicycle industry, as well as property value, tourism, and the overall quality of life of communities. The U.S. bicycle industry generated over $6 billion in sales in 2014 and approximately 6,200 specialty bike dealers do business across the nation. [15] These independent shops are community hubs, providing personalized service, sponsoring local events, and spearheading efforts to build bike facilities.

Non-Motorized transportation facilities have also been used as a centerpiece to attract home buyers. According to the Bureau of Transportation Statistics, 79.1 million, or 38%, of all Americans feel the availability of bikeways, walking paths, and sidewalks for getting to work, shopping, and recreation is very important in choosing where to live.[16] These housing preferences are translated to property values. Real estate market research has consistently shown that people are willing to pay more for homes and property within close proximity to recreational parks and facilities. Research done by the National Association of Home Builders states that trails and walking and jogging paths are among the three community features that would "seriously influence the purchase decision" of a home.[17]

With over 1,300 designated mountain bike and bicycle trails, a great deal of tourism in the State of Michigan is derived from the value of our trail systems. While the focus of this planning document is bicycle and Non-Motorized transportation, recreational use of Non-Motorized facilities in our state is an important revenue generator for tourism. In 2014, it was estimated that Bicycling provides an estimated $668 million per year in economic benefit to Michigan[18]. Above all, Non-Motorized options promote the connections that offer access to the jobs and shopping that make a community more attractive to both business and prospective employees.

Health

In 2012, 31.1% of the Michigan population was considered obese, according to the Centers for Disease Control and Prevention.[19] Obesity is expensive, in terms of health care costs, and it is preventable for the most part. Health care costs in 2008 associated with obesity alone were estimated at $147 billion. [20] Land use and transportation planning that encourages and supports physical activity can battle the inactivity associated with obesity and help lower these costs.[21] By offering Non-Motorized transportation options, physical activity can be incorporated into everyday activities. With fewer and fewer Americans achieving the minimal exercise goals, the provision of a system of transportation that not only connects them with destinations but also is a means of achieving a healthier lifestyle is paramount. In fact, an estimated 32% to 35% of all deaths in the United States attributable to coronary heart disease, colon cancer, and diabetes could have been prevented if all persons were highly active.[22]

The United States Surgeon General has recommended at least 30 minutes of moderate exercise every day to overcome weight problems in Americans, according to information published by the Department of Health and

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[14] Michigan Department of Transportation, Bureau of Transportation Planning, Bicycle & Pedestrian Coordinator
[15] National Bicycle Dealers Association. http://nbda.com/articles/industry-overview-2014-pg34.htm
[16] Bureau of Transportation Statistics, 2000
[17] "What Home Buyers Want" National Association of Home Builders, www.nahb.org 2013.
[18] "The Community and Economic Benefits of Bicycling in Michigan: MDOT, 2014
[19] http://www.cdc.gov/obesity/data/adult.html
[20] http://www.cdc.gov/obesity/adult/causes/index.html
[21] Active Living Leadership; New online calculator estimates financial cost of physical inactivity, Bioteck Week, 2004
[22] Centers for Disease Control and Prevention, 2007

Human Services. The Centers for Disease Control handbook, *Promoting Physical Activity Among Adults*, praises the dual benefits of cycling and walking for improving health and serving a transportation function:

> "the most effective activity regimens may be those that are moderate in intensity, individualized, and incorporated into daily activity. Bicycling and walking are healthy modes of transportation that incorporate these components. Bicycling or walking to work, school, shopping, or elsewhere as part of one's regular day-to-day routine can be both a sustainable and a time-efficient exercise regimen for maintaining an acceptable level of fitness."

Walking or bicycling to work, school, or for pleasure is a convenient way people can incorporate exercise into their daily lives and improve their health.

Quality of Life

The benefits of a comprehensive Non-Motorized transportation system go beyond the direct benefits to users of the system to the public as a whole. In addition to the air quality, health, and economic benefits, an improved Non-Motorized system reduces water and noise pollution associated with automobile use by shifting short trips from automobiles to pedestrian options. Also, more Non-Motorized transportation options could reduce the need for parking spaces and improve safety for current users, especially the young, old, and disabled. It also fosters community connections and interaction and reduces our dependence on fossil fuels. Non-Motorized transportation, in addition to being an alternative to the automobile, indirectly enhances the quality of life for a community.

Challenges to Non-Motorized Transportation

While pedestrian and bicycle trips are a viable option, a number of challenges deter people from utilizing Non-Motorized modes of transportation.

Cross Jurisdictional Cooperation

Just as road networks are often constructed, maintained, and funded by several different entities, Non-Motorized facilities cross jurisdictional boundaries while simultaneously varying in form and type of user served. In order to ensure compatible facilities, a great deal of cooperation must take place between adjoining jurisdictions and among all the municipalities in a region. The complexity of building and maintaining a network of this sort requires partnerships between various state and local departments such as:

- Cities, Villages, and Townships
- Parks and Recreation Departments
- Kalamazoo and Van Buren County Road Commissions
- Michigan Department of Transportation
- Michigan Department of Natural Resources

Coordination Among Multiple Users

Another major impediment to planning for Non-Motorized transportation is the lack of unified public sentiment for a particular form of facility. Bicycle enthusiasts, the disabled community, rails-to-trails advocates, and others each petition for "their" type of Non-Motorized facility. Indeed, those in favor of bicycle lanes are generally opposed to spending limited financial resources on shared-use paths or sidewalks. Those who rely on sidewalks for mobility, on the other hand, cannot justify preferential spending on either bicycle lanes or the perceived more recreational shared-use paths while there remains a decidedly incomplete sidewalk network for accessing destinations and transit. The variety of Non-Motorized forms demanded by different groups can be daunting to municipalities as they choose where to prioritize limited resources.

Lack of Adequate Facilities

Perhaps the principal deterrent to the public choosing Non-Motorized transportation is the lack of adequate facilities. This includes such facilities as sidewalks, transit accessibility, bicycle lanes, bicycle parking and storage, and shared-use paths. In particular, bridge crossings in key areas, especially over and beneath

freeways and other limited-access thoroughfares, are a significant impediment. They do not offer the width, shoulder, or railings necessary for pedestrians and bicyclists to traverse safely and create bottlenecks in an otherwise strong Non-Motorized network.

Seasonal Facilities

Living in Michigan poses another hurdle to Non-Motorized transportation as seasonal weather may hamper bicycling and pedestrian commutes. However, people can and do elect to bicycle and walk throughout the year. Municipalities can make Non-Motorized options more appealing with regular snow plowing and other weather-related maintenance initiatives. However, local agencies are often left balancing the cost of increased maintenance with the possible use of these facilities during the winter months.

> Approximately 28% of walking trips are one mile or less, 40% are 2 miles or less, and 50% are 3 miles or less.
> —*2009 National Household Travel Survey*

Demand

The 2013 American Community Survey reports that 0.5% of the workforce in Michigan commuted by bicycle in 2012. That number grew from 0.3% in 2005, representing an increase of 66%.[23]

While millions of dollars and decades of research have gone into travel demand models for motor vehicles and transit, Non-Motorized travel demand models are virtually non-existent. KATS maintains a travel demand model to predict future vehicle volumes that allows for Non-Motorized trips in its calculations. However, it is analyzed as a mode shift. Therefore, the MPO cannot develop a "deficiency" list that suggests future Non-Motorized projects, for example where bicycle lanes would be most valuable. KATS Non-Motorized planning objectives are identified by their respective jurisdictions and these projects, facilities and plans are assumed to be representative of local demand. The accumulated suggested projects from KATS members make up the Non-Motorized projects mentioned in this plan.

Time and Distance

Time and distance are also perceived as a challenge to Non-Motorized transportation. Yet according to the National Household Transportation Survey, over 64% of all trips made by Americans are less than five miles in length. Even more interesting is that 44% of all trips to work are also less than five miles. The short distances to work indicate that a person could walk or bicycle to destinations instead of driving a vehicle without adding significant time to their journey. For example, a person can walk three miles at a moderate pace of four miles-per-hour in 45 minutes and a bicyclist traveling at 10 mph can cover that distance in 18 minutes. Non-Motorized transportation is an option that would often only add a few extra minutes, with the added benefit of exercise, to the vast majority of short trips.[24]

Land Use Patterns

The density and pattern of land use greatly influences the amount of Non-Motorized trips. Multi-use or mixed-use developments—those having residential, commercial and office or retail development interspersed or mixed throughout—encourage more walking trips as more destinations are located within a reasonable walking distance. Current zoning regulations in most communities group like uses together, houses next to houses, etc. While this increases land use compatibility, it discourages efficient and direct pedestrian or bicycle trips.

If residences are located on large lots and separated from commerce, employment, and social institutions, the distances of most trips will be too long for walking to be practical. Developers, planners, and government agencies are beginning to evaluate these land-use issues and recognize the value of designing for "walkability." "Walkability" is the idea of location-efficiency, or having the ability and convenience of using

[23] Report on 2013 ACS Data, bikeleague.org
[24] National Household Travel Survey, http://nhts.ornl.gov/

Non-Motorized modes to get to work, school, or social centers. For example, older, traditional neighborhoods, for the most part, employ a grid street system. Densities are higher in these areas, and more connectivity is maintained from one neighborhood to the next through a grid pattern of interconnected routes.

However, many already developed areas were built without "walkability" in mind, and are missing Non-Motorized facilities which can be expensive to retrofit. Nevertheless, missing links can be developed, and by being included in an original design, or redesign, Non-Motorized transportation modes become functional options for travel.

Funding

The cost of Non-Motorized facilities is likely the largest deterrent to their development. Federal surface transportation law provides flexibility to Metropolitan Planning Organizations, such as the KATS, to fund bicycle and pedestrian improvements from a wide variety of programs. The Policies and Practices for Programming Projects approved by the KATS Policy Committee, states that "*all Non-Motorized projects included in the KATS Metropolitan Transportation Plan/Non-Motorized Transportation Plan are eligible for funding as allowed under applicable federal-aid categories*." This means that virtually all federal funding sources are open to Non-Motorized transportation projects. However, these facilities are not guaranteed funding and must compete with other road and transit projects when the TIP is programmed.

There has been a recent revision to the Non-Motorized funding policy prompted by changes from the MAP-21 legislation. The new legislation introduced the Transportation Alternatives Program (TAP) which allows for the spending of funds at the MPO level that used to be available through the highly competitive state coordinated Transportation Enhancements (TE) grant program. Since this spending power has been brought to the local units of government through the MPO, it's advantageous to coordinate this spending through its organized committees. The TAP program has many eligible activities identified for funding in MAP-21, but provides the most flexibility for funding bicycle and pedestrian projects. Since other funding options have been limited in the past for use on Non-Motorized improvements, the TAP funds are the best funding tool for implementing projects identified in the Non-Motorized Plan.

Other federal funding sources can be used to fund Non-Motorized projects. Non-Motorized facilities are eligible under the Surface Transportation Funds (STP) and Congestion Mitigation and Air Quality (CMAQ) programs. To encourage creative funding for projects, the KATS Complete Streets Policy and TAP Program Prioritization Process encourage the use of TAP funds in combination with other funding options to provide a cost effective funding solution, stretching the value of each funding source.

Safety

In 2013, there were 743 Bicyclists killed nationally and an estimated 48,000 injured in motor vehicle traffic crashes. Bicyclist deaths accounted for 2 percent of all motor vehicle traffic fatalities and injured Bicyclists made up 2% of the people injured in traffic crashes during the year. The number of Bicyclists killed in 2013 is 1% higher than the 734 Bicyclists killed in 2012. The increase in 2013 is the third straight increase in Bicyclist fatalities, a 19% increase since 2010. In Michigan, Bicyclists fatalities represented 2.9% of total traffic fatalities, which is higher than the national average[25].

The numbers for pedestrian related fatalities are also trending upwards. As total fatalities on the roadways have decreased, pedestrian fatalities have increased from 11% of total fatalities in 2004 to 14% of total fatalities in 2013.[26]

Maintenance

Among the many sources of funding available for Non-Motorized transportation there is a marked lack of money for ongoing maintenance of facilities. Along with feasibility studies and engineering, regular maintenance cannot be paid for with the primary funding source for many Non-Motorized facilities,

[25] NHTSA Traffic Safety Facts, 2013 Data on Bicycles
[26] NHTSA Traffic Safety Facts, 2013 Data on Pedestrians

transportation alternatives grants. While some communities may be supportive of constructing pedestrian and bicycle resources, they are deterred by the ongoing maintenance costs associated with these facilities.

Liability

Local jurisdictions are often hesitant to include bicycle lanes, in particular, within their Non-Motorized transportation plans and street improvements due to the perceived threat of legal action. Within the last decade, court decisions have increasingly protected the liability of road agencies and individual employee liability. The Michigan highway exemption from the Wilson v. Alpena County Road Commission case in 2006 states "…each governmental agency shall maintain the highway in reasonable repair so that it is reasonably safe and convenient for public travel." This means municipalities and road commissions are required to repair and maintain only; there is no general duty to make roads "safe," and there is no liability for whatever form or design a facility might take. In fact, by offering dedicated bicycle lanes, municipalities are not only free from liability for the design, but they are arguably providing a safer means of travel for both bicyclists and motorists. Of course it is always advisable for communities to ensure that every Non-Motorized facility is designed and constructed per the AASHTO Guide for the Development of Bicycle Facilities. However it is important to note that this is the current legal situation in Michigan and it is subject to change as time passes. Local agencies are encouraged to remain informed of their liabilities when providing Non-Motorized facilities.

Existing Non-Motorized Transportation Network

The greater Kalamazoo metropolitan area has a variety of Non-Motorized resources. All existing Non-Motorized facilities amount to over 100 miles total. This Non-Motorized infrastructure was constructed primarily by local municipalities with the help of the Road Commission of Kalamazoo County (RCKC), Van Buren County Road Commission (VBCRC), Michigan Department of Transportation (MDOT), and Michigan Department of Natural Resources (DNR). There are several forms of Non-Motorized routes differentiated by user type and by the land use densities nearby. In order to understand the mapped resources throughout this plan it is critical to make distinctions between the different types of Non-Motorized facilities.

Non-Motorized Facility Types & Definitions

In 2014, The Michigan Department of Transportation released a "Bicycle and Pedestrian Terminology" booklet. It has proven to be a great resource in providing a common framework of definitions. This Non-Motorized element uses the definitions provided by the MDOT booklet. Rather than recreate all of the definitions, the MDOT document is included in this plan as Appendix E.

Below are the commonly used definitions for this Plan Element as taken from the MDOT terminology guide. These facility types are included in the "Proposed Non-Motorized Network" map and project list of this plan.

Bicycle Boulevard
A segment of street, or series of contiguous street segments, that has been modified to accommodate through-bicycle traffic and minimize through-motor traffic. Another common term for a bicycle boulevard is a Neighborhood Greenway.

Bicycle Lane or Bike Lane
A portion of roadway that has been designated for preferential or exclusive use by bicyclists with pavement markings and signs, if used. It is intended for one-way travel, usually in the same direction as the adjacent traffic lane, unless designed as a contra-flow lane.

Bike Route
A segment of road designated by a jurisdiction having authority with appropriate directional and informational markers but without striping, signing and pavement markings for the preferential or exclusive use of bicyclists. Within the KATS MPO area, bicycle routing is viewed as a cost effective alternative to infrastructure improvements in low population areas. The bike routes highlighted on the "Proposed Bike Commuter Routes" map are the joint work of KATS, local communities, and Bike Friendly Kalamazoo.

Shared Lane Marking (SLM or "Sharrow")
A pavement marking symbol that assists bicyclists with lateral positioning in lanes too narrow for a motor vehicle and a bicycle to travel side-by-side within the same traffic lane.

Existing Non-Motorized Facilities

The Kalamazoo Area Transportation Study (KATS) has developed a comprehensive Non-Motorized facility inventory that includes sidewalk facilities along the Federal-Aid eligible roadway network, shared use paths, sidepaths, signed shared roadways or bicycle routes, sharrows and lanes, as well as Federal-Aid eligible roads with four foot or greater wide paved shoulders. The maps developed were produced by the KATS with data collected from local units of government and agencies, the Michigan Department of Transportation (MDOT), and the United States Census Bureau. The Federal-Aid eligible roadways within the KATS MPO area are, by virtue of their designation, the most strategic roads within the region. These roadways are among the most often traveled in the area and are often the most direct routes between important destinations. The KATS MPO is responsible for planning for these Federal-Aid eligible roadways.

KATS staff works to maintain and update the Non-Motorized facility maps on a regular basis. However, because the level of detail in recording the location of facilities varies from community to community, it is difficult to locate every facility. Conversely, in communities with miles and miles of sidewalks, not every sidewalk is identified on the regional map; indeed only those sidewalk facilities alongside roads eligible to receive federal funding (Federal-Aid roads) may be recorded at the MPO level. The exception to this would be for improvements identified through the Safe Routes to School Program approved by MDOT for the use of federal funds. For planning purposes, the regional map on the following page depicts KATS's current existing Non-Motorized facilities inventory for our area.

Map 2: Exisiting Non-Motorized Facilities

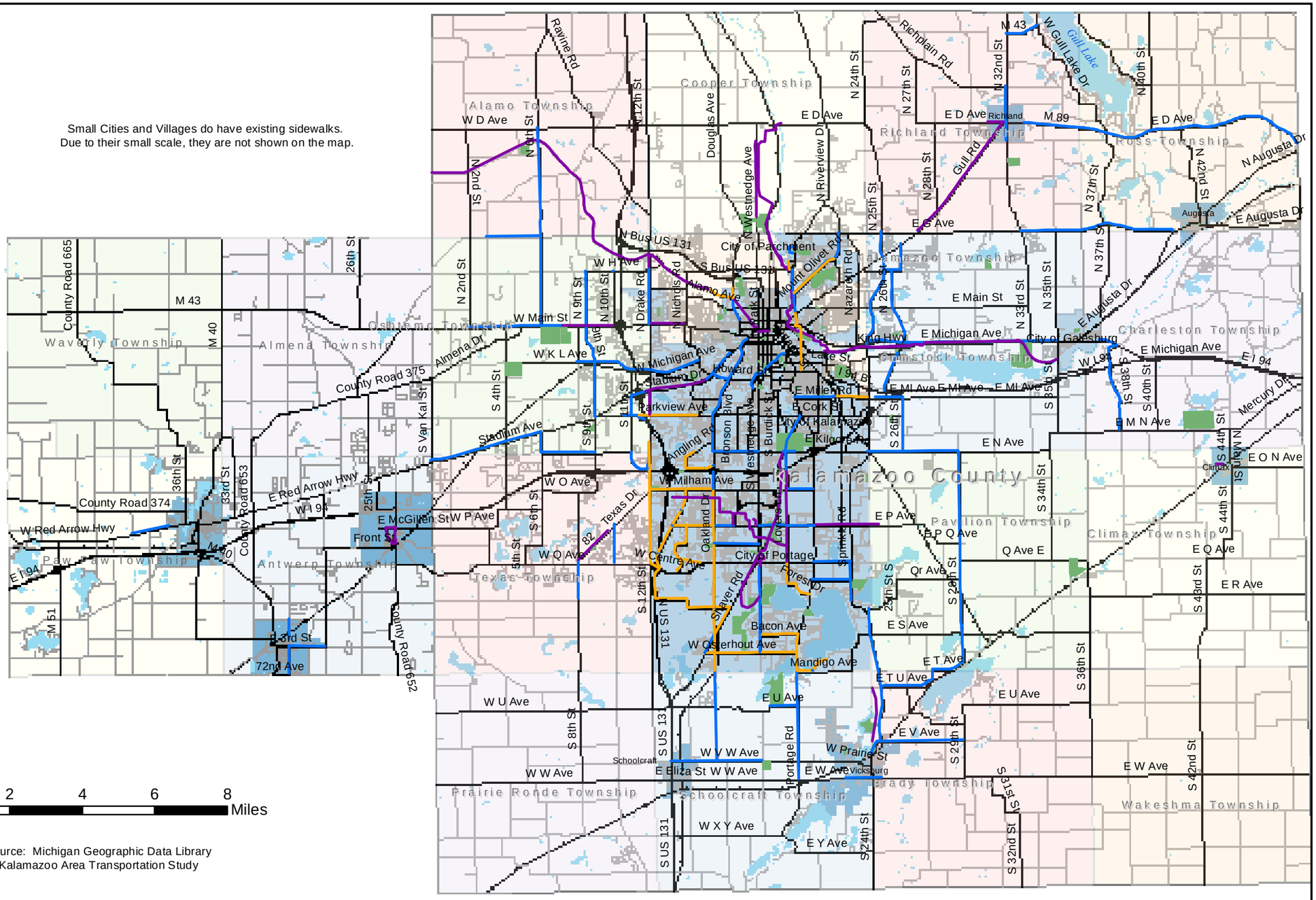
Legend

- Federal Aid Roads
- Non-Federal Aid Roads
- Railroad

Non_Motorized Facilities

- Bike Lane
- Shared-Use Pathway
- Shoulder
- Parks
- Rivers & Lakes
- City
- Village

Small Cities and Villages do have existing sidewalks.
Due to their small scale, they are not shown on the map.



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KALAMAZOO AREA TRANSPORTATION STUDY

Source: Michigan Geographic Data Library
Kalamazoo Area Transportation Study

March 1, 2016

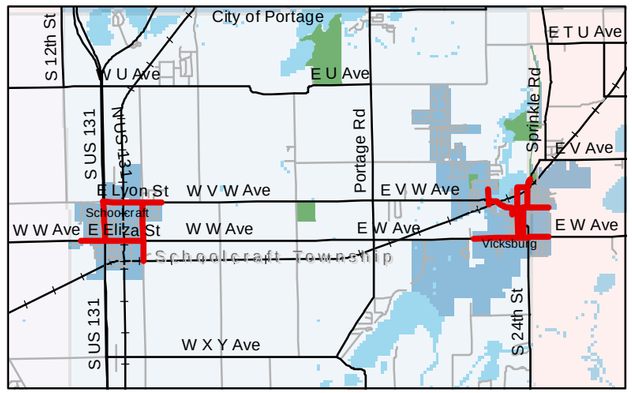
Map 3: Existing Urban Area Sidewalks

Legend

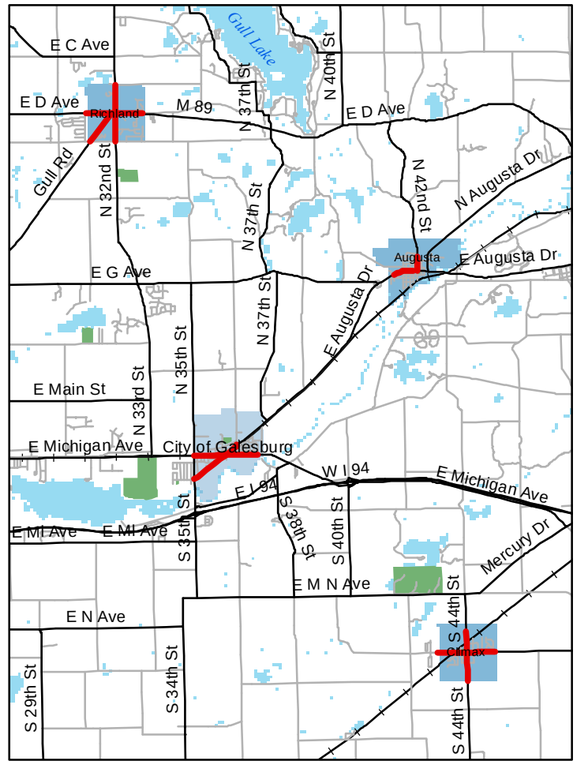
- Federal Aid Roads
- Non-Federal Aid Roads
- Railroad
- Sidewalk*
- Parks
- Rivers & Lakes
- City
- Village

*Includes existing sidewalk on one or both sides of the road, or an existing sidepath on Federal Aid eligible roads.

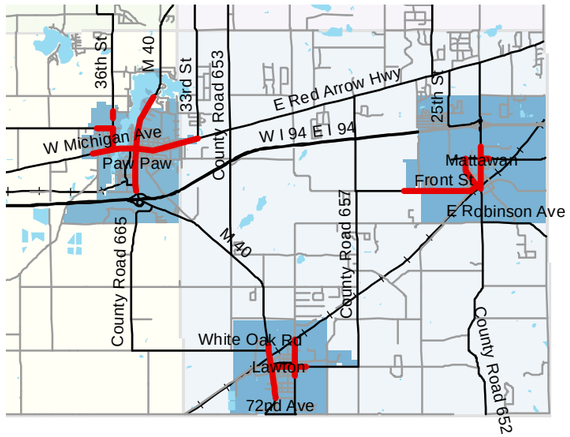
Schoolcraft & Vicksburg



Richland, Augusta, Galesburg, & Climax



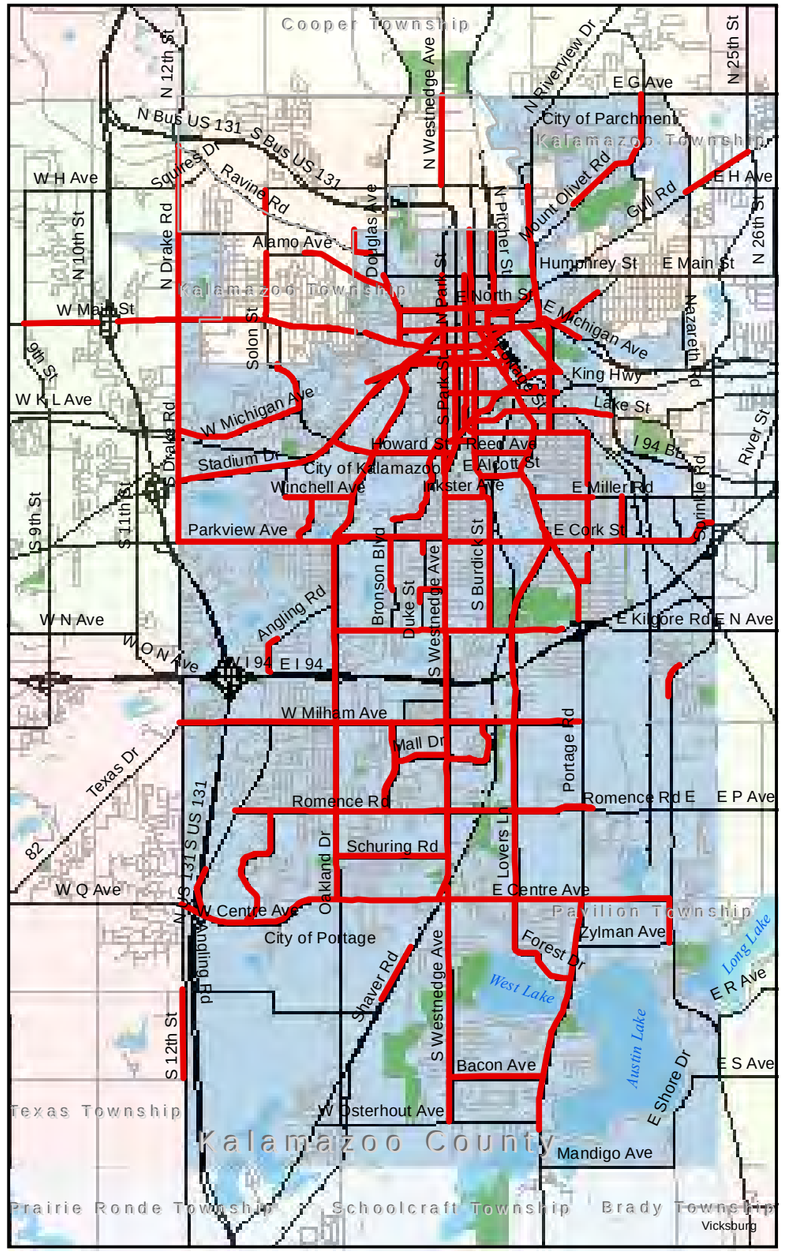
Lawton, Mattawan, & Paw Paw



0 0.75 1.5 3 Miles

Source: Michigan Geographic Data Library
Kalamazoo Area Transportation Study

Kalamazoo & Portage



KATS
KALAMAZOO AREA
TRANSPORTATION STUDY

February 2016

In summary, the MPO contains over 100 miles of Non-Motorized facilities. The existing infrastructure is a tremendous resource for our community and represents millions of dollars of investment in Non-Motorized transportation, the majority of which was locally planned and funded.

Most local jurisdictions now require new developments, both retail and residential, to provide sidewalks as part of their site-plan review process and zoning ordinances. Unfortunately older developments and subdivisions were not required to provide pedestrian links and therefore the current sidewalk network is patchy and intermittent.

Measuring Demand for Non-Motorized Transportation

Non-Motorized travel demand refers to how much the public uses Non-Motorized modes under various circumstances. Several factors can affect the level of demand for Non-Motorized transportation such as:

Destinations - Some of the major attractions for Non-Motorized travelers include retail areas, schools, colleges and universities, major employment centers, libraries, parks, and transit stops. See Map 6 for a graphic estimation of the location of some of these popular destinations. Popular destinations include large retail establishments, traditional downtowns, or other noteworthy amenities.

Trip Distance - The majority of walking trips are less than a mile long and bicycling trips are generally less than five miles.

Demographics and Population Density - Young (less than 18), elderly, and low-income people tend to rely more on Non-Motorized modes for transportation. In Kalamazoo County, the American Community Survey for 2013 estimates that 22.5% of the population is less than 18 years old and 24.2% of population is 55 years or older. These demographics indicate a significant share of the population that would be more likely to utilize Non-Motorized forms of transportation. Additionally, according to the 2010 Census, persons in low-income households are more likely to walk to work than persons of other income categories.

The population identified from the 2010 U.S. Census for the entire KATS MPO area is 277,100 people. For a graphic illustration of the population densities see Map 4 where each dot represents 100 people.

Land Use - Walking and bicycling for transportation tend to increase with density (i.e., the number of residents and businesses in a given area) because higher densities mean that destinations are closer together and these transportation modes become more efficient.

Not surprisingly, within the KATS MPO, the City of Kalamazoo has the greatest population. The higher population density of the city provides a larger number of users for Non-Motorized modes of travel. Additionally, the distances between destinations are shorter. For transportation planning purposes it is logical to focus Non-Motorized resources, especially sidewalks and bicycle lanes, in areas where the population density and potential users are the highest. In more suburban and rural portions of the MPO area, walking and biking as a transportation mode become more onerous due to the longer distances to destinations. The demand for suburban and rural Non-Motorized resources is still evident in our area, however, as the many existing and planned facilities indicate.

With increased population density, it makes sense that Non-Motorized transportation becomes a more viable option. However, data for our region to support the assumption that individuals are making a Non-Motorized mode choice for trips is scarce. Unlike traffic counts for motor vehicles, it is difficult to monitor pedestrian movements without specialized equipment or real-time observation. For these reasons, most agencies rely on self-reported data about what modes of transportation they use most frequently.

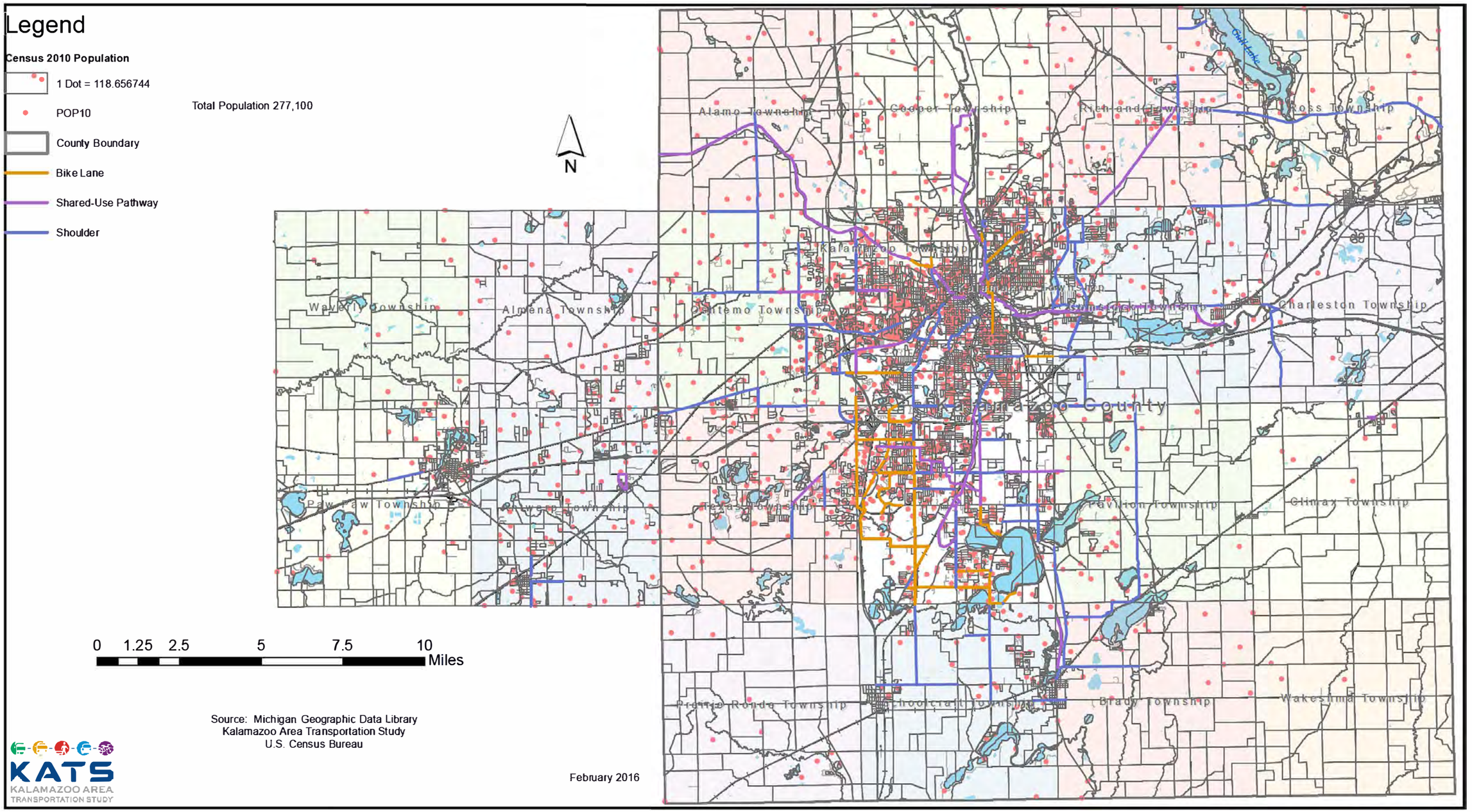
Other than demographic information from the U.S. Census, the source used to estimate Non-Motorized transportation use in our area is the American Community Survey (ACS). The ACS is an ongoing statistical survey that samples a small percentage of population each year. The ACS 2013 5-year survey estimates that approximately 4.2% of the workforce walked or biked to work within Kalamazoo County.

Anecdotal evidence from the Kalamazoo Area Transportation Study's planning processes has found enthusiasm for more Non-Motorized facilities in our area. Comments from individuals, disability groups, trail and bike advocacy groups and from municipal transportation planners all point to additional demand for Non-Motorized facilities, particularly in busy commercial areas. Past and current survey data collected by the KATS also point to

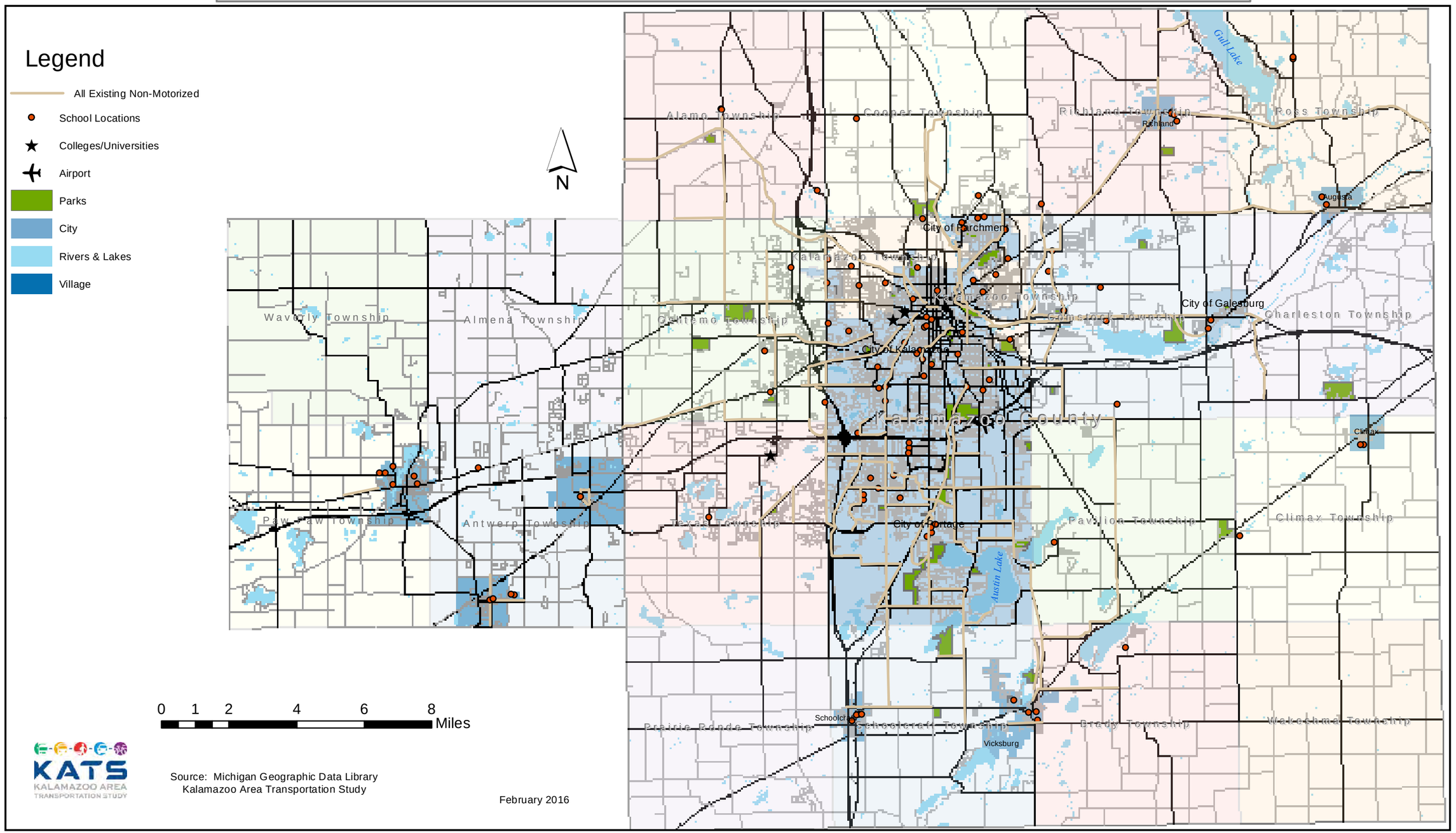
the provision of connected Non-Motorized facilities in an integrated network as a public priority. In summary, while pedestrian and bicycle demand are not quantified in the same way as vehicular demand, there is evidence for demand from a variety of sources.

It is important to note that the focus of this plan is more generalized due to the large scale and scope of the MPO boundaries and the lack of the same kinds of explicit demand and deficiency data available for vehicular travel. For Non-Motorized transportation planning purposes, popular destinations and demographic factors along with existing Non-Motorized facilities were used to help identify those areas that are likely to be significant destinations. Map 5 helps to illustrate those network destinations for Non-Motorized travelers. As the Non-Motorized project lists were developed, the KATS made the assumption that our area municipalities have a good understanding of local Non-Motorized demand beyond the demographic and incident-based data collected, and that this perceived demand is reflected in the projects suggested to the MPO.

Map 4 - Non-Motorized Network Population Density



Map 5: Network Destinations with Existing Non-Motorized Facilities



Existing Policy Context

At the Federal and State levels, policy and existing legislation support continued development of Non-Motorized transportation options.

Federal

The United States Department of Transportation Secretary of Transportation, Ray Lahood, signed a policy statement regarding bicycle and pedestrian accommodations, regulations, and recommendations on March 11, 2010:

"Federal transportation policy is to incorporate safe and convenient walking and bicycling facilities into transportation projects. Every transportation agency, including DOT, has the responsibility to improve conditions and opportunities for walking and bicycling and to integrate walking and bicycling into their transportation systems. Because of the numerous individual and community benefits that walking and bicycling provide — including health, safety, environmental, transportation, and quality of life — transportation agencies are encouraged to go beyond minimum standards to provide safe and convenient facilities for these modes."

This policy is based on various sections in the United States Code (U.S.C.) and the Code of Federal Regulations (CFR) in Title 23—Highways, Title 49—Transportation, and Title 42—The Public Health and Welfare. These sections describe how bicyclists and pedestrians of all abilities should be involved throughout the planning process, should not be adversely affected by other transportation projects, and should be able to track annual obligations and expenditures on Non-Motorized transportation facilities.

The purpose of this policy statement is to reflect the DOT's support for the development of fully integrated active transportation networks. The establishment of well-connected walking and bicycling networks is an important component for livable communities, and their design should be a part of Federal-aid project developments. Walking and bicycling foster safer, more livable, family-friendly communities; promote physical activity and health; and reduce vehicle emissions and fuel use. Legislation and regulations exist that require inclusion of bicycle and pedestrian policies and projects into transportation plans and project development. Accordingly, transportation agencies should plan, fund, and implement improvements to their walking and bicycling networks, including linkages to transit. In addition, DOT encourages transportation agencies to go beyond the minimum requirements, and proactively provide convenient, safe, and context-sensitive facilities that foster increased use by bicyclists and pedestrians of all ages and abilities, and utilize universal design characteristics when appropriate. Transportation programs and facilities should accommodate people of all ages and abilities, including people too young to drive, people who cannot drive, and people who choose not to drive.

State

The State of Michigan has provisions for Non-Motorized transportation contained within Act 51 of 1951, Section 10k, and from the MDOT's State Transportation Commission's (STCT) Context Sensitive Solution and Complete Streets policies.

Act 51 of the Michigan Public Acts of 1951 is the state law that distributes the primary state sources of transportation funding in Michigan. The formulas in the act distribute approximately $1.7 billion per year in state transportation revenues from the Michigan Transportation Fund to the state Department of Transportation, county road commissions, and cities and villages for maintenance and construction of roads and support of transit systems. Section 10k states that of the funds allocated from the Michigan Transportation Fund to the State Trunkline Fund and to the counties, cities, and villages, a reasonable amount but not less than 1% of those funds shall be expended for the construction or improvement of Non-Motorized transportation services and facilities. This money can be used for adding sidewalks, paving shoulders for bicyclists, and other facility development or redevelopment/repair.

In 2003, Governor Granholm issued an Executive Directive that requires MDOT to incorporate Context Sensitive Solutions (CSS) into transportation projects whenever possible and in the summer of 2005 the Michigan Department of Transportation approved CSS as state policy. Under CSS, MDOT solicits dialogue with local governments, road commissions, industry groups, land use advocates, and state agencies early in a project's planning phase. This dialogue helps to ensure that bridges, interchanges, bicycle facilities, and other

transportation projects "fit" into their communities. The CSS approach results in projects that respect a community's scenic, aesthetic, historic, economic, and environmental character.

In 2010, Governor Granholm signed Complete Streets legislation (Public Acts 134 and 135) that gave new project planning and coordination responsibilities to city, county and state transportation agencies across Michigan. The public act 135 provided for the appointment of a Complete Streets Advisory council to provide education and advice to the State Transportation Commission (STC), county road commissions, municipalities, interest groups, and the public on the development, implementation, and coordination of Complete Streets policies.

On July 26, 2012 the STC approved a Complete Streets policy that "…provides guidance to MDOT for the planning, design, and construction or reconstruction of roadways or other transportation in a manner that promotes complete streets as defined by the law, and that is sensitive to the surrounding context." [27] The Public Act 135 of 2010 defines complete streets as "…roadways planned, designed, and constructed to provide appropriate access to all legal users in a manner that promotes safe and efficient movement of people and goods whether by car, truck, transit, assistive device, foot, or bicycle." [29] The policy on complete streets is intended to supplement the policy for CSS.

Local

On September 24, 2014, the KATS Policy Committee approved a Complete Streets Policy. The purpose of this policy is to have all parties, KATS staff, municipalities, townships, road agencies, public transit agencies, and the public review projects as they are being planned so that needed Non-Motorized improvements can be included in the total project scope. Once local projects are included in the KATS Transportation Improvement Program with federal funding, the project scope is difficult to change.

The Complete Streets Policy will apply to those projects proposed for federal funding by local agencies within the Adjusted Census Urban Boundary (ACUB). This urban area includes the cities of Galesburg, Kalamazoo, Parchment, and Portage; the villages of Mattawan, Richland, Schoolcraft, and Vicksburg, and all or portions of Almena, Antwerp, Brady, Comstock, Cooper, Kalamazoo, Pavilion, Oshtemo, Richland, Schoolcraft, and Texas townships. Additional local complete streets policies have been adopted by many KATS member agencies, including Texas, Osthemo, and Kalamazoo Townships, the City of Portage and the Billage of Paw Paw.

The KATS Complete Streets Policy also supports compliance with Federal law [United States Code, Title 23, Chapter 2, Section 217 (23 USC 217)] requiring consideration for bicycling and walking within transportation infrastructure. FHWA also *"encourages transportation agencies to go beyond the minimum requirements, and proactively provide convenient, safe, and context-sensitive facilities that foster increased use by bicyclists and pedestrians of all ages and abilities, and utilize universal design characteristics when appropriate. (US DOT Policy Statement on Bicycle and Pedestrian Accommodation Regulations and Recommendations- 2010)."*

For more information, please refer to the Kalamazoo Area Transportation Study Complete Streets Policy.

[27] http://www.michigan.gov/documents/mdot/MDOT_CS_Policy_390790_7.pdf

Future Non-Motorized Transportation Improvements

The primary focus of the Non-Motorized portion of the Metropolitan Transportation Plan is threefold: to identify regionally significant priority projects, to enhance cooperation and coordination between jurisdictions for facility development, and thirdly, to address some of the challenges to Non-Motorized transportation facility development. Similar to both the Metropolitan Transportation Plan (MTP) and the Transportation Improvement Program (TIP), the Kalamazoo Area Transportation Study Non-Motorized Subcommittee worked together to identify Non-Motorized projects for our MPO area.

Subcommittee Makeup

A Non-Motorized Subcommittee was formed to help guide KATS staff and direct the planning process. Representatives from the KATS Technical and Policy Committees formed the Non-Motorized Subcommittee. Advocacy groups, concerned citizens, and other stakeholders were invited to provide comments throughout the planning process.

In addition to providing KATS staff with the latest information and maps of Non-Motorized facilities and local proposals, meetings served to identify partnership opportunities with neighboring jurisdictions and provide opportunities for coordination of resources and plans. Through the Non-Motorized Subcommittee, previous bicycle and pedestrian planning efforts were analyzed, network deficiencies were selected, and a general course of action was prescribed for addressing area priorities.

The KATS Non-Motorized Subcommittee Members

Libby Heiny-Cogswell, Oshtemo Township
Chris Forth, City of Portage
Darrell Harden, Michigan Department of Transportation
Matt Johnson, City of Kalamazoo
Rebekah Kik, City of Kalamazoo
Sean McBride, Kalamazoo Metro Transit
Ron Reid, Kalamazoo Township
Linda Kerr, Texas Township

Plan Vision, Goals, and Performance Measures

To provide direction and fundamental goals for project selection, the vision and goals are a result of collaboration with our committee members reviewing previous iterations of the KATS Non-Motorized plan dating back to 1996. The plan goals below have been identified with objectives, that following the implementation of performance-based planning, will be used to score the progress and outcome of this plans implementation in the future.

Plan Vision

It is the vision of the Kalamazoo Area Transportation Study (KATS) Non-Motorized Transportation element of the Metropolitan Transportation Plan (MTP) that an area-wide network of interconnected, convenient, safe, and efficient Non-Motorized routes may become an integral mode of travel for area residents.

Plan Goals & Objectives

As an element of the KATS Metropolitan Transportation Plan, this Non-Motorized plan directly reflects the goals and objectives set forth in the overall MTP. Please refer to the MTP for further information regarding Goals, Objectives, and Performance Measures.

Study Process and Project Evaluation Criteria

To understand what Non-Motorized projects are especially important for our area, the Kalamazoo Area Transportation Study began by examining where existing Non-Motorized facilities are located. Next, proposed and funded projects were mapped alongside the existing facilities to find breaks in the system. Parallel to the identification of system deficiencies, the Non-Motorized Subcommittee developed project evaluation criteria.

Recognizing the requirements set forth in the KATS Complete Streets Policy, adopted September 24, 2014, the following ratings system is designed to help facilitate Non-Motorized funding priorities. It does not guarantee funding, construction, or implementation of the proposed projects. It is a measure to compare projects within the Metropolitan Transportation Plan, not as a direct prioritization process for funding decisions.

Priority Rating System

Connectivity/Continuity: The project will fill a gap in relation to existing facilities and allow for the continuous flow of travel for a specific type of Non-Motorized travel (Up to 5 points).

Methodology: Up to 5 points are awarded for each project that increases system connectivity and continuity.

- 4 points - The project can be seen as bridging a significant gap or removing a significant current barrier that exists, creating a continuous facility.
- 2 Points - The project can be seen as bridging a minor gap or removing a minor current barrier that exists, creating a continuous facility.
- 1 Point - Additional point award if the facility being proposed services both bikers and pedestrians if nothing currently exists for either mode along the proposed facility/street alignment.

Safety/ADA: The project will eliminate conflict points between vehicles and forms of Non-Motorized travel. This should minimize the incidents of crashes, injuries, and fatalities.

Methodology: Five points are awarded for each project that address safety based on the following characteristics, with a minimum rating of one point. A point density GIS analysis was created using safety statistics provided from the State of Michigan Police Division. This provided a measure of crash rate and severity over time.

- 4 Points- The project falls in an area of moderate to high accidents.
- 2 Points- The project falls in an area of low accidents.
- 1 Point- Additional point award if the project is within a half a mile of a past pedestrian or bicycle related fatality.

Regional vs. Local Facility: The project allows for the continuous flow of travel for users and transportation impacts are regional or multi-jurisdictional.

Methodology: Up to 5 points are awarded based on the regional impact of the project proposed with a minimum award of one point.

- 5 Points- The project is a connection that is considered regional in nature, providing continuous flow between multiple municipalities within the area.
- 3 Points- The project is a connection that bridges a gap for a populous from a localized system to access a more regional network that extends into other jurisdictions.
- 1 Point- The project is considered local in nature, connecting local facilities to additional local facilities.

High Use/Social Equity: The project should satisfy local demand and expand the existing usage for pedestrians and/or bikers. It should provide transportation for the disadvantaged and underserved communities that traditionally fall in areas of high density. Environmental Justice Areas are those areas that have a statistically high occurrence of any particular race or poverty status. These are used in planning to give special attention to areas that may be unfairly burdened or left out of the public notification process during the Transportation Improvement Program (TIP) planning process.

Methodology: Up to 5 points are awarded based on the potential use and location within Environment Justice Areas.

- 5 points- The project serves a high density population center within an environmental justice area.
- 3 Points- The project is in a high or medium density area or makes a connection to an Environmental Justice Area.
- 1 Point- If the project is found to be in an area of low population density and does not connect to an Environmental Justice Area.

This scoring system is to be used as a guide to show what the MPO's priorities might be for funding proposed projects with federal dollars in the future. Each project is listed in the project list with its derived rating based on the priority components presented. The full list of projects with priority ratings, not constrained by any dollar amount, will be presented in tabular format in the following section.

Non-Motorized Project List

The Non-Motorized Project List developed far exceeds the historic levels of funding Non-Motorized transportation receives within this MPO area. It represents those projects identified through the Metropolitan Transportation Plan's call for projects and does not represent all of the infrastructure or routing options identified in this plan.

The levels of funding provided for Non-Motorized modes of transportation are inconsistent over time and vary with competition between projects for grant funds. Unlike the Metropolitan Transportation Plan list of projects which must be financially constrained, the list of Non-Motorized projects is broad in scope and summarizes some of the projects in the region unbound by projected funding levels.

The project list contained within this document brings together the desires of transportation agencies, communities and the public for future Non-Motorized improvements. It is a living document that will be updated as the needs of the communities and their residents evolve. The list contains individually requested projects as well as mileage for projects previously identified by communities and recorded in our geographic database. It should be noted that some projects in the list have already been approved for funding, but have been included in this needs list below to show the complete list of needed improvement.

Summary of Proposed Non-Motorized Projects

Year	Project Name	Limits	Work Type	Year of Expenditure Cost	Score
2016	Drake Road	West Main Street to Stadium Drive	Roadside Facility	$1,493,000	17
Description: Proposed project calls for installation of a 10 foot shared use pathway on the west side of Drake Road from West Main Street to Stadium Drive. (The east side of the road is under the jurisdiction of the City of Kalamazoo and has a 5 foot sidewalk for the entire limits of the proposed project except the very southern part.) As the design and public input process continues, the exact dimensions of the facility may be amended in certain portions of the corridor, and certain work may be required on the east side of the road in order to qualify for financial assistance.					
2016	West Main Street	Nichols Road to Sage Street	Roadside Facility	$190,000	14
Description: Proposed project calls for installation of a 5 foot sidewalk on the south side of West Main Street from Nichols Road to Sage Street.					
2016	Kalamazoo River Valley Trail	35th in Galesburg to Kalamazoo/Calhoun County line	New Route/ Structure	$2,842,500	13
Description: An eight-mile addition to the Kalamazoo River Valley Trail that will connect the current terminating point at 35th St in Galesburg, to the Village of Augusta. With this addition, the Kalamazoo River Valley Trail will link together the Kal-Haven Trail to the Battle Creek Linear Path, connecting over 140 miles of regional trail systems.					
2016	Kendall Avenue	West Main Street to Kalamazoo Township Limits	Roadside Facility	$60,875	10
Description: Proposed project calls for installation of a 5 foot sidewalk on both sides of Kendall Avenue to fill in the gaps in the existing sidewalk system that exists between West Main Street and the Kalamazoo Township Limits to the south.					
2016	Solon Street	West Main Street to Kalamazoo Township Limits	Roadside Facility	$129,000	10
Description: Proposed project calls for installation of a 5 foot sidewalk on both sides of Solon Street from West Main Street to the Kalamazoo Township limits.					
2017	KL Avenue	Drake Road to Copper Beech	Roadside Facility	$900,000	17
Description: Proposed project calls for installation of a 10 foot shared use pathway on the north side of KL Avenue from Drake Road to the entry drive of the Copper Beech Apartments. A subsequent project will continue the facility to the west and connect to 9th Street. Wide shoulders are also included in the proposal for the full extent of the project.					
2017	Olmsted Road	Miller Road to Lake Street	Roadside Facility	$280,000	13
Description: Proposed project calls for installation of a 5 foot sidewalk on both sides of Olmsted Road from Miller Road to Lake Street. Wide shoulders are also included in the proposal for the full extent of the project.					

Year	Project Name	Limits	Work Type	Year of Expenditure Cost	Score
2017	Grand Prairie Road	Stone Mill Street to Drake Road	Roadside Facility	$64,750	13
Description: Proposed project calls for installation of a 5 foot sidewalk on the north side of Grand Prairie Road from Stone Mill Street to Drake Road. Stone Mill Street represents the border with the City of Kalamazoo and from that point west, the south side of the road is in the City. A partner project continues the Non-Motorized facility to Nichols Road. Wide shoulders are also included in the proposal for the full extent of the project.					
2017	Grand Prairie Road	Nichols Road to Stone Mill Street	Roadside Facility	$120,750	11
Description: Installation of a 5 foot sidewalk on both sides of Grand Prairie Road from Nichols Road to Stone Mill Street. Stone Mill Street represents the border with the City of Kalamazoo and from that point west, the south side of the road is in the City. A partner project continues the Non-Motorized facility to Drake Road. Wide shoulders are also included in the proposal for the full extent of the project.					
2017	Lake Street	Olmsted Road to Kalamazoo Township limits	Roadside Facility	$138,750	11
Description: Proposed project calls for installation of a 5 foot sidewalk on the both sides of Lake Street from Olmsted Road east to the Kalamazoo Township limits. Wide shoulders are also included in the proposal for the full extent of the project.					
2017	Nichols Road	Alamo Avenue to G Avenue	Roadside Facility	$350,000	11
Description: Proposed project calls for installation of a 5 foot sidewalk on both sides of Nichols Road between Alamo Avenue and G Avenue with exception of a few places where an existing sidewalk facility is already located.					
2018	Miller Road	Sprinkle Road to Kalamazoo Township Limits	Roadside Facility	$65,000	15
Description: Installation of a 5 foot sidewalk on both sides of Miller Road from Sprinkle Road east to the Township limits with the City of Kalamazoo. Wide shoulders are also included in the proposal for the full extent of the project.					
2018	Business Loop 94	Lake Street to KRVT (via King Highway)	Roadside Facility	$90,000	14
Description: Proposed project calls for installation of a 10 foot asphalt shared use pathway on Business Loop 94 from Lake Street to King Highway and then continuing east to access the KRVT. This is a project included in the BL-94 Gateway Plan.					
2018	Kalamazoo River Valley Trail	M-96 in Augusta north to M-89/Gull Lake in Ross Township	New Route/Structure	$2,000,000	13
Description: A 3.5-mile addition to the Kalamazoo River Valley Trail that will connect the eventual Village of Augusta segment north to Gull Lake/M-89.					
2018	Mosel Road	Douglas Avenue to Westnedge Avenue	Roadside Facility	$175,900	13
Description: Proposed project calls for installation of a 5 foot sidewalk on both sides of Mosel Road from Douglas Avenue to Westnedge Avenue. Wide shoulders are also included in the proposal for the full extent of the project.					
2018	Stadium Drive	8th Street to 11th Street	Roadside Facility	$116,000	13
Description: Proposed project calls for installation of a 5 foot sidewalk on both sides of Stadium Drive from 8th Street to 11th Street. There are some existing sections of sidewalk on the north side of Stadium toward the eastern edge of this corridor but they are in poor condition and need replacement. Close to the 9th Street intersection, as part of the DDA's streetscape improvement program, it is likely that the sidewalk will increase in width considerably in order to serve a more commercial oriented environment.					
2018	Brook Drive	Gull Road to Spring Valley Park	Roadside Facility	$122,400	11
Description: Proposed project calls for installation of a 10 foot asphalt shared use pathway on Brook Drive from Gull Road to Spring Valley Park.					
2018	Nazareth Road	Gull Road to East Main Street	Roadside Facility	$240,000	11
Description: Proposed project calls for installation of a 5 foot sidewalk on the both sides of Nazareth Road from Gull Road to East Main Street. Wide shoulders are also included in the proposal for the full extent of the project.					
2018	Barney Road	Nichols Road to Douglas Avenue	Roadside Facility	$188,700	9
Description: Proposed project calls for installation of a 5 foot sidewalk on both sides of Barney Road from Nichols Road to Douglas Avenue. Wide shoulders are also included in the proposal for the full extent of the project.					
2018	Douglas Avenue	G Avenue to Kalamazoo Township Limits	Roadside Facility	$341,500	11
Description: Proposed project calls for installation of a 5 foot sidewalk on both sides of Douglas Avenue from G Avenue south to the Township border with the City of Kalamazoo. Wide shoulders are also included in the proposal for the full extent of the project.					

Year	Project Name	Limits	Work Type	Year of Expenditure Cost	Score
2019	Kalamazoo River Valley Trail	M-89/Gull Lake in Ross Township eastward to the Village of Richland	New Route/Structure	$3,800,000	13
Description: A 5-mile addition to the Kalamazoo River Valley Trail that will connect the eventual Gull Lake/M-89 segment eastward to the Village of Richland.					
2019	Squires Drive	Ravine Road to Drake Road	Roadside Facility	$100,000	11
Description: Proposed project calls for installation of a 10 foot asphalt shared use pathway on Squires Drive from Ravine Road to Drake Road.					
2019	10th Street	West Main Street to Kal-Haven Trailhead	Roadside Facility	$645,000	11
Description: Proposed project calls for installation of 10 foot wide asphalt shared use pathway on east side of 10th Street from West Main Street to H Avenue with a 5 foot wide sidewalk facility on the west side of the road. A 10 foot wide asphalt shared use pathway would continue on the west side of the road from H Avenue to the Kal-Haven Trail Head to the north. Wide shoulders are also proposed to be added to the corridor.					
2019	Off Road (near King Hwy)	King Highway to East Michigan Avenue	Roadside Facility	$46,000	9
Description: Proposed project calls for installation of a 10 foot asphalt shared use pathway on Township property from King Highway north to East Michigan Avenue.					
2019	Nazareth Road	East Main Street to Kenilworth	Roadside Facility	$93,720	9
Description: Proposed project calls for installation of a 10 foot asphalt shared use pathway on Nazareth Road from East Main Street to Kenilworth Avenue.					
2020	NA	Kalamazoo River Valley Trail to Ransom Street	Roadside Facility	$300,000	19
Description: Construction of an off road Non-Motorized transportation trailway.					
2020	KL Avenue	9th Street to Copper Beech	Roadside Facility	$610,000	14
Description: Proposed project calls for installation of a 10 foot shared use pathway on the north side of KL Avenue from 9th Street to the entry drive of the Copper Beech Apartments. This connects to a previous project that provided a facility from Drake Road to the apartment entry drive. Wide shoulders are included for the full extent of the project.					
2020	9th Street	KL Avenue to H Avenue	Roadside Facility	$900,000	13
Description: Proposed project calls for installation of a 5 foot sidewalk on both sides of 9th Street from KL Avenue to West Main Street, the proposal calls for 5 foot sidewalks on both sides of the road. From West Main Street to H Avenue, a 10 foot shared use pathway is called for on the east side of 9th Street. This project corresponds to a subsequent project that will continue the Non-Motorized facility south to N Avenue. Wide shoulders are also included in the proposal for the full extent of the project.					
2020	Ravine Road	Nichols Road to Drake Road	Roadside Facility	$327,750	9
Description: Proposed project calls for installation of a 5 foot sidewalk on both sides of Ravine Road from Nichols Road to Drake Road. Wide shoulders are also included in the proposal for the full extent of the project.					
2021-2025	Portage Creek Trail	Kilgore to Lake	Roadside Facility	$2,960,489	19
Description: Construction of an off road Non-Motorized transportation trailway.					
2021-2025	H Avenue	9th Street to Drake Road	Roadside Facility	$1,311,496	15
Description: Proposed project calls for installation of a 5 foot sidewalk on the north and south side of H Avenue from 9th Street to Drake Road. Wide shoulders are also included in the proposed project. The exact design of the facility is subject to change as the project undergoes the public input and financing components of the design process.					
2021-2025	Olmsted Road	Miller Road to Lake Street	Roadside Facility	$347,265	14
Description: Proposed project calls for installation of a 10 foot shared use pathway on Olmsted Road from Miller Road to Lake Street including a crossing of BR-94.					
2021-2025	Kalamazoo River Valley Trail	D Ave. in Cooper Township north to Allegan County Line	New Route/Structure	$3,108,513	13
Description: A 3.5-mile addition to the Kalamazoo River Valley Trail that will extend north with plans to link to existing and future trail systems.					

Year	Project Name	Limits	Work Type	Year of Expenditure Cost	Score
2021-2025	Kalamazoo River Valley Trail	M-89/Gull Lake in Ross Township to Barry County/Kalamazoo County Line	New Route/Structure	$3,256,537	13
Description: A 5-mile addition to the Kalamazoo River Valley Trail that will connect the eventual Gull Lake/M-89 trail north to the Barry County/Kalamazoo County line.					
2021-2025	11th Street	Parkview Avenue to KL Avenue	Roadside Facility	$1,406,232	13
Description: Proposed project calls for installation of a 5 foot sidewalk on the west side of 11th Street from Parkview Avenue to KL Avenue. 11th Avenue already has wide shoulders on its northern extent, but wide shoulders would be incorporated in the southern portion. It is possible that this facility could be changed to a wider shared use pathway during the public input and design process.					
2021-2025	9th Street	KL Avenue to N Avenue	Roadside Facility	$2,072,342	12
Description: Proposed project calls for installation of a 5 foot sidewalk on both sides of 9th Street from KL Avenue to Stadium Drive with a 5 foot sidewalk proposed on the east side of the road from Stadium Drive to N Avenue. There are some existing facilities along 9th Street in this portion of the project, and the proposed facilities will work around and/or improve those facilities. The exact design may be modified as it goes through the financing and public input process. This project corresponds to a subsequent project that will continue the Non-Motorized facility north to H Avenue. Wide shoulders are also included in the proposal for the full extent of the project.					
2021-2025	Grand Prairie Road	Nichols Road to Drake Road	Roadside Facility	$355,259	9
Description: Proposed project calls for installation of a 10 foot asphalt shared use pathway on Grand Prairie Road from Nichols Road to Drake Road.					
2021-2025	Quail Run Drive	Stadium Drive to 9th Street	Roadside Facility	$64,124	9
Description: Proposed project calls for installation of a 5 foot sidewalk on the east side of Quail Run from Stadium Drive to 9th Street.					
2026-2030	West Michigan Avenue	Stadium Drive to Drake Road	Roadside Facility	$963,505	19
Description: Proposed project calls for installation of a 5 foot sidewalk on the both sides of West Michigan Avenue connecting Drake Road to Stadium Drive. Wide shoulders are also included in the proposal for the full extent of the project. It is possible that during the financing, design, and public input process, this project could be modified to become a wider shared use parkway.					
2026-2030	Parkview Avenue	Stadium Drive to Drake Road	Roadside Facility	$1,345,305	15
Description: Proposed project calls for installation of a 5 foot sidewalk on both sides of Parkview Avenue from Stadium Drive to Drake Road. It is possible that during the financing, design, and public input process, this project could be modified to become a wider shared use pathway. Wide shoulders are also included in the proposal for the full extent of the project.					
2026-2030	Off Road near Lake Street	Lake Street to KRVT	Roadside Facility	$900,472	13
Description: Proposed project calls for installation of a 10 foot asphalt shared use pathway from Lake Street north to the KRVT going off road and crossing the Kalamazoo River thereby requiring construction of a Non-Motorized bridge.					
2026-2030	Atlantic Avenue	9th Street to Parkview Avenue	Roadside Facility	$352,985	9
Description: Proposed project calls for installation of a 5 foot sidewalk on both sides of Atlantic Avenue from 9th Street to Parkview Avenue. It is possible that during the financing, design, and public input process, this project could be modified to become a wider shared use pathway. Wide shoulders are also included in the proposal for the full extent of the project.					
2026-2030	Nazareth Road vicinity	Off road - end of Nazareth Road to KRVT	Roadside Facility	$1,080,566	9
Description: Proposed project calls for installation of a 10 foot asphalt shared use pathway from Nazareth Road south to the KRVT going off road and crossing the railroad tracks along the way.					

The "Proposed Non-Motorized Facilities" map found on the next page includes projects individually identified in the KATS Metropolitan Transportation Plan call for projects, as well as projects identified in local and regional Non-Motorized plans. The Proposed Facilities represent a high level planning guide for project implementation and their inclusion does not guarantee funding. Their purpose is to help the MPO identify regionally significant priority projects and to enhance the cooperation and coordination between jurisdictions for facility development. Changes in routing, facility type, location, and local priority will change as proposed projects move towards implementation.

A detailed record of the community based effort to determine the proposed routing network is included as Appendix F of this document.

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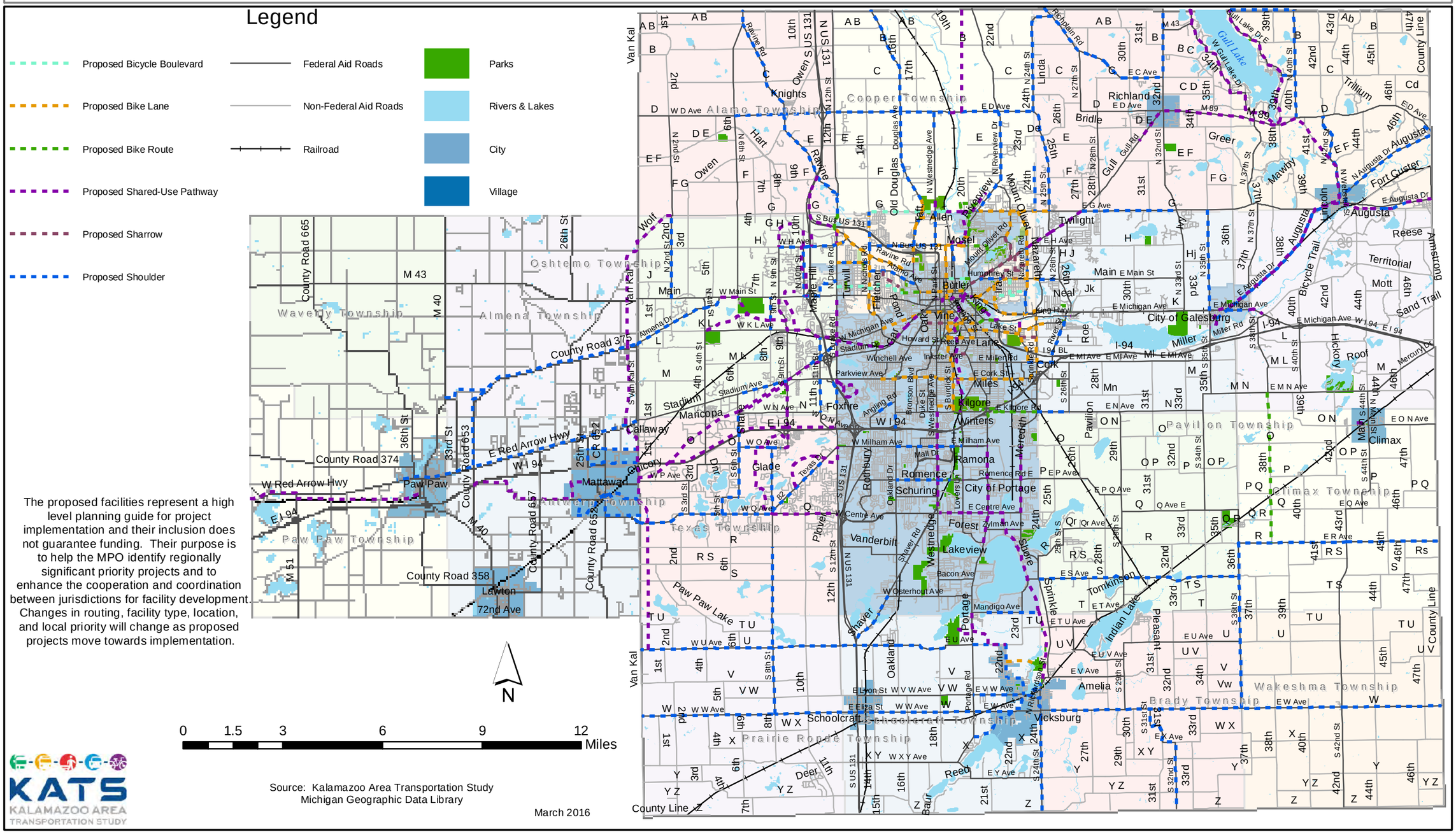
Map 6: Proposed Non-Motorized Facilities



The proposed facilities represent a high level planning guide for project implementation and their inclusion does not guarantee funding. Their purpose is to help the MPO identify regionally significant priority projects and to enhance the cooperation and coordination between jurisdictions for facility development. Changes in routing, facility type, location, and local priority will change as proposed projects move towards implementation.

Source: Kalamazoo Area Transportation Study
Michigan Geographic Data Library

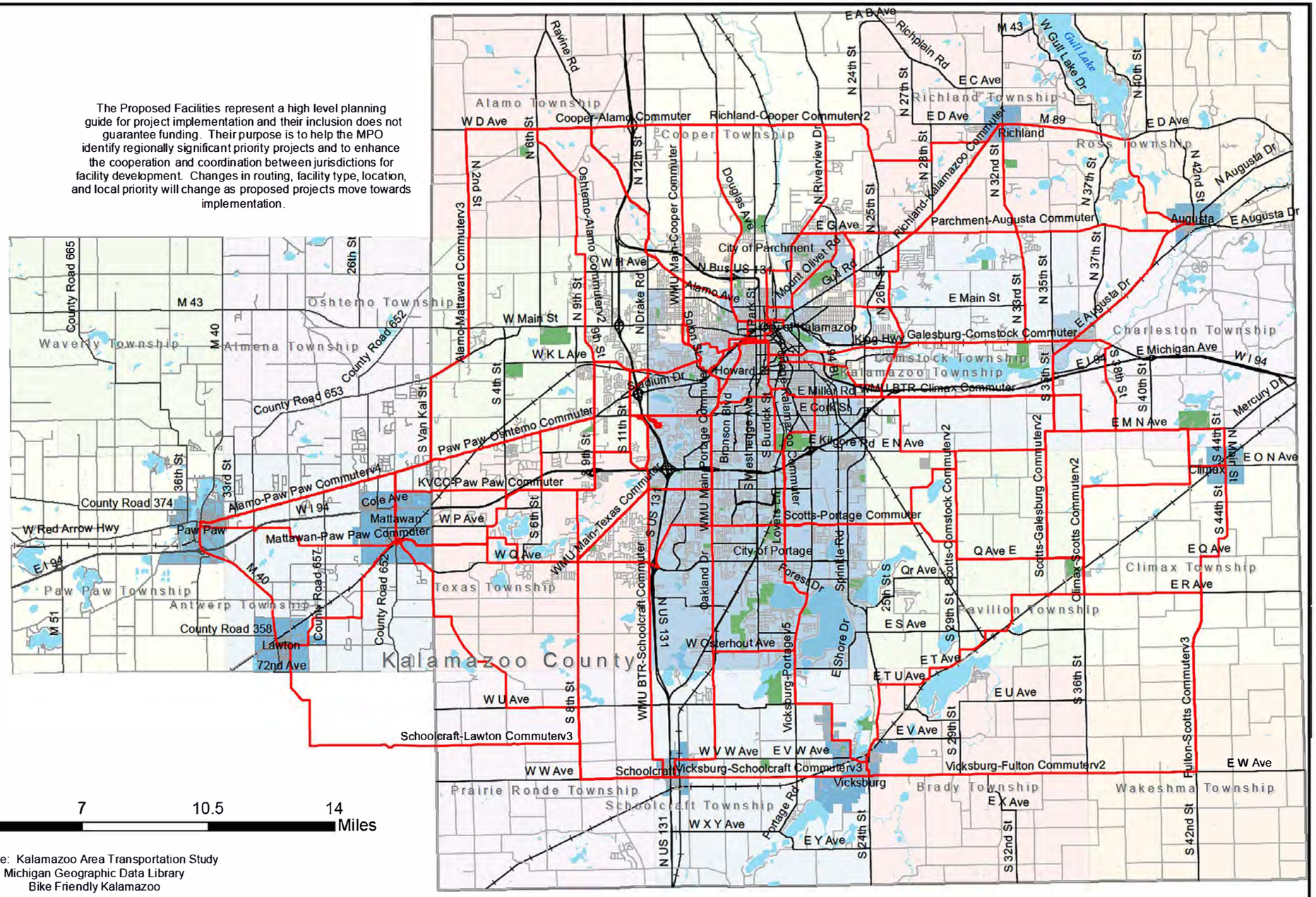
March 2016

Map 7: Proposed Bike Commuter Routes

Legend

- Federal Aid Roads
- Non-Federal Aid Roads
- Railroad
- Proposed Commuter Routes
- Parks
- Rivers & Lakes
- City
- Village

The Proposed Facilities represent a high level planning guide for project implementation and their inclusion does not guarantee funding. Their purpose is to help the MPO identify regionally significant priority projects and to enhance the cooperation and coordination between jurisdictions for facility development. Changes in routing, facility type, location, and local priority will change as proposed projects move towards implementation.



Source: Kalamazoo Area Transportation Study
Michigan Geographic Data Library
Bike Friendly Kalamazoo

March 1, 2016

Non-Motorized Transportation Funding Options

The primary deterrent to the development of Non-Motorized modes of transportation is cost. Much of the funding comes from local jurisdictions but there are several Federal and State funding sources available for facility development as well. Bicycle and pedestrian projects are broadly eligible for funding from nearly all major Federal-aid highways, transit, safety, and other programs. For federal funding, bicycle projects must be "principally for transportation, rather than recreation, purposes" and must be designed and located pursuant to the transportation plans required of states and Metropolitan Planning Organizations.

The funding category most often used in the past within the KATS MPO area besides locally raised money was Transportation Enhancement (TE) funds. Ten percent of a state's Surface Transportation Fund, the largest transportation fund available for improvements of every sort, was set aside as TE funds. Within the State of Michigan, municipalities often apply for competitively awarded TE funds at the State level. Recently, the Moving Ahead for Progress in the 21st Century (MAP-21) transportation bill has changed the way of thinking with the creation of Transportation Alternatives Program (TAP). 50% of the funds are still available at the state level for competitive grants, but with the introduction of the TAP, 50% of the spending power has been brought to the MPO level for programming Non-Motorized type projects in coordination with the TIP development. There are several categories of eligibility for TAP funds, many of which specifically relate to Non-Motorized transportation.

To better understand the funds available, a summary of the leading funding sources is provided. While this is not an exhaustive list, these are the programs that staff is aware of that have been used in our area for Non-Motorized facility development.

Federal Highway Administration Funding Sources

National Highway Performance Program

The National Highway System (NHS) is composed of 163,000 miles of urban and rural roads and highways serving major population centers, major travel destinations, international border crossings, and intermodal transportation facilities. The Interstate system is part of the National Highway System.

U.S. Department of Transportation
Federal Highway Administration

Purpose: The NHPP provides funding for construction and maintenance projects located on the National Highway System (NHS). The NHS system includes the entire Interstate system and all other highways classified as principal arterials.

Eligible Projects: All eligible projects must be located on the Interstate or NHS.

- Construction, reconstruction, resurfacing, restoration, rehabilitation, and preservation of highways and bridges
- Construction, rehabilitation, or replacement of existing ferry boats, and facilities including approaches that connect road segments
- Bridge and tunnel inspection and evaluation as well as the training of bridge and tunnel inspectors
- Safety projects
- Transit capital projects
- Federal-aid highway improvements
- Environmental restoration and mitigation
- Intelligent Transportation Systems
- Bicycle transportation and pedestrian walkways

Eligible Recipients: Eligible recipients include the Michigan Department of Transportation, all county road commissions, and all city and village street agencies.

Required Match: The NHPP funds will cover 90% of an eligible project's cost for most Interstate projects and 80% for other projects on the NHS. There is also a sliding scale but the remaining match comes from the eligible entity.

Funding: MAP-21 Interstate Maintenance, Highway Bridge and NHS programs. ***$21.75B (Federal Total, MAP-21)***
Project Application/Selection: ***Projects are selected through the Metropolitan Planning Organization during the Transportation Improvement Plan (TIP) programming period.***

Surface Transportation Program

The Surface Transportation Program (STP) provides States with flexible funds which may be used for a wide variety of projects on any Federal-aid Highway including the NHS, bridges on any public road, and transit facilities.

Purpose: The Surface Transportation Program is the most flexible of all the highway programs and historically one of the largest single programs. States and metropolitan regions may use these funds for highway, bridge, transit (including intercity bus terminals), and pedestrian and bicycle infrastructure projects.

Eligible Projects:

- Highway and bridge construction and rehabilitation
- De-icing of bridges and tunnels
- Federal-aid bridge repair
- Congestion pricing and travel demand management
- Off-system bridge repair
- Development of state asset management plan
- Transit capital projects
- Carpool projects and fringe and corridor parking
- Bicycle, pedestrian, and recreational trails
- Electric and natural gas vehicle infrastructure
- Construction of ferry boats and terminals
- Intelligent transportation systems
- Environmental mitigation
- Border infrastructure projects

Eligible Recipients: Eligible recipients include the Michigan Department of Transportation, all county road commissions, and all city and village street agencies.

Required Match: The STP funds can cover 80 % of the total cost of a project, with the rest to be covered by the states or local entities. There is also a sliding scale on match dollars for this funding type.

Funding: $10B (Federal Total, MAP-21)

Project Application/Selection: Projects are selected through the Metropolitan Planning Organization during the Transportation Improvement Plan (TIP) programming period.

Highway Safety Improvement Program (HSIP)

SAFETEA-LU established the Highway Safety Improvement Program (HSIP) in 2005. It replaced a previous set-aside of each State's STP apportionment for infrastructure safety activities. The recent adoption of MAP-21 continued the funding support for the HSIP.

Purpose: A safety program intended to reduce injuries and fatalities on all public roads, pathways or trails. There is an emphasis on enhanced data collection and performance. And with MAP-21, for the first time, a "road user" is defined as both a motorized and Non-Motorized user. The HSIP requires a data-driven, strategic approach to improving highway safety on all public roads that focuses on performance.

Eligible Projects: Any project on a public road, trail or path that is included in a state's Strategic Highway Safety Plan and corrects a safety problem such as an unsafe roadway element or fixes a hazardous location.

- Intersection improvements
- Construction of shoulders
- High risk rural roads improvements
- Traffic calming
- Data collection
- Improvements for bicyclists, pedestrians, and individuals with disabilities

Eligible Recipients: Eligible recipients include the Michigan Department of Transportation, all county road commissions, and all city and village street agencies.

Required Match: The HSIP grant covers 80% of the total cost of a project, with the rest to be covered by the states or local entities. There is also a sliding scale on match dollars for this funding type.

Funding: States administer the HSIP, with oversight by the Office of Highway Safety. $2.4B (Federal Total, MAP-21)

Project Application/Selection: This is a similar competitive grant process to that of Transportation Enhancements where a qualifying agency becomes the sponsor of a project and upon grant approval it is introduced to the TIP. Yearly there is a call for projects administered by the MDOT.

Congestion Mitigation and Air Quality Improvement Program

The Congestion Mitigation and Air Quality Improvement (CMAQ) Program assists areas designated as non-attainment or maintenance under the Clean Air Act Amendments of 1990 to achieve and maintain healthful levels of air quality by funding transportation projects and programs.

Purpose: The CMAQ program provides funding for projects that will relieve congestion and reduce pollution levels to help states and metro regions meet federal air quality standards. Funds are directed toward projects, programs, and strategies that provide residents with a possible transportation options that lead to lower pollution levels.

Eligible Projects:

- Establishment or operation of a traffic monitoring, management, and control facility
- Transit capital projects and improved transit services, including operational assistance for new or expanded service for up to 3 years
- Projects that improve traffic flow, including projects to improve signalization, construct HOV lanes, improve intersections, add turning lanes
- Bicycle and pedestrian facilities
- Diesel retrofits of older engines
- Variable roadway pricing
- Construction of facilities serving electric or natural gas-fueled vehicles
- Fringe and corridor parking facilities
- Projects that shift traffic demand to nonpeak hours or other transportation modes, increase vehicle occupancy rates, or otherwise reduce demand.
- Carpool and vanpool services
- Intelligent transportation systems
- Intermodal freight capital projects

Eligible Recipients: Eligible recipients include the Michigan Department of Transportation, all county road commissions, and all city and village street agencies.

Required Match: The CMAQ funds can cover 80% of the total cost of a project, with the rest to be covered by the states or local entities. There is also a sliding scale on match dollars for this funding type.

Funding: MAP-21 made it available for states to transfer up to 50% of CMAQ program funds into other programs for other uses, compared to 20% from before. $2.2B (Federal Total, MAP-21)

Project Application/Selection: Projects are selected through the Metropolitan Planning Organization during the Transportation Improvement Plan (TIP) programming period.

National Highway Traffic Safety Administration Funding Source

State and Community Highway Safety Grant Program (Section 402)
The State and Community Highway Safety Grant Program supports State highway safety programs designed to reduce traffic crashes and resulting deaths, injuries, and property damage.

Purpose: The Section 402 program provides grants to states to improve driver behavior and reduce deaths and injuries from motor vehicle-related crashes.

Eligible Projects: Under MAP-21, states are required to have a highway safety program that is approved by the Secretary. Funds can be spent in accordance with national guidelines for programs that:

- Reduce impaired driving
- Reduce speeding
- Encourage the use of occupant protection
- Improve motorcycle safety
- Improve pedestrian and bicycle safety
- Reduce school bus deaths and injuries
- Reduce Crashes from unsafe driving behavior
- Improve enforcement of traffic safety laws
- Improve driver performance
- Improve traffic records
- Enhance emergency services

Eligible Recipients: States are eligible for Section 402 funds by submitting an annual Performance Plan with goals and performance measures, and a Highway Safety Plan describing actions to achieve the Performance Plan.

Match: There is no local match required for funding used with this program.

Funding: Funds are apportioned to the states and at least 40% of funds must be spent by local governments or be used for the benefit of local governments. $235 M (Federal Total, MAP-21)

Project Application/Selection: This is a competitive grant process that is administered by the Office of Highway Safety Planning. States are required to submit their Section 402 and Section 405 consolidated grant application by July 1 of each fiscal year. The National Highway Traffic Safety Administration (NHTSA) will have 60 days to review and approve or disapprove the consolidated grant application.

Transportation Alternatives Program (TAP)

The Transportation Alternatives Program (TAP) has been designated as a primary source for Non-Motorized facility funding for our MPO. The TAP was established by congress in 2012, and is funded through a proportional set-aside of the cored Federal-aid Highway Program. Eligible activities include most activities historically funded as Transportation Enhancements (TE), the recreational Trails Program, and the Safe Routes to School (SRS).

Purpose: Provide for a variety of alternative transportation projects, including many that were previously eligible activities under separately funded programs through SAFETEA-LU.

Eligible Projects: Most projects eligible under the former programs remain eligible for TAP funding.

- Bicycle and pedestrian facilities
- Safe routes projects for non-drivers
- Construction of turnouts and overlooks
- Community improvement activities including vegetation management
- Historic preservation
- Rails to trails
- Control of outdoor advertising
- Archeological activities related to transportation projects
- Boulevard construction
- Any environmental mitigation activity

Eligible Recipients: Local and regional entities, including governments, transit agencies, transportation authorities, schools and natural resource agencies, may apply for TAP grants.

Required Match: The TAP grant covers 80% of the total cost of a project, with the rest to be covered by the states or local entities. There is also a sliding scale on match dollars for this funding type.

Funding: Transportation Alternatives (TA) funding will be awarded through a competitive grant process established and run by the states along with the Metropolitan Planning Organizations (MPO's) that represent over 200,000 in population. Half of the money allocated for TAP will go to the States and half will be programmed by the MPO. The State has the right to transfer half of their share to fund other unrelated projects. A portion of funding equal to the former Recreation Trails Program will be set aside for recreational trails projects and be available at the state level for grant availability unless the state opts out and includes this slice in the TA funds. All approved TAP projects are required to become part of the Transportation Improvement Program (TIP). $0.808 B (Federal Total, MAP-21($668 K for MPO in 2014))

Project Application/Selection: Projects are selected through the Metropolitan Planning Organization during the Transportation Improvement Plan (TIP) programming period for the MPO's portion of TA funds. The state's portion of TA funding is handled through a competitive grant process where submissions are reviewed and awarded quarterly.

State of Michigan Funding Sources

Michigan Department of Transportation

Michigan Transportation Fund Act 51 – Section 10k

Public Act 51 of 1951 governs state appropriations for most highway and transportation programs at the state and local Michigan level. It describes transportation revenue sources, transportation programs, and how revenues can be used.

Revenues from the Michigan Transportation Fund are generated from state gas and value taxes. The funding is divided among the Michigan Department of Transportation, county road commissions, cities, and villages. Each Act 51 agency is required by law to spend, at a minimum, 1% of the Act 51 dollars on Non-Motorized improvements. A recent change in State legislation eliminated the ability to use this money for paving gravel roads and maintenance, such as street sweeping, in an effort to increase the number of improvements constructed. This funding may be used to provide the match for federal funds.

In 1972, Act 51 of 1951 was amended (P.A. 327) to allow road agencies to expend funds on Non-Motorized transportation facilities, and since 1972 Act 51 has been amended several more times, the latest being P.A. 82 of 2006. Section 10k of P.A. 82 states:

1. Transportation purposes as provided in this act include provisions for facilities and services for Non-Motorized transportation including bicycling.
2. Allocates not less than 1% from the Michigan transportation fund for construction or improvement of Non-Motorized transportation services and facilities.
3. Improvements which facilitate Non-Motorized transportation shall be considered to be a qualified Non-Motorized facility for the purposes of this section.

4. Units of government need not meet the provisions of this section annually, provided the requirements are met, averaged over a period of 10 years.

Purpose: These funds are available for the construction and preservation of roadways for road agencies and for capital and operating support for public transit agencies. Revenues collected through highway user taxes (i.e., state motor fuels taxes, vehicle registration fees, etc.) are deposited in the MTF.

Eligible Activities: The maintenance of roadways to include: snow removal, cleaning, patching, signing, marking, reservation, reconstruction, resurfacing, restoration, and rehabilitation.

Eligible Recipients: Eligible recipients include the Michigan Department of Transportation, transit agencies, all county road commissions, and all city and village street agencies.

Match: No match is necessary for general use funds. For local street construction projects there is a 50 % match required. Also, these funds can be used for match dollars on other funding source grants.

Funding: A distribution formula exists to allocate transportation revenue between highway programs and public transportation programs, and highway program funds between MDOT and local road agencies. This formula is mainly determined by road classification and linear road mileage. Based on a ten-year average, a minimum of 1% of MTF's distributed must be used for Non-Motorized facilities. Such facilities can be in conjunction with or separate to the road. Projected MTF Distribution Totals for KATS in 2014: $59.44 M

Project Selection/Application: Act 51 creates a number of compliance and reporting requirements for MDOT and local road agencies for spending MTF's, but is distributed monthly for use on eligible activities. There is currently an Act 51 Distribution and Reporting System (ADARS) system that allows for the application and tracking of Michigan Transportation Funds the agencies have to report to yearly to secure future funding.

Michigan Department of Natural Resources

Michigan Natural Resources Trust Fund

Through funding derived from royalties on the sale and lease of State-owned mineral rights, the Michigan Natural Resources Trust Fund (MNRTF) began as the "Kammer Recreational Land Trust Fund Act of 1976". In 1984 Michigan residents voted and amended the State Constitution under Proposal B to create the MNRTF.

Purpose: The MNRTF objective is to provide grants to local units of government and to the state for acquisition and development of lands and facilities for outdoor recreation or the protection of Michigan's natural resources.

Eligible Activities: Priority project Types defined by the MNRTF board are trails/greenways, wildlife/ecological corridors and winter deeryard acquisitions, and projects located within urban areas. Activities for land acquisition include: land or specific rights in land (development or easements) for public outdoor recreation uses or protection of the land for its environmental importance or scenic beauty. Activities for recreation facility development Include: fishing and hunting facilities, boating access, beaches, picnic areas, campgrounds, winter sports areas, playgrounds, ball fields, tennis courts, and trails.

Note: All new construction and renovation must comply with all federal and state requirements regarding accessibility for people with disabilities.

Eligible Recipients: The state and counties, cities, townships, villages, school districts, the Huron-Clinton Metropolitan Authority, or any authority composed of counties, cities, townships, villages or school districts, or any combination thereof, which authority is legally constituted to provide public recreation. Local units of government must have a DNR-approved 5-year recreation plan on file with the Department prior to application.

Match: Local units of government must provide at least 25% of the projects total cost as local match.

Funding: Applications are evaluated using criteria established by the MNRTF Board of Trustees. Recommendations are made by the MNRTF Board of Trustees to the Governor, which are forwarded to the Michigan legislature for final approval and appropriation. Development project minimums and maximums are $15 to $300 thousand dollars. No minimum/maximum limits exist on land acquisition grants. Governor Snyder

signed a bill on March 28, 2013, approving $23.5 million in MNRTF grant appropriations funding 76 recreation development projects and land acquisitions for 2012 grant submissions. Out of this, Ottawa County received $94 thousand for Land Development and $581 thousand for Land Acquisition.

Project Selection/Application: Local community recreation plans must be submitted to the DNR by the application due date. Applications must be postmarked by the U.S. Postal Service no later than April 1st. Grant awards are dependent on the appropriations process, but project agreements are normally distributed within 12 to 18 months after the application submission. The application process includes:

1. Submittal of a community recreation plan
2. Submittal of grant application
3. Evaluation by DNR staff
4. Recommendation of funding by the MNRTF board
5. Appropriation of project funds by the Legislature

Other Miscellaneous Funding Sources

Millage

A millage is a tax on property owners based on the value of their home. Millages are use-specific and approved by a vote of the residents. Millages can be utilized to hire staff, engineers, and construction firms, provide maintenance to facilities, or form the basis of a bond issue to provide capital for the construction of Non-Motorized facilities. For example, in November 2006, Ada Township residents approved a dedicated millage for a period of 15 years to be used exclusively for expansion, operation, and maintenance of the township's Non-Motorized trail system.

Special Assessment

A special assessment is a special kind of tax on a subset of a community. Special assessments are placed on those adjacent land owners who will receive the greatest benefit from a project to be funded using a special assessment. Special assessments are a common way cities fund sidewalk construction and improvements.

General Funds

A community's or road agency's general fund dollars have no restrictions placed on them preventing them from being used for Non-Motorized improvements. Indeed, general funds are among the most unrestricted funds at a community's discretion. The improvements do, however, need to be approved by a community's governing body such as a board of commissioners or city council. Locally, many municipalities have made exceptional use of general funds to leverage Transportation Enhancement grants for shared-use path development. Additionally, communities may repay bonds with general funds or with a dedicated millage.

Private Sources

Thanks to the generosity of private donors in West Michigan several of the largest and most successful trail projects have been funded in large part by grants from private benefactors, notable Frederik Meijer. Additionally, some communities hold fund drives to raise private funds or other grants of labor and materials in small increments from the community.

Foundations

Community and private foundations may also provide an important funding source for Non-Motorized transportation development. For example, MDOT Transportation Enhancement grants will pay for the construction of shared-use paths but not for any feasibility studies or engineering work. Foundations can play an important part in filling the gaps left by other funds. Other facility amenities such as picnic grounds or boardwalks may also be paid in part with grants from foundations.

Study Recommendations

The project list provides a framework for moving forward with improvements that are recommended and endorsed by the local municipalities. With this information and an understanding of the funding sources available, the next task is finding a variety of strategies to implement the plan. While the focus is transportation planning, some land use planning tools can be useful for finding solutions to the ever-tightening rights-of-way and the spectrum of demands on our transportation system.

Local Plan Coordination

KATS staff does its best to coordinate projects that meet the needs of local communities with the hopes that the projects selected will have a regional impact. With this in mind, the best route to take for a member of the public to see what their community has specifically planned for pedestrian or Non-Motorized facility construction is to view their local jurisdiction's plan. It is imperative that locally defined projects be coordinated with federal aid road construction when possible to save on construction costs. Listed below are the a few bike or recreation plans that exist throughout the metropolitan planning area. The plans identified below are great examples of Jurisdictions working locally to fill missing gaps for bicyclist and pedestrians, and enhance recreational opportunities in their communities. The list below is *not* a comprehensive list for the MPO area.

2014 Kalamazoo Township Non-Motorized Master Plan
2009 City of Kalamazoo Non-Motorized Plan
2012 Oshtemo Township Non-Motorized-Plan
2014 Texas Township Existing and Proposed Non-Motorized Routes
2014 City of Portage (as part of the Comprehensive Plan, page 23)

Copies of the plans are available on KATS website under the local documents webpage at www.KATSmpo.org.

Plan Conclusion

The Kalamazoo Area Transportation Study will continue to encourage pedestrian and bicycle travel as an alternative mode of transportation. We will also seek to leverage federal dollars from the available funding sources and implement proposed projects presented in this plan necessary to fill gaps in the Non-Motorized network. Future products and activities could include the following:

Future Products

- Update the map and the underlying inventory of bicycle and pedestrian facilities on a regular basis.
- Maintain a bicycle and pedestrian planning page within the KATS website with news, maps, events, and information with regional significance.
- Update proposed project listings as needed.

Future Activities

- KATS will facilitate and participate in regional forums, ad hoc committees, or workgroups as issues pertaining to pedestrian and bicycle transportation arise.
- As necessary, KATS will participate in regional efforts that aid in implementing the specific projects and policies of the Non-Motorized Transportation Plan element of the Metropolitan Transportation Plan.
- Continue to refine and evaluate the Transportation Improvement Program (TIP) funding process as it pertains to pedestrian and bicycle projects.
- Participate in multi-community pedestrian, bicycle, and transit connectivity efforts and activities.
- Continue to assist jurisdictions in cooperative Non-Motorized transportation planning efforts, especially with regard to closing gaps in the current system.
- Continue to support Transportation Alternatives grant applications by Act 51 agencies in the KATS area.

Walking and bicycling are important elements of an integrated, intermodal transportation system. Constructing sidewalks, striping bike lanes, building shared-use paths and sidepaths, installing bicycle parking at transit stops, educating children to ride and walk safely, and installing curb cuts and ramps for wheelchairs, all contribute to our national transportation goals of safety, mobility, economic growth, enhancement of communities, and the natural environment.

Appendices

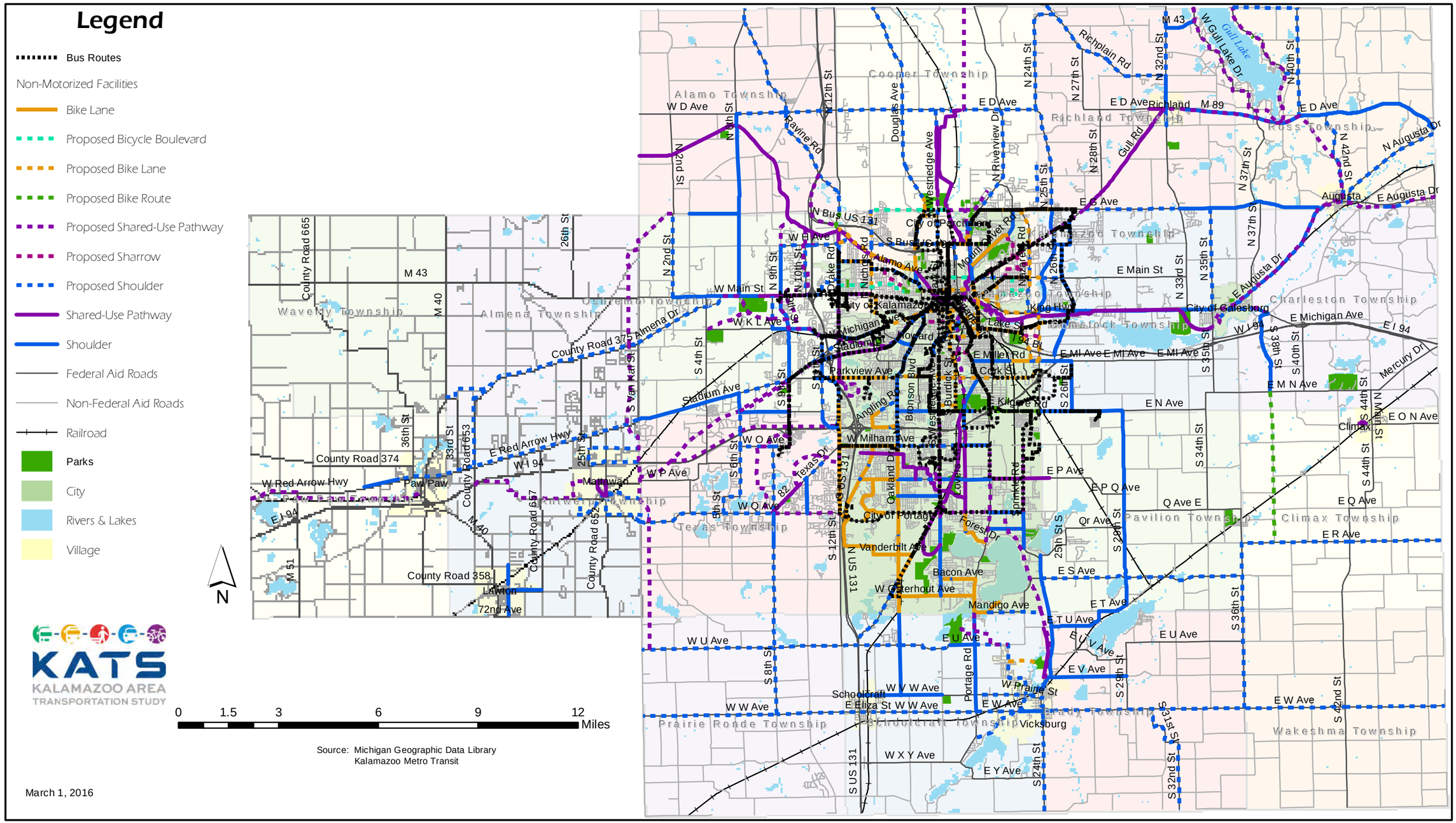
Appendix A – Non-Motorized Access and Transit

Many strategies need to be considered when integrating pedestrian and bicycle transportation with transit service. Bicycle racks on buses, bicycle parking and storage at transit facilities, pedestrian and bicycle facilities connecting origins with transit stops are all effective measures for promoting transit Non-Motorized connections. Pedestrians, particularly pedestrians with disabilities who rely on transit for their mobility needs, often require smooth continuous surfaces to reach transit stops and ultimately their destinations. Sidewalks and other pedestrian facilities are therefore a critical component of our transportation system, enabling the use of transit service especially for disabled people.

The map that follows depicts Kalamazoo Metro Transit's current bus routes along with existing and proposed Non-Motorized facilities in our region. As communities assembled Non-Motorized transportation projects for this document, one of the evaluation criteria was whether the proposed facility made connections to other modes of transportation, particularly transit.

Commonalities between the proposed bicycle and pedestrian projects and existing bus routes indicate multiple opportunities for connections between the two modes that would ultimately complement each other and increase accessibility and mobility for area residents.

Map 8: Kalamazoo Metro Transit Routes with Existing and Proposed Non-Motorized Facilities



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Appendix B – Safety

User safety is one of the principal goals of transportation planning. To address the concern for bicycle and pedestrian incidents with automobiles within our MPO boundaries, data was analyzed from the Michigan State Police Office of Highway Safety Planning (OHSP). Pedestrian and bicycle incident and fatality data from 2008 to 2014 was collected and mapped. This map also shows ¼ mile shaded areas around each school within the MPO area and those incidents falling inside those boundaries.

In review of the Non-Motorized Crash Data map, it is evident pedestrian and bicycle incidents occur throughout the MPO area. Many of these incidents occur in areas lacking facilities. Statistics indicate people will bicycle or walk, as they deem necessary, regardless of whether the proper facilities are in place to accommodate them. Indeed, of the pedestrians killed in the State of Michigan in 2012, 23 percent were killed while crossing streets other than at intersections, or not in crosswalks. Additionally, many incidents occur where streets have been engineered to increase vehicular capacity. With increased capacity for automobiles comes a lower level of service for other modes of travel. Put simply, each additional turn lane or through lane makes crossing a given intersection by foot or bicycle more difficult. Thus, design tradeoffs between modes are especially important to consider at intersections.

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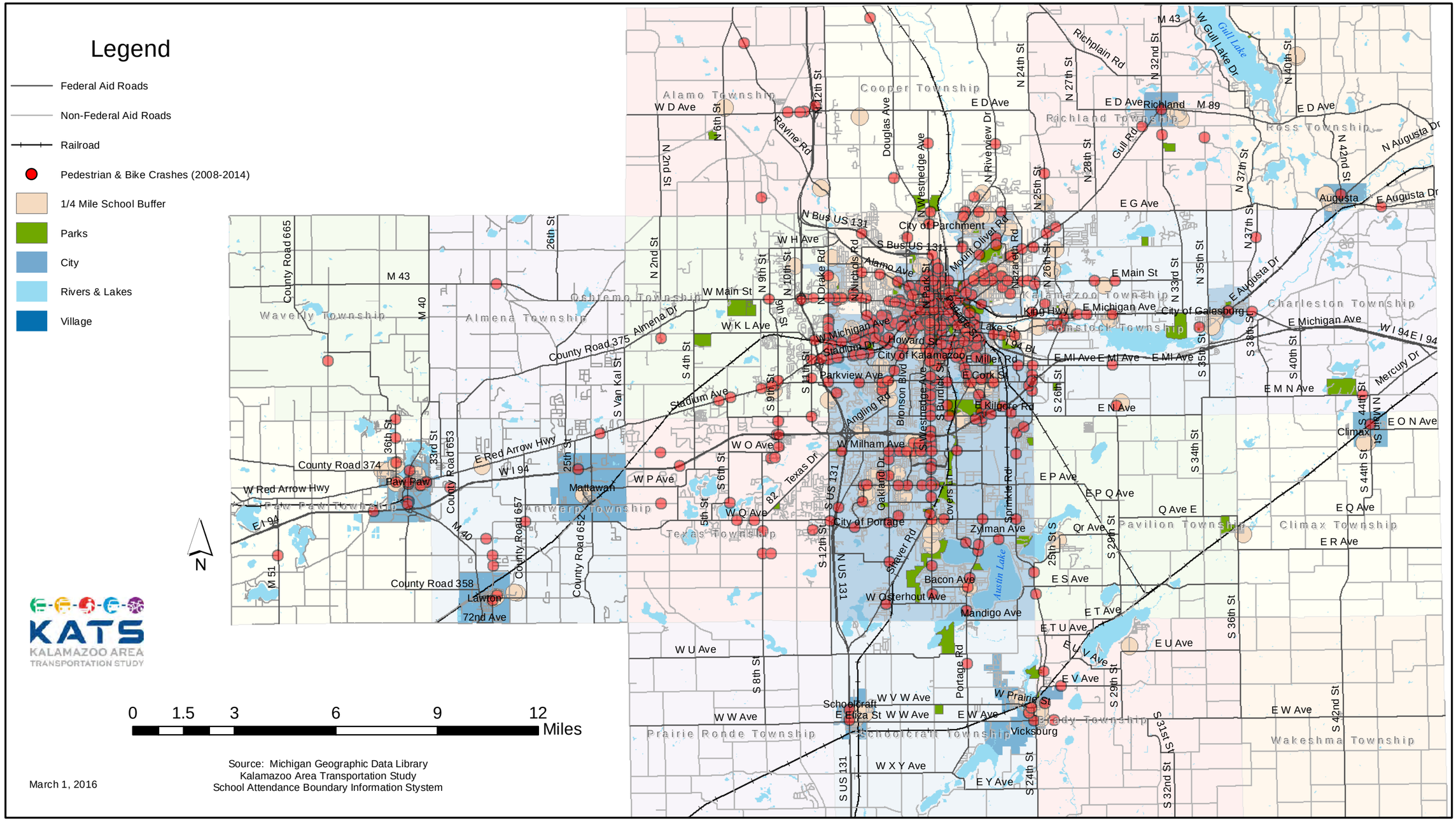
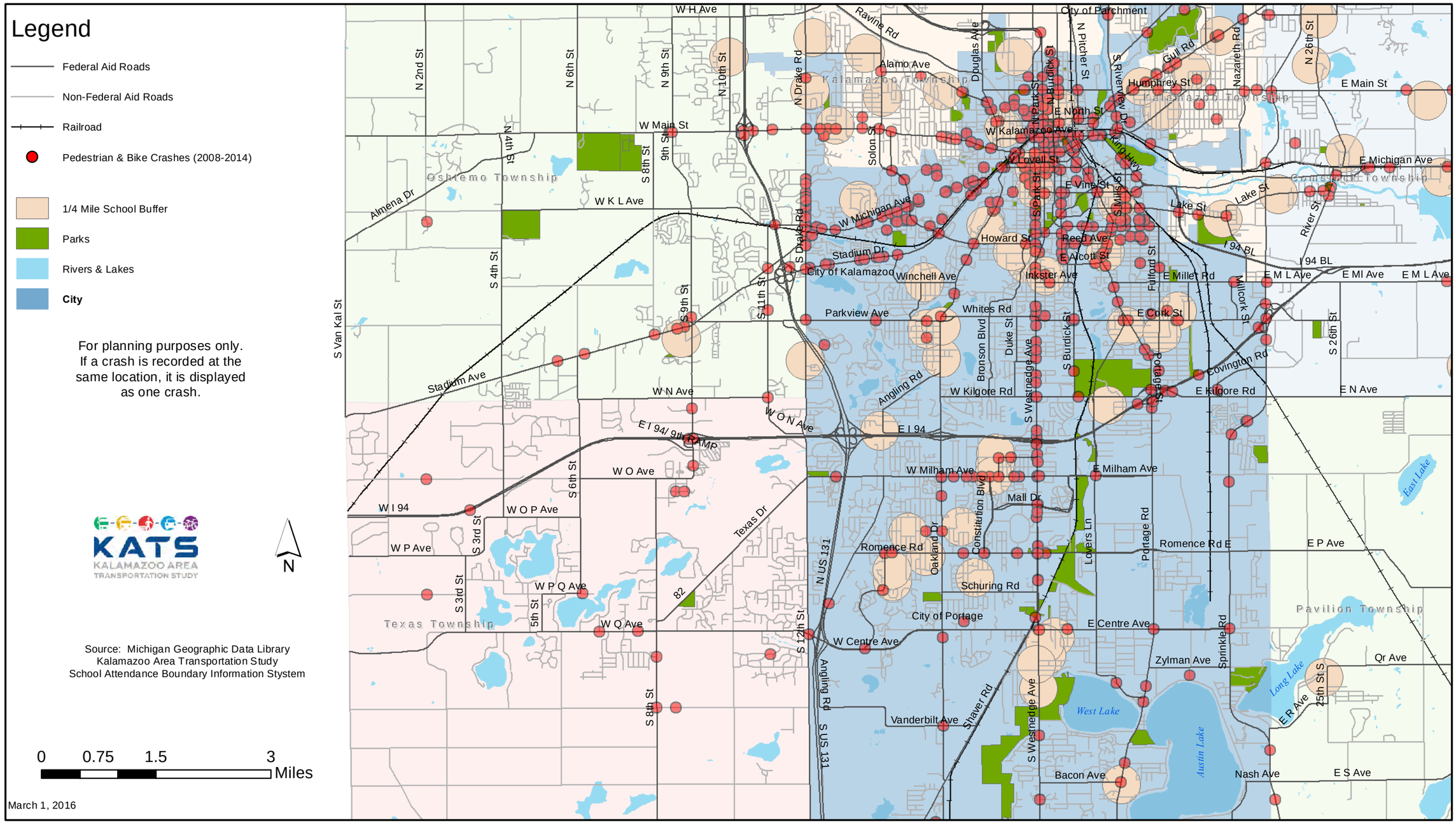
Map 9A - Non-Motorized Crash Data 2008 to 2014



Map 9B: Non-Motorized Crash Data Detail (2008-2014)



Appendix C – Americans with Disabilities Act of 1990 and Non-Motorized Transportation

The Americans with Disabilities Act of 1990 (ADA) is a landmark law recognizing and protecting the civil rights of people with disabilities. Title I of the ADA prohibits discrimination in employment on the basis of disability. Title III of the ADA prohibits discrimination on the basis of disability in the provision of goods, services, facilities, and accommodations by private entities that provide public accommodations or operate commercial facilities. But it is Title II of the ADA which prohibits discrimination on the basis of disability in the provision of services, programs, and activities by state and local governments, which is most relevant with regard to Non-Motorized transportation planning. As public entities covered under Title II of the ADA, transportation agencies are required and have a major responsibility to implement accessibility in their facilities and programs.

For more information about ADA guidelines visit: www.michigan.gov/disabilityresources or www.ada.gov

Under the ADA, services and facilities must be accessible to be nondiscriminatory, and the requirements for new construction and alterations are much more stringent than those for existing facilities. Sidewalks and trails, whether new or existing, are subject to the requirements of the ADA.

Within many state and local governments, it is difficult for pedestrian projects to compete with the priorities that have been placed on automobile travel. For example, our MPO, like many others, does not systematically require or fund sidewalk installations on new federal-aid roadway projects. However, our MPO process does ensure that if during road reconstruction a sidewalk is removed, federal dollars may be used to replace that sidewalk. Unfortunately, without local policies at either the MPO or city level that encourage sidewalk construction, it will be difficult to develop an adequate sidewalk network.

Since Title II Implementing Regulations for the ADA requires all newly constructed and altered facilities (including sidewalks) to be readily accessible to people with disabilities, transportation agencies are responsible for developing a transition plan for existing deficient sidewalk networks. A plan for bringing intersections and other pedestrian facilities into compliance may be integrated into the transportation element of a city's capital improvement program or master plan. Another method for local government to meet ADA requirements for pedestrian access includes enforcing accessible sidewalk design guidelines during the design and site-plan review stages of new developments.

In addition to improving existing facilities and ensuring new facilities meet local standards for sidewalk design, maintenance of sidewalk facilities is also important. While some local governments take responsibility for sidewalk maintenance, others hold property owners accountable. To ensure conformity with ADA requirements, it is recommended that sidewalk maintenance be the responsibility of the local government and be held to similar maintenance schedules as roads.

Appendix D – Title 23 United States Code

Title 23 United States Code
§217. Bicycle transportation and pedestrian walkways

a. **Use of STP and Congestion Mitigation Program Funds.** Subject to project approval by the Secretary, a State may obligate funds apportioned to it under sections 104(b)(2) and 104(b)(3) of this title for construction of pedestrian walkways and bicycle transportation facilities and for carrying out non-construction projects related to safe bicycle use.
b. **Use of National Highway Performance Program Funds.** Subject to project approval by the Secretary, a State may obligate funds apportioned to it under section 104(b)(1) of this title for construction of pedestrian walkways and bicycle transportation facilities on land adjacent to any highway on the National Highway System.
c. **Use of Federal Lands Highway Funds.** Funds authorized for forest highways, forest development roads and trails, public lands development roads and trails, park roads, parkways, Indian reservation roads, and public lands highways shall be available, at the discretion of the department charged with the administration of such funds, for the construction of pedestrian walkways and bicycle transportation facilities.
d. **State Bicycle and Pedestrian Coordinators.** Each State receiving an apportionment under sections 104(b)(2) and 104(b)(3) of this title shall use such amount of the apportionment as may be necessary to fund in the State department of transportation a position of bicycle and pedestrian coordinator for promoting and facilitating the increased use of Non-Motorized modes of transportation, including developing facilities for the use of pedestrians and bicyclists and public education, promotional, and safety programs for using such facilities.
e. **Bridges.** In any case where a highway bridge deck being replaced or rehabilitated with Federal financial participation is located on a highway on which bicycles are permitted to operate at each end of such bridge, and the Secretary determines that the safe accommodation of bicycles can be provided at reasonable cost as part of such replacement or rehabilitation, then such bridge shall be so replaced or rehabilitated as to provide such safe accommodations.
f. **Federal Share.** For all purposes of this title, construction of a pedestrian walkway and a bicycle transportation facility shall be deemed to be a highway project and the Federal share payable on account of such construction shall be determined in accordance with section 120(b).
g. Planning and Design.
    a. **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.
    b. **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.
h. **Use of Motorized Vehicles**. Motorized vehicles may not be permitted on trails and pedestrian walkways under this section, except for:
    a. maintenance purposes;
    b. when snow conditions and State or local regulations permit, snowmobiles;
    c. motorized wheelchairs;
    d. when State or local regulations permit, electric bicycles; and
    e. such other circumstances as the Secretary deems appropriate. [See the Framework for Considering Motorized Use on Non-Motorized Trails and Pedestrian Walkways]

Transportation Purpose. No bicycle project may be carried out under this section unless the Secretary has determined that such bicycle project will be principally for transportation, rather than recreation, purposes.

Definitions

In this section, the following definitions apply:

Bicycle transportation facility: The term ‘bicycle transportation facility’ means a new or improved lane, path, or shoulder for use by bicyclists and a traffic control device, shelter, or parking facility for bicycles.

Electric bicycle: The term ‘electric bicycle’ means any bicycle or tricycle with a low-powered electric motor weighing under 100 pounds, with a top motor-powered speed not in excess of 20 miles per hour.

Pedestrian: The term ‘pedestrian’ means any person traveling by foot and any mobility impaired person using a wheelchair.

Wheelchair: The term ‘wheelchair’ means a mobility aid, usable indoors, and designed for and used by individuals with mobility impairments, whether operated manually or motorized.

See also: Bicycle and Pedestrian Legislation in Title 23 United States Code (U.S.C.).

Bicycle and Pedestrian **Terminology**

MDOT
Michigan Department of Transportation

Published: March 2014

The following definitions and terminology are taken from official guidance documents, such as the 2012 American Association of State and Highway Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities; the 2009 AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities; the National Association of City Transportation Officials (NACTO) Urban Bicycle Design Guide; and the U.S. Access Board Publication-Accessible Public Rights-of-Way Planning and Design for Alterations.

Inclusion of these terms in this document does not constitute an endorsement of the designs, facilities or treatments.

Bicycle and Pedestrian Terminology

General Bicycle or Pedestrian Related Terms

Bicycle Related Facilities / Terms (Off-Roads)

Bicycle Related Facilities / Terms (On-Roads)

Pedestrian Specific Facility / Terms

Bicycle and Pedestrian Terminology

Activity Center

A public or private facility that acts as a trip generator.

Accessible Pedestrian Signal (APS)

Devices that communicate information about the WALK and DON'T WALK intervals at signalized intersections in non-visual formats to pedestrians who are blind or have low vision.

Americans with Disabilities Act (ADA)

Requirements for ensuring equal opportunity for persons with disabilities in employment, state and local government services, public accommodations, commercial facilities, transportation, and accessibility.

Barriers to Travel

Barriers usually refer to natural (hills, lakes, rivers) or man-made (freeways, bridges without sidewalks, neighborhood traffic control devices) obstacles to through-traffic or access.

Bicycle

A pedal-powered vehicle upon which the human operator sits. The term "bicycle" can include two- or three-wheeled human-powered vehicles. The Michigan Vehicle Code defines a bicycle as: "a device propelled by human power upon which a person may ride, having either 2 or 3 wheels in a tandem or tricycle arrangement, all of which are over 14 inches in diameter." MCL257.4

Bicycle and Pedestrian Terminology

Bicycle Boulevard

A segment of street, or series of contiguous street segments, that has been modified to accommodate through-bicycle traffic and minimize through-motor traffic. Another common term for a bicycle boulevard is a Neighborhood Greenway.

Bicycle (Bike) Box

A designated area on the approach to a signalized intersection, between a recessed motorist stop line and the crosswalk or intersection, intended to provide bicyclists a visible place to wait in front of stopped motorists during the red signal phase for the purpose of providing a head start at the onset of the green phase. The Bike Box is currently not a Michigan Manual of Uniform Traffic Control Devices (MMUTCD) – approved device and permission from the Federal Highway Administration (FHWA) to experiment is required before installing

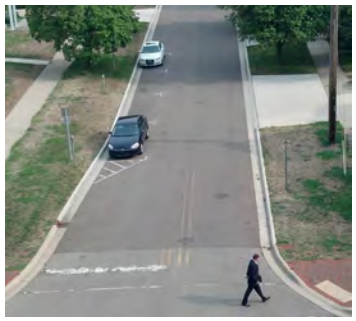
Bicycle Corral

An method of providing short-term bicycle parking by installing bicycle racks in the traditional auto on-street parking space, along the curb. (Source Association for Pedestrian and Bicycle Professionals – Bike Parking Guidelines 2010).

Bicycle Facilities

A general term denoting provisions to accommodate or encourage bicycling, including parking and storage facilities.

Bicycle and Pedestrian Terminology



Bicycle-Friendly

A roadway not designated by directional and informational markers, striping, signing or pavement markings for the preferential or exclusive use of bicyclists, but containing appropriate bicycle-friendly design standards, such as wide curb lanes and bicycle-safe drain grates.

Bicycle Lane or Bike Lane

A portion of roadway that has been designated for preferential or exclusive use by bicyclists with pavement markings and signs, if used. It is intended for one-way travel, usually in the same direction as the adjacent traffic lane, unless designed as a contra-flow lane.

Bicycle Network

A system of bikeways (see bikeway definition) designated by the jurisdiction having authority, either with a unique route designation or with Bike Route signs, along which bicycle guide signs may provide directional and distance information. Signs that provide directional, distance, and destination information for bicyclists do not necessarily establish a bike network.

Bike Path

A segment of road designated by a jurisdiction having authority with appropriate directional and informational markers but without striping, signing and pavement markings for the preferential or exclusive use of bicyclists.

Bike Route

A segment of road designated by a jurisdiction having authority with appropriate directional and informational markers but without striping, signing and pavement markings for the preferential or exclusive use of bicyclists.

Bikeway

A generic term for any road, street, path, or way in which 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.

Bollards

Wood or metal posts put in the middle of pedestrian/bike paths to restrict access of motor vehicles.

Buffered Bike Lane

A bicycle lane accompanied by a designated buffer space, separating the bicycle lane from the adjacent travel lane.

Chicane

Fixed objects projecting into the travel lane, such as curbing or fencing, requiring the user to weave a tight course between them, resulting in traffic calming.

Complete Streets

As defined by Michigan law, roadways planned, designed, and constructed to provide appropriate access to all legal users in a manner that promotes safe and efficient movement of people and goods whether by car, truck, transit, assistive device, foot, or bicycle. MCL 247.660p

Contra-flow Bicycle Lane

A bicycle lane that allows bicyclists to travel the opposite direction of motor vehicle traffic on a one-way street.

Crash or Collision

A crash or collision reflect a mistake or combination of mistakes and are not “accidents.” In terms of the bicyclist, collisions may involve the ground, a fixed object (e.g., a tree or bollard), a pedestrian, another cyclist, a parked or moving motor vehicle or an animal. They usually involve a mistake(s) on the part of users.

Crosswalk

That part of a roadway at an intersection that is included within the extensions of the lateral lines of the sidewalks on opposite sides of the roadway, measured from the curb line, or in the absence of curbs from the edges of the roadway. Also, any portion of a roadway at an intersection or elsewhere that is distinctly indicated for pedestrian crossing by lines or other markings on the surface.

Curb Extension

A section of sidewalk or a landscaped area extending into the roadway at an intersection or mid-block crossing that reduces the crossing distance for pedestrians and may help reduce traffic speeds.

Curb Ramp

A combined ramp and landing to accomplish a change in level at a curb. This element provides street and sidewalk access to pedestrians using wheelchairs, strollers or other devices with wheels.

Cycle Track

A bicycle facility separated from motor vehicle travel lanes, as well as sidewalks and pedestrians, by a physical barrier, such as on-street parking, a curb, or is grade-separated.

Detectable Warning

Standardized surface feature built in, or applied to, walking surfaces or other elements to warn pedestrians with vision impairments of hazards on a sidewalk and or loading platform, such as the curb line or drop-off. Detectable warnings are also called truncated domes.

Edge Line Markings

White or yellow pavement marking lines that delineate the right or left edge(s) of a traveled way. Also commonly called a fog line.

Grade-Separated Crossing

A facility, such as an overpass, underpass, skywalk, or tunnel, that allows pedestrians and motor vehicles to cross each other at different levels.

Highway

A general term denoting a public way for purposes of vehicular travel, including the entire area within the right of way.

Independent Right of Way

A general term denoting right of way outside the boundaries of a conventional highway.

Median Island

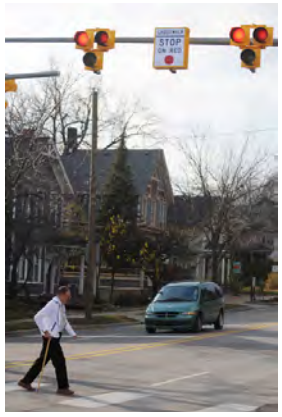
An island in the center of a road that physically separates the directional flow of traffic that provides pedestrians with a place of refuge, reducing the crossing distance between safety points.

Pathway

A non-descriptive general term referring to a bicycle only facility but with no standardized definition. Use of the term should generally be avoided as it may refer to a range of facilities.

Pavement Markings

Painted or applied line(s) or legend placed on any travel surface for regulating, guiding or warning traffic.



Pedestrian

A person on foot or in a wheelchair.

Pedestrian Hybrid Beacon (PHB)

The pedestrian hybrid beacon (also known as the High-intensity Activated crossWALK, or HAWK) is a pedestrian-activated device used to warn and control traffic at a non-signalized location to assist pedestrians in crossing at a marked crosswalk. The beacon head consists of two red lenses above a single yellow lens. The beacon head is “dark” until the pedestrian desires to cross the street and the device is activated.

Rail Trail

A shared-use path, either paved or unpaved, built within the right of way of a former railroad.

Bicycle and Pedestrian Terminology

Rail-with-Trail

A shared-use path, either paved or unpaved, built within the right of way of an active 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 (Assignment)

The right of a driver, bicyclist or pedestrian to proceed in a lawful manner in preference to another driver, bicyclist or pedestrian.

Rectangular Rapid Flashing Beacon (RRFB)

A user-actuated amber LED beacon that supplement warning signs at non-signalized intersections or mid-block crosswalks. They are activated by pedestrians manually by a push button or passively by a pedestrian detection system. RRFBs use an irregular flash pattern that is similar to emergency flashers on police vehicles.

Roadway

The Michigan Vehicle Code defines a roadway as: “that portion of a highway improved, designed, or ordinarily used for vehicular travel. In the event a highway includes 2 or more separate roadways, the term ‘roadway,’ as used herein, shall refer to any such roadway separately, but not to all such roadways collectively.” MCL 257.55

Source: MLIVE; Press Photo/Hollyn

Roundabout

Circular intersections which direct traffic counter-clockwise around a center island. Roundabouts offer a solution to the traditional intersection problems of delays, capacity and safety. Since everyone is traveling in the same direction and at lower speed, crashes are reduced. Left-turn, right-angle and head-on crashes are virtually eliminated. Roundabouts make efficient use of space and increase the capacity of an intersection. They also reduce delay, emissions and fuel consumption.

Rumble Strips

A textured or grooved pavement treatment designed to create noise and vibration to alert motorists of a need to change their path or speed. Longitudinal rumble strips are sometimes used on or along shoulders or center lines of highways to alert motorists who stray from the appropriate traveled way. Transverse rumble strips are placed on the roadway surface in the travel lane, perpendicular to the direction of travel.

Shared Lane

A lane of a traveled way open to both bicycle and motor vehicle travel.

Narrow Lane

A travel lane less than 14-feet-wide, which therefore does not allow bicyclists and motorists to travel side-by-side within the same traffic lane and maintain a safe separation distance.

Wide Curb Lane

A travel lane at least 14-feet-wide, adjacent to a curb, which allows bicyclists and motorists to travel side-by-side within the same traffic lane.

Bicycle and Pedestrian Terminology

Shared Lane Marking (SLM or "Sharrow")

A pavement marking symbol that assists bicyclists with lateral positioning in lanes too narrow for a motor vehicle and a bicycle to travel side-by-side within the same traffic lane.

Shared Roadway

A roadway open to both bicycle and motor vehicle travel.

Shared-Use Pathway

A bikeway physically separated from motor vehicle traffic by an open space or barrier, either within the highway right of way or an independent right of way. Shared-use paths also may be used by pedestrians, skaters, wheelchair users, joggers, and other nonmotorized users. Most shared-use paths are designed for two-way travel. Its minimum width is 10 feet. It is separated from vehicular traffic either by a barrier or a minimum lateral separation of 5 feet.

Shoulder

The portion of the roadway contiguous with the traveled way that accommodates stopped vehicles, emergency use, and lateral support of sub-base, base, and surface courses. Shoulders, where paved, are often used by bicyclists.

Shoulder Bicycle Lane

The portion of the roadway contiguous with the traveled way that is wide enough or has potential to accommodate stopped vehicles, emergency use, and lateral support of sub-base, base, and surface courses but is marked as a bicycle lane and meets relevant design criteria for bicycle lanes and paved shoulders.


Sidewalk

That portion of a street or highway right of way, beyond the curb or edge of roadway pavement, which is intended for use by pedestrians.

Sidepath

A shared-use path located immediately adjacent and parallel to a roadway.

Sight Distance

A measurement of the user's visibility, unobstructed by objects, along the normal travel path to the furthest point of the roadway surface.




Trail

Non-descriptive general term referring to off-roadway facilities but with no standardized definition. Use of the term trail should generally be avoided as it may refer to a range of facilities, including a coarse, unpaved hiking/biking route or a paved urbanized facility.

Bicycle and Pedestrian Terminology

Traveled Way

The portion of the roadway intended for the movement of vehicles, exclusive of shoulders and any bike lane immediately inside of the shoulder.

Truncated Domes

See Detectable Warning.

Unpaved or Unimproved Path

Path not surfaced with a hard, durable surface, such as asphalt or concrete.

U.S. Bicycle Route

An interconnected network of roads and/or paved shared-use pathways that are officially designated by the American Association of State and Highway Transportation Officials (AASHTO) and connect one state with another, a state with an international boarder or two U.S. Bicycle Routes. In Michigan, U.S. Bicycle Routes are intended for long-distance touring bicyclists who are comfortable riding with traffic. U.S. Bicycle Routes are mapped and may or may not be signed.

Non-Motorized Element

For More Information

Josh DeBruyn, AICP
Bicycle and Pedestrian Coordinator

Bureau of Transportation Planning
Michigan Department of Transportation
425 W. Ottawa Street
P.O. Box 30050
Lansing, MI 48909

517-335-2918
www.michigan.gov/mdot-biking

MDOT
Michigan Department of Transportation

MDOT: Providing the highest quality integrated transportation services for economic benefit and improved quality of life.

Appendix F: Community Route Development

Bike Friendly Kalamazoo's
Commuter Bike Route Development Process

Draft Version: December 6, 2015
Submitted to the Kalamazoo Area Transportation Study
Paul Selden

Introduction

The Kalamazoo Area Transportation Study (KATS) released its draft Non-Motorized Element component of its 2045 Metropolitan Transportation Plan on October 29, 2015.

This document outlines the systematic, community-oriented process by which the Proposed Commuter Bike Routes within the Non-Motorized Element were developed.

This is an outline; there may be gaps or questions about the process that occur to the reader. Further details are available upon request.

The community owes a great deal of thanks to the individuals who contributed to this effort, whose work is gratefully acknowledged.

Process Overview

The commuter bike routes were developed in an effort beginning in 2012. The process followed a systematic, iterative approach balancing a combination of elements, including:

- Google bike route mapping
- input from Kalamazoo Area Transportation Study (KATS) policy and technical committee members, KATS staff, and planners from many of the jurisdictions involved
- recognized state and national experts
- local bicyclist and citizen knowledge
- community stakeholders
- technical standards and guidelines
- printed maps
- local non-motorized plans
- other documented resources.

Published resources consulted are listed on Bike Friendly Kalamazoo's "Resources" tab (such as the technical standards).

At each step, from the very first use of Google Maps' bike route suggestions to the release to KATS of the refined bike routes in so-called .kml file format, Bike Friendly Kalamazoo (BFK) participants/volunteers took into account the factors alluded to above in forming their judgements as they became known and available.

A list of names of those who participated in the most relevant bike route related meetings convened by Bike Friendly Kalamazoo between 2012-2015 are presented in Exhibit A. The section entitled "Special Acknowledgements" lists names of additional contributors.

In total, some 400 versions/alternative bike routes were generated, reviewed and refined into a set of about 90 proposed commuter bike routes submitted to KATS.

Key steps in the route design process are summarized in this section. The specific individual steps and meetings held to conduct this process have been documented in more detail than practical to present here in their entirety, in the form of minutes. Two additional documents are reprinted here as Exhibits B and C (as published on www.bikefriendlykalamazoo) to help the reader understand the systematic nature of the process.

1. In February 2012, members of the Kalamazoo Bicycle Club (KBC), friends of the Open Roads Project, TriKats, and patrons of local bicycle shops were asked to submit descriptions of routes they used for bicycle commuting to KBC's Director of Road Safety; these routes were relayed to Steve Stepek of KATS. Routes were submitted by Daryl Hutson, Marc A. Irwin, Paul Selden, Chad Goodwill, Dale Krueger, Joan Orman, Neil Juhl, Paul Wells, Steve Johnson, Jeff Pregenzer, Christopher Gottwald, Karl Freye, Jon Ballema, John Byrnes, and Chris Dilley. This effort provided experience and data from which emerged ideas for further refining the route development process. During this period, Tom Swiatt provided key guidance by telephone.

2. In November 2012, participants in a public meeting which kicked off the bike route planning effort facilitated by BFK developed a set of written guidelines for the bike route planning volunteers (see Exhibit B). Chris Barnes, Joanna Johnson, Fred Nagler, Steve Stepek and Paul Selden participated in the development/review of these guidelines.

3. Participants in Bike Friendly Kalamazoo volunteered to map commuter, recreational, fitness and shopping oriented bike routes, following the guidelines mentioned in Step 2. These routes are posted under two of the links on BFK's "Where to Ride" tab at http://bikefriendlykalamazoo.org/trails-routes/ .

Following a round of discuss and review, feedback from a number of transportation planners and engineers made it clear that focusing on commuter related routes was most appropriate from the point of view of being able to approve posting of bike route signs, linking destinations that were relatively permanent features of the community within the KATS metropolitan planning organization (MPO). The rationale is easy to understand. The changeable and somewhat idiosyncratic nature of recreational and fitness routes makes them potentially unmanageably large in number and incompatible with the relatively permanent nature of signing. By the same token, the sheer number of shopping centers and neighborhoods within the KATS MPO, and the immense number of permutations/combinations of potential bike routes required to link them all, ruled out a focus on a shopping oriented bike route development, at least at the level of the KATS MPO. Further efforts were focused on commuter bike route mapping.

4. Since to our knowledge the attempt to establish such a comprehensive commuter bike route network was the first of its type within the KATS MPO, the effort limited itself to connecting permanent jurisdictions with easy to identify to/from "centers," or points of connection, where such those "nodes" were spaced far enough apart to warrant independent to/from routes.

The resultanting routes are comprehensive, but can be added to or modified as time goes on, as needed (for instance, if the KATS MPO boundaries are changed). The resulting routes have major additional benefits. They play a role as trunk lines which can be linked to via spurs as needed. Since the destinations chosen offer a tremendous concentration of places to shop as well as to work, the commuter routes could easily play a major role as shopping routes. The benefits of bicycling to commute and shop in turn offer many collateral benefits too numerous to list here (e.g., related to personal fitness, energy independence and savings, reduction of pollution,

personal enjoyment/recreation, etc.). In other words, the commuter bike routes offer great flexibility and will undoubtedly serve the community in many ways beyond their nominal designation as "commuter bike routes."

5. Volunteers used Google Maps to automatically generate bike route alternatives among all combinations of the nodes. Google typically suggested from one to three route alternatives. These were converted into more stable maps using the public, free internet application called Ride With GPS (see www.ridewithgps.com) to facilitate open review, comment and adjustment.

All of the initial automatically generated routes were reviewed and refined one or more times by one or more individuals with credible local knowledge of conditions and preferences. Many of these participants attended MDOT's "Training Wheels" seminar on how to develop bicycling facilities. During the review process it became clear that many of the Google-generated bike routes used seasonal trails with restricted hours of operation and/or were not open year round, footpaths, non-public roads, and gravel/dirt roads. Volunteers adjusted such routes to make use of on-road facilities.

As a reminder, a link to the close to 400 draft commuter route alternatives can be found on Bike Friendly Kalamazoo's "Where to Ride" tab, together with comments on how to interpret the naming/coding conventions used in the route titles.

6. During the final rounds of review the finer points of routing were conducted in close consultation with the individuals most familiar with the routes in question. More one on one discussion took place with representatives of jurisdictions, who were consulted at various points in the process via phone and email; fewer large meetings were necessary.

The main questions answered during these dialogs concerned where to locate their jurisdiction's to/from nodes (for purposes of connecting with neighboring jurisdictions), and, where to locate the most preferred inter-jurisdictional border crossings (to facilitate connectivity with their neighbors). Among others, the primary individuals consulted during such off-line dialogs included: Chris Barnes, Libby Heiny-Cogswell, Linda Kerr, Rebekah Kik, Marc Elliott, Karen High, Lawrence Hummel, Greg Milliken, Ann Nieuwenhuis, Ron Reid, Greg Rosine, Ken Schippers and Jeff Sorensen. Communication about these preferences was also extended to Russell Wickland, (Planning Consultant, The Preim Group, working on behalf of Texas Township). Darrell Harden also provided input regarding Michigan Department of Transportation plans.

7. To simplify the network, BFK eliminated routes that passed relatively close to an intervening destination. For example, since a bike route from Kalamazoo to Schoolcraft would pass through the preferred nodes within the intervening jurisdiction of the City of Portage, the routes Kalamazoo-Portage, and Portage-Schoolcraft were submitted to KATS (instead those individual routes, together with a Kalamazoo-Schoolcraft route). Only a single "tier one" route between such destinations was mapped in the draft 2045 Plan. Interested parties may review alternative routes via the links previously listed.

Remaining sections in this document cover some of the overarching considerations that were applied throughout the process.

Factors Considered

Bike routes chosen for submission to KATS represent a balanced judgement, balancing a large number of considerations at various stages of the process.

The following list offers a more concrete idea as to the considerations involved. These factors combined with an overall engineering concern for safety. Considerations included, but were not limited to factors such as:

Location and number of available roads
Posted speed limits
Traffic density
Route length
Location of currently posted bike lanes and bike routes
Cumulative changes in elevation (e.g., number and gradient of hills and valleys)
Shoulder type (presence/absence, width)
Sight distances (number of and type of turns/curves)
Number of turns required en route (e.g., complexity of wayfinding, rider confusion)
Road and shoulder (e.g., so-called PASER rating, tendency of shoulders to accumulate debris)
Illumination (e.g., presence of deep shadows, road lights)
Road composition (dirt/gravel vs. paved)
Local and Act 51 agency non-motorized plans
Opinions and preference of local planners/engineers
Bicyclist preference (experienced commuters plus on-line maps of bicyclist use on Strava.com)
Preference of computerized mapping engines/apps (e.g., Google, Garmin, Ride With GPS)
Location and type of bridges (which have the effect of funneling and limiting routing options)
Location of natural barriers (e.g, lakes, marshes, rivers, streams).

In practice, this meant for example, that sometimes the most direct or shortest route was not chosen if an alternative route used roads with lower traffic densities or fewer hills, wider shoulders, etc. Sometimes the route with a slightly lower traffic density was not as highly ranked if it took the rider on a gravel/dirt road, through dark stretches of road with narrow or no shoulders, etc. All in all however, most often the “tier one” route was a clear “winner.”

List of to/from Nodes

In alphabetical order, the mapped commuter bike routes connect the following destinations within the KATS metropolitan planning organization (MPO).

Alamo (Township)
Almena (Township; routes incorporate eastern border)
Antwerp (Township; see Villages of Lawton and Mattawan)
Augusta (Village)
Brady (Township; see Vicksburg)
Climax (Village)
Comstock (Charter Township)
Cooper (Charter Township)
Fulton (Community; mapped coincident with Wakeshma Township)
Galesburg (City)
Kalamazoo (City; mapped coincident with Kalamazoo Township)
Kalamazoo (Charter Township, see City of Kalamazoo)
Kalamazoo Valley Community College (Kalamazoo and Texas Township Campuses)
Lawton (Village; mapped coincident with Antwerp Township)
Mattawan (Village; mapped coincident with Antwerp Township)
Oshtemo (Charter Township)
Parchment (City)
Paw Paw (Village; mapped coincident with Paw Paw Township)
Portage (City)
Richland (Village)
Schoolcraft (Township; mapped coincident with Village of Schoolcraft)
Schoolcraft (Village)
Scotts (Community)
Texas (Charter Township)
Vicksburg (Village)
Wakeshma (Township, see Fulton)
Waverly (Township; not included in 10-29-15 draft of Non-Motorized Element)
Western Michigan University (Main and Engineering Campuses).

Where noted as “coincident with,” the to/from node(s) used were within the former jurisdiction, due to the centrality of the population and business center(s) within that part of the KATS MPO. Jurisdictional status was derived from Wikipedia.

List of Bicycle Route Planning Meetings Conducted by Bike Friendly Kalamazoo
Compiled by Paul Selden
Submitted for use by KATS September 25, 2015

Introduction
The lists below are excerpted from minutes of meetings hosted by Bike Friendly Kalamazoo (BFK) having as a major purpose to plan (e.g., to review guidelines) and map of bicycle routes in the Kalamazoo Area Transportation Study Metropolitan Planning Organization. The lists are based on a request from Steve Stepek of KATS in preparation for KATS' 2045 Transportation Plan.

Meetings in 2014 and 2015 that mainly consisted of presenting draft versions of bike route plans to the public (versus actively setting up route planning guidelines/considerations and planning the routes) are not included. Participants in email communications and off-line phone meetings for which no minutes were distributed are not listed.

On behalf of the greater community, I thank all participants for their significant contributions.

BFK Meeting dates and Attendees:

<u>April 12, 2012</u>
Chris Barnes, Director, Transportation and Utilities, City of Portage
Joanna Johnson, Managing Director, Kalamazoo County Road Commission
Kyle Lewis, KRVT Program Coordinator, Kalamazoo County
Paul Selden, Director of Road Safety, Kalamazoo Bicycle Club, Member, TriKats
Steve Stepek, Senior Transportation Planner, Kalamazoo Area Transportation Study

<u>October 25, 2012</u>
Gregg Andres, Systems Integration Engineer, Eaton Corporation
Chris Barnes, Director, Transportation and Utilities, City of Portage
Michelle Fakler, Sales Manager, Discover Kalamazoo
Rusty Fry, Planning Commission, Ross Township
Vanessa Hardy, Comstock Township Parks Director
Rebecca Harvey, Planning Consultant, Ross Township
Libby Heiny-Cogswell, Supervisor, Oshtemo Charter Township
Karen High, Parks Administrator, Oshtemo Charter Township
Jim Hoekstra, Traffic Engineer, KCRC/City of Kalamazoo
Tom J. Hohm, Chief Engineer, KCRC
Matt Hollander, Coordinator of Sustainability Projects, WMU
Frances Jewell, Director, Parks and Recreation Dept., City of Kalamazoo
Joanna Johnson, Managing Director, Kalamazoo County Road Commission
Jim Lauderdale, Planning Commission, Ross Township
Steve Makuch, Office of Sustainability, WMU
Tom McCoy, Assistant Parks Superintendent, City of Portage
Fred Nagler, City of Kalamazoo, Assistant City Engineer
David Rachowicz, Kalamazoo County Parks Department, Director
Jason Roon, Cabbage Bros. Bicycles
Paul Selden, Director of Road Safety, Kalamazoo Bicycle Club; Member, TriKats
Timothy Stewart, Principal, Hurley & Stewart

Bob Strader, Ride Leader, Pedalers Bicycle Group, Portage Senior Center
Thomas L. Swiat, Jr., Supervisor, Prairie Ronde Township
Chris Tracy, Honigman, et al., Co-Chair of KRVT Campaign Cabinet
Sam Urban, Membership Representative, Kalamazoo Regional Chamber of Commerce
Julie VanderWiere, Superintendent, Texas Township
Doug VanDyk, Manager, Global IT Training & Development, Stryker Corporation
David Warwick, Vice President, EnviroLogic, Lead Team Member, Kalamazoo Bike Week 2013
Paul Wells, Breakaway Bicycles and Fitness
Patrick White, Supervisor, Pavilion Township

January 17, 2013
Chris Barnes, Director, Transportation and Utilities, City of Portage
Kate Binder, Graduate Assistant, WMU Office for Sustainability
Kyle Doster, Officer, Portage Department of Public Safety
Marsha Drouin, Treasurer, Richland Township
Pamela Brown Goodacre, Trustee, Kalamazoo Township
Karen High, Parks Administrator, Oshtemo Charter Township
Jim Hoekstra, Traffic Engineer, KCRC/City of Kalamazoo
Tom J. Hohm, Chief Engineer, KCRC
Marc Irwin, Public Relations Chair, Kalamazoo Bicycle Club
Joanna I. Johnson, Managing Director, Kalamazoo County Road Commission
David Jones, District Representative, League of Michigan Bicyclists
Sean Kennedy, WMU Office for Sustainability
Kevin Martini, Office for Sustainability, WMU
Gary Miller, Chairperson, South County Intermunicipality Committee
Renee Mitchell, Education Chair, Kalamazoo Bicycle Club
Fred Nagler, City of Kalamazoo, Assistant City Engineer
Brian Petersen, Board Member, Open Roads Bike Project
Paul Selden, Kalamazoo Bicycle Club, TriKats
Alan Smaka, PE, Wightman & Associates, Inc.
Larry Stehouwer, Planning Commission, Cooper Township
Steve Stepek, Senior Transportation Planner, Kalamazoo Area Transportation Study
Doug VanDyk, Manager, Global IT Training & Development, Stryker Corporation
Paul G. Wells, Owner, Breakaway Bicycles and Fitness
Patrick White, Supervisor, Pavilion Township

October 3, 2013
Chris Barnes, Director, Transportation and Utilities, City of Portage
Laura Bell, Vice President, Bell's Brewery, Inc.
Jamie Clark, President, Central Manufacturing Services, Inc.
Jason Cole, Transportation Engineer, MDOT
Kyle Doster, Officer, Portage Department of Public Safety
Marsha C Drouin, Treasurer, Richland Township
Sean Fletcher, Director, Parks and Recreation Dept., City of Kalamazoo
Karl Freye, Assistant Director, Kalamazoo Bicycle Film Festival
Paul Guthrie, Laboratory Manager, Bronson Methodist Hospital
Darrell Harden, MDOT, Transportation Planner
Jim Hoekstra, Traffic Engineer, KCRC
Tom Hohm, Chief Engineer, KCRC
Marc Irwin, Public Relations Chair, Kalamazoo Bicycle Club
Lotta Jarnefelt, Director, Dept. of Planning and Comm. Dev., Kalamazoo Co.
David Jones, District Representative, League of Michigan Bicyclists

James Kirklin, Mattawan Parks & Recreation
Shawn Kloha, IT Project Manager, Stryker Corp.
Tim Krone, Owner, Pedal Bicycle
Kyle Lewis, KRVT Program Coordinator, Kalamazoo County
Fred Nagler, Assistant City Engineer, City of Kalamazoo
Carl Newton, Mayor, City of Galesburg
Margaret O'Brien, State Representative, District 61
Ken Quayle, Grocery Manager, People's Food Coop.
Louie Ramos, Resident Engineer, MDOT
Ron Reid, Supervisor, Kalamazoo Township
Bill Rose, President & CEO, Kalamazoo Nature Center
Paul Selden, Director of Road Safety, Kalamazoo Bicycle Club
Jonathan R. Start, Executive Director, Kalamazoo Area Transportation Study
Tim Stewart, Principal, Hurley & Stewart
Bob Strader, Ride Leader, Portage Pedalers, Portage Senior Center
Edie Trent, Legislative Aide to State Representative Sean A. McCann
Doug VanDyk, Manager, Global IT Training & Development, Stryker Corporation
David Warwick, Chair, Kalamazoo Bike Week 2014
Paul Wells, Owner, Breakaway Bicycles & Fitness

December 5, 2013
Lee Adams, Resource Coordinator, Kalamazoo County Department of Planning and Community Development; Administrator, Southcentral Michigan Planning Council
Kyle Doster, Officer, Portage Department of Public Safety
Paul Guthrie, Laboratory Manager, Bronson Methodist Hospital
Jeff Hamilton, Asst. Principal, Portage Public Schools
Michelle Karpinski, VP of Development, Kalamazoo Nature Center
Shawn Kloha, IT Project Manager, Stryker Corp.
Tim Krone, Owner, Pedal Bicycle
Jon Scott, Trustee, Ross Township; President, Gull Lake View Golf Club
Paul Selden, Director of Road Safety, Kalamazoo Bicycle Club; Member, TriKats
Richard Skalski, Senior Construction Engineer (former), City of Kalamazoo
Cara Smith, Bike Director, TriKats
Jodi Stefforia, Associate Planner, Kalamazoo Area Transportation Study
Doug VanDyk, Manager, Global IT Training & Development, Stryker Corporation

March 27, 2014
Osama Abudayyeh, Center Advisory Council, WMU Transportation Research Center
Chris Barnes, Director, Transportation and Utilities, City of Portage
John Byrnes, Traffic Services Director, KCRC (ret)
Dan Dombos, Senior Project Engineer, Abonmarche
Paul Guthrie, Laboratory Manager, Bronson Methodist Hospital
Jim Hoekstra, Traffic Engineer, KCRC/City of Kalamazoo
Jeanette Holm, Member, Kalamazoo Bicycle Club
Marc Irwin, Public Relations Chair, Kalamazoo Bicycle Club
Matt Johnson, City Engineer, City of Kalamazoo
Michelle Karpinski, Executive Director, Pretty Lake Camp
Shawn Kloha, IT Project Manager, Stryker Corp.
Tim Krone, Pedal Bicycle
Valerian Kwigizile, Associate Director, WMU Transportation Research Center
Jun Oh, Director, WMU Transportation Research Center
Kathy J. Schultz, Associate Planner, Kalamazoo Area Transportation Study

Paul Selden, Director of Road Safety, Kalamazoo Bicycle Club; Member, TriKats
Doug VanDyk, Manager, Global IT Training & Development, Stryker Corporation
Lewis Whalen, Program Mgr., Disability Network SW Michigan
Geoff Wilson, Project Engineer, Kalamazoo County Road Commission

June 25, 2014*
Lee Adams, Resource Coordinator, Kalamazoo Co. Dept. of Planning and Community Development; Administrator, Southcentral MI Planning Council
Greg Milliken, Planning Director, Oshtemo Township; Zoning Administrator and Planner, Kalamazoo Township
Paul Selden, Director of Road Safety, KBC; Member, TriKats
Jodi Stefforia, Planner, Kalamazoo Area Transportation Study
Steve Stepek, Senior Planner, Kalamazoo Area Transportation Study
Jack Urban, Commissioner, City of Kalamazoo
Lewis Whalen, Program Mgr., Disability Network SW Michigan
*Note: Route planning work group within larger meeting.

Valerie Litznerski, a member of the Kalamazoo Bicycle Club whose name is not listed above since she was unable to attend any of the formally scheduled meetings, contributed valuable routing feedback by email.

It should be noted that KATS policy and technical committee members representing many jurisdictions have also been involved in this route planning and mapping process, in informal phone and email communications. Their names can be made available upon further research.

Preliminary Guidelines for BFK's Route Planning Volunteers
Release Version November 11, 2012

To enable our plans to mesh most smoothly with longer term efforts and plans that might already be underway in the community, we suggest you keep in mind the following guidelines to the extent possible. Exceptions might be inevitable; use your best judgment, and try to provide enough commentary on those exceptions to enable others to understand the rationale.

To save your own time, assemble as many maps and plans as you can that may already support your efforts (such as the Southwest Michigan Road and Trail Bicycle Guide), prior to beginning. Contact the jurisdictions whose routes you are contemplating to receive an update on plans they may already have underway, if you do not have these already.

Routes can fall entirely within specific townships, villages, and cities. This offers each jurisdiction a local attraction, which in turn helps link their local attractions.

Routes that link enduring points of interest within or across jurisdictions have the best chance of receiving eventual signage within the right-of-ways and other infrastructure support.

Routes can be officially signed on the authority of a local jurisdiction, if signs are not posted within the right-of-way (examples might include an informational kiosk on private property or in a local park).

Consider that routes of various lengths will appeal to different types and numbers of riders. Shorter lengths might appeal to families with children on a short outing that does not require much preparation or fitness. Shorter loops (such as a north loop, south loop) can be combined to form longer trails that might appeal to more adult or more athletic riders.

Consider giving routes a name that adds to their appeal and the ability to describe and to promote their use.

To help decide where specific routes might be planned, consider the major features and destinations within the jurisdiction: major population centers, recreational destinations and scenic points, shopping centers, and geographic elements that lend themselves to various types of fitness related training (e.g., hills and flats).

Give priority to using roads with low traffic volume.

Give priority to using roads with shoulders, especially four foot shoulders.

Give extra consideration to routes using bridges that offer shoulders, sidewalks, and/or lower traffic volume.

Before sending your route out of your own subcommittee for review by others, ride the route yourself to ensure its suitability, if you have not already done so.

All routes must be considered preliminary until vetted by a responsible body. In the case routes being considered for posting on our www.bikefriendlykalamazoo.org web site, we will set up a process that includes review by our route planning committee. To begin with, our own routes must rely on existing infrastructure, and not rely on infrastructure that does not yet exist.

Reviewers of this document include:

Paul Selden
10-26-2012

Steve Stepek, AICP
Senior Transportation Planner
Kalamazoo Area Transportation Study
11-8-2012

Document was emailed for review to:
Christopher Barnes
Joanna Johnson
Fred Nagler
No negative comments received from them as of 11-11-2012

BFK Bike Route Notes August 2, 2015 Paul Selden
Please read these notes below carefully. Doing so will save time and confusion down the road.

1. Routes were developed using a systematic route mapping approach (details available on request), using a combination of Google bike route mapping, input from Kalamazoo Area Transportation Study (KATS) policy and technical committee members, KATS staff, local bicyclist knowledge and reference to existing non-motorized plans in an efforts that began in 2012. They are route suggestions for general informational and educational purposes by the public. The user assumes all responsibility for their use.

2. The routes are subject to further revision without notice; the files are in draft form unless otherwise specifically noted. Bike Friendly Kalamazoo participants are aiming to complete work on the commuter bike routes to assist KATS in preparing the non-motorized portion of its 2045 Transportation Plan. Links to the most recent versions for routes are maintained on the publicly available web site www.bikefriendlykalamazoo.org. Files downloaded or copied from this site may not be up to date per changes made by other agencies. Routes on the site are not systematically updated and are not represented as being the “best” current route.

3. At this time, all of the automatically generated routes have been reviewed and refined one or more times by one or more individuals with credible local knowledge of conditions and preferences. Precedence/preference among routes is indicated per Notes 4 below.

4. File names designate to/from nodes of the jurisdictions involved, as well as a note about the type of route involved, such as:
a) "Commuter" = first bike route suggested by the Google bike mapping tool (e.g., Augusta_Kalamazoo_Commuter). This is often the shortest route.
b) "2" or "3" immediately following the node name denotes the second and third, routes suggested by Google
c) "v" = subsequent/preferred version; these routes supercede any route whose name is identical except for the "v" (e.g., WMU_Main-Kalamazoo Commuterv2 is preferred over WMU Main-Kalamazoo Commuter)
d) Where there are "v" routes with identical names, the version number that is largest typically supercedes the others (e.g., a v3 is preferred over a v2). If there is no "v," only a number, after the node name, that means something entirely different - see 4b above, for the meaning.
e) "(t)" routes use at least some stretches of multi-use path / off-road bike trail. These are not ordinarily preferred for purposes of bicycle commuting for many reasons. BFK's primary recent effort has been to suggest on-road bike routes.
f) “(X)” routes should not be used since they make use of a route that consists of one or more routes that already exist. For example, the most direct route from Augusta to Kalamazoo consists of multiple routes that use Galesburg and Comstock.

5. To simplify our task, BFK chose to not map routes involving a intervening jurisdictions. For example, since a bike route from Kalamazoo to Schoolcraft would probably involve the intervening jurisdiction of Portage, the routes Kalamazoo-Portage, and Portage-Schoolcraft were mapped separately. Other routes with intervening jurisdictions were sometimes mapped inadvertently, and we then designated with an “X” per the note in 4(f), above.

6. Routes were suggested with current infrastructure in mind. Future improvements might alter suggested routing. Occasionally a route was included to show how Google's mapping logic would have constructed a route even when an existing bike route might have been used.

Many volunteers mapped these routes. Their names are included with information about the routes, where known. Their work is gratefully acknowledged!

Appendix A: Transportation Survey and Public Comments

Reponses to Transportation Survey

Question 1: In your opinion, what is the biggest transportation issue facing the Kalamazoo area?

Mar 12, 2015 10:24 PM	The safety of pedestrian and bicycle traffic on sprinkle road North of 94 BL.
Feb 27, 2015 1:22 AM	condition of roads
Feb 25, 2015 3:14 PM	"No flashing light at Ravine and Drake. There is a big curve that is a blind spot to others and also when there are large snow piles people can not see around them. The bus doesn't go all the way to the end of Drake and Ravine. People have to walk almost a mile to get to the school. There aren't any cross walks on Ravine and Drake where cars come around the curve."
Feb 24, 2015 7:43 PM	road condition
Feb 24, 2015 1:29 PM	one-way streets
Feb 23, 2015 10:44 PM	road repair/improvements
Feb 23, 2015 6:56 PM	Lousy roads (MI uses too much salt compared to surrounding states)
Feb 23, 2015 6:08 PM	Bicycle/vehicle dangers
Feb 23, 2015 5:25 PM	Lack of safe alternatives to driving (bike lanes, walkability, and reliable public transportation)
Feb 23, 2015 2:41 PM	sidewalks
Feb 23, 2015 1:26 AM	too many people driving and not taking more environmental modes of transport,e.g., walking, bicycling, buses,etc...
Feb 22, 2015 9:15 PM	Safe intersections, traffic enforcement.
Feb 21, 2015 6:29 PM	we need trollys
Feb 21, 2015 6:11 PM	No protected Bike Lanes
Feb 19, 2015 12:59 PM	Bad roads
Feb 18, 2015 9:20 AM	Access and safety for Non-Motorized modes of transportation.
Feb 17, 2015 8:16 PM	too many bike lanes
Feb 17, 2015 1:29 PM	Safe routes for pedestrians and bicycles.
Feb 17, 2015 3:22 AM	Connecting WMU and K College with downtown. A tasteful pedestrian bridge over Stadium Dr. would have been better than the Greek columns.
Feb 17, 2015 12:00 AM	Bike rider safety - riders fail to obey good sense and traffic rules putting themselves at risk: wrong way on one way, no helmet, dark clothing at dusk, pedaling against traffic, failure to stop at lights, darting and weaving among parked cars.
Feb 16, 2015 11:00 PM	***Vehicles exceeding speed limits; ****, Lack of speed & traffic light/stop sign enforcement. Public transportation/connectivity.
Feb 16, 2015 10:41 PM	We want to provide and underwrite a diversity of options (beyond just more and wider roads for private automobiles). We should significantly increase support and options for busses and other public transport, bike lanes, etc.
Feb 16, 2015 10:40 PM	Safe available public transportation
Feb 16, 2015 10:39 PM	not enough safe road riding space for bicyclists
Feb 16, 2015 9:47 PM	more expansive transportation in areas: Oshtemo Township, along with others, opted out of the bus transportation agreement and bus service is no longer an option for folks wanting to go to and come from Meijers on West Main and Wallmart. Many students that live in the apartments along KL, and low income residents without cars walk along the roadway, with no sidewalk available, This is dangerous for walkers and for drivers.
Feb 16, 2015 9:40 PM	making it safer to ride bicycles in the area
Feb 16, 2015 9:26 PM	The lack of a diverse comprehensive plan being implemented. I see little or no progress toward long term solutions.
Feb 16, 2015 5:41 PM	Coordinated and equitable provision of Non-Motorized transportation in the urban areas.

Feb 16, 2015 5:05 PM	Getting busses out West Main Street to 9th street and out to KVCC
Feb 16, 2015 4:28 PM	poor folks not having bus transport
Feb 16, 2015 4:08 PM	Maintaining funding
Feb 16, 2015 4:07 PM	Traffic light timing during rush hour (example of Milham/Oakland for traffic going westbound on Milham. Also, bike lanes or safe bike paths outside of Portage.
Feb 16, 2015 3:46 PM	Transportation for low-income people.
Feb 16, 2015 3:44 PM	poorly maintained streets
Feb 16, 2015 3:32 PM	road condition
Feb 16, 2015 3:21 PM	Better, safer access for other-than-auto traffic
Feb 16, 2015 2:46 PM	Traffic Lights: Need to handle the ebbs and flows of daily traffic efficiently.
Feb 16, 2015 2:45 PM	Peak rush hour congestion on main thoroughfares and the resulting traffic hazards to Non-Motorized commuters (and walkers) using these thoroughfares.
Feb 16, 2015 2:39 PM	Intersection of Oakland and Parkview/Whites is still a problem even after the work last year.
Feb 15, 2015 1:09 AM	Making the system truly county-wide.
Feb 14, 2015 6:34 PM	Pedestrian safety, or lack there of due to a deficiency in access routes crossing motor vehicle road ways and due to the real and perceived threat of victimization (i.e. mugging, rape or other violence).
Feb 13, 2015 1:01 PM	lack of adequate funding
Feb 12, 2015 8:42 PM	snow removal from trails and roads along with budgets to fix the local roads.
Feb 12, 2015 8:27 PM	Congestion on I-94 from Portage Rd east into Calhoun County
Feb 12, 2015 8:13 PM	Non-Motorized transit and too many one-way streets downtown (need for accessibility to businesses and traffic calming). In short, we need comprehensive, sustainable, 21st century transportation planning consistent with the Complete Streets approach.
Feb 12, 2015 5:04 PM	Lack of diverse options
Feb 12, 2015 4:53 PM	Safe bicycling lanes - driver education about sharing with cyclists; increasing access (bus/shuttle) within city limits
Feb 12, 2015 4:30 PM	It isn't a very walkable community. There isn't a neighborhood that I can think of where it would be convenient to live without a car.
Feb 12, 2015 4:13 PM	Funding and bus stop accessibility. Especially in winter when stops have no landings.
Feb 12, 2015 3:36 PM	Condition of roads and politicians who thing they will be fixed without having to pay for anything. When did "freeloading" become a conservative objective? Oh for Gov. Millikan.
Feb 12, 2015 3:13 PM	Poor Roads
Feb 12, 2015 1:11 PM	Safety for cyclists and pedestrians in downtown and elimination of MI 43 through heavy traffic downtown. Elimination of rumble strips at rural road sides that kill cyclists (like the new 12th St south of Parkview outrage).
Feb 12, 2015 1:00 PM	Poor quality of the road surface, ie: potholes, chip and seal that's too coarse and does not hold up, lack of maintenance.
Feb 12, 2015 12:08 PM	Funding road repairs
Feb 12, 2015 1:30 AM	Funding for maintenance of local roads.
Feb 11, 2015 8:50 PM	Lack of safe Non-Motorized routes
Feb 11, 2015 8:49 PM	Convenience of alternative modes of transportation including biking, walking, and public transportation.
Feb 11, 2015 8:02 PM	Too much time and money spent on Non-Motorized facilities.
Feb 11, 2015 7:17 PM	Safe ways to commute for walkers, bicycles, Non-Motorized users.
Feb 11, 2015 7:13 PM	horrible road conditions
Feb 11, 2015 6:50 PM	Parking will become more difficult as downtown grows, the perception that you will find a parking spot right next to the business you are visiting will not be true. Will this cause people to stay away from downtown? Shared bike/pedestrian lanes also need to be incorporated to encourage alternate forms of transportation.
Feb 11, 2015 6:39 PM	to be more bike and pedestrian friendly
Feb 11, 2015 6:38 PM	Not enough bike lanes, especially on some of the major corridors and awareness

Feb 11, 2015 6:24 PM	Lack of continuous, solid bicycle routes in many areas of the city
Feb 11, 2015 5:57 PM	Lack of infrastructure for pedestrians and Non-Motorized vehicles. Lack of walkability and navigation due to one way streets.
Feb 11, 2015 5:56 PM	Condition of the roads
Feb 11, 2015 3:47 PM	The West Main area, especially from US131 to the east. Congested .
Feb 11, 2015 3:27 PM	Road Funding and maintaining the transportation network in good condition.
Feb 11, 2015 1:29 AM	Lack of bus routes and stops. in outlaying areas
Feb 10, 2015 8:15 PM	The availability of buses at the beginning and end of the workday seems to be a huge issue for my clients. They are interested in working jobs that require them to be places either earlier or later than what the bus route allows, and they rely upon the public transit system to get everywhere they need to be. Expanding the service would enable many people to be successful in their employment endeavors.
Feb 10, 2015 7:12 PM	Enough funding for bus Transit services
Feb 10, 2015 4:41 PM	Unresponsive Legislature
Feb 9, 2015 11:12 PM	Heavy, fast through traffic. Little to no clear paths for bikes. Limited public transportation. Little opportunity for non-car traffic.
Feb 9, 2015 8:04 PM	Safe, accessible transportation to all areas of our community
Feb 9, 2015 7:05 PM	Special interest groups getting what they want while putting other areas at more risk
Feb 9, 2015 2:11 PM	Pot holes and metro van has poor customer service
Feb 9, 2015 12:24 PM	Funding
Feb 9, 2015 3:07 AM	potholes and deteriorating roads
Feb 7, 2015 10:36 PM	Road condition..pot holes for cars, terrible crosswalks for wheelchairs
Feb 7, 2015 5:55 PM	Limited bus service: we need extended hours, Sunday service and service on all routes running every half hour.
Feb 7, 2015 4:07 PM	Confusing downtown street pattern and lack of bike access along Westnedge
Feb 6, 2015 10:03 PM	land locked
Feb 6, 2015 3:36 PM	It is not safe or easy to be a pedestrian or cyclist in downtown Kalamazoo. This causes people to drive from destination to destination downtown where there is heavy and fast through traffic and not enough parking, causing drivers to circle the streets, polluting, and making for an unsafe and inefficient through way for everyone.
Feb 6, 2015 2:30 PM	Lack of bus routes for individuals that don't have cars.
Feb 6, 2015 1:03 PM	Lack of funding to maintain current infrastructure
Feb 6, 2015 5:43 AM	A lack of year- round bicycle/ pedestrian friendly infrastructure.
Feb 6, 2015 3:13 AM	bus service not running on sunday and not covering all areas in need
Feb 6, 2015 1:35 AM	Lack of pedestrian and bicycling trails connecting the outlying areas and the city center - especially routes that separate cars and bikes/walkers/runners/etc. We have plenty of roads.
Feb 6, 2015 12:55 AM	frequency of service / cold, bare, uncomfortable stops
Feb 6, 2015 12:34 AM	Lack of pedestrian and bike traffic space (sidewalks and bike lanes)
Feb 5, 2015 7:55 PM	Difficulty of bus access and routes
Feb 5, 2015 7:29 PM	not running on sunday and not working later at night.
Feb 5, 2015 6:49 PM	safe bike routes that everyone can access, especially through downtown (which currently doesnt exist)
Feb 5, 2015 4:37 PM	Times of availability
Feb 5, 2015 4:15 PM	The biggest transportation issue is the heavy focus on cars. I believe we need to give more attention to and build better systems and infrastructure for other means of mobility! Bikes, walking, buses!
Feb 5, 2015 3:58 PM	Buses not running on time
Feb 5, 2015 2:35 PM	lack of adequate bus service
Feb 5, 2015 2:24 PM	Bike navigability (bike lanes) and bus schedules and stops outside of the main part of the city
Feb 5, 2015 2:06 PM	I don't know the transportation well.
Feb 5, 2015 2:03 PM	Congestion managment

Feb 5, 2015 1:44 PM	Continual traffic flow on major streets. [i.e. the timing of the traffic signals on the major streets to allow for continual flow, rather than stopping at each light.]
Feb 5, 2015 1:14 PM	Limited. No Sunday bus Service. Roads, like Portage and Cork streets, are literally crumbling.
Feb 5, 2015 4:02 AM	Lack of Good connections between hubs of activity via Non-Motorized transportation, like the mall's in portage and Kalamazoo, the campuses for the university's. The little sections of neighborhoods that have essential businesses, like grocery stores. Bike steers (like in vancover) would be a big help.
Feb 5, 2015 3:31 AM	Safety for cyclists and pedestrians (need to create better walkways and cycling solutions to share the road)
Feb 5, 2015 3:10 AM	Public attitude toward Public Transportation
Feb 5, 2015 2:39 AM	"It is too car-centric Some roads are not wide enough (Portage Rd) Many residential roads are cut-through roads and drivers go too fast Buses are in convenient"
Feb 5, 2015 12:15 AM	More bike friendly streets.
Feb 4, 2015 11:24 PM	Walking and bicycle riding
Feb 4, 2015 11:01 PM	no opinion
Feb 4, 2015 10:08 PM	Not walker, bike friendly, too many one way streets
Feb 4, 2015 9:23 PM	access management
Feb 4, 2015 8:22 PM	A lack of public transportation and/or biking safety to move about without a car.
Feb 4, 2015 7:59 PM	Congestion on major roads during peak hours, Drivers not giving bicyclist enough room, right turns onto lovell from Rose during red lights (its a no turn on red light), lack of bike infrasturce connecting neighborhoods to downtown area
Feb 4, 2015 7:55 PM	Lack of transportation options - our system is too car-oriented
Feb 4, 2015 7:39 PM	"Becoming Bike friendly! The light on Kalamazoo and Harrison, Its currently a blinking yellow and should be a normal traffic light with a turn arrow. things get so backed up over there. Also there are no over lapping routes on the bus system. If you want to use the buses to get a round the city it is next to impossible."
Feb 4, 2015 7:37 PM	In my opinion, I feel strongly about the use of green bio-diesel for all public transit. The idea of converting to this should be talked about.
Feb 4, 2015 6:43 PM	Poor road condition
Feb 4, 2015 6:34 PM	Non-Motorized transportation (NMT) infrastructure and planning. There needs to me more and the City should be considering a NMT and public transit core for Kalamazoo with motorized transportation parking on the periphery.
Feb 4, 2015 3:58 PM	Not enough variety, access & safety.
Feb 4, 2015 3:48 PM	Terrible road conditions
Feb 4, 2015 3:35 PM	Well Maintained Roads
Feb 4, 2015 3:02 PM	The widening of I-94 to three lanes across the entire length of Kalamazoo County
Feb 4, 2015 2:58 PM	Increasing and strengthening the countywide public transit system so that the scheduled service is widespread, frequent, and therefore accessible to the "choice" rider. If the system were truly accessible to the "choice" rider the service would be 100% better for those whose choice in transportation is more limited.
Feb 4, 2015 2:46 PM	Funding for the KATS area.
Feb 4, 2015 2:29 PM	Putting in a new bridge and roundabouts and not just widening Sprinkle Road Bridge and the road going North.
Feb 4, 2015 1:46 PM	Downtown Congestion on Eastbound Michigan.
Feb 4, 2015 12:58 PM	Parking
Feb 4, 2015 12:06 PM	Availability of public transportation and bicycle friendly routes
Feb 4, 2015 3:32 AM	Making streets and sidewalks safe and accessible for all users.
Feb 4, 2015 2:25 AM	Funding
Feb 4, 2015 2:18 AM	Lack of positive spirited coordination between the major agencies, lack of respect for and poor attitude toward Non-Motorized users on the part of county road commissions. Lack of funding for roads.
Feb 4, 2015 2:04 AM	Bike paths.

Feb 4, 2015 1:27 AM	we need better public transportation AND to make Kalamazoo a better place for getting around on bikes
Feb 3, 2015 10:19 PM	Better access for Non-Motorized travelers.
Feb 3, 2015 10:02 PM	Interstate 94 and pot holes.
Feb 3, 2015 9:01 PM	Poor multi-use options
Feb 3, 2015 9:01 PM	Road Conditions
Feb 3, 2015 7:53 PM	Lack of state/federal funding.
Feb 3, 2015 6:58 PM	Lack of a serious public transportation system.
Feb 3, 2015 6:44 PM	Expansion of I-94
Feb 3, 2015 6:34 PM	Lack of neiborhood services.
Feb 3, 2015 5:23 PM	Lack of safe biking or alternative transportation infrastructure and support.
Feb 3, 2015 5:22 PM	Infrastructure quality and repair/replacement
Feb 3, 2015 5:03 PM	Not enough routes for all of the people who have no cars and no buses on Sunday when many have to work.
Feb 3, 2015 4:54 PM	Sustainable motorized transportation, and lack of non motorized transportation city-wide
Feb 3, 2015 4:41 PM	Bad roads and sidewalks.
Feb 3, 2015 4:35 PM	Bad road surfaces
Feb 3, 2015 4:22 PM	Condition of roads is poor and public transportation could be improved.
Feb 3, 2015 4:17 PM	"1. Making Michigan avenue more of a boulevard. With street scape and fewer lanes to slow down the traffic. There is currently a focus on bike lanes being incorporated into urban settings. This needs to be done with numerous items taken into consideration. At what expense to parking, traffic, and business are the bike lanes being incorporated. Paw Paw recently removed a traffic lane so that they could incorporate bike lanes in their downtown area. This has had a negative impact on businesses in downtown Paw Paw. These bike lanes are also unsafe for bikes as they are directly next to traffic and are thus not used. Bike lanes are important to the success of a growing urban setting. There needs to be a lot of thought so that the implementation of the bike paths does not have huge negative impact on everything else. 2. Parking. parking is a Transportation issue in numerous ways. People will not come downtown if they believe that parking is difficult to find and not available. This is a true perception but not an actual fact. There is currently plenty of available parking downtown. People also need to be aware that they are not going to be able to park within 10 feet of their destination. If you park at the mall in Portage and have to walk 1/2 mile to your destination it is expected. If you park downtown more than 30 feet from your destination it is an inconvenience. There is a culture that needs to change. This culture shift is part of the growth downtown. There may also be some instances where a person has to park in a ramp then take a shuttle to their final destination. Again not an inconvenience but a culture shift."
Feb 3, 2015 4:14 PM	Lack of steady public transit options.
Feb 3, 2015 4:03 PM	There is limited safe space for bikers and frequently only a sidewalk on one side of the road.
Feb 3, 2015 4:02 PM	Reliable public transportation. There is currently much uncertainty over the transition to county-wide public transport. When I've used Metro Transit in the past, the experience has been good but the arrival according to timetable has been unsatisfactory. I've lived in cities in the past in which the buses ran on time, and I find it frustrating when they don't.
Feb 3, 2015 3:59 PM	Access to food in residential areas and pedestrian/bike friendly roads.
Feb 3, 2015 3:41 PM	Traffic lights not synched up in Oshtemo Township, specifically along West Main and Drake.
Feb 3, 2015 3:41 PM	Public transit increased and improved service--connected to walkability and bikability.
Feb 3, 2015 3:39 PM	Biking between campus and downtown.
Feb 3, 2015 3:32 PM	Condition of the streets

Feb 3, 2015 3:30 PM	Lack of Non-Motorized transportation infrastructure.
Feb 3, 2015 3:24 PM	The fact that they stop running two lines after 6 and there are no buses on Sunday. That is a backwards way of thinking. The people who use the bus still need to work, grocery shop, go places such as church on Sundays. Plus it would create more jobs.
Feb 3, 2015 3:21 PM	I 94
Feb 3, 2015 3:14 PM	Getting students safely downtown on bikes from campuses.
Feb 3, 2015 3:08 PM	lack of a full interchange at US-131 and BR US -131
Feb 3, 2015 3:00 PM	Pedestrians in the downtown area failing to use safe crosswalks.
Feb 3, 2015 2:41 PM	Alternative transportation.
Feb 3, 2015 2:40 PM	Snow plowing is absolutely horrendous
Feb 3, 2015 2:36 PM	cost to the seniors and the disabled. people walking in the streets instead of walking in the roads.
Feb 3, 2015 2:35 PM	Bike lanes/paths and sidewalks. I will agree that there is more bike lanes/paths and sidewalks, but we do not have them cleaned off in the winter for our citizens that are either walking or riding bikes .
Feb 3, 2015 2:32 PM	dangerous intersections, WAY too many road signs creates confusion
Feb 3, 2015 2:29 PM	more bike lanes
Feb 3, 2015 2:24 PM	Lack of density in urban areas and readily available parking leads to greater car trips and fewer transit riders. Additionally, there are major streets without ANY pedestrian access i.e. Howard Street between West Michigan and Stadium Drive.
Feb 3, 2015 2:24 PM	Bus service needs to start at 0600 hour for all routes. Service needs to expand county-wide.
Feb 3, 2015 2:23 PM	Poor pedestrian accommodations outside of the downtown area, especially in areas with higher speed zones (e.g. along some of the 45 mph commercial corridors).
Feb 3, 2015 2:23 PM	Accommodating alternative forms of transportation, walking, biking, mass transit, as the future of our society. Making is safe, easy and reliable.
Feb 3, 2015 2:22 PM	Major roads in need of repair
Feb 3, 2015 2:20 PM	pedestrian/cyclist accomodations
Feb 3, 2015 2:18 PM	Area without transportation.and having to walk ao far to catch a bus.
Feb 3, 2015 2:18 PM	Neighborhood streets are not safe for children to walk on due to lack of sidewalks in many neighborhoods, particularly in the suburbs
Feb 3, 2015 2:18 PM	Angry traffic.
Feb 3, 2015 2:01 PM	access to the bus stops during winter months
Feb 3, 2015 1:50 PM	Not sure
Feb 2, 2015 9:33 PM	Availability of transportation and routes
Feb 2, 2015 9:31 PM	Lack of bike paths and a very low level of bike-friendliness, in general
Feb 2, 2015 9:14 PM	accessibility for all
Feb 2, 2015 9:05 PM	There needs to be transportation for 2nd shift and 3rd shift workers and also on Sunday.
Feb 2, 2015 8:22 PM	funding
Feb 2, 2015 7:04 PM	Kalamazoo's roads are VERY bicycle unfriendly! We need more bike lanes and bike paths!
Feb 2, 2015 4:31 PM	cost
Feb 2, 2015 2:49 PM	Getting low income folks to agencies, jobs and shopping
Feb 2, 2015 1:51 PM	Safe and efficient bicycle lanes, safe pedestrian walkways in high car traffic areas, time-efficient public transportation.
Feb 2, 2015 1:47 PM	The poor condition of the roads.
Feb 2, 2015 1:36 PM	The lack of connected bike lanes. For example, Oakland Drive is mostly continuous (excluding the gap between I-94 and Kilgore), and it receives strong commuter bike traffic as a result. By reducing car travel lanes (especially inefficient 4-lane configurations) and converting them to bike lanes, parking lanes and center-turn lanes, the community could become much more approachable for bikes and pedestrians---who typically live, work and pay taxes locally. As a second item, the lack of public transit services on Sundays is a glaring gap in the local transportation network.

Feb 2, 2015 11:17 AM	for seniors and public transportation
Feb 2, 2015 12:33 AM	Potholes. Too few riders on public transportation, too many routes.
Feb 1, 2015 3:37 PM	Poor road conditions
Feb 1, 2015 2:33 PM	"mass transportation semi trucks traffic through downtown Kal."
Jan 31, 2015 8:43 PM	lack of bike lanes
Jan 31, 2015 10:13 AM	"There is no one big issue but rather several issues which impact transportation in the Kalamazoo Area. The need for more complete streets - Completing the creation of a county wide public transportation system -- which includes designing the system - extending hours of operation, increase frequency of exisiting routes, Limited sunday service the ability to fix and reconstruct both major roads and local roads as needed Extending side walks - as our population shifts the ability to continue to make a walkable community County resident awareness campaign -- an on going resident awareness campaign of roads and bridges being reconstructed, repaired or in need of repair. Sidewalks, trailways - bike lanes available KATS members embracing public transportation and taking every opportunity to talk about the importance of this form of transportation"
Jan 31, 2015 6:14 AM	People trying to figure out what lane to get in around Westnedge / I94 ramps. Cars cut across 3 lanes of traffic (sometimes blocking lanes until traffic clears). Seems to take longer to get thru this area since extra lanes were added.
Jan 31, 2015 2:08 AM	no opinion
Jan 31, 2015 1:48 AM	"Public transit is inconvenient. (And non-existent on Sundays) Timeliness and thoroughness of snow removal is a problem."
Jan 31, 2015 12:09 AM	Highway congestion
Jan 31, 2015 12:08 AM	an additional lane on I-94 between BC & Kzoo would be nice.
Jan 31, 2015 12:01 AM	Roads are beyond poor. If I were location hunting I would check not just Kalamazoo but the entire state off my list of possibilities.
Jan 30, 2015 11:08 PM	poor road condition
Jan 30, 2015 10:29 PM	Drivers ignoring stop signs.
Jan 30, 2015 10:17 PM	Poor access for non motorized transport.
Jan 30, 2015 9:41 PM	more bus stops
Jan 30, 2015 9:34 PM	road conditions.
Jan 30, 2015 9:33 PM	Potholes
Jan 30, 2015 9:27 PM	Bus and Bike.
Jan 30, 2015 9:06 PM	Truck traffic on I-94
Jan 30, 2015 8:42 PM	Number of bus routes and the time that buses stop running. Some people work till 11:00pm
Jan 30, 2015 8:42 PM	Speeding within the metropolitan areas and also local areas of I-94 and US131 that need lower speed limits and better patrolling, especially in the winter.
Jan 30, 2015 8:21 PM	Metro Transit and how long it takes to get anywhere in the county.
Jan 30, 2015 7:52 PM	Not enough
Jan 30, 2015 7:52 PM	Lack of clear, safe pathways. Sidewalks covered in snow or having cars parked over them rarely ever get addressed.
Jan 30, 2015 7:46 PM	frequency of buses and number of access points
Jan 30, 2015 7:46 PM	Bus service throughoutt the area, especially for those who work late shifts or weekends
Jan 30, 2015 7:38 PM	Do not know
Jan 30, 2015 7:24 PM	Public transit is too limited.
Jan 30, 2015 7:22 PM	"crowded side streets, especially in winter. People park on both sides across from each other, combined with snow = hard to get through. People not shoveling sidewalks leading to people walking in the roads, which is dangerous availability of bike paths/lanes"
Jan 30, 2015 7:18 PM	Bike safety
Jan 30, 2015 7:17 PM	quality of roadway
Jan 30, 2015 7:04 PM	Lack of adequate public transportation.

Jan 30, 2015 7:03 PM	availability of public transportation
Jan 30, 2015 6:53 PM	Lots of them. 1) Width and safety of biking lanes on major streets; 2) Access and affordability of public transportation; 3) condition of streets (potholes, cracks and other degradation of the physical infrastructure.
Jan 30, 2015 6:43 PM	One problem I have is getting traffic lights repaired, even after I have reported numerous times such as the traffic signal at Fulford & Cork ST. I have reported this 4 or 5 times in the last 4-5 months, and still it is not repaired .
Jan 30, 2015 6:41 PM	Transportation safety (i.e. walkers, bike riders, etc.).
Jan 30, 2015 6:37 PM	Road repair.
Jan 30, 2015 6:30 PM	bad roads
Jan 30, 2015 6:24 PM	The massive one way roads through downtown are confusing and allow traffic to move through too fast in an area with many pedestrians.
Jan 30, 2015 6:24 PM	Availability of affordable transportation to those living in low income housing located outside of the transportation boundaries.
Jan 30, 2015 5:58 PM	Stadium drive to downtown. The Oakland, Lovell, etc intersections with stadium and the way it converges downtown with 5 lanes going lickity split. Not conducive to pedestrians or bikes or access to businesses.
Jan 30, 2015 5:56 PM	Public transportation is not available (or frequent) enough for me to consider using it instead of my car.
Jan 30, 2015 5:25 PM	accessibility
Jan 30, 2015 4:25 PM	Adequate coordination and affordable public transportation for persons with limited income and resources, particularly persons with disabilities, that need flexible and accessible terasportation to meet employers need 24/7. Scheduled trasportation requires so much coordination and lacks the flexibility that regular 24/7 routes to surrounding counties where employers are located.
Jan 30, 2015 4:00 PM	People's attitudes. For too long Kazoo has handled all public transport. Its a citizen-county-city-township issue. Even the police/firemen are sepatate by turf. We are stuck "in the past" regarding efficient governmental agencies. Another major problem is the 46% no property tax situation in the city for "non-profits"
Jan 30, 2015 3:11 PM	Getting people to jobs, figuring out interurban transportation throughout the region.
Jan 30, 2015 2:01 PM	No busses on Sundays
Jan 30, 2015 2:00 PM	Need more bus stop seats/roofs to hold more people
Jan 30, 2015 1:55 PM	Poorly controlled/timed lights that back up traffic causing congestion
Jan 30, 2015 1:47 PM	lack of affordable easy to access options including 24/7 availability
Jan 30, 2015 1:46 PM	No Sunday transportation for persons who depend on public transportation to get to and from work.
Jan 30, 2015 1:41 PM	Frequency of fixed bus service as well as routes being cancelled.
Jan 30, 2015 1:32 PM	Limted services in the rural areas and limited door to door service.
Jan 30, 2015 1:31 PM	Weekend service
Jan 30, 2015 1:30 PM	Lack of (safe) connectivity and no seven day bus routes
Jan 30, 2015 1:24 PM	Gaps in public transportation such as times when it is unavailable and locations it does not travel to.
Jan 30, 2015 1:23 PM	public transit that gets people to/from work when they need to be there, including Sundays and evenings. Capacity for the door to door service.
Jan 30, 2015 1:13 PM	Road repair and Upgrades to Complete Streets .
Jan 30, 2015 11:22 AM	Complete streets, sidewalks on 9th street
Jan 30, 2015 3:35 AM	Cars being unaware/disrespectful of pedestrians and those on bicycles; people in chairs on the street
Jan 30, 2015 2:51 AM	People running red lights and ignoring stop signs and speed limits.
Jan 30, 2015 2:50 AM	Potholes/road quality
Jan 30, 2015 2:38 AM	No sidewalks in South Portage. Incomplete streets.
Jan 30, 2015 1:55 AM	Safe means for pedestrians and cyclist to travel year around.
Jan 30, 2015 1:44 AM	Lack of money for road and bridge maintenance and improvements

Jan 30, 2015 12:39 AM	ways for people to move seamlessly between parking, transit, and safe walking (sidewalks) for a single trip
Jan 30, 2015 12:30 AM	Lack of non motorized transportation infrastructure and, which the exception of Portage, lack of interest/commitment to remedying this issue.
Jan 29, 2015 10:17 PM	The current state of the roads
Jan 29, 2015 9:13 PM	Motorized traffic is too fast and dangerous for pedestrians and cyclists
Jan 29, 2015 9:11 PM	"We need more safe bike paths for commuters. Some roads are in major disrepair!"
Jan 29, 2015 7:57 PM	Pot holes
Jan 29, 2015 6:29 PM	Money
Jan 29, 2015 6:06 PM	lack of urban trailways. i'm of the opinion we can utilize trail-way systems that cater to walkers and casual bikers (or non casual bikers during non-peak hours), and have protected bike lanes for high volume areas. Kalamazoo has fallen deeply behind compared to other communities when it comes to urban walk ability and bike ability
Jan 29, 2015 5:36 PM	Downtown area traffic
Jan 29, 2015 5:24 PM	Fixing the roads the right way to last.
Jan 29, 2015 5:11 PM	Lack of commitment - financial, resident support, property owner understanding - to Non-Motorized facilities
Jan 29, 2015 4:57 PM	the one way roads, cost of parking downtown, lack of parking spaces
Jan 29, 2015 4:17 PM	bicycle lanes and safety
Jan 29, 2015 3:59 PM	Availability of sidewalks or paths for people to walk or ride their bikes to work. There is a major lack of safe pathways....lots go through some bad areas in town. It would be great to have better lighting and some emergency phones along the sidewalks.
Jan 29, 2015 3:58 PM	"Continue to build on the great progress in bringing a bike / Non-Motorized transportation network to the City and region. Eliminate the anti-pedestrian one-way thoroughfares through down town."
Jan 29, 2015 3:46 PM	Lack of sidewalks and bike lanes
Jan 29, 2015 3:44 PM	Condition of the roads.
Jan 29, 2015 3:35 PM	funding to maintain roads
Jan 29, 2015 3:34 PM	Alternative transportation/mobility systems to individual automobile transit.
Jan 29, 2015 3:00 PM	Reducing auto traffic, encouraging and increasing Non-Motorized traffic.
Jan 29, 2015 2:55 PM	rood condicions
Jan 29, 2015 2:44 PM	Lack of bicycling infrastructure
Jan 29, 2015 2:40 PM	Safety for walkers and cyclists.
Jan 29, 2015 2:39 PM	Not being bike friendly, and public buses not running at night also not running county wide.
Jan 29, 2015 2:35 PM	too many cars driving over the speed limit with little or no regard to the other users of the road system (bicyclists, pedestrians, disabled people, transit riders) Not enough funding for a comprehensive bicycle pedestrian transit system for the MPO
Jan 29, 2015 2:33 PM	Safety: People driving distracted and speed limits not being followed or enforced.
Jan 29, 2015 2:31 PM	busses don't always go where people who need them live. The current municipalities which are opting out: Sad.....
Jan 29, 2015 2:29 PM	Road surface condition -- pot holes and bad bridges.
Jan 29, 2015 2:19 PM	Acknowledgement of Non-Motorized transportation by Road Commissions.

Question 8: In your opinion, what is the most important improvement that can be made to our transportation system in the next 0-5 years (Short Term)?

Mar 12, 2015 11:18 PM	"Priority project can be to restripe Sprinkle road north of 94BL and use narrow lanes and limited shy distance (the barrier below) to calm with the intention to reduce traffic relates fatalities and serious injuries. Construct a barrier on one side of the road to provide refuge for a shared use path for pedestrians and cyclists. But a system as a

	whole, the priority improvement should be to connect the pedestrian and cycle network."
Feb 25, 2015 11:12 PM	prioritizing walkability and bikeability and connecting neighborhoods
Feb 25, 2015 3:27 PM	Extend services to the places they were taken away.
Feb 24, 2015 7:47 PM	condition of roads
Feb 24, 2015 1:35 PM	Non-Motorized pathways and streetscape improvements
Feb 23, 2015 10:52 PM	fix deteriorating roads; plan for future maintenance
Feb 23, 2015 6:23 PM	Plan for and include bicycle and pedestrian safety in re-construction of our worst major roadways.
Feb 23, 2015 1:37 AM	road maintenance--smart traffic flow integrated with pedestrian/bicycling issues
Feb 22, 2015 9:22 PM	Properly aligned intersections, predictable traffic signals for motorists, proper sight distance for motorists, traffic enforcement.
Feb 21, 2015 6:17 PM	Build protected bicycle lanes.
Feb 18, 2015 9:28 AM	Devoloping connections between existing on-road bikeways.
Feb 17, 2015 8:35 PM	more street lights
Feb 17, 2015 1:42 PM	Safe bicycle routes between Portage and Kalamazoo.
Feb 17, 2015 3:38 AM	Better walking, public transportation, and biking routes to downtown. More free parking.
Feb 17, 2015 12:12 AM	Enforcement of traffic rules on all users: drivers, bike riders, and pedestrians
Feb 16, 2015 11:01 PM	More off-road bike lanes & more public transportation.
Feb 16, 2015 10:56 PM	Improve the bus system to provide more options for citizens who do not choose to drive personal cars.
Feb 16, 2015 10:45 PM	make it more safe for all users of the transportation systems; pedestrians, bicyclists and auto drivers
Feb 16, 2015 9:58 PM	more and efficient public transportation
Feb 16, 2015 9:44 PM	Road maintenance
Feb 16, 2015 9:34 PM	develop a comprehensive plan
Feb 16, 2015 5:47 PM	Coordinated vehicular, Non-Motorized, recreation trails for both transportation and recreation (quality of life).
Feb 16, 2015 5:14 PM	FIX THE ROADS
Feb 16, 2015 4:32 PM	fixing the roads
Feb 16, 2015 4:15 PM	Stong Non-Motorized commuter access.
Feb 16, 2015 4:14 PM	Road safety in general, but also truck usage on our roads.
Feb 16, 2015 3:53 PM	Complete the KRVT, including linkage to WMU.
Feb 16, 2015 3:52 PM	fix the roads
Feb 16, 2015 3:41 PM	?
Feb 16, 2015 3:32 PM	Eliminate one-way streets
Feb 16, 2015 3:00 PM	Decreasing traffic congestion during the 5PM weekday rush hour, especially where employees are leaving the city. Also, needing immediate attention: create bike lanes on Howard Street hill, along-side WMU's campus / Knollwood Neighborhood, connecting West MIchigan Avenue and Stadium Drive (where Non-Motorized / pedestrian pathways resume). It's a terribly dangerous area for the numerous walkers and bikers.
Feb 16, 2015 2:52 PM	Traffic Flow patterns using Traffic Lights system wide
Feb 16, 2015 2:48 PM	Fixing the roads we have now. Less quick fixes and more building them to last.
Feb 15, 2015 1:21 AM	Repair road surfaces
Feb 14, 2015 6:46 PM	Improvements that shift transportation use from personal motorized vehicles to Non-Motorized and public transportation vehicles.
Feb 13, 2015 9:43 PM	The roads need to be maintained better. Chip and seal is terrible and the way potholes are fixed (if they are fixed) needs to be improved. I'd rather avoid construction for a few days that have permanent bumps
Feb 13, 2015 1:06 PM	widen West Main street due to heavy congestion and coordinate the signal timings.
Feb 12, 2015 8:46 PM	fix the local road
Feb 12, 2015 8:32 PM	Widening I-94 from Portage Road east

Feb 12, 2015 8:25 PM	Eliminate most of one-way streets downtown.
Feb 12, 2015 5:19 PM	Greater/easier access to public transportation within the city (e.g. shuttles)
Feb 12, 2015 4:03 PM	FIX THE ROADS. RAISE TAXES TO PAY FOR IT. Fund roads based on how much a vehicle is driven. Yearly cost of license plate renewal is based on how far you have driven. Electric cars and gas cars will pay the same. You pay for how much you drive. cheaters will get caught when the car is sold and official mileage is recorded on document transfer.
Feb 12, 2015 3:18 PM	Improve road quality in the out county
Feb 12, 2015 1:09 PM	Improve roadway surfaces.
Feb 12, 2015 12:17 PM	Maintenance with safety considerations
Feb 12, 2015 1:49 AM	Adequate long-term funding of streets and roads based on a "user-pays" approach
Feb 11, 2015 9:00 PM	Maintaining the current system and improving it
Feb 11, 2015 8:54 PM	More connectivity and convenience for bikers and pedestrians.
Feb 11, 2015 8:10 PM	Stop spending money on bike paths and spend it on high speed, high volume roads.
Feb 11, 2015 7:34 PM	Make safe bike lanes and bike paths along ALL main roads going into and out of cities and towns and start using smaller mini-busses for more frequent service.
Feb 11, 2015 7:19 PM	fix poor condition of roads
Feb 11, 2015 7:03 PM	more bike and pedestrian paths and maintain well what we already have
Feb 11, 2015 6:55 PM	Increased bike/pedestrian lanes or dedicated lanes
Feb 11, 2015 6:30 PM	Increase availability of a viable public transportation system that doesn't rely heavily on one transfer point in downtown Kalamazoo
Feb 11, 2015 6:04 PM	Long term sustainable funding for Basic road maintenance
Feb 11, 2015 6:01 PM	Repair what we already have
Feb 11, 2015 3:55 PM	the balance of new development, maintaining current assest and working to enhance community living
Feb 11, 2015 3:32 PM	Preservation of our current road system including bridges
Feb 10, 2015 4:51 PM	Emergency funding from the State dedicated to road rehab.
Feb 9, 2015 11:25 PM	Creation of a more walkable city. Prioritization of alternative transportation including public transit.
Feb 9, 2015 8:12 PM	Continuity of access to public transportation. Use of public transit is critical for individuals with disabilities and a preferred form of transit for my young adults. Inadequate public transit outside of the central corridor is an impediment to an inclusive and thriving community.
Feb 9, 2015 2:16 PM	Fixing the road ways with fewer pot holes etc
Feb 9, 2015 12:33 PM	Improve the condition of existing roads (i.e. funding for capital maintenance and improvements)
Feb 9, 2015 3:13 AM	fix existing problem areas (deteriorating roads)
Feb 7, 2015 10:44 PM	Fix the roads, crosswalks and sidewalks. As a wheelchair dependant person, I am very aware of how difficult it is to get around the city.
Feb 7, 2015 6:09 PM	Accessibility for low=income and handicapped residents to get around. Auto insurance rates in Michigan prohibit many low-income people from owning a car. Winter is especially hard as walkways not cleared and people have to walk in the street.
Feb 7, 2015 4:15 PM	Improvements to busy intersections
Feb 6, 2015 4:32 PM	Reconstructing Kalamazoo Ave and Michigan ave in downtown Kalamazoo to be boulevards with 2 way traffic, bike lanes, and pedestrian safe places. Linking the Kal-Haven trail through downtown.
Feb 6, 2015 1:11 PM	Continue widening of I-94 to three lanes through the Kalamazoo urban area.
Feb 6, 2015 5:58 AM	Maintaining shoulders and walkways/ bike paths/ wheelchair paths, including snow removal and street sweeping when needed.
Feb 6, 2015 3:23 AM	improve public transit
Feb 6, 2015 1:43 AM	Improve road conditions and bridge safety while providing safety for walkers and riders.
Feb 6, 2015 1:09 AM	Road maintenance
Feb 6, 2015 1:06 AM	Safe walking/bikepaths for healthy alternatives to driving (schools, shops, etc.)
Feb 5, 2015 8:02 PM	Pedestrian and bicycle friendly roadways

Feb 5, 2015 7:34 PM	Increase the operate hours
Feb 5, 2015 6:53 PM	bike lanes, bike paths, trails
Feb 5, 2015 4:22 PM	Create a more viable, relevant, user friendly transit system
Feb 5, 2015 2:45 PM	tax large corporations for road maintenance. the last question's available answers ridiculously left out the option of actually getting taxes from the rich. besides this, better bus systems, snow removal (not plowing into the sidewalk), and bike/pedestrian paths with a physical divider of some kind from motorized traffic
Feb 5, 2015 2:11 PM	Policing violations of the traffic law.
Feb 5, 2015 1:52 PM	Maintaining/repairing existing roadways with a focus on congestion and continual traffic flow [i.e. timing of lights].
Feb 5, 2015 4:11 AM	More bike lanes
Feb 5, 2015 3:39 AM	"Better and pedestrian and bicycle access to and through downtown (linking college campuses to downtown, addressing how people and bikes Can safely navigate all of the one way streets, etcetera)"
Feb 5, 2015 3:26 AM	Fine tune the public transportation system to be welcoming and accessible for everyone.
Feb 5, 2015 2:44 AM	"Utilitarian (not recreational) bike and walking paths City of Kzoo clears snow from all sidewalks"
Feb 5, 2015 12:28 AM	Make a safer environment for bikes and pedestrians
Feb 4, 2015 10:15 PM	Improve the accessibility of roads, paths, bike paths to encourage people to come downtown
Feb 4, 2015 9:57 PM	Roadway condition, Roundabouts for improved traffic flow, Better coordination of signals, more dynamic message signs.
Feb 4, 2015 8:33 PM	Make the the area more bike friendly not just for recreation but transportation. The paved paths in Portage are no where to be seen in Kalamazoo. The bus service does not start early enough to allow for changing buses to get to work by 7am.
Feb 4, 2015 8:03 PM	Increased bus routes, bike "off-road" bike trails, bike lanes,
Feb 4, 2015 8:02 PM	Accommodations for cyclists
Feb 4, 2015 7:45 PM	Bike lanes down town and leading out of the city.
Feb 4, 2015 6:50 PM	widening I-94 to 6 lanes from 9th street to the I-94 BL
Feb 4, 2015 6:43 PM	connecting and improving the safety of current Non-Motorized pathways within and in between communities in SW Michigan.
Feb 4, 2015 4:06 PM	Improved bike ways & pedestrian access. Including personal safety & enforced winter safety.
Feb 4, 2015 3:40 PM	Maintenance
Feb 4, 2015 3:21 PM	Coordinating economic development throughout the county with public transportation routes and service making the system more accessible and responsive.
Feb 4, 2015 3:08 PM	Increase the level of funding
Feb 4, 2015 2:56 PM	Improvements to flow concerning turns.
Feb 4, 2015 2:40 PM	Shrink government hand outs and fix the roads
Feb 4, 2015 1:57 PM	Congestion
Feb 4, 2015 1:08 PM	fix utility's under the roads
Feb 4, 2015 12:16 PM	Defense of the public transportation system if not a increase in service
Feb 4, 2015 2:34 AM	Surface maintenance and improvements to existing network.
Feb 4, 2015 2:27 AM	Fix the roads that are in poor condition.
Feb 4, 2015 2:10 AM	Alternative transportation such as bike and walking lanes.
Feb 4, 2015 1:33 AM	make it easy to get around on public transport
Feb 3, 2015 10:30 PM	Better, more affordable public transport.
Feb 3, 2015 10:09 PM	Fix the potholes and cracks
Feb 3, 2015 9:25 PM	sidewalks, bike lanes, and recreational paths for both walking and biking.
Feb 3, 2015 9:07 PM	multi use
Feb 3, 2015 9:05 PM	Improve Road Conditions

Feb 3, 2015 7:04 PM	Invest in our public transportation system. Busses that run only once an hour, and never on Sunday provide no alternative to driving cars.
Feb 3, 2015 6:47 PM	Expansion of I-94
Feb 3, 2015 6:42 PM	More buses in neiborhoods.
Feb 3, 2015 5:41 PM	Integrating high concentrations of people like the colleges into our downtown areas, promoting a safe, strong city center.
Feb 3, 2015 5:33 PM	Non-Motorized transportation friendly roads and education on how to use them! So many improvements could be made.
Feb 3, 2015 5:32 PM	Resurfacing and fixing the worst infrastructure
Feb 3, 2015 5:07 PM	Incorporating bike lanes city-wide
Feb 3, 2015 4:57 PM	Increasing service.
Feb 3, 2015 4:44 PM	Mass transit planning
Feb 3, 2015 4:36 PM	"Transportation, mobility and parking. All three of these are intertwined. Within the next 5 years there is a potential of up to 20 new projects in Downtown Kalamazoo. All of these projects will require a way for people to get into downtown then park once they get there. Getting Downtown and doing business downtown need to be made as easy as possible. There needs to be an educational marketing program in place as an avenue to inform the public. Short term plans need to involve easy evolution for the long term. We have a pretty good idea what the short term will bring. What the long term will bring is only an educated guessing game at this point. There are areas downtown that will continue to grow. There may be areas that also decrease. There needs to be a balance for business, residential, recreational, scholastic. If there are plans put in place now that are able to evolve for future growth, instead of ""reinventing the wheel"" in 20 years this will help expedite those plans and save money in the process."
Feb 3, 2015 4:27 PM	Improvement of roads and road flow safety
Feb 3, 2015 4:22 PM	Safe bike lanes, increased bus routes.
Feb 3, 2015 4:12 PM	Improve the ability for people to make their short distance transits safely by foot, bike, or bus.
Feb 3, 2015 4:08 PM	Complete the Countywide Transportation Authority so that people without cars can have satisfactory transportation in our community.
Feb 3, 2015 3:55 PM	Increased frequency of public transit and increased days and hours of service would reduce traffic, be better for the environment, and support job seekers and employers with Sunday and late shift jobs.
Feb 3, 2015 3:53 PM	Provide safer bike lanes that do not start/stop randomly, especially on busy streets.
Feb 3, 2015 3:52 PM	Improve traffic flow to reduce transit times.
Feb 3, 2015 3:42 PM	Improving Non-Motorized transportation infrastructure- Adding safe bike lanes.
Feb 3, 2015 3:31 PM	Making improvements on the transportation system. The people who are struggling in out society rely on it to continue and hopefully better their lives. We should focus on becoming more efficient and creating more routes.
Feb 3, 2015 3:27 PM	enforce speed limits
Feb 3, 2015 3:15 PM	Build a full interchange at US-131 and BR US-131
Feb 3, 2015 3:05 PM	Reduce congestion into and out of the city.
Feb 3, 2015 2:45 PM	Fix the high flow traffic intersection at Lovell & Stadium
Feb 3, 2015 2:44 PM	Be strategic with the funds we do have and engage and communicate with residents to determine what they want. Streamline processes and make road improvement processes more efficient...eliminate wasteful processes.
Feb 3, 2015 2:36 PM	accommodate alternative transportation and mass transit
Feb 3, 2015 2:35 PM	Accommodate walking, biking, bus service for all.
Feb 3, 2015 2:33 PM	bike lanes
Feb 3, 2015 2:31 PM	Pedestrian refuges at multi-lane crossing points.
Feb 3, 2015 2:30 PM	The single most important improvement would be to more densely develop our urban areas, lessening automobile trips, and driving demand for better transit.
Feb 3, 2015 2:27 PM	Fixing the current roads

Feb 3, 2015 2:26 PM	Accommodating all users, not just vehicles
Feb 3, 2015 2:24 PM	I think the MDOT plans for Stadium and Michigan Ave. would be an good start. Downtown needs attention.
Feb 3, 2015 2:22 PM	More sidewalks for pedestrian safety
Feb 3, 2015 2:10 PM	improve potholes and provide smoother surfaces to roadways
Feb 2, 2015 9:37 PM	More public transportation and use of alternate means of transportation like walking and bike riding
Feb 2, 2015 9:37 PM	Improved conditions for alternative, clean-energy forms of transportation (walking, cycling, etc)
Feb 2, 2015 9:13 PM	quality of roads
Feb 2, 2015 8:28 PM	funding
Feb 2, 2015 7:13 PM	Bike lanes and better public transportation (e.g. bus routes that run more frequently and to more places - there are a lot of holes in the routes as they are now)
Feb 2, 2015 4:42 PM	I think this is a steered survey. I DIDN'T like choices given.
Feb 2, 2015 2:59 PM	Maintain/improve existing roads with long life materials
Feb 2, 2015 2:08 PM	"1. Two-way streets in downtown Kalamazoo 2. Road diets along main corridors in urban areas, which would include reduced car travel lanes, new bike lanes, new parking lanes and boulevards. In addition, public transit service on Sundays are essential for urbanized areas such as Kalamazoo."
Feb 2, 2015 2:03 PM	Slow traffic flow through downtown, and create a continuous network of designated bicycle lanes throughout the City, using Oakland Drive between Howard and Lovell as an example of what works. I feel completely safe riding in the bike lane through that whole stretch.
Feb 2, 2015 1:54 PM	Improve the condition of the current road system.
Feb 2, 2015 11:20 AM	fixing our roads
Feb 2, 2015 12:43 AM	Improve maintenance of current roads and bridges including replacing aging infrastructure.
Feb 1, 2015 3:42 PM	More funds allocated to fix pot hole and improve conditions of our roads.
Feb 1, 2015 2:43 PM	Focus on travel to use more mass transit, bikes and walking.
Jan 31, 2015 9:12 PM	fix potholes
Jan 31, 2015 2:13 AM	sunday bus service
Jan 31, 2015 1:56 AM	Public transportation needs to be made convenient and available. ALL could benefit from this.
Jan 31, 2015 12:17 AM	Widen I-94 from Chicago to Detroit to at least six lanes.
Jan 31, 2015 12:14 AM	FIX ROADS.
Jan 31, 2015 12:13 AM	The roads around here are nowhere near as bad as the media has indicated, so maintenance and planning should be a high priority
Jan 30, 2015 11:18 PM	maintaining and improving road surface condition
Jan 30, 2015 10:37 PM	Widen I-94 to 6 lanes from Detroit to Chicago.
Jan 30, 2015 9:41 PM	Fix potholes
Jan 30, 2015 9:39 PM	free bikes. use of smaller vehicles to get around
Jan 30, 2015 9:10 PM	Widening I-94
Jan 30, 2015 9:09 PM	Improve safety and traffic flow at intersections
Jan 30, 2015 8:33 PM	Repair busted up or missing sections of existing sidewalks to make our community more walkable.
Jan 30, 2015 8:07 PM	Support through long-term funding.
Jan 30, 2015 7:54 PM	Expanded and more convenient public transit via bus
Jan 30, 2015 7:52 PM	road maintenance
Jan 30, 2015 7:33 PM	Public transit enhancement
Jan 30, 2015 7:26 PM	n
Jan 30, 2015 7:22 PM	Bike pathways
Jan 30, 2015 7:22 PM	new technology for construction that will last better in our changing climate.
Jan 30, 2015 7:09 PM	more public transportation

Jan 30, 2015 7:08 PM	fix the under-maintained inventory of side streets and "back" roads
Jan 30, 2015 6:59 PM	Expanded planning and implementation of multi-modal roadways
Jan 30, 2015 6:51 PM	Safety and quality.
Jan 30, 2015 6:45 PM	road repair performed more often.
Jan 30, 2015 6:36 PM	Bump out curbs to make it easier for pedestrians to cross, add more pedestrian lights, and improve streetscapes.
Jan 30, 2015 6:34 PM	fix the roads consistently
Jan 30, 2015 6:04 PM	Sunday service, later and earlier service
Jan 30, 2015 6:03 PM	Stadium drive through downtown
Jan 30, 2015 5:30 PM	more accessibility for out side of the city area
Jan 30, 2015 4:35 PM	Preparing for future growth with accessible means of trasportation the is coordinated to meet the needs of all aspects of economic development.
Jan 30, 2015 4:14 PM	Consolidation of all transport issues and subsequent activities at the county level
Jan 30, 2015 3:19 PM	Interurban connectivity
Jan 30, 2015 2:08 PM	Better road maintenance
Jan 30, 2015 2:05 PM	Improve traffic flow with existing controls
Jan 30, 2015 2:03 PM	More bike lanes.
Jan 30, 2015 1:59 PM	Improved alternative transportation options. I.E., cycling, walking, buses, light rails. Etc. There are numerous benefits to these types of transportation I.E., environmentally friendly, economically sound, accessible to all citizens, Etc.
Jan 30, 2015 1:53 PM	extend routes in our community with 24/7 service that is affordable for those working non-traditional hours/jobs
Jan 30, 2015 1:50 PM	encourage/expand rural service for buses
Jan 30, 2015 1:46 PM	Street and sidewalk repair
Jan 30, 2015 1:37 PM	Fix the roads
Jan 30, 2015 1:36 PM	narrowing driving lanes on major roads, adding more on street parking
Jan 30, 2015 1:29 PM	Improving traffic flow and maintaining good public transportation
Jan 30, 2015 11:29 AM	Complete sidewalks and ramps.
Jan 30, 2015 3:46 AM	Improve the availability of scheduled public transportation (days and hours of service, new routes, kicker buses at peak times on major routes
Jan 30, 2015 2:54 AM	Road repair
Jan 30, 2015 2:01 AM	Repave the roads - not chip seal
Jan 30, 2015 1:56 AM	Complete the widening of i94 in the urban area
Jan 30, 2015 12:46 AM	increase accessible pedestrian/transit options and connectivity
Jan 30, 2015 12:37 AM	non motorized transportation infrastructure improvement
Jan 29, 2015 10:27 PM	Repair the roads to maintain the infrastructure
Jan 29, 2015 9:19 PM	More dedicated bike and pedestrian trails separated from motorized traffic
Jan 29, 2015 9:18 PM	Fixing the road surfaces.
Jan 29, 2015 6:41 PM	More money and asset management
Jan 29, 2015 6:10 PM	Build a downtown trailway and add multiple spurs that go off it to neighborhoods and high volume areas (like the farmers market for example).
Jan 29, 2015 5:40 PM	do not know
Jan 29, 2015 5:31 PM	Fix the road surfaces.
Jan 29, 2015 5:16 PM	Non-Motorized connections between existing facilities and activity centers / neighborhoods
Jan 29, 2015 5:02 PM	maintenance of the current roads before they get worse
Jan 29, 2015 4:26 PM	bicycle lanes
Jan 29, 2015 4:04 PM	expand/complete the bike and walking transportation network
Jan 29, 2015 4:03 PM	Quality of the roads. If we are redoing them, then we need to spend the money and engineer them well.
Jan 29, 2015 3:59 PM	Make our community more bike friendly, especially to high schools and commercial centers. Look at road diets and traffic calming for short term solutions.
Jan 29, 2015 3:53 PM	Increased infrastructure for Non-Motorized vehicles.

Jan 29, 2015 3:42 PM	securing funding to maintain the system that is in place
Jan 29, 2015 3:39 PM	Eliminate one-way streets, not over-engineer roads and create more alternatives to single automobile transportation.
Jan 29, 2015 3:07 PM	Increase and improvement of Non-Motorized traffic.
Jan 29, 2015 2:57 PM	Complete a comprehensive Non-Motorized master plan for the MPO, prioritize the projects and secure funding to implement them and also increase frequency of buses on routes and expand bus routes
Jan 29, 2015 2:53 PM	maintenance and planning for future.
Jan 29, 2015 2:52 PM	Improve cycling and pedestrian infrastructure to decrease the volume of automobile traffic on the roadways. People will walk and will cycle if they feel safe to do so.
Jan 29, 2015 2:46 PM	Accommodating Non-Motorized users
Jan 29, 2015 2:39 PM	SAFETY: Strict enforcement speed limits and texting while driving laws
Jan 29, 2015 2:36 PM	Repairing roads
Jan 29, 2015 2:31 PM	Better bus service & bike lanes. Improved hours and a radial approach to routes, everything going downtown first makes trips needlessly long.

Question 9: In your opinion, what is the most important improvement that can be made to our transportation system in the next 5 to 25 years (Long Term)?

Mar 12, 2015 11:18 PM	Reconstruct M43, continue from downtown eastward to G ave. Improve drainage (outside lane flooding occurs during larger storms), improve non-motorist safety (divided section with midblock crossings) and a shared use path as the sharrows fail to provide even an illusion of safety on a 45-55mph road. Or slow traffic to provide safety for everyone, and be more inviting for cyclists.
Feb 25, 2015 11:12 PM	smart planning for future development that equally weights all modes of transportation, including major changes to overall traffic flow through downtown
Feb 25, 2015 3:27 PM	Not sure
Feb 24, 2015 7:47 PM	maintaining roads and bridges
Feb 24, 2015 1:35 PM	planning for future growth
Feb 23, 2015 10:52 PM	develop a long term strategy for multi-use interconnected routes
Feb 23, 2015 6:23 PM	Acquire R-O-W and connect US 131 BL and I-94 BL via limited access Pitcher/Porter pair in tandem with full interchange at US 131 and US 131 Bl (north of Kalamazoo.
Feb 23, 2015 1:37 AM	planning for sustained funding for smart environmental and practical road maint. issues
Feb 22, 2015 9:22 PM	Traffic calming, reduced speeds on all roadways, reduced diesel emissions.
Feb 21, 2015 6:17 PM	Build protected bicycle highways.
Feb 18, 2015 9:28 AM	Improving public transit and Non-Motorized opportunities to reduce dependence on automobiles for local transportation.
Feb 17, 2015 8:35 PM	traffic patterns leading south and west
Feb 17, 2015 1:42 PM	Public transit system that would significantly reduce private vehicle use.
Feb 17, 2015 3:38 AM	Beautification of entryways to downtown, taking out the one-way streets.
Feb 17, 2015 12:12 AM	Bicycle routes
Feb 16, 2015 11:01 PM	Make I-94 a toll road, so that all the trucks that ruin it because they are avoiding I- 80 tolls, will get off it or pay for their damage, including the people they kill every year!
Feb 16, 2015 10:56 PM	Charge the "real" cost of road expansion to developers and users. We want to expand by creating better public transportation links and options and more diversity of travel options.
Feb 16, 2015 10:45 PM	same
Feb 16, 2015 9:58 PM	bike and pedestrian friendly paths on roads and by making greenways
Feb 16, 2015 9:44 PM	Making roads wider to enable bicyclists to ride on shoulders
Feb 16, 2015 9:34 PM	multi use transportation options implemented
Feb 16, 2015 5:47 PM	More expansive, coordinated public transportation connected with sidewalks to neighborhoods & businesses.

Feb 16, 2015 5:14 PM	bus system to outlying areas
Feb 16, 2015 4:32 PM	more public transport
Feb 16, 2015 4:15 PM	Better commuter through put for motorized ways into suburbs.
Feb 16, 2015 4:14 PM	High speed rail service.
Feb 16, 2015 3:53 PM	Cheap and frequent and environmentally friendly bus system.
Feb 16, 2015 3:52 PM	more walking and biking options
Feb 16, 2015 3:41 PM	?
Feb 16, 2015 3:32 PM	Implement a Complete Streets plan city-wide
Feb 16, 2015 3:00 PM	City income tax on all employees in Kalamazoo, whether or not they are residents. Most employees are driving to work daily, using city streets and city services, and all should be paying for a portion of those services.
Feb 16, 2015 2:52 PM	Road Maintenance
Feb 16, 2015 2:48 PM	Healthy maintenance budget for roads.
Feb 15, 2015 1:21 AM	Merge city, county, state funds.
Feb 14, 2015 6:46 PM	Improvements in planning that keep any future growth compact and contiguous to municipalities, thereby requiring less overall infrastructure and maintenance over time.
Feb 13, 2015 9:43 PM	Make the roads more cycling friendly. Don't stick us on the shoulders but in the line of traffic where we belong. The roads need to be maintained better. Chip and seal is terrible and the way potholes are fixed (if they are fixed) needs to be improved. I'd rather avoid construction for a few days that have permanent bumps
Feb 13, 2015 1:06 PM	Toll roads on I-94.
Feb 12, 2015 8:46 PM	Non-Motorized connections
Feb 12, 2015 8:32 PM	US 131 to be highway to I80/90
Feb 12, 2015 8:25 PM	Build out transportation system to support Non-Motorized transportation and public transportation consistent with Complete Streets and planning for sustainability as is done in cities like Portland and Madison. The net results are an improved business climate (especially for attracting the sorts of businesses we would like to see in Kalamazoo), improved quality of life, improved health of citizens, more people being attracted to downtown businesses and other venues, etc.
Feb 12, 2015 5:19 PM	Building and balancing for pedestrian, cycling, and motor vehicle usage
Feb 12, 2015 4:03 PM	Interurban and other light rail. Like we used to have a couple of generations ago.
Feb 12, 2015 3:18 PM	Widening I-94
Feb 12, 2015 1:09 PM	integrate multi use into as many roadways as possible for big, long term benefit.
Feb 12, 2015 12:17 PM	Provide thru ways - they are getting chocked by frequent traffic lights
Feb 12, 2015 1:49 AM	Enhanced use of technology
Feb 11, 2015 9:00 PM	continued maintenance and adding Non-Motorized
Feb 11, 2015 8:54 PM	Added infrastructure for alternative modes of transportation (bike and ped "overpasses", separated paths, etc)
Feb 11, 2015 8:10 PM	Spend tax payer dollars appropriately.
Feb 11, 2015 7:34 PM	Build bridges over all intersections for pedestrians or bicycles!
Feb 11, 2015 7:19 PM	maintain roads and increase access for bicycles and walking
Feb 11, 2015 7:03 PM	will area be ready for the self driving cars by Google and others?
Feb 11, 2015 6:55 PM	dedicated, on or off road, bike/pedestrian lanes all throughout the community
Feb 11, 2015 6:30 PM	Increase bicycle infrastructure to alleviate congestion on roadways and promote safe riding and commuting conditions
Feb 11, 2015 6:04 PM	Integration of corridors for Non-Motorized vehciles and pedestrians with our transportation system.
Feb 11, 2015 6:01 PM	Non motorized transportation consideration incorporated into all new developments
Feb 11, 2015 3:55 PM	the balance of new development, maintaining current assest and working to enhance community living
Feb 11, 2015 3:32 PM	Sustainable funding -
Feb 10, 2015 4:51 PM	The State must provide a new transportation funding mechanism which will actually maintain our roads and public transportation.

Feb 9, 2015 11:25 PM	Same as #1.
Feb 9, 2015 8:12 PM	Fully funding maintenance to our roads to prevent further degradation and the need for added development. outside of the central corridor.
Feb 9, 2015 2:16 PM	More public transportation options, for longer distances
Feb 9, 2015 12:33 PM	Funding for proper asset management
Feb 9, 2015 3:13 AM	be more comprehensive for multi modal transit including non motorized
Feb 7, 2015 10:44 PM	Develop funding plans to maintain roads and sidewalks
Feb 7, 2015 6:09 PM	Bus service 7 days a week, every 15 mins and longer hours for shift workers, high speed rail between Kazoo and Detroit and Kazoo and Grand Rapids. More bus shelters with solar lighting, and solar roadways and sidewalks. Also, electric buses.
Feb 7, 2015 4:15 PM	More complete streets
Feb 6, 2015 4:32 PM	Improve public transportation offerings.
Feb 6, 2015 1:11 PM	Consider making I-94 a toll road which would better help the financing of road maintenance. Also, West Main should be given a center turn lane from Berkley to Kendall and a third westbound lane from Piccadilly to US-131.
Feb 6, 2015 5:58 AM	Planning and building pedestrian/ bicycle crossings over/ under major roadways as part of a linked multi- use pathway between communities and points of interest, not just interlinked parks.
Feb 6, 2015 3:23 AM	comprehensive system of bikable/walkable and safe and beautiful transit AND great bus service
Feb 6, 2015 1:43 AM	Make it easy to move round area and within the city without individual cars.
Feb 6, 2015 1:09 AM	Pedestrian and bike areas
Feb 6, 2015 1:06 AM	Safe, efficient, reliable, affordable mass transit
Feb 5, 2015 8:02 PM	Robust public transit system
Feb 5, 2015 7:34 PM	Become county wide system.
Feb 5, 2015 6:53 PM	incentives for non motorized transportation
Feb 5, 2015 4:22 PM	Create more space for and access to walkability and bike usage
Feb 5, 2015 2:45 PM	Besides getting some real taxes from big corporations and the 1% -- more buses, better snow removal (not just plowing it into the sidewalk), and bike/pedestrian paths with a physical divider of some kind from motorized traffic
Feb 5, 2015 2:11 PM	Investments in pedestrian walkways and side walks.
Feb 5, 2015 1:52 PM	Widening of major highways and roadways to accommodate growing traffic levels.
Feb 5, 2015 4:11 AM	De-emphasize the use of privet cars.
Feb 5, 2015 3:39 AM	"Building a system that reduces reliance upon car transportation-better bike And pedestrian solutions and a better transit system."
Feb 5, 2015 3:26 AM	Get people out of their cars and on public transportation -- this is a combination of better public transportation and better marketing/PR -- think progressive!
Feb 5, 2015 2:44 AM	Public transit within town and within region (trains)
Feb 5, 2015 12:28 AM	Less energy to the individual car and more to biking,walking and improved public transportation.
Feb 4, 2015 10:15 PM	Continued funding for repairs and improvements
Feb 4, 2015 9:57 PM	More reliable public transportation, additional freeway lanes,
Feb 4, 2015 8:33 PM	See number 1. If you want to reduce the number of cars on the road give people viable options.
Feb 4, 2015 8:03 PM	connecting kalamazoo to the surrounding communities via Non-Motorized trails
Feb 4, 2015 8:02 PM	Land use that makes transit more feasible
Feb 4, 2015 7:45 PM	creating a bus system that encourages its use by providing stops around down town and other shopping areas. also having over lapping stops to make it easier to transfer to other bus routes.
Feb 4, 2015 6:50 PM	Widening US-131 to 6 lanes from M-43 to Centre St
Feb 4, 2015 6:43 PM	Plan for Non-Motorized and public transportation to be the primary modes within the urban core.

Feb 4, 2015 4:06 PM	Alternative public transportation such as regional trains and trams for access to the central Kalamazoo community. Modeling transportation after European communities of this size.
Feb 4, 2015 3:40 PM	Maintenance
Feb 4, 2015 3:21 PM	The citizen, the elected leader and the economic developer typically have no idea how transportation funding works. Building intentional outreach mechanisms to existing groups of citizens may have a long term impact on the understanding of elected leaders and economic players. In Michigan we need more overall planning coordination with townships and municipalities sharing their data openly with one another without fear of being undercut economically by a neighboring township. We need a comprehensive way of analyzing the effects of "tax deals and breaks" for businesses. Maybe KATS cannot do this themselves but perhaps they are able to mobilize others to get this kind of comprehensive analysis, planning and development done. Cheap fuel, despite today's pump prices, are a thing of the past. We must move toward more compact development that enhances public transportation efficiency. In Kalamazoo County we need a large enough millage to fund a system with at least 30 routes, operating 7 days a week, for up to 18 hours a day, running on most routes every 15 minutes at peak times, to accommodate work schedules and businesses located all over the county. Such a system would not only be people and environmentally friendly, but it would be seen as business friendly. AND it could and probably should become a springboard for near county transportation expansion and bus rapid transit from Van Buren to Kalamazoo and within Kalamazoo on main east west and north south arteries. Why not write down such a vision and really begin to follow it and get more people involved supporting it?
Feb 4, 2015 3:08 PM	Build the complete interchange at 131 and 131 BL
Feb 4, 2015 2:56 PM	Equitable funding to all arenas utilizing shared allotments.
Feb 4, 2015 2:40 PM	If the above is in effect more trails would be of great advantage for attracting educated people
Feb 4, 2015 1:57 PM	Mobility. Reducing traffic signals and using roundabouts to increase traffic flow.
Feb 4, 2015 1:08 PM	road projects
Feb 4, 2015 12:16 PM	Development of more bicycle/pedestrian friendly routes
Feb 4, 2015 2:34 AM	Safety improvements at intersections and completion of missing links of sidewalk, etc.
Feb 4, 2015 2:27 AM	Find creative ways to make the area a place where people will want to live, work and play, and, so that business has what it needs to attract great employees and grow.
Feb 4, 2015 2:10 AM	Alternative transportation.
Feb 4, 2015 1:33 AM	make it easy to get around on bikes
Feb 3, 2015 10:30 PM	More access for Non-Motorized transport.
Feb 3, 2015 10:09 PM	More room on I-94.
Feb 3, 2015 9:25 PM	I think we should work on public transportation not only in the city of Kalamazoo and Portage but also to other metropolitan areas like Grand Rapids, Holland, Battle Creek, etc.
Feb 3, 2015 9:07 PM	improve quality
Feb 3, 2015 9:05 PM	Maintain Road Conditions
Feb 3, 2015 7:04 PM	Make our transportation system less car oriented. Make walking and bicycle riding a serious option.
Feb 3, 2015 6:47 PM	Completion and expansion of US-131 to Toll Road
Feb 3, 2015 6:42 PM	More buses.
Feb 3, 2015 5:41 PM	install or repair a road? Add a bike/pedestrian lane, mandatory.
Feb 3, 2015 5:33 PM	Gear our future development towards all members of our community, not just motorists. Giving people options like walking and bicycling to reduce GHG emissions and promote healthy lifestyles for all citizens.
Feb 3, 2015 5:32 PM	Better stormwater management
Feb 3, 2015 5:07 PM	Expanding public transportation - Both in the expansion (County-wide) and hours of service.

Feb 3, 2015 4:57 PM	All means of Transportation, more accessable.
Feb 3, 2015 4:44 PM	Mass transit planning to develop safe reliable transit system to replace current individual automobile system
Feb 3, 2015 4:36 PM	see above
Feb 3, 2015 4:27 PM	Mass transportation to other municipalities
Feb 3, 2015 4:22 PM	Improved road quality.
Feb 3, 2015 4:12 PM	Improve the ability for people to make their more distant transits safely by foot, bike, or bus.
Feb 3, 2015 4:08 PM	Engineer our roads to be safer for bicyclists and pedestrians.
Feb 3, 2015 3:55 PM	Complete streets!
Feb 3, 2015 3:53 PM	Create designated bike routes between main campus, Parkview campus, health campus, Kalamazoo College, and downtown that do not interfere with automobile traffic. I would focus on linking milestones such as the farmers market on Bank Street to the Kalamazoo Mall, main campus to the co-op or KRVT, East Campus to the WMU Rec Center.
Feb 3, 2015 3:52 PM	Develop more bus routes and encourage higher utilization of transit services. The current spoke and wheel model isn't designed for the majority of the population.
Feb 3, 2015 3:42 PM	Creating a more bike- friendly community
Feb 3, 2015 3:31 PM	Improving the road conditions. It's not an easy task in Michigan with the winter bearing down on us but there needs to be constant work being done on the roads in the forms of construction and plowing. Which did a terrible job this year.
Feb 3, 2015 3:27 PM	widen I 94
Feb 3, 2015 3:15 PM	greater focus on building and maintaining Non-Motorized transportation facilities
Feb 3, 2015 3:05 PM	Keep reducing congestion into and out of the city.
Feb 3, 2015 2:45 PM	plan ahead
Feb 3, 2015 2:44 PM	Create a Non-Motorized system that will encourage more walking and biking so the roads need less maintenance and less pollution is created.
Feb 3, 2015 2:36 PM	accommodate alternative transportation and mass transit
Feb 3, 2015 2:35 PM	Expanded county-wide bus service.
Feb 3, 2015 2:33 PM	added beauty
Feb 3, 2015 2:31 PM	An overall shift towards a complete streets model, with more balanced levels of service for all users.
Feb 3, 2015 2:30 PM	Same as above. No more building more capacity for growth that is not coming.
Feb 3, 2015 2:27 PM	Planning for growth
Feb 3, 2015 2:26 PM	Restructuring Michigan Ave and Kalamazoo Ave to reduce semi-truck traffic through the downtown.
Feb 3, 2015 2:24 PM	Complete streets.
Feb 3, 2015 2:22 PM	Reduce one-way streets
Feb 3, 2015 2:10 PM	more access to surrounding areas for mass transit...for some people it is more than an hour ride when by car it is 20 min.
Feb 2, 2015 9:37 PM	Public transit
Feb 2, 2015 9:37 PM	Improved conditions for alternative, clean-energy forms of transportation (walking, cycling, etc)
Feb 2, 2015 9:13 PM	investment in public transportation
Feb 2, 2015 8:28 PM	funding
Feb 2, 2015 7:13 PM	Overall increased safety for cars, bicycles and pedestrians. Bike lanes and sidewalks on every road on each side of the road. Better public transportation (e.g. bus routes that run more frequently and to more places - there are a lot of holes in the routes as they are now). Maybe have trains or subways that run out to the suburbs?
Feb 2, 2015 4:42 PM	Send this back to committee to ask real honest questions with real choices, not the answers we are being steered into. Shameful dishonesty practiced at a low level.
Feb 2, 2015 2:59 PM	Bike trails and public transit
Feb 2, 2015 2:08 PM	"1. Two-way streets in downtown Kalamazoo 2. More complete streets

	3. Efficient, convenient and reliable mass transit (7 days a week) 4. Enhanced mass transit near campus/downtown 5. Continued maintenance of the existing road network"
Feb 2, 2015 2:03 PM	Offer public transportation that saves people time in reaching their destination compared to driving cars.
Feb 2, 2015 1:54 PM	Plan for growth by looking at improving the road system and providing adequate mass transit to meet the needs of employers and employees.
Feb 2, 2015 11:20 AM	improve public transportation
Feb 2, 2015 12:43 AM	Improve safety.
Feb 1, 2015 3:42 PM	Not sure.
Feb 1, 2015 2:43 PM	Apply traffic calming techniques along city and twsp roads. Improve mass transit with express and Sunday buses across town and support train travel options in lieu of cars for out of county travel.
Jan 31, 2015 9:12 PM	maintain quality of roads
Jan 31, 2015 2:13 AM	safe bike lanes
Jan 31, 2015 1:56 AM	More and safer pedestrian and bike lanes to encourage multiple modes of transportation (healthier, gets people into the community, and improves traffic congestion).
Jan 31, 2015 12:17 AM	High speed railways
Jan 31, 2015 12:14 AM	FIX and build new roads.
Jan 31, 2015 12:13 AM	BC to Kzoo I 94. Sprinkle Rd could be safer.
Jan 30, 2015 11:18 PM	wider development of public transit
Jan 30, 2015 10:37 PM	Better railroad system for passengers and freight. High speed rail system.
Jan 30, 2015 9:41 PM	I don't know.
Jan 30, 2015 9:39 PM	more stops
Jan 30, 2015 9:10 PM	Widening I-94
Jan 30, 2015 9:09 PM	widening of selected streets and plan future transportation routes based on the automobile as well as pedestrian safety
Jan 30, 2015 8:33 PM	Figure out a way to make the bus system run more smoothly so that everyone can get to their destination quicker and more efficiently.
Jan 30, 2015 8:07 PM	Support on-going maintenance and funding concerns.
Jan 30, 2015 7:54 PM	A fully developed and integrated system of public transportation including buses and light rail.
Jan 30, 2015 7:52 PM	mass transit upkeep, efficiency and usability
Jan 30, 2015 7:33 PM	Public transit enhancement
Jan 30, 2015 7:26 PM	n
Jan 30, 2015 7:22 PM	You know better than me!
Jan 30, 2015 7:22 PM	planning with all involved
Jan 30, 2015 7:09 PM	more public transportation
Jan 30, 2015 7:08 PM	regional traffic flow planning for growth
Jan 30, 2015 6:59 PM	Sustainable funding for maintenance of roadways
Jan 30, 2015 6:51 PM	Rapid Transit System
Jan 30, 2015 6:45 PM	widen where appropriate, and enhance shoulders and curbs and sidewalks along busy roads in edison and eastside neighborhoods
Jan 30, 2015 6:36 PM	Removal of one way, multiple lane streets that go through downtown to improve pedestrian safety, make it easier to navigate, and bring more visibility to downtown businesses.
Jan 30, 2015 6:34 PM	better transit (bus), extending and connecting.
Jan 30, 2015 6:04 PM	24 hr service so that it can not only supplement my car but replace it when I am navigating in the city.
Jan 30, 2015 6:03 PM	I-94 widening to Detroit
Jan 30, 2015 5:30 PM	more accessibility for outside of the city area

Jan 30, 2015 4:35 PM	Development of a long term plan to address economic development and inclusion of everyone that can assist employers and the community meet their needs.
Jan 30, 2015 4:14 PM	Rail to provide Chicago-Grand Rapids-Ann Arbor-Detroit connections on at least a 1/2 hour interval. Connection to all airports included. Lansing too. Sustained funding system. I-94 6 lanes in all of Michigan.
Jan 30, 2015 3:19 PM	accessibility for all forms of transportation
Jan 30, 2015 2:08 PM	Separate areas for bikes and walkers on all streets, away from traffic
Jan 30, 2015 2:05 PM	Improve maintainability of roads
Jan 30, 2015 2:03 PM	Fixing potholes
Jan 30, 2015 1:59 PM	Again, improved alternative transportation. Not only is it beneficial for the reasons stated above, but as the population grows the use of public transit will reduce many of the traffic issues caused by the over use of cars.
Jan 30, 2015 1:53 PM	uncertain
Jan 30, 2015 1:50 PM	find a road material that does not disintegrate into potholes
Jan 30, 2015 1:46 PM	Complete Streets
Jan 30, 2015 1:37 PM	A well established public transportation system
Jan 30, 2015 1:36 PM	Making the downtown area a more livable, walkable, workable community.
Jan 30, 2015 1:29 PM	Planning and accomodating for long term growth in the Kalamazoo area
Jan 30, 2015 11:29 AM	Universal design, complete streets.
Jan 30, 2015 3:46 AM	more bike lanes, more local lots instead of on-street parking, more and better maintained sidewalks in urbanized areas
Jan 30, 2015 2:54 AM	Public transit
Jan 30, 2015 2:01 AM	More bike paths
Jan 30, 2015 1:56 AM	construction of a light commuter rail line between kalamazoo and Grand Rapids.
Jan 30, 2015 12:46 AM	More state and federal funding for all transportation infrastructure
Jan 30, 2015 12:37 AM	Same
Jan 29, 2015 10:27 PM	develop a long term plan the works to connect Non-Motorized pathways with neighboring communities in conjunction with capital projects so that it is the most cost effective. Also to develop a plan to continue to fund the proper maintenance of roads to maintain the paser ratings.
Jan 29, 2015 9:19 PM	More dedicated bike and pedestrian trails separated from motorized traffic
Jan 29, 2015 9:18 PM	Focus on making Kzoo a bike friendly community.
Jan 29, 2015 6:41 PM	Financial stability
Jan 29, 2015 6:10 PM	decreasing the amount of driving we do and increasing the amount of alternative methods like walking and biking especially.
Jan 29, 2015 5:40 PM	flying cars. (Seriously, my real answer is don't know)
Jan 29, 2015 5:31 PM	Fix and maintain all roads and other infrastructure.
Jan 29, 2015 5:16 PM	Systemic funding change
Jan 29, 2015 5:02 PM	widening of roads to handle the increase in traffic
Jan 29, 2015 4:26 PM	income tax on all who use the roads in the city of Kalamazoo
Jan 29, 2015 4:04 PM	high speed rail service to Chicago and Detroit
Jan 29, 2015 4:03 PM	Make the roads,sidewalks, paths usable for all modes of transportation.
Jan 29, 2015 3:59 PM	More bike lanes, trails and sidewalks.
Jan 29, 2015 3:53 PM	Maintenance!
Jan 29, 2015 3:42 PM	planning for more modes of mobility (regional light rail, bikes, HOV lanes, etc)
Jan 29, 2015 3:39 PM	Eliminate one-way streets, not over-engineer roads and create more alternatives to single automobile transportation.
Jan 29, 2015 3:07 PM	Reduction or elimination of auto traffic.
Jan 29, 2015 2:57 PM	Same as above. Funding and implementation of Non-Motorized and mass transit will not be "fixed" in 5 years. The more improvements to these two areas the more viable options we give people to get out of their cars which will improve their health and the health of the community, will attract more knowledge based businesses to the area and grow the local economy.

Jan 29, 2015 2:53 PM	bike and pedestrian friendly across Kalamazoo county
Jan 29, 2015 2:52 PM	Levy a 'ton-mile' fee on users so heavier vehicles and those that drive more miles pay more to maintain roads.
Jan 29, 2015 2:46 PM	Maintenance
Jan 29, 2015 2:39 PM	ENVIRONMENT: Expansion of green/no fossil fuel powered options (bike lanes, routes, etc)
Jan 29, 2015 2:36 PM	Improve public transportation
Jan 29, 2015 2:31 PM	Express bus to Grand Rapids. Less reliance on the car. Traffic calming in neighborhoods.

2045 Metropolitan Plan
Non-motorized Open House-July 30, 2014
SIGN-IN SHEET

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2045 Metropolitan Plan
Non-motorized Open House-July 30, 2014
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2045 Metropolitan Plan
Non-motorized Open House-July 30, 2014
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2045 Metropolitan Plan
Non-motorized Open House-July 30, 2014
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2045 Metropolitan Plan
Non-motorized Open House-July 30, 2014
SIGN-IN SHEET

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2045 METROPOLITAN TRANSPORTATION PLAN OPEN HOUSE SIGN-IN SHEET

Meeting Date: 3/7/16

Place/Room: Kalamazoo Metro Transit

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Jodi Stefforia	Planner	Comstock Twp	3812300	zoning@comstockmi.org
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Doug Plachcinski	PLANNER	TEXAS		

2045 METROPOLITAN TRANSPORTATION PLAN OPEN HOUSE SIGN-IN SHEET

Meeting Date: 3/7/2016

Place/Room: KALAMAZOO Metro Transit

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Jim Fermer	CSC	CSC		

Info

From: Paul Ecklund <EcklundP@dnswm.org>
Sent: Monday, March 07, 2016 1:54 PM
To: info@katsmpo.org
Subject: Re: Public Input on 2045 Metropolitan Transportation Plans

Hello,

My basic concerns for the future 2045 Metropolitan Transportation Plan is to continue to follow through with Complete Streets policy. When doing street and sidewalk repair to also upgrade the bus stops to the 2010 Ada Standards for Accessible Design and to connect these bus stops with an accessible route to the nearby curb ramp at a street corner. To continue efforts for multi-purpose pathways and streets with sidewalks so people are not forced to walk in the streets in order to get around.

Thank you for this opportunity to make comments.

Respectfully,

Paul Ecklund
Disability Rights Advocate
Disability Network Southwest Michigan
517 E. Crosstown Parkway
Kalamazoo, MI 49001

Phone: (269) 345-1516 x 117
Fax: (269) 345-0229
E-mail: ecklundp@dnswm.org
Website: http://www.dnswm.org

For the accessibility and well-being of our employees and visitors Disability Network Southwest Michigan is a fragrance-free office. Please do not wear colognes and perfumes when visiting. Thank you!

Monica Zehner

From: Steve Stepek, AICP <sstepek@katsmpo.org>
Sent: Monday, March 07, 2016 7:34 PM
To: Monica Zehner
Subject: Fwd: RCKC 2045 Plan Input

Begin forwarded message:

From: Joanna Johnson <JJohnson@kalamazoocountyroads.com>
Date: March 7, 2016 at 12:55:06 PM EST
To: "jrstart@katsmpo.org" <jrstart@katsmpo.org>
Cc: Steve Stepek <sstepek@katsmpo.org>, Ryan Minkus <rminkus@kalamazoocountyroads.com>, Mark Worden <mworden@kalamazoocountyroads.com>, "danieljmoyle@aol.com" <danieljmoyle@aol.com>
Subject: RCKC 2045 Plan Input

Thank you for the opportunity to provide feedback on the KATS 2045 Draft Plan areas that are completed, for RCKC input. Unfortunately, staff cannot attend the open house, therefore please accept the following comments:

- In the 2035 Plan there were the following chapters included:
  - **Freight – needs to be added back to 2045 Plan with Freight Plan – elements of Sec 450.316 include the enhancement of the efficient movement of freight.**
  - Projected Transportation Demand
  - Travel Demand Model
  - Deficiencies
  - Operational & Management Strategies
  - Air Quality Analysis

  Were these eliminated - why? or thought to be combined in various areas of the 2045 Plan?

- Overall the KATS 2045 Draft Plan is unclear of the overall goal for our transportation system for our area and where we are now. All chapters should consider roads, bridges, transit, air, rail, and non-motorized, etc., for our region to consistently better understand the potential regional transportation issues. Performance measures should be included in chapters – where are we now- what is the reasonable goal?

- **2045 Plan Format:** The 2045 Plan lacks consistency in formatting, font and consistent use of acronyms. Suggest providing website links when referencing documents and noted in footers accordingly for reference. Sometimes KATS, sometimes Study, sometimes MDOT and sometimes spelled out – this may be because of separate chapters completed differently and not one document. Spell out PASER, ACT 51 etc. before using acronyms consistently. Sometimes RoadSoft and sometimes Roadsoft, etc.

- **Page 4 of 83 Introduction:** Should KATS be noted as a Transportation Management Area based on population and should Van Buren be noted? Updated to reflect the FAST Act?

- **Chapter 2 Vision and Goals:** Lacks current measures and clear performance measures in each area. There is no reference to the all season network, freight, reducing restricted bridges, airport goals, rail goals, increase connectivity between all modes of transportation, sustain

1

pavement planning with the right fix at the right time - many of which were noted and still relevant from the 2035 plan. This chapter needs a more specifics and accountability in goals. This chapter also needs to be aligned with other elements including prioritization process, etc.

- The reference to the **Airport Noise Compatibility Study** and enplanement reference was removed from the 2035 Plan - why?
- In the **Ridesharing** area carpool lot reference location was removed from the 2035 Plan - why?
- **Page 41 of 83 in Transportation Issues Facing the Region:** Funding is not mentioned and it is a key issue. Also, how are these issues incorporated into the Vision & Goals?
- **Page 45 of 83 in Congestion Management Process:** How is this issue incorporated into the Vision & Goals?
- **KATS Travel Model Update Technical Report:** We suggest this report only be noted as a reference document, if possible vs. including in plan as very technical and difficult for public to understand what it means to the 2045 plan and the MPO area.
- **Public Participation:** Is the MTP the only public participation? There should be others noted as clearly the questions asked and options/responses were specifically designed. How is this and the comments incorporated into the Vision & Goals?
- **Chapter 7 Environmental Justice:** What is the KATS role in EJ?
- **Chapter 8 Consultation & Environmental Mitigation:** If the goal is to eliminate or minimize conflicts with other agencies' plans that may impact transportation in the Kalamazoo metropolitan area – how does KATS do this and how is this incorporated in the Vision & Goals? What are the agency comments to be inserted? If road agencies are to be given "best practices" on how to mitigate environmental issues and KATS informing road agencies needs to be incorporated into the Vision & Goals. Environmental Factors near Capacity Projects chart should have the project name and not reference to Project ID.
- **Financial Analysis: This chapter needs clarity and conclusion.** Sources of state funding needs to be clarified that it will not begin to be received until 2017. What financial increases contribute to the substantial increase in Table 1 for 2021 -2045? Add effects of fuel efficiency, non-motorized, etc. to the impacts of federal and state funding further. Reflected are projected funds for operation and maintenance, however is there cost analysis? What is the financial analysis costs of the non-motorized projects, roads, bridges and transit? In the Transit Financial Forecast – Local, where is Table 10 described? Where is Table 11 described – missing information? Assuming this is similar to other planning organization plans there is missing analysis of funding and needs conclusion - for example: http://www.gc4me.com/Financial_Plan_Full_Report.pdf What is the conclusion for our area based on projected revenues and projects – do we have enough resources to build and maintain???
- **Future Transportation System Facilities: This chapter needs clarity and conclusion.** Please add jurisdiction to capacity deficiency chart. How is demand calculate for public transportation system deficiencies? What is the impact of Scenario 4 to the revenue model as well as the "strategic shift" to invest more in alternative modes? The prioritization process continues to punish agencies that are maintaining the system and preserving it accordingly especially since

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the goal of KATS is emphasizing preserving the system of adding more to it. How does this same goal reflect in non-motorized? What is the performance measure/goal for the future of the transportation system of KATS?

- **Unfunded Transportation Projects & Needs: This chapter needs clarity and conclusion.** RSL not defined. Interpretation should include what is realistically available in previous financial analysis to determine if an average rating of 8 in 10 years can be achieved for our region. So in the conclusion do we have the funds based on financial analysis to maintain a rating of 6 or 8? Unmet needs should be expanded for costs and this should include non-motorized revenue and expenditures. Other needs should be expanded and a stronger statement that with state, federal funding forecasts and needs of the system are unmet.

- **Future Metropolitan Planning Area:** Previously this was noted in the 2035 plan – is there further anticipated expansion?

- **Non-motorized feedback provided on 11/30/15**; the majority of comments/questions provided were not clarified in the revised 2/22/16 document, therefore we resubmit the same input from 11/30/15 accordingly. Measureables need to be included for our MPO area to measure performance. We need to define for commuter vs. recreational routing as there is inconsistency in project and data provided for sections. In addition to continued comments from our 11/30/15 input we want to emphasize the following:

    - Funding: Per Complete Streets Policy: "...Federal and 5tate funding sources, primarily used for non-motorized facilities, will first be considered and applied for prior to considered and applied for prior to considering other sources including STP funds...."
    - Have the maps been corrected based on previous feedback?
    - Existing Policy Content/State: Clarification needs to be corrected related to the use of funds as PA 51 does not include bicyclists as there are other uses for paving shoulders.

247.660k NONMOTORIZED TRANSPORTATION SERVICES AND FACILITIES; EXPENDITURE;
IMPROVEMENTS AS QUALIFIED NONMOTORIZED FACILITY; MEETING REQUIREMENTS OF
SECTION; 5-YEAR PROGRAM; ESTABLISHMENT OF FACILITIES; INFORMATION AND
ASSISTANCE AS TO PLANNING, DESIGN, AND CONSTRUCTION. [M.S.A. 9.1097(10l)]
Sec. 10k. (1) Transportation purposes as provided in this act include provisions for facilities and services for
non-motorized transportation including bicycling.
(2) **Of the funds allocated from the Michigan transportation fund to the state trunk line fund and to the counties,**
cities, and villages, a reasonable amount, but not less than 1% of those funds shall be expended for nonmotorized
transportation services and facilities.
(3) **An improvement in a road, street, or highway which facilitates nonmotorized transportation by the paving of**
unpaved road surfaces and shoulders, widening of lanes, or any other appropriate measure shall be considered to be
a qualified nonmotorized facility for the purposes of this section.
(4) Units of government need not meet the provisions of this section annually, provided the requirements are met
as an average over a reasonable period of years, beginning with 1978, not to exceed 10.
(5) The state transportation department or a county, city, or village receiving money from the Michigan
transportation fund annually shall prepare and submit a 5-year program for the improvement of qualified nonmotorized

facilities which when implemented would result in the expenditure of an amount equal to at least 1% of the amount
distributed to the state transportation department or the county, city, or village, whichever is appropriate, from the
Michigan transportation fund in the previous calendar year multiplied by 10, less the accumulated total expenditures
by the state transportation department or the county, city, or village for qualified nonmotorized facilities in the
immediately preceding 5 calendar years.
(6) Facilities for nonmotorized transportation may be established in conjunction with or separate from already
existing highways, roads, and streets and shall be established when a highway, road, or street is being constructed,
reconstructed, or relocated, unless:
(a) The cost of establishing the facilities would be disproportionate to the need or probable use.
(b) The establishment of the facilities would be contrary to public safety.
(c) Adequate facilities for nonmotorized transportation already exist in the area.
(d) Matching funds are not available through the department of natural resources or other state, local, or federal
government sources.
(e) The previous expenditures and projected expenditures for nonmotorized transportation facilities for the fiscal
year exceed 1% of that unit's share of the Michigan transportation fund in which case additional expenditures shall
be discretionary.
(7) The state transportation department may provide information and assistance to county road commissions, cities

- and villages on the planning, design and construction of nonmotorized transportation facilities and services.

Joanna I. Johnson, Managing Director
Road Commission of Kalamazoo County
3801 E. Kilgore Road
Kalamazoo, MI 49001
(269) 381-3170 Ext. 220
Fax (269) 381-1760
www.kalamazoocountyroads.com

Your Local Road Professionals

4

KATS
KALAMAZOO AREA TRANSPORTATION STUDY

2045 Metropolitan Transportation Plan
Comment Form

We value your feedback!

CONTACT INFORMATION

NAME: Janice Jagars
STREET ADDRESS: 4021 Jody Lane
CITY: Kal MI ZIP: 49006
EMAIL: jjagarsotsego@yahoo.com

GENERAL COMMENTS

Comments, Suggestions, Feedback: Regional Transit Osht-Kmo needs to not opt-out of Metro. It would be great if we could be connected to GR by way of Otsego/Plainwell and Schoolcraft/ Three rivers. East and west South Haven. Muskegon/Holland. We would also like to see a reduced (Half price) 31 day pass for Elderly + Disabled.

CHAPTER (PLEASE INDICATE WHICH CHAPTER YOUR COMMENTS PERTAIN TO): ~~Regional Transit~~

Comments, Suggestions, Feedback:

CHAPTER (PLEASE INDICATE WHICH CHAPTER YOUR COMMENTS PERTAIN TO): _____

Comments, Suggestions, Feedback:

(Additional space on reverse side.)

KATS
KALAMAZOO AREA TRANSPORTATION STUDY

2045 Metropolitan Transportation Plan
Comment Form

We value your feedback!

? no snacks? Howrude.

CONTACT INFORMATION

NAME:

STREET ADDRESS:

CITY: **ZIP:**

EMAIL:

GENERAL COMMENTS

Comments, Suggestions, Feedback:

↑ complete street focus everywhere
↑ sidewalk maintenance
↑ transit funding to cover more geography w/ fixed rate
+ ↑ frequency + hours

CHAPTER (PLEASE INDICATE WHICH CHAPTER YOUR COMMENTS PERTAIN TO):_____

Comments, Suggestions, Feedback:

CHAPTER (PLEASE INDICATE WHICH CHAPTER YOUR COMMENTS PERTAIN TO):_____

Comments, Suggestions, Feedback:

(Additional space on reverse side.)

KATS
KALAMAZOO AREA TRANSPORTATION STUDY

2045 Metropolitan Transportation Plan
Comment Form

We value your feedback!

CONTACT INFORMATION

NAME: TALA DAVIDSON
STREET ADDRESS: 156 MONROE ST.
CITY: KALAMAZOO ZIP: 49006
EMAIL: TALA.J.DAVIDSON@gmail.com

GENERAL COMMENTS

Comments, Suggestions, Feedback: Adopt Complete Streets policy. Consider using MDOT Stadium Drive $ to implement 2-way streets, protected non-motorized pathways / bike lanes. Do something about cut through traffic in neighborhoods. 2-way: Kalamazoo, Main / W Michigan, South.

CHAPTER (PLEASE INDICATE WHICH CHAPTER YOUR COMMENTS PERTAIN TO): 7

Comments, Suggestions, Feedback: Funding to continue bus routes out West Main (W of 131). Social justice issue for those who can't drive or can't afford a car - both people that work in those businesses or who need to access them.

CHAPTER (PLEASE INDICATE WHICH CHAPTER YOUR COMMENTS PERTAIN TO):

Comments, Suggestions, Feedback:

(Additional space on reverse side.)

KATS
KALAMAZOO AREA TRANSPORTATION STUDY

2045 Metropolitan Transportation Plan
Comment Form

We value your feedback!

CONTACT INFORMATION

NAME: Jack Urban

STREET ADDRESS: 2125 Glenwood Drive

CITY: KALAMAZOO **ZIP:** 49008

EMAIL: jackurb@me.com

GENERAL COMMENTS

Comments, Suggestions, Feedback:

Thanks for setting out the maps

CHAPTER (PLEASE INDICATE WHICH CHAPTER YOUR COMMENTS PERTAIN TO): (8)

Comments, Suggestions, Feedback:

Glad to learn that if the CoK provided funds, widening W. MAIN at the cemetery on W. MAIN could be done.

What other impediments can be overcome if the City came up with the money.

CHAPTER (PLEASE INDICATE WHICH CHAPTER YOUR COMMENTS PERTAIN TO):

Comments, Suggestions, Feedback:

(Additional space on reverse side.)

KATS
KALAMAZOO AREA TRANSPORTATION STUDY

2045 Metropolitan Transportation Plan
Comment Form

We value your feedback!

CONTACT INFORMATION

NAME: Mrs. Brenda A. Stubbs
STREET ADDRESS: 4825 E Milham Ave apt C
CITY: Portage, MICH ZIP: 49002
EMAIL: Stubbsbrenda426@gmail.com

GENERAL COMMENTS

Comments, Suggestions, Feedback:

I am glad about all this

CHAPTER (PLEASE INDICATE WHICH CHAPTER YOUR COMMENTS PERTAIN TO): All

Comments, Suggestions, Feedback:

I am good will it this plan for 2045

CHAPTER (PLEASE INDICATE WHICH CHAPTER YOUR COMMENTS PERTAIN TO): All

Comments, Suggestions, Feedback:

It doing very good.

(Additional space on reverse side.)

KATS
KALAMAZOO AREA TRANSPORTATION STUDY

2045 Metropolitan Transportation Plan Comment Form

We value your feedback!

CONTACT INFORMATION

NAME: Chris Barnes

STREET ADDRESS:

CITY: **ZIP:**

EMAIL: barnesc@portagemi.gov

GENERAL COMMENTS

Comments, Suggestions, Feedback:

See Notes on MAPS,
Outreach Results Good Presentation
& Depth of DATA

CHAPTER (PLEASE INDICATE WHICH CHAPTER YOUR COMMENTS PERTAIN TO): _____

Comments, Suggestions, Feedback:

CHAPTER (PLEASE INDICATE WHICH CHAPTER YOUR COMMENTS PERTAIN TO): _____

Comments, Suggestions, Feedback:

(Additional space on reverse side.)

PLEASE SIGN FOR BUS SERV.

We, the undersigned residents of Fountain Springs Manufactured Home Park petition the KCTA to provide bus service at 9th Street and Southfork Blvd in Oshtemo Township, Kalamazoo County MI

Tiffany Arev

~~Natalie Sikkenga~~ Colleen Stillman

Janet Brown

Rita Boyee

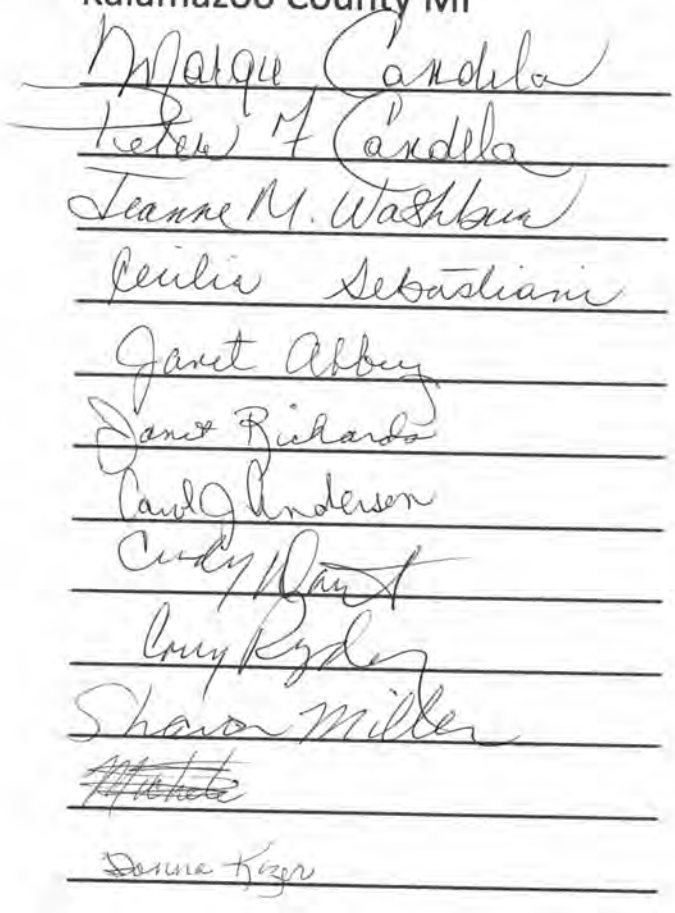
Everett P. Johnson, Jr.

Rhonda Byrd

Laurie Chipman

We, the undersigned residents of Fountain Springs Manufactured Home Park petition the KCTA to provide bus service at 9th Street and Southfork Blvd in Oshtemo Township, Kalamazoo County MI

We, the undersigned residents of Fountain Springs Manufactured Home Park petition the KCTA to provide bus service at 9th Street and Southfork Blvd in Oshtemo Township, Kalamazoo County MI



We, the undersigned residents of Fountain Springs Manufactured Home Park petition the KCTA to provide bus service at 9th Street and Southfork Blvd in Oshtemo Township, Kalamazoo County MI

Sharon K Miller
Jeff Parker
Eva Myrick
Rhonda Rynd
Rick Rynd
Gladene Pattison
Marilyn Baster
Michele Nederveld
Nancy Croft
Marie Jenney
Courtland D. James
Charles Jenney
Laura Whitcomb
Nancy Lafreniere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Google
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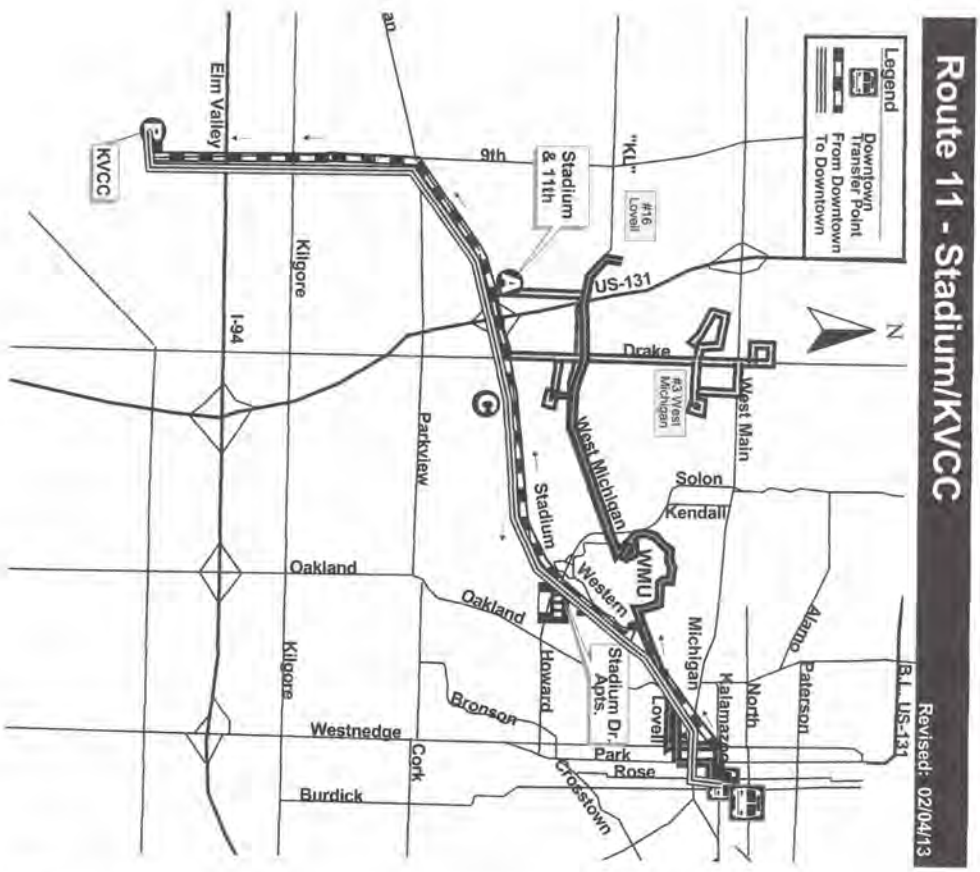
Google Maps



Monday - Saturday

from downtown

Leaves Rose, Bay 1	Stadium & 11th	Arrives KVCC
6:15am	6:27	6:43
7:15	7:27	7:43
7:45*	7:57*	8:13*
8:15	8:27	8:43
8:45*	8:57*	9:13*
9:15	9:27	9:43
9:45*	9:57*	10:13*
10:15	10:27	10:43
10:45*	10:57*	11:13*
11:15	11:27	11:43
11:45*	11:57*	12:13*
12:15	12:27	12:43
12:45*	12:57*	1:13*
1:15	1:27	1:43
1:45*	1:57*	2:13*
2:15	2:27	2:43
2:45*	2:57*	3:13*
3:15	3:27	3:43
3:45*	3:57*	4:13*
4:15	4:27	4:43
4:45*	4:57*	5:13*
5:15	5:27	5:43
6:15	6:27	6:43
7:15	7:27	7:43
8:15	8:27	8:43
9:15	9:27	9:43

Leaves KVCC	Stadium Apartments	Arrives Rose, Bay 1
6:45	6:54	7:08
7:45	7:54	8:08
8:15*	8:24*	8:38*
8:45	8:54	9:08
9:15*	9:24*	9:38*
9:45	9:54	10:08
10:15*	10:24*	10:38*
10:45	10:54	11:08
11:15*	11:24*	11:38*
11:45	11:54	12:08 pm
12:15*	12:24*	12:38*
12:45	12:54	1:08
1:15*	1:24*	1:38*
1:45	1:54	2:08
2:15*	2:24*	2:38*
2:45	2:54	3:08
3:15*	3:24*	3:38*
3:45	3:54	4:08
4:15*	4:24*	4:38*
4:45	4:54	5:08
5:15*	5:24*	5:38*
5:45	5:54	6:08
6:45	6:54	7:08
7:45	7:54	8:08
8:45	8:54	9:08
9:45	9:54	10:08

* No service on Saturdays during these times.

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Appendix D: 2045 Metropolitan Transportation Plan Project List

Score	Year	Project Type	Agency	Road	Limits	Description	Funded/ Illustrative	Cost Year of Expenditure 1,000s
14	2016	Capacity	RCKC	E. Main Street	Wallace to Nazareth	Signal Safety Improvements with City of Kalamazoo	Yes	$1,005
18	2016	Capacity	City of Kalamazoo	Kilgore Road	Kilgore Service Road to Sprinkle	Road resurfacing, road diet to connect future non-motorized facilities, new sidewalk construction	Yes	$911
7	2016	Non-motorized	Kalamazoo County Parks Department	Kalamazoo River Valley Trail	35th in Galesburg to Kalamazoo/Calhoun County line	An eight-mile addition to the Kalamazoo River Valley Trail that will connect the current terminating point at 35th St in Galesburg, to the Village of Augusta. With this addition, the Kalamazoo River Valley Trail will link together the Kal-Haven Trail to the Battle Creek Linear Path, connecting over 140 miles of regional trail systems.	Illustrative	$2,843
13	2016	Non-motorized	RCKC	Drake Road	West Main Street to Stadium Drive	Proposed project calls for installation of a 10 foot shared use pathway on the west side of Drake Road from West Main Street to Stadium Drive. (The east side of the road is under the jurisdiction of the City of Kalamazoo and has a 5 foot sidewalk for the entire limits of the proposed project except the very southern part.) As the design and public input process continues, the exact dimensions of the facility may be amended in certain portions of the corridor, and certain work may be required on the east side of the road in order to qualify for financial assistance.	Illustrative	$1,493
13	2016	Non-motorized	RCKC	Kendall Avenue	West Main Street to Kalamazoo Township Limits	Proposed project calls for installation of a 5 foot sidewalk on both sides of Kendall Avenue to fill in the gaps in the existing sidewalk system that exists between West Main Street and the Kalamazoo Township	Illustrative	$61
13	2016	Non-motorized	RCKC	Solon Street	West Main Street to Kalamazoo Township Limits	Proposed project calls for installation of a 5 foot sidewalk on both sides of Solon Street from West Main Street to the Kalamazoo Township limits.	Illustrative	$129
13	2016	Non-motorized	RCKC	West Main Street	Nichols Road to Sage Street	Proposed project calls for installation of a 5 foot sidewalk on the south side of West Main Street from Nichols Road to Sage Street.	Illustrative	$190
6	2016	Public Transportation	Kalamazoo Metro Transit	ITS Equipment		ITS Equipment Hardware, Software, and Licenses	Yes	$40
6	2016	Public Transportation	Kalamazoo Metro Transit	Vehicle		Maintenance/Staff Vehicle Replacement	Yes	$60
9	2016	Public Transportation	Kalamazoo Metro Transit	Demand Response Vehicles		Up to 2 Demand Response Vehicles ($24,748 STL funds identified in 2014-2017 TIP = $30,926 Total); ($32,204 STU funds identified in 2014-2017 TIP = $40,255)	Yes	$71

Appendix D: 2045 Metropolitan Transportation Plan Project List

Score	Year	Project Type	Agency	Road	Limits	Description	Funded/ Illustrative	Cost Year of Expenditure 1,000s
9	2016	Public Transportation	Kalamazoo Metro Transit	Facility Renovations		Facility renovations	Yes	$50
9	2016	Public Transportation	Kalamazoo Metro Transit	Security Maintenance and Upgrades		Facility security maintenance and upgrades	Yes	$100
11	2016	Public Transportation	Kalamazoo Metro Transit	Community Service Program		Community Service Program	Yes	$30
11	2016	Public Transportation	Kalamazoo Metro Transit	Community Service Van		Community Service Van Replacement	Yes	$40
11	2016	Public Transportation	Van Buren Transit	Facility expansion			Yes	$150
11	2016	Public Transportation	Kalamazoo Metro Transit	Fixed Vehicle Replacements		Fixed route bus replacements	Yes	$513
11	2016	Public Transportation	Kalamazoo Metro Transit	Vehicle Replacement		Up to 6 Demand Response Van Replacements	Yes	$127
16	2016	Public Transportation	Kalamazoo Metro Transit	Transit Operations		Transit Operations - Fixed Route and Demand Response Urban	Yes	$16,520
21	2016	Public Transportation	Kalamazoo Metro Transit	Bus Shelters		Replace, rehabilitate and/or install up to 6 bus shelters for ADA compliance	Yes	$15
21	2016	Public Transportation	Kalamazoo Metro Transit	Community Ridesharing		Operating of Community Ridesharing Program	Yes	$46
21	2016	Public Transportation	Kalamazoo Metro Transit	Mobility Management		Mobility Management Program	Yes	$58
21	2016	Public Transportation	Kalamazoo Metro Transit	Operating Assistance - Rural		Operating Expenses - Demand Response Rural	Yes	$165
11	2016	System Preservation	MDOT	I-94	at East Michigan Avenue (40th Street)	JN 118994 - Replace bridge	Yes	$4,538
16	2016	System Preservation	City of Kalamazoo	East Michigan	Riverview to Wallace	Road resurfacing, curb and gutter replacement; striping for bike lanes. Coordinated with East Main safety project to improve intersection	Yes	$875
17	2016	System Preservation	MDOT	I-94	at East Michigan Avenue (40th Street)	JN 112614 -- Interchange reconfiguration with removal and replacement of the structure and maintenance of the traffic concepts.	Yes	$11,100
18	2016	System Preservation	RCKC	D Avenue	Over Kalamazoo River	Bridge Preventative Maintenance	Yes	$150
18	2016	System Preservation	RCKC	East Michigan Avenue	Over Kalamazoo River	Bridge Rehabilitation	Yes	$580
18	2016	System Preservation	RCKC	Q Avenue	Over Portage River	Bridge Replacement	Yes	$805
18	2016	System Preservation	RCKC	S Avenue	Over Portage River	Bridge Replacement	Yes	$1,020

Appendix D: 2045 Metropolitan Transportation Plan Project List

Score	Year	Project Type	Agency	Road	Limits	Description	Funded/ Illustrative	Cost Year of Expenditure 1,000s
18	2016	System Preservation	RCKC	U Avenue	Over Portage Creek	Bridge Rehabilitation	Yes	$700
18	2016	System Preservation	RCKC	W Avenue	Over Portage River	Bridge Preventative Maintenance	Yes	$220
19	2016	System Preservation	RCKC	42nd Street	Y Avenue to W Avenue	Construct to an all season road.	Yes	$980
22	2016	System Preservation	RCKC	9th Street	I-94 to Meridian	Mill/ HMA overlay	Yes	$1,300
	2016	System Preservation	Local Agencies	Various	Various locations	System Preservation	Yes	$20,005
16	2016	Traffic Operations	MDOT	Various freeways	Kalamazoo County	JN 115839 -- Freeway signing upgrade	Yes	$2,461
29	2016	Traffic Operations	City of Kalamazoo	Portage Road	Pitcher to Kilgore	Signal Interconnect and upgrades.	Yes	$1,063
11	2017	Non-motorized	RCKC	Nichols Road	Alamo Avenue to G Avenue	Proposed project calls for installation of a 5 foot sidewalk on both sides of Nichols Road between Alamo Avenue and G Avenue with exception of a few places where an existing sidewalk facility is already located.	Illustrative	$350
14	2017	Non-motorized	RCKC	Grand Prairie Road	Nichols Road to Stone Mill Street	Proposed project calls for installation of a 5 foot sidewalk on both sides of Grand Prairie Road from Nichols Road to Stone Mill Street. Stone Mill Street represents the border with the City of Kalamazoo and from that point west, the south side of the road is in the City. A partner project continues the non- motorized facility to Drake Road. Wide shoulders are also included in the proposal for the full extent of the	Illustrative	$121
14	2017	Non-motorized	RCKC	Grand Prairie Road	Stone Mill Street to Drake Road	Proposed project calls for installation of a 5 foot sidewalk on the north side of Grand Prairie Road from Stone Mill Street to Drake Road. Stone Mill Street represents the border with the City of Kalamazoo and from that point west, the south side of the road is in the City. A partner project continues the non- motorized facility to Nichols Road. Wide shoulders are also included in the proposal for the full extent of the	Illustrative	$65
14	2017	Non-motorized	RCKC	KL Avenue	Drake Road to Copper Beech	Proposed project calls for installation of a 10 foot shared use pathway on the north side of KL Avenue from Drake Road to the entry drive of the Copper Beech Apartments. A subsequent project will continue the facility to the west and connect to 9th Street. Wide shoulders are also included in the proposal for the full extent of the project.	Illustrative	$900

Appendix D: 2045 Metropolitan Transportation Plan Project List

Score	Year	Project Type	Agency	Road	Limits	Description	Funded/ Illustrative	Cost Year of Expenditure 1,000s
16	2017	Non-motorized	RCKC	Lake Street	Olmsted Road to Kalamazoo Twp limits	Proposed project calls for installation of a 5 foot sidewalk on the both sides of Lake Street from Olmsted Road east to the Kalamazoo Township limits. Wide shoulders are also included in the proposal for the full	Illustrative	$139
16	2017	Non-motorized	RCKC	Olmsted Road	Miller Road to Lake Street	Proposed project calls for installation of a 5 foot sidewalk on both sides of Olmsted Road from Miller Road to Lake Street. Wide shoulders are also included in the proposal for the full extent of the project.	Illustrative	$280
6	2017	Public Transportation	Kalamazoo Metro Transit	ITS Equipment		ITS Equipment Hardware, Software, and Licenses	Yes	$200
8	2017	Public Transportation	Kalamazoo Metro Transit	Facility Renovations		Facility renovations	Yes	$50
9	2017	Public Transportation	Kalamazoo Metro Transit	Security Maintenance and Upgrades		Facility security maintenance and upgrades	Yes	$50
9	2017	Public Transportation	Kalamazoo Metro Transit	Transit Operations		Transit Operations - Fixed Route and Demand Response Urban	Yes	$17,017
11	2017	Public Transportation	Kalamazoo Metro Transit	Community Service Program		Community Service Program	Yes	$30
11	2017	Public Transportation	Kalamazoo Metro Transit	Community Service Van		Community Service Van Replacement	Yes	$40
11	2017	Public Transportation	Kalamazoo Metro Transit	Demand Response Vehicles		Up to 7 Demand Response Vehicles ($64,690 STL funds identified in 2014-2017 TIP = $80,862 Total)	Yes	$81
11	2017	Public Transportation	Kalamazoo Metro Transit	Fixed Vehicle Replacements		Fixed route bus replacements	Yes	$504
11	2017	Public Transportation	Kalamazoo Metro Transit	Operating Assistance - Rural		Operating Expenses - Demand Response Rural	Yes	$170
11	2017	Public Transportation	Kalamazoo Metro Transit	Vehicle Replacement		Up to 6 Demand Response Van Replacements	Yes	$127
16	2017	Public Transportation	Kalamazoo Metro Transit	Bus Shelters		Replace, rehabilitate and/or install up to 6 bus shelters for ADA compliance	Yes	$15
19	2017	Public Transportation	Kalamazoo Metro Transit	Mobility Management		Mobility Management Program	Yes	$58
21	2017	Public Transportation	Kalamazoo Metro Transit	Community Ridesharing		Operating of Community Ridesharing Program	Yes	$47
7	2017	System Preservation	MDOT	US-131 BR	I-94 BL to Kalamazoo north city limit	JN 127456 - Cold Milling and HMA One Course Overlay	Yes	$1,099
10	2017	System Preservation	MDOT	I-94	near I-94/US-131 interchange	JN 122746 - Healer sealer, bridge crack sealing, resealing joints, and deck patching	Yes	$1,168

Appendix D: 2045 Metropolitan Transportation Plan Project List

Score	Year	Project Type	Agency	Road	Limits	Description	Funded/ Illustrative	Cost Year of Expenditure 1,000s
12	2017	System Preservation	MDOT	M-43	US-131 to Stadium; Pitcher to West Main	JN 123262 -- Cold Milling and HMA resurfacing with ADA sidewalk ramps	Yes	$2,636
14	2017	System Preservation	City of Kalamazoo	Portage Road	Sheridan to Stockbridge	Road resurfacing, non-motorized connection from Miller to Phillips	Yes	$1,162
14	2017	System Preservation	Van Buren County Road Commission	Red Arrow Highway	26th Street to 28th Street	Trench and widen to achieve a 3-lane section, mill 2" of existing HMA, install fabric, repave to achieve new section. Install C & G at intersections and upgrade access control at commercial drives. Tree removal/trimming and minor drainage corrections. Including all associated work as needed to achieve the section.	Illustrative	$910
18	2017	System Preservation	City of Kalamazoo	Vine Street	Westnedge to Crosstown	Road resurfacing, bike lanes and sharrows	Yes	$689
19	2017	System Preservation	RCKC	28th Street	South of E Avenue to D Avenue	Pulverize/ HMA overlay/ Construct to All Season	Yes	$900
19	2017	System Preservation	RCKC	33rd Street	M-96 to G Avenue	Mill/ HMA Overlay	Yes	$550
19	2017	System Preservation	RCKC	42nd Street	Z Avenue to Y Avenue	Construct to an all season road.	Yes	$980
19	2017	System Preservation	RCKC	N Avenue	Sprinkle Road to 26th Street	Mill/ HMA Overlay Roadside Improvement	Yes	$800
19	2017	System Preservation	RCKC	Stadium Drive	9th Street to US-131	Reconstruct/pulverize	Yes	$1,500
	2017	System Preservation	Local Agencies	Various	Various locations	System Preservation	Yes	$8,382
13	2017	Traffic Operations	MDOT	M-40	at the intersection of 62nd St, 32nd St and CR 653	JN 124079 - Construct roundabout	Yes	$1,400
18	2017	Traffic Operations	MDOT	Various	Various locations in Kalamazoo County	JN 116716 -- Wrong-way crash reduction improvements to ramp terminals (only partially in KATS area)	Yes	$183
19	2017	Traffic Operations	RCKC	Drake Road	at Grand Prairie	Traffic Signal Upgrade	Yes	$237
28	2017	Traffic Operations	City of Kalamazoo	Burdick Street	Alcott St to South St	Signal Interconnect and upgrades.	Yes	$504
28	2017	Traffic Operations	City of Kalamazoo	Drake Road	Grand Prairie to Croyden	Signal Interconnect and upgrades.	Yes	$496

Appendix D: 2045 Metropolitan Transportation Plan Project List

Score	Year	Project Type	Agency	Road	Limits	Description	Funded/ Illustrative	Cost Year of Expenditure 1,000s
7	2018	Non-motorized	Kalamazoo County Parks Department	Kalamazoo River Valley Trail	M-96 in Augusta north to M-89/Gull Lake in Ross Township	A 3.5-mile addition to the Kalamazoo River Valley Trail that will connect the eventual Village of Augusta segment north to Gull Lake/M-89.	Illustrative	$2000
13	2018	Non-motorized	RCKC	Brook Drive	Gull Road to Spring Valley Park	Proposed project calls for installation of a 10 foot asphalt shared use pathway on Brook Drive from Gull Road to Spring Valley Park.	Illustrative	$122
13	2018	Non-motorized	RCKC	Business Loop 94	Lake Street to KRVT (via King Highway)	Proposed project calls for installation of a 10 foot asphalt shared use pathway on Business Loop 94 from Lake Street to King Highway and then continuing east to access the KRVT. This is a project included in the BL-	Illustrative	$90
13	2018	Non-motorized	RCKC	Stadium Drive	8th Street to 11th Street	Proposed project calls for installation of a 5 foot sidewalk on both sides of Stadium Drive from 8th Street to 11th Street. There are some existing sections of sidewalk on the north side of Stadium toward the eastern edge of this corridor but they are in poor condition and need replacement. Close to the 9th Street intersection, as part of the DDA's streetscape improvement program, it is likely that the sidewalk will increase in width considerably in order to serve a more commercial oriented environment.	Illustrative	$116
14	2018	Non-motorized	RCKC	Barney Road	Nichols Road to Douglas Avenue	Proposed project calls for installation of a 5 foot sidewalk on both sides of Barney Road from Nichols Road to Douglas Avenue. Wide shoulders are also included in the proposal for the full extent of the	Illustrative	$189
14	2018	Non-motorized	RCKC	Douglas Avenue	G Avenue to Kalamazoo Township Limits	Proposed project calls for installation of a 5 foot sidewalk on both sides of Douglas Avenue from G Avenue south to the Township border with the City of Kalamazoo. Wide shoulders are also included in the proposal for the full extent of the project.	Illustrative	$342
14	2018	Non-motorized	RCKC	Miller Road	Sprinkle Road to Kalamazoo Township Limits	Proposed project calls for installation of a 5 foot sidewalk on both sides of Miller Road from Sprinkle Road east to the Township limits with the City of Kalamazoo. Wide shoulders are also included in the proposal for the full extent of the project.	Illustrative	$65
14	2018	Non-motorized	RCKC	Nazareth Road	Gull Road to East Main Street	Proposed project calls for installation of a 5 foot sidewalk on the both sides of Nazareth Road from Gull Road to East Main Street. Wide shoulders are also included in the proposal for the full extent of the	Illustrative	$240

the goal of KATS is emphasizing preserving the system of adding more to it. How does this same goal reflect in non-motorized? What is the performance measure/goal for the future of the transportation system of KATS?

- **Unfunded Transportation Projects & Needs: This chapter needs clarity and conclusion.** RSL not defined. Interpretation should include what is realistically available in previous financial analysis to determine if an average rating of 8 in 10 years can be achieved for our region. So in the conclusion do we have the funds based on financial analysis to maintain a rating of 6 or 8? Unmet needs should be expanded for costs and this should include non-motorized revenue and expenditures. Other needs should be expanded and a stronger statement that with state, federal funding forecasts and needs of the system are unmet.

- **Future Metropolitan Planning Area:** Previously this was noted in the 2035 plan – is there further anticipated expansion?

- **Non-motorized feedback provided on 11/30/15**; the majority of comments/questions provided were not clarified in the revised 2/22/16 document, therefore we resubmit the same input from 11/30/15 accordingly. Measureables need to be included for our MPO area to measure performance. We need to define for commuter vs. recreational routing as there is inconsistency in project and data provided for sections. In addition to continued comments from our 11/30/15 input we want to emphasize the following:

    - Funding: Per Complete Streets Policy: "...Federal and 5tate funding sources, primarily used for non-motorized facilities, will first be considered and applied for prior to considered and applied for prior to considering other sources including STP funds...."
    - Have the maps been corrected based on previous feedback?
    - Existing Policy Content/State: Clarification needs to be corrected related to the use of funds as PA 51 does not include bicyclists as there are other uses for paving shoulders.

247.660k NONMOTORIZED TRANSPORTATION SERVICES AND FACILITIES; EXPENDITURE;
IMPROVEMENTS AS QUALIFIED NONMOTORIZED FACILITY; MEETING REQUIREMENTS OF
SECTION; 5-YEAR PROGRAM; ESTABLISHMENT OF FACILITIES; INFORMATION AND
ASSISTANCE AS TO PLANNING, DESIGN, AND CONSTRUCTION. [M.S.A. 9.1097(10l)]
Sec. 10k. (1) Transportation purposes as provided in this act include provisions for facilities and services for
non-motorized transportation including bicycling.
(2) **Of the funds allocated from the Michigan transportation fund to the state trunk line fund and to the counties,**
cities, and villages, a reasonable amount, but not less than 1% of those funds shall be expended for nonmotorized
transportation services and facilities.
(3) **An improvement in a road, street, or highway which facilitates nonmotorized transportation by the paving of**
unpaved road surfaces and shoulders, widening of lanes, or any other appropriate measure shall be considered to be
a qualified nonmotorized facility for the purposes of this section.
(4) Units of government need not meet the provisions of this section annually, provided the requirements are met
as an average over a reasonable period of years, beginning with 1978, not to exceed 10.
(5) The state transportation department or a county, city, or village receiving money from the Michigan
transportation fund annually shall prepare and submit a 5-year program for the improvement of qualified nonmotorized

facilities which when implemented would result in the expenditure of an amount equal to at least 1% of the amount
distributed to the state transportation department or the county, city, or village, whichever is appropriate, from the
Michigan transportation fund in the previous calendar year multiplied by 10, less the accumulated total expenditures
by the state transportation department or the county, city, or village for qualified nonmotorized facilities in the
immediately preceding 5 calendar years.
(6) Facilities for nonmotorized transportation may be established in conjunction with or separate from already
existing highways, roads, and streets and shall be established when a highway, road, or street is being constructed,
reconstructed, or relocated, unless:
(a) The cost of establishing the facilities would be disproportionate to the need or probable use.
(b) The establishment of the facilities would be contrary to public safety.
(c) Adequate facilities for nonmotorized transportation already exist in the area.
(d) Matching funds are not available through the department of natural resources or other state, local, or federal
government sources.
(e) The previous expenditures and projected expenditures for nonmotorized transportation facilities for the fiscal
year exceed 1% of that unit's share of the Michigan transportation fund in which case additional expenditures shall
be discretionary.
(7) The state transportation department may provide information and assistance to county road commissions, cities

- and villages on the planning, design and construction of nonmotorized transportation facilities and services.

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2 items

Author	Comment	Submitted On
Linda Cook MacDonald linda_cookmacd@in box.com 50.107.67.147	This is a comment on the 2045 Transportation Plan. After reading through most chapters, there are perhaps only a few things to say: 1) roads, road building, maintenance appear to be the highest priority. It is important to maintain surface transportation assets. At the same time I'd like to see more robust consideration of moving toward balance in resource allocation to alternative modes of transportation. A Complete Streets policy adoption is great. Maybe it would be good to at least bring some of the language from Complete Streets (or ideas) into the chapters that speak to roads. Even to add Complete Streets (or ideas) into the non-motorized section – actual language – could be helpful to future planners. Regarding funding: it has always seemed short sighted when allocating resources for any transportation project – but particularly the concrete and blacktop for road construction, to not include projected on-going maintenance costs for that section of road that will likely end up in the TIP at some time or other. Finally KATS knows that economic development, land use and transportation are part of a three-pronged tool for regional development generally. These 3 things have a difficult time of getting into the same room with each other. This situation is not helped by the way our state has organized governance structures. I think the	2016/03/21 at 10:46 am

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3/21/2016 Comments (1) on "2045 Plan ‹ Kalamazoo Area Transportation Study — WordPress

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Author | Comment | Submitted On

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Appendix B: Socioeconomic Projections

Employment Projections: Manufacturing

MUNICIPALITY	2010	2015	2020	2025	2030	2035	2040	2045
Kalamazoo City	7,670	7,636	7,358	7,357	7,476	7,650	7,817	7,988
Parchment City	174	173	165	164	166	169	171	174
Kalamazoo Township	867	858	822	818	826	841	854	868
Oshtemo Township	260	260	251	252	257	264	271	278
Alamo Township	32	32	31	32	32	33	34	35
Richland Township & Village	504	501	482	482	489	500	511	521
Cooper Township	370	365	348	345	348	352	357	361
Ross Township & Augusta	36	36	34	34	35	35	36	37
Comstock Township	949	941	903	899	910	927	944	960
Galesburg City	52	51	48	47	47	48	48	48
Charleston Township	379	381	370	373	382	394	406	418
Texas Township	72	73	71	72	74	77	79	82
Prairie Ronde Township	10	10	10	10	10	10	10	11
Portage City	3,612	3,593	3,459	3,456	3,509	3,588	3,663	3,740
Vicksburg Village	301	298	285	283	286	291	295	299
Schoolcraft Village	58	58	56	56	57	58	59	60
Schoolcraft Township	277	277	267	268	273	280	287	294
Pavilion Township	379	378	365	365	372	381	390	399
Climax Township & Village	12	12	11	11	12	12	12	12
Brady Township	239	237	229	229	232	238	243	248
Wakeshma Township	3	3	3	3	3	3	3	3
Paw Paw village	142	143	137	135	134	134	134	135
Paw Paw Township	391	394	378	371	369	369	370	371
Waverly Township	12	12	12	12	12	12	12	12
Almena Township	30	30	29	28	28	28	29	29
Lawton Village	196	197	190	187	186	186	187	188
Mattawan Village	411	413	397	389	387	387	387	387
Antwerp Township	88	88	85	83	83	83	83	84
KATS Total	**17,526**	**17,450**	**16,796**	**16,761**	**16,995**	**17,350**	**17,692**	**18,042**

Employment Projections: Retail

MUNICIPALITY	2010	2015	2020	2025	2030	2035	2040	2045
Kalamazoo City	3,191	3,173	3,081	3,083	3,042	3,046	3,011	2,977
Parchment City	140	137	132	130	127	126	123	120
Kalamazoo Township	540	533	513	508	497	492	482	471
Oshtemo Township	2,285	2,279	2,218	2,226	2,202	2,211	2,192	2,173
Alamo Township	48	48	47	47	47	47	47	47
Richland Township & Village	162	160	155	155	152	152	149	147
Cooper Township	99	100	99	101	102	104	104	105
Ross Township & Augusta	123	121	117	116	113	112	110	108
Comstock Township	1,010	1,006	978	980	969	972	962	953
Galesburg City	112	110	105	103	99	97	94	91
Charleston Township	19	21	23	26	28	31	33	35
Texas Township	306	307	301	304	303	306	306	305
Prairie Ronde Township	16	18	19	20	22	23	25	26
Portage City	5,795	5,769	5,606	5,615	5,546	5,558	5,500	5,442
Vicksburg Village	224	221	212	210	205	203	198	194
Schoolcraft Village	122	121	117	117	116	116	114	113
Schoolcraft Township	274	272	264	264	261	261	258	255
Pavilion Township	89	88	85	85	84	84	83	82
Climax Township & Village	38	37	36	36	35	35	35	34
Brady Township	37	36	35	35	34	33	33	32
Wakeshma Township	11	11	11	11	11	11	11	11
Paw Paw Village	368	360	352	353	351	354	354	354
Paw Paw Township	125	122	120	120	119	120	120	120
Waverly Township	45	44	43	43	43	43	43	43
Almena Township	56	54	52	51	50	50	50	50
Lawton Village	127	124	121	122	121	122	122	122
Mattawan Village	190	187	184	185	184	187	187	187
Antwerp Township	168	165	162	163	163	164	164	164
KATS Total	**15,720**	**15,624**	**15,188**	**15,209**	**15,026**	**15,060**	**14,910**	**14,761**

Employment Projections: Service

MUNICIPALITY	2010	2015	2020	2025	2030	2035	2040	2045
Kalamazoo City	30,493	33,555	35,121	36,403	37,403	38,672	39,772	40,902
Parchment City	418	447	461	471	477	487	495	503
Kalamazoo Township	3,409	3,602	3,671	3,711	3,724	3,766	3,792	3,819
Oshtemo Township	5,297	5,756	6,025	6,244	6,414	6,631	6,819	7,012
Alamo Township	393	427	447	464	477	493	507	522
Richland Township & Village	1,162	1,255	1,307	1,348	1,379	1,420	1,455	1,490
Cooper Township	536	577	598	615	627	644	658	672
Ross Township & Augusta	1,386	1,489	1,543	1,584	1,613	1,655	1,689	1,724
Comstock Township	2,726	2,953	3,081	3,184	3,262	3,364	3,452	3,542
Galesburg City	264	281	288	293	296	301	305	309
Charleston Township	190	225	253	279	303	328	351	377
Texas Township	2,144	2,344	2,466	2,568	2,650	2,751	2,840	2,931
Prairie Ronde Township	150	161	166	169	172	176	179	182
Portage City	12,444	13,466	14,039	14,499	14,846	15,302	15,691	16,090
Vicksburg Village	530	568	587	601	611	625	636	648
Schoolcraft Village	408	441	460	475	487	502	515	528
Schoolcraft Township	516	551	568	581	589	601	611	621
Pavilion Township	361	393	412	427	439	454	467	481
Climax Township & Village	281	303	316	326	334	344	353	362
Brady Township	304	329	344	355	364	375	385	394
Wakeshma Township	46	49	52	53	55	56	58	59
Paw Paw Village	1,400	1,483	1,543	1,594	1,635	1,683	1,725	1,767
Paw Paw Township	290	307	319	330	338	348	357	366
Waverly Township	117	125	130	135	139	144	148	152
Almena Township	132	139	143	146	148	151	153	156
Lawton Village	334	354	368	380	390	401	411	421
Mattawan Village	1,412	1,494	1,553	1,602	1,642	1,688	1,729	1,771
Antwerp Township	417	441	458	473	484	498	510	522
KATS Total	**67,560**	**73,515**	**76,719**	**79,310**	**81,298**	**83,860**	**86,063**	**88,323**

Employment Projections: Wholesale

MUNICIPALITY	2010	2015	2020	2025	2030	2035	2040	2045
Kalamazoo City	2,142	2,172	2,110	2,125	2,125	2,125	2,096	2,069
Parchment City	28	29	28	29	30	30	30	30
Kalamazoo Township	581	578	551	545	534	523	505	488
Oshtemo Township	380	387	379	384	387	390	387	385
Alamo Township	31	31	30	31	31	31	30	30
Richland Township & Village	52	52	50	50	50	49	48	47
Cooper Township	42	44	43	44	45	45	45	45
Ross Township & Augusta	25	26	26	27	27	28	28	28
Comstock Township	549	552	532	532	527	523	511	500
Galesburg City	13	14	13	14	14	14	14	13
Charleston Township	17	19	21	24	27	29	31	34
Texas Township	62	63	61	62	62	62	61	60
Prairie Ronde Township	5	5	6	6	6	6	7	7
Portage City	724	734	712	717	717	716	706	697
Vicksburg Village	20	20	20	20	20	20	20	20
Schoolcraft Village	14	14	14	14	14	14	14	13
Schoolcraft Township	222	224	217	217	216	215	211	207
Pavilion Township	216	218	212	212	212	211	208	205
Climax Township & Village	21	21	20	20	20	20	19	19
Brady Township	10	11	11	12	12	12	13	13
Wakeshma Township	6	6	6	6	6	6	6	6
Paw Paw village	22	22	21	21	21	21	21	21
Paw Paw Township	41	40	38	37	37	36	35	34
Waverly Township	11	11	11	11	11	11	11	11
Almena Township	13	13	13	13	13	13	13	13
Lawton Village	3	3	3	3	3	3	3	3
Mattawan Village	4	4	4	4	4	4	4	4
Antwerp Township	20	20	20	20	20	20	20	20
KATS Total	**5,274**	**5,333**	**5,172**	**5,200**	**5,191**	**5,177**	**5,097**	**5,022**

Employment Projections: Other Basic Services

MUNICIPALITY	2010	2015	2020	2025	2030	2035	2040	2045
Kalamazoo City	213	211	207	206	206	206	206	206
Parchment City	-	-	-	-	-	-	-	-
Kalamazoo Township	77	74	70	68	65	65	65	65
Oshtemo Township	49	48	47	47	47	47	47	47
Alamo Township	19	18	18	18	18	18	18	18
Richland Township & Village	52	50	48	47	47	47	47	47
Cooper Township	44	44	42	42	42	42	42	42
Ross Township & Augusta	33	33	32	31	31	31	31	31
Comstock Township	782	757	725	705	690	690	691	691
Galesburg City	3	3	3	3	3	3	3	3
Charleston Township	39	43	46	51	55	55	55	55
Texas Township	65	64	62	61	61	61	61	61
Prairie Ronde Township	40	41	41	42	44	44	44	44
Portage City	178	175	170	168	167	167	167	167
Vicksburg Village	-	-	-	-	-	-	-	-
Schoolcraft Village	4	4	4	4	4	4	4	4
Schoolcraft Township	39	38	37	36	36	36	36	36
Pavilion Township	76	75	73	72	72	72	72	72
Climax Township & Village	46	46	45	45	46	46	46	46
Brady Township	50	50	48	48	48	48	48	48
Wakeshma Township	121	118	115	113	113	113	113	113
Paw Paw Village	3	3	3	3	3	3	3	3
Paw Paw Township	82	80	76	73	71	69	68	67
Waverly Township	92	89	85	82	79	78	77	76
Almena Township	122	119	116	113	111	111	111	111
Lawton Village	9	9	8	8	8	8	8	8
Mattawan Village	9	9	8	8	8	8	8	8
Antwerp Township	125	121	116	111	108	107	105	104
KATS Total	**2,372**	**2,322**	**2,245**	**2,205**	**2,183**	**2,179**	**2,176**	**2,173**

Employment Projections: Other

MUNICIPALITY	2010	2015	2020	2025	2030	2035	2040	2045
Kalamazoo City	15,966	16,599	17,015	17,340	17,463	17,596	17,675	17,754
Parchment City	286	294	298	301	300	300	298	297
Kalamazoo Township	1,539	1,593	1,626	1,651	1,656	1,663	1,665	1,666
Oshtemo Township	3,261	3,130	3,173	3,199	3,184	3,173	3,151	3,130
Alamo Township	513	537	555	569	576	584	590	596
Richland Township & Village	918	954	977	995	1,001	1,008	1,012	1,016
Cooper Township	637	665	685	701	709	717	723	729
Ross Township & Augusta	822	850	866	878	879	881	880	880
Comstock Township	2,973	3,093	3,173	3,236	3,261	3,288	3,305	3,322
Galesburg City	167	171	173	174	172	171	170	168
Charleston Township	1,343	1,569	1,778	1,980	2,157	2,333	2,498	2,675
Texas Township	891	936	969	996	1,012	1,028	1,041	1,054
Prairie Ronde Township	152	158	162	165	167	168	169	170
Portage City	7,738	8,051	8,260	8,424	8,490	8,561	8,606	8,650
Vicksburg Village	406	419	426	432	432	432	431	430
Schoolcraft Village	249	260	267	273	276	279	281	283
Schoolcraft Township	391	409	421	432	437	443	447	451
Pavilion Township	409	427	439	450	455	460	464	468
Climax Township & Village	262	273	281	287	289	292	294	296
Brady Township	176	183	187	191	192	193	193	194
Wakeshma Township	94	99	103	106	107	109	111	112
Paw Paw Village	1,446	1,459	1,505	1,546	1,576	1,607	1,634	1,663
Paw Paw Township	336	340	352	362	369	377	384	392
Waverly Township	86	87	90	92	94	95	97	98
Almena Township	345	348	360	370	377	385	392	399
Lawton Village	289	291	301	309	315	321	327	333
Mattawan Village	510	515	531	545	556	567	576	586
Antwerp Township	614	622	643	662	676	691	705	719
KATS Total	**42,819**	**44,332**	**45,616**	**46,666**	**47,178**	**47,722**	**48,119**	**48,531**

Household Projections

MUNICIPALITY	Census 2010	MDOT 2015	MDOT 2020	MDOT 2025	MDOT 2030	MDOT 2035	MDOT 2040	MDOT 2045
Kalamazoo City	29,141	30,355	30,615	30,903	31,040	31,129	31,001	30,873
Parchment City	786	821	831	841	848	853	852	850
Kalamazoo Township	9,370	9,856	10,036	10,224	10,362	10,482	10,527	10,573
Oshtemo Township	9,708	11,707	13,381	15,063	16,661	18,213	19,607	21,107
Alamo Township	1,447	1,507	1,520	1,534	1,541	1,545	1,539	1,533
Richland Township & Village	2,960	3,141	3,224	3,311	3,380	3,444	3,483	3,522
Cooper Township	3,950	4,191	4,302	4,417	4,510	4,595	4,646	4,698
Ross Township & Augusta	1,946	2,084	2,159	2,235	2,299	2,360	2,403	2,447
Comstock Township	6,059	6,388	6,518	6,654	6,756	6,848	6,890	6,932
Galesburg City	766	844	897	950	998	1,045	1,083	1,122
Charleston Township	752	797	818	839	856	871	80	889
Texas Township	5,231	5,509	5,615	5,727	5,810	5,883	5,914	5,945
Prairie Ronde Township	797	835	847	860	868	875	876	877
Portage City	19,199	20,537	21,243	21,968	22,582	23,154	23,554	23,961
Vicksburg Village	1,120	1,189	1,221	1,255	1,282	1,306	1,322	1,337
Schoolcraft Village	616	646	656	666	673	679	681	682
Schoolcraft Township	1,692	1,808	1,868	1,930	1,982	2,031	2,065	2,099
Pavilion Township	2,304	2,425	2,470	2,517	2,552	2,583	2,595	2,607
Climax Township & Village	914	963	982	1,002	1,017	1,030	1,036	1,042
Brady Township	1,351	1,455	1,515	1,576	1,629	1,679	1,716	1,754
Wakeshma Township	501	537	557	578	595	612	623	635
Paw Paw Village	1,499	1,549	1,595	1,631	1,660	1,680	1,691	1,702
Paw Paw Township	1,396	1,436	1,472	1,498	1,519	1,530	1,535	1,539
Waverly Township	959	990	1,018	1,040	1,058	1,069	1,076	1,082
Almena Township	1,839	1,942	2,041	2,127	2,205	2,269	2,322	2,375
Lawton Village	730	773	814	849	882	909	932	955
Mattawan Village	788	781	771	755	737	714	689	665
Antwerp Township	2,939	3,186	3,428	3,649	3,856	4,039	4,199	4,365
KATS Total	**110,760**	**118,252**	**122,414**	**126,599**	**130,158**	**133,427**	**135,737**	**138,168**

Population Projections

MUNICIPALITY	2000	Census 2010	MDOT 2015	MDOT 2020	MDOT 2025	MDOT 2030	MDOT 2035	MDOT 2040	MDOT 2045
Kalamazoo City	77,145	74,262	75,506	76,055	76,384	76,141	75,435	74,503	73,584
Parchment City	1,936	1,804	1,838	1,855	1,867	1,865	1,852	1,833	1,814
Kalamazoo Township	21,677	21,918	22,474	22,828	23,117	23,233	23,206	23,105	23,004
Oshtemo Township	17,003	21,705	25,257	28,649	31,991	35,093	37,939	40,600	43,447
Alamo Township	3,820	3,762	3,823	3,848	3,863	3,848	3,810	3,761	3,712
Richland Township & Village	6,494	7,580	7,837	8,026	8,192	8,297	8,350	8,374	8,399
Cooper Township	8,751	10,111	10,452	10,701	10,921	11,059	11,127	11,158	11,190
Ross Township & Augusta	5,079	4,664	4,864	5,022	5,167	5,273	5,346	5,400	5,454
Comstock Township	13,849	14,854	15,265	15,540	15,771	15,884	15,899	15,862	15,825
Galesburg City	1,988	2,009	2,148	2,270	2,386	2,485	2,567	2,638	2,712
Charleston Township	1,781	1,975	2,040	2,087	2,129	2,154	2,166	2,171	2,175
Texas Township	10,919	14,697	15,087	15,341	15,552	15,647	15,645	15,593	15,541
Prairie Ronde Township	2,086	2,250	2,344	2,417	2,484	2,533	2,565	2,589	2,612
Portage City	44,897	46,292	48,216	49,722	51,096	52,088	52,748	53,224	53,704
Vicksburg Village	2,320	2,906	2,976	3,020	3,055	3,067	3,060	3,043	3,027
Schoolcraft Village	1,587	1,525	1,557	1,574	1,587	1,589	1,580	1,567	1,553
Schoolcraft Township	4,035	4,418	4,539	4,619	4,687	4,719	4,722	4,710	4,698
Pavilion Township	5,829	6,222	6,383	6,486	6,571	6,607	6,602	6,575	6,550
Climax Township & Village	2,412	2,463	2,529	2,572	2,608	2,625	2,625	2,617	2,609
Brady Township	3,581	3,613	3,817	3,990	4,152	4,283	4,386	4,473	4,562
Wakeshma Township	1,414	1,301	1,358	1,404	1,446	1,476	1,498	1,514	1,531
Paw Paw Village	3,363	3,534	3,606	3,696	3,803	3,900	3,978	4,036	4,095
Paw Paw Township	3,819	3,594	3,595	3,616	3,652	3,678	3,685	3,675	3,664
Waverly Township	2,467	2,554	2,598	2,657	2,726	2,789	2,837	2,872	2,907
Almena Township	4,226	4,992	5,210	5,456	5,726	5,983	6,210	6,406	6,608
Lawton Village	1,859	1,900	1,929	1,967	2,014	2,057	2,088	2,110	2,132
Mattawan Village	2,510	1,997	1,946	1,905	1,871	1,832	1,784	1,727	1,673
Antwerp Township	6,353	8,198	8,718	9,284	9,891	10,478	11,013	11,491	11,990
KATS Total	**263,200**	**277,100**	**287,912**	**296,607**	**304,709**	**310,683**	**314,723**	**317,627**	**320,772**

Appendix C: Unfunded Transportation Needs Cost Calculation Examples

Example Cost Calculation: 3" Mill and Resurface

HMA Costs (per Ton)	Southwest Region	State
4C	$63.28	$70.34
36A	$61.05	$67.87
4E	$67.00	$68.30
5E	$70.00	$75.20
Average	$65.33	$70.43
Cost/yd^2	**$10.78**	**$11.62**

Traffic Control Base Costs	Southwest Region	State
Sign Type B, Temporary furnished / ft^2	$3.18	$3.47
Sign Type B, Temporary Operated / ft^2	$0.43	$0.77
Total Sign Type B Cost per ft^2	**$3.61**	**$4.24**
Plastic Drum Lighted Furnished (each)	$48.00	$29.41
Plastic Drum Lighted Operated (Each)	$1.00	$1.00
Total Drum Lighted Cost per barrel	**$49.00**	**$30.41**

Note: State results for Sign Type B, Temporary were filtered to remove North Region costs which were well outside the typical range.

Traffic Control Cost (per mile of 30 ft. wide paved surface)	Rural	Urban
Sign Type B per mile	256	416
Subtotal Signs	$1,085.44	$1,763.84
Number of barrels per mile	50	100
Subtotal barrels	$1,520.50	$3,041.00
Cost / Mile	$2,605.94	$4,804.84
Cost / yd^2 (cost per mile/17,600)*	$0.15	$0.27

** 5280 feet in a mile * 30 foot width/9 square feet in a yard=17,600*

Cold Milling
State Average Unit Price (AUP) Cost Per Ton = $5.67 or approximately $6.00; $6.00/ton x 1 ton/2000lb x 330 lb./square yard = **$1.00/yd^2**

Shoulder
Shoulder Cl II cost per ton = $16.10;
Assume wet compacted unit weight = 145 lb./ft^3 placed 1.5 inches deep on average;
$16.10/T x 1T/2000lb x 145lb/ft^3 = $1.17/ft^3
Place 1.5 inches: $1.17/ft^3 x 1.5 in/12 in per ft. = $0.15/ft^2
$0.15/ft^2 x 9 =**$1.35/yd^2**

Adjust Drainage Structures
Urban - Assume 2 MH every 300 feet on 30 foot road;
$400/MH x 2MH/(300x30/9)) = **$0.80/yd^2**

Pavement Marking
Sprayable Thermoplastic, 4 inch = $0.35/lft.
Urban - Assume double yellow centerline and single white edge lines for 30 foot wide road
4 Lines x $0.35/lft x 1 lft/3.33 yd^2 road = **$0.44/yd^2**
Rural - Assume skip yellow centerline and single white edge lines for 30' wide road
12.5'/50' (skip) plus 2 (edge) = 2.25 line
2.25 line x $0.35/lft x 1 lft/3.33 yd^2 = **$0.24/yd^2**

	Rural	
Cost per yd2	Pavement	Shoulder
Cold Milling HMA	$1.00	$0.00
HMA (Avg of 4C, 36A, 4E, 5E)	$11.62	$0.00
Traffic Control	$0.15	$0.00
Shoulder	$0.00	$1.35
Adjust Drainage Structures	$0.00	$0.00
Pavement Marking	$0.24	$0.00
Subtotal	$13.01	$1.35
Engineering and Contingency	$3.25	
TOTAL	**$16.26**	**$1.35**

	Urban	
Cost per yd^2	Pavement	Shoulder
Cold Milling HMA	$1.00	$0.00
HMA (Avg of 4C, 36A, 4E, 5E)	$11.62	$0.00
Traffic Control	$0.25	$0.00
Shoulder	$0.00	$1.35
Adjust Drainage Structures	$0.80	$0.00
Pavement Marking	$0.44	$0.00
Subtotal	$14.11	$1.35
Engineering and Contingency	$3.53	$0.00
TOTAL	**$17.64**	**$1.35**

Summary of Treatments and Costs

Treatment Number	Treatment	Type	Min Trigger	Max Trigger	Reset	New Surf	Cost Per Square Yard					
							Rural		Urban		Average	
							Pavement	Shoulder	Pavement	Shoulder	Pavement	Shoulder
1	Chip Seal	PM (CPM)	5	6	8	No	$2.01	$0.00	$2.01	$0.00	$2.01	$0.00
2	Crack Seal	PM (CPM)	6	7	8	No	$0.60	$0.00	$0.60	$0.00	$0.60	$0.00
3	Overlay, 1.5"	RH (SI)	5	5	9	Yes	$7.74	$1.35	$9.11	$1.35	$8.43	$1.35
4	Mill and Resurface, 1.5"	RH (SI)	4	5	9	Yes	$8.36	$1.35	$9.74	$1.35	$9.05	$1.35
5	Mill and Resurface, 3"	RH (SI)	3	4	9	Yes	$16.26	$1.35	$17.64	$1.35	$16.95	$1.35
6	Reconstruct, 12" Aggregate, HMA Leveling & Wearing	RC (SI)	1	3	10	Yes	$27.51	$3.51	$28.89	$3.51	$28.20	$3.51
7	Reconstruct, 6" Aggregate, 2" HMA Base, HMA Leveling & Wearing	RC (SI)	1	3	10	Yes	$31.93	$3.51	$33.30	$3.51	$32.61	$3.51
8	Reconstruct, 4" Aggregate, 4" HMA Base, HMA Leveling & Wearing	RC	1	3	10	Yes	$40.40	$3.51	$41.78	$3.51	$41.09	$3.51
9	Reconstruct, 6" HMA Base, HMA Leveling & Wearing	RC	1	3	10	Yes	$43.24	$3.51	$44.61	$3.51	$43.93	$3.51
10	Reconstruct, 8" HMA Base, HMA Leveling & Wearing	RC	1	3	10	Yes	$52.65	$3.51	$54.03	$3.51	$53.34	$3.51

Summary of Treatments and Costs

Treatment Number	Treatment	Type	Min Trigger	Max Trigger	Reset	New Surf	Cost Per Lane Mile		
							Rural	Urban	Average
1	Chip Seal	PM (CPM)	5	6	8	No	$17,661.60	$17,661.60	$17,661.60
2	Crack Seal	PM (CPM)	6	7	8	No	$5,262.40	$5,262.40	$5,262.40
3	Overlay, 1.5"	RH (SI)	5	5	9	Yes	$79,970.00	$92,070.00	$86,020.00
4	Mill and Resurface, 1.5"	RH (SI)	4	5	9	Yes	$85,470.00	$97,570.00	$91,520.00
5	Mill and Resurface, 3"	RH (SI)	3	4	9	Yes	$154,990.00	$167,090.00	$161,040.00
6	Reconstruct, 12" Aggregate, HMA Leveling & Wearing	RC (SI)	1	3	10	Yes	$272,998.00	$285,098.00	$279,048.00
7	Reconstruct, 6" Aggregate, 2" HMA Base, HMA Leveling & Wearing	RC (SI)	1	3	10	Yes	$311,828.00	$323,928.00	$317,878.00
8	Reconstruct, 4" Aggregate, 4" HMA Base, HMA Leveling & Wearing	RC	1	3	10	Yes	$386,408.00	$398,508.00	$392,458.00
9	Reconstruct, 6" HMA Base, HMA Leveling & Wearing	RC	1	3	10	Yes	$411,378.00	$423,478.00	$417,428.00
10	Reconstruct, 8" HMA Base, HMA Leveling & Wearing	RC	1	3	10	Yes	$494,208.00	$506,308.00	$500,258.00

Pavement Cost Matrix for Reconstruction

KATS MPO	Centerline Miles	Assumed No. Of Lanes	Assumed Lane Width	Product	Ratio Of Product To Total	Reconstruction Treatment	Pavement Cost	**Weighted Pavement Cost[1]**
Interstate[2]	88.85	2.00	12.00	2,132.33	0.03	10.00	$53.34	$1.74
Other Freeway[3]	56.36	2.00	12.00	1,352.74	0.02	10.00	$53.34	$1.10
Principle Arterial	93.85	5.00	11.00	5,161.64	0.08	9.00	$43.39	$3.43
Minor Arterial	296.49	4.00	11.00	13,045.65	0.20	8.00	$41.09	$8.21
Major Collector	327.63	3.00	11.00	10,811.76	0.17	8.00	$41.09	$6.80
Minor Collector	49.43	2.00	11.00	1,087.37	0.02	7.00	$32.61	$0.54
Local	1,442.31	2.00	11.00	31,730.80	0.49	6.00	$28.20	$13.70
								$35.52

[1] Weighted pavement cost is equal to the ratio of product to total x pavement cost.
[2] Roadsoft treats each direction for freeways as individual roads.
[3] Roadsoft treats each direction for freeways as individual roads.

Appendix D: 2045 Metropolitan Transportation Plan Project List

Score	Year	Project Type	Agency	Road	Limits	Description	Funded/ Illustrative	Cost Year of Expenditure 1,000s
18	2016	Capacity	City of Kalamazoo	Kilgore Road	Kilgore Service Road to Sprinkle	Road resurfacing, road diet to connect future non-motorized facilities, new sidewalk construction	Yes	$911
14	2016	Capacity	RCKC	E. Main Street	Wallace to Nazareth	Signal Safety Improvements with City of Kalamazoo	Yes	$1,005
13	2016	Non-Motorized	RCKC	Drake Road	West Main Street to Stadium Drive	Installation of a 10 foot shared use pathway on the west side of Drake Road from West Main Street to Stadium Drive.	Illustrative	$1,493
13	2016	Non-Motorized	RCKC	Kendall Avenue	West Main Street to Kalamazoo Township Limits	Installation of a 5 foot sidewalk on both sides of Kendall Avenue to fill in the gaps in the existing sidewalk system that exists between West Main Street and the Kalamazoo Township	Illustrative	$61
13	2016	Non-Motorized	RCKC	Solon Street	West Main Street to Kalamazoo Township Limits	Installation of a 5 foot sidewalk on both sides of Solon Street from West Main Street to the Kalamazoo Township limits.	Illustrative	$129
13	2016	Non-Motorized	RCKC	West Main Street	Nichols Road to Sage Street	Installation of a 5 foot sidewalk on the south side of West Main Street from Nichols Road to Sage Street.	Illustrative	$190
7	2016	Non-Motorized	Kalamazoo County Parks Department	Kalamazoo River Valley Trail	35th in Galesburg to Kalamazoo/Calhoun County line	An eight-mile addition to the Kalamazoo River Valley Trail that will connect the current terminating point at 35th St in Galesburg, to the Village of Augusta. With this addition, the Kalamazoo River Valley Trail will link together the Kal-Haven Trail to the Battle Creek Linear Path, connecting over 140 miles of regional trail systems.	Illustrative	$2,843
22	2016	System Preservation	RCKC	9th Street	I-94 to Meridian	Mill/ HMA overlay	Yes	$1,300
19	2016	System Preservation	RCKC	42nd Street	Y Avenue to W Avenue	Construct to an all season road.	Yes	$980
18	2016	System Preservation	RCKC	U Avenue	Over Portage Creek	Bridge Rehabilitation	Yes	$700
18	2016	System Preservation	RCKC	W Avenue	Over Portage River	Bridge Preventative Maintenance	Yes	$220
18	2016	System Preservation	RCKC	D Avenue	Over Kalamazoo River	Bridge Preventative Maintenance	Yes	$150
18	2016	System Preservation	RCKC	East Michigan Avenue	Over Kalamazoo River	Bridge Rehabilitation	Yes	$580
18	2016	System Preservation	RCKC	Q Avenue	Over Portage River	Bridge Replacement	Yes	$805
18	2016	System Preservation	RCKC	S Avenue	Over Portage River	Bridge Replacement	Yes	$1,020
17	2016	System Preservation	MDOT	I-94	at East Michigan Avenue (40th Street)	JN 112614 -- Interchange reconfiguration with removal and replacement of the structure and maintenance of the traffic concepts.	Yes	$11,100
16	2016	System Preservation	City of Kalamazoo	East Michigan	Riverview to Wallace	Road resurfacing, curb and gutter replacement, striping for bike lanes. Coordinated with East Main safety project to improve intersection	Yes	$875

Score	Year	Project Type	Agency	Road	Limits	Description	Funded/ Illustrative	Cost Year of Expenditure 1,000s
11	2016	System Preservation	MDOT	I-94	at East Michigan Avenue (40th Street)	JN 118994 - Replace bridge	Yes	$4,538
	2016	System Preservation	Local Agencies	Various	Various locations	System Preservation	Yes	$20,005
29	2016	Traffic Operations	City of Kalamazoo	Portage Road	Pitcher to Kilgore	Signal Interconnect and upgrades.	Yes	$1,063
16	2016	Traffic Operations	MDOT	Various freeways	Kalamazoo County	JN 115839 -- Freeway signing upgrade	Yes	$2,461
21	2016	Public Transportation	Kalamazoo Metro Transit	Bus Shelters		Replace, rehabilitate and/or install up to 6 bus shelters for ADA compliance	Yes	$15
21	2016	Public Transportation	Kalamazoo Metro Transit	Community Ridesharing		Operating of Community Ridesharing Program	Yes	$46
21	2016	Public Transportation	Kalamazoo Metro Transit	Mobility Management		Mobility Management Program	Yes	$58
21	2016	Public Transportation	Kalamazoo Metro Transit	Operating Assistance - Rural		Operating Expenses - Demand Response Rural	Yes	$165
16	2016	Public Transportation	Kalamazoo Metro Transit	Transit Operations		Transit Operations - Fixed Route and Demand Response Urban	Yes	$16,520
11	2016	Public Transportation	Kalamazoo Metro Transit	Community Service Program		Community Service Program	Yes	$30
11	2016	Public Transportation	Kalamazoo Metro Transit	Community Service Van		Community Service Van Replacement	Yes	$40
11	2016	Public Transportation	Van Buren Transit	Facility expansion			Yes	$150
11	2016	Public Transportation	Kalamazoo Metro Transit	Fixed Vehicle Replacements		Fixed route bus replacements	Yes	$513
11	2016	Public Transportation	Kalamazoo Metro Transit	Vehicle Replacement		Up to 6 Demand Response Van Replacements	Yes	$127
9	2016	Public Transportation	Kalamazoo Metro Transit	Demand Response Vehicles		Up to 2 Demand Response Vehicles ($24,748 STL funds identified in 2014-2017 TIP = $30,926 Total); ($32,204 STU funds identified in 2014-2017 TIP = $40,255)	Yes	$71
9	2016	Public Transportation	Kalamazoo Metro Transit	Facility Renovations		Facility renovations	Yes	$50
9	2016	Public Transportation	Kalamazoo Metro Transit	Security Maintenance and Upgrades		Facility security maintenance and upgrades	Yes	$100
6	2016	Public Transportation	Kalamazoo Metro Transit	ITS Equipment		ITS Equipment Hardware, Software, and Licenses	Yes	$40
6	2016	Public Transportation	Kalamazoo Metro Transit	Vehicle		Maintenance/Staff Vehicle Replacement	Yes	$60
16	2017	Non-Motorized	RCKC	Lake Street	Olmsted Road to Kalamazoo Twp limits	Installation of a 5 foot sidewalk on the both sides of Lake Street from Olmsted Road east to the Kalamazoo Township limits. Wide shoulders are included for the full extent of the project.	Illustrative	$139
16	2017	Non-Motorized	RCKC	Olmsted Road	Miller Road to Lake Street	Installation of a 5 foot sidewalk on both sides of Olmsted Road from Miller Road to Lake Street. Wide shoulders are included for the full extent of the project.	Illustrative	$280

Score	Year	Project Type	Agency	Road	Limits	Description	Funded/ Illustrative	Cost Year of Expenditure 1,000s
14	2017	Non-Motorized	RCKC	Grand Prairie Road	Nichols Road to Stone Mill Street	Installation of a 5 foot sidewalk on both sides of Grand Prairie Road from Nichols Road to Stone Mill Street. Stone Mill Street represents the border with the City of Kalamazoo and from that point west, the south side of the road is in the City. Partner project continues the non-motorized facility to Drake Road. Wide shoulders are included for the full extent of the project.	Illustrative	$121
14	2017	Non-Motorized	RCKC	Grand Prairie Road	Stone Mill Street to Drake Road	Installation of a 5 foot sidewalk on the north side of Grand Prairie Road from Stone Mill Street to Drake Road. Stone Mill Street represents the border with the City of Kalamazoo and from that point west, the south side of the road is in the City. A partner project continues the non-motorized facility to Nichols Road. Wide shoulders are included for the full extent of the project.	Illustrative	$65
14	2017	Non-Motorized	RCKC	KL Avenue	Drake Road to Copper Beech	Installation of a 10 foot shared use pathway on the north side of KL Avenue from Drake Road to the entry drive of the Copper Beech Apartments. A subsequent project will continue the facility to the west and connect to 9th Street. Wide shoulders are included for the full extent of the project	Illustrative	$900
11	2017	Non-Motorized	RCKC	Nichols Road	Alamo Avenue to G Avenue	Installation of a 5 foot sidewalk on both sides of Nichols Road between Alamo Avenue and G Avenue with exception of a few places where an existing sidewalk facility is already located.	Illustrative	$350
19	2017	System Preservation	RCKC	28th Street	South of E Avenue to D Avenue	Pulverize/ HMA overlay/ Construct to All Season	Yes	$900
19	2017	System Preservation	RCKC	Stadium Drive	9th Street to US-131	Reconstruct/pulverize	Yes	$1,500
19	2017	System Preservation	RCKC	33rd Street	M-96 to G Avenue	Mill/ HMA Overlay	Yes	$550
19	2017	System Preservation	RCKC	42nd Street	Z Avenue to Y Avenue	Construct to an all season road.	Yes	$980
19	2017	System Preservation	RCKC	N Avenue	Sprinkle Road to 26th Street	Mill/ HMA Overlay Roadside Improvement	Yes	$800
18	2017	System Preservation	City of Kalamazoo	Vine Street	Westnedge to Crosstown	Road resurfacing, bike lanes and sharrows	Yes	$689
14	2017	System Preservation	City of Kalamazoo	Portage Road	Sheridan to Stockbridge	Road resurfacing, Non-Motorized connection from Miller to Phillips	Yes	$1,162
14	2017	System Preservation	Van Buren County Road Commission	Red Arrow Highway	26th Street to 28th Street	Trench and widen to achieve a 3-lane section. mill 2" of existing HMA, install fabric, repave to achieve new section. Install C & G at intersections and upgrade access control at commercial drives. Tree removal/trimming and minor drainage corrections.	Illustrative	$910

Score	Year	Project Type	Agency	Road	Limits	Description	Funded/ Illustrative	Cost Year of Expenditure 1,000s
12	2017	System Preservation	MDOT	M-43	US-131 to Stadium; Pitcher to West Main	JN 123262 -- Cold Milling and HMA resurfacing with ADA sidewalk ramps	Yes	$2,636
10	2017	System Preservation	MDOT	I-94	near I-94/US-131 interchange	JN 122746 - Healer sealer, bridge crack sealing, resealing joints, and deck patching	Yes	$1,168
7	2017	System Preservation	MDOT	US-131 BR	I-94 BL to Kalamazoo north city limit	JN 127456 - Cold Milling and HMA One Course Overlay	Yes	$1,099
	2017	System Preservation	Local Agencies	Various	Various locations	System Preservation	Yes	$8,382
28	2017	Traffic Operations	City of Kalamazoo	Burdick Street	Alcott St to South St	Signal Interconnect and upgrades.	Yes	$504
28	2017	Traffic Operations	City of Kalamazoo	Drake Road	Grand Prairie to Croyden	Signal Interconnect and upgrades.	Yes	$496
19	2017	Traffic Operations	RCKC	Drake Road	at Grand Prairie	Traffic Signal Upgrade	Yes	$237
18	2017	Traffic Operations	MDOT	Various	Various locations in Kalamazoo County	JN 116716 -- Wrong-way crash reduction improvements to ramp terminals (only partially in KATS area)	Yes	$183
13	2017	Traffic Operations	MDOT	M-40	at the intersection of 62nd St, 32nd St and CR 653	JN 124079 - Construct roundabout	Yes	$1,400
21	2017	Public Transportation	Kalamazoo Metro Transit	Community Ridesharing		Operating of Community Ridesharing Program	Yes	$47
19	2017	Public Transportation	Kalamazoo Metro Transit	Mobility Management		Mobility Management Program	Yes	$58
16	2017	Public Transportation	Kalamazoo Metro Transit	Bus Shelters		Replace, rehabilitate and/or install up to 6 bus shelters for ADA compliance	Yes	$15
11	2017	Public Transportation	Kalamazoo Metro Transit	Community Service Program		Community Service Program	Yes	$30
11	2017	Public Transportation	Kalamazoo Metro Transit	Community Service Van		Community Service Van Replacement	Yes	$40
11	2017	Public Transportation	Kalamazoo Metro Transit	Demand Response Vehicles		Up to 7 Demand Response Vehicles ($64,690 STL funds identified in 2014-2017 TIP = $80,862 Total)	Yes	$81
11	2017	Public Transportation	Kalamazoo Metro Transit	Fixed Vehicle Replacements		Fixed route bus replacements	Yes	$504
11	2017	Public Transportation	Kalamazoo Metro Transit	Operating Assistance - Rural		Operating Expenses - Demand Response Rural	Yes	$170
11	2017	Public Transportation	Kalamazoo Metro Transit	Vehicle Replacement		Up to 6 Demand Response Van Replacements	Yes	$127
9	2017	Public Transportation	Kalamazoo Metro Transit	Security Maintenance and Upgrades		Facility security maintenance and upgrades	Yes	$50
9	2017	Public Transportation	Kalamazoo Metro Transit	Transit Operations		Transit Operations - Fixed Route and Demand Response Urban	Yes	$17,059
8	2017	Public Transportation	Kalamazoo Metro Transit	Facility Renovations		Facility renovations	Yes	$50
6	2017	Public Transportation	Kalamazoo Metro Transit	ITS Equipment		ITS Equipment Hardware, Software, and Licenses	Yes	$200
16	2018	Non-Motorized	RCKC	Mosel Road	Douglas Avenue to Westnedge Avenue	Installation of a 5 foot sidewalk on both sides of Mosel Road from Douglas Avenue to Westnedge Avenue. Wide shoulders are included for the full extent of the project.	Illustrative	$176

Score	Year	Project Type	Agency	Road	Limits	Description	Funded/ Illustrative	Cost Year of Expenditure 1,000s
14	2018	Non-Motorized	RCKC	Barney Road	Nichols Road to Douglas Avenue	Installation of a 5 foot sidewalk on both sides of Barney Road from Nichols Road to Douglas Avenue. Wide shoulders are included for the full extent of the project.	Illustrative	$189
14	2018	Non-Motorized	RCKC	Nazareth Road	Gull Road to East Main Street	Installation of a 5 foot sidewalk on the both sides of Nazareth Road from Gull Road to East Main Street. Wide shoulders are included for the full extent of the project.	Illustrative	$240
14	2018	Non-Motorized	RCKC	Douglas Avenue	G Avenue to Kalamazoo Township Limits	Installation of a 5 foot sidewalk on both sides of Douglas Avenue from G Avenue south to the Township border with the City of Kalamazoo. Wide shoulders are included for the full extent of the project	Illustrative	$342
14	2018	Non-Motorized	RCKC	Miller Road	Sprinkle Road to Kalamazoo Township Limits	Installation of a 5 foot sidewalk on both sides of Miller Road from Sprinkle Road east to the Township limits with the City of Kalamazoo. Wide shoulders are included for the full extent of the project	Illustrative	$65
13	2018	Non-Motorized	RCKC	Brook Drive	Gull Road to Spring Valley Park	Installation of a 10 foot asphalt shared use pathway on Brook Drive from Gull Road to Spring Valley Park.	Illustrative	$122
13	2018	Non-Motorized	RCKC	Business Loop 94	Lake Street to KRVT (via King Highway)	Installation of a 10 foot asphalt shared use pathway on Business Loop 94 from Lake Street to King Highway and then continuing east to access the KRVT. This is a project included in the BL-94 Gateway Plan.	Illustrative	$90
13	2018	Non-Motorized	RCKC	Stadium Drive	8th Street to 11th Street	Installation of a 5 foot sidewalk on both sides of Stadium Drive from 8th Street to 11th Street. There are some existing sections of sidewalk on the north side of Stadium toward the eastern edge of this corridor but they are in poor condition and need replacement. Close to the 9th Street intersection, as part of the DDA's streetscape improvement program, it is likely that the sidewalk will increase in width considerably in order to serve a more commercial oriented environment.	Illustrative	$116
7	2018	Non-Motorized	Kalamazoo County Parks Department	Kalamazoo River Valley Trail	M-96 in Augusta north to M-89/Gull Lake in Ross Township	A 3.5-mile addition to the Kalamazoo River Valley Trail that will connect the eventual Village of Augusta segment north to Gull Lake/M-89.	Illustrative	$2,000
23	2018	System Preservation	RCKC	KL Avenue	0.45 Mile West of Drake to Drake Road	Widen to 3 lanes/ HMA Overlay	Yes	$600
22	2018	System Preservation	RCKC	D Avenue	at Douglas Avenue	Intersection improvement	Yes	$175
18	2018	System Preservation	RCKC	Almena Drive	820' East of Van Kal Avenue to M-43	Mill/ HMA Overlay	Yes	$525

Score	Year	Project Type	Agency	Road	Limits	Description	Funded/ Illustrative	Cost Year of Expenditure 1,000s
18	2018	System Preservation	Portage	South Westnedge Avenue	Romence Road to Mall Drive	HMA mill and resurface with traffic signal improvements, and ADA sidewalk and transit upgrades (Bus shelters).	Yes	$1,027
18	2018	System Preservation	RCKC	28th Street	M-43 to F Avenue	Pulverize/ HMA Overlay/ construct to all season	Yes	$300
18	2018	System Preservation	RCKC	38th Street	O Avenue to MN Avenue	Pulverize/ HMA Overlay/ construct to all Season	Yes	$700
17	2018	System Preservation	RCKC	North Burdick	Kalamazoo City Limit to Mosel Avenue	Reconstruct/ HMA overlay	Yes	$250
17	2018	System Preservation	RCKC	Sprinkle Road	Milham Avenue to N Avenue	HMA Overlay/ Culvert	Yes	$1,250
17	2018	System Preservation	Portage	West Centre Avenue	12th Street to Oakland Drive	HMA mill and resurface. Sidewalk upgrades and bike trail improvements. Traffic signal modernization and transit upgrades (Bus shelters/turnouts).	Yes	$2,000
17	2018	System Preservation	RCKC	12th Street	Q Avenue to Texas Drive	Mill/ HMA Overlay	Yes	$600
17	2018	System Preservation	RCKC	Grand Prairie	Drake Road to Nichols Road	Mill/ HMA Overlay/ construct to all Season	Yes	$350
17	2018	System Preservation	MDOT	I-94 BL	at Howard Street	JN 101089 -- Reconstruct to install dual left turn lanes at the intersection	Yes	$8,506
15	2018	System Preservation	RCKC	Sprinkle Road	Centre to Milham	Mill/ HMA Overlay	Yes	$1,000
14	2018	System Preservation	MDOT	I-94 BL	east of Seneca to Michigan Avenue	JN 113129 - Resurface and repair roadway	Yes	$2,128
14	2018	System Preservation	City of Kalamazoo	Cork Street	Portage to Sprinkle	Road resurfacing, fill in sidewalk gaps	Yes	$1,671
13	2018	System Preservation	RCKC	Texas Drive	N/ E of 8th Street to 12th Street	Mill/ HMA Overlay/ Left Turn Lane	Yes	$750
	2018	System Preservation	Local Agencies	Various	Various locations	System Preservation	Yes	$710
29	2018	Traffic Operations	City of Kalamazoo	West Michigan & Howard St	11th Street to Howard, Valley to Crosstown	Signal Interconnect and upgrades.	Yes	$1,175
17	2018	Traffic Operations	MDOT	I-94 EB	Miller Road to 40th Street	JN 120543 - Widen and resurface outside shoulder	Yes	$1,550
8	2018	Traffic Operations	MDOT	M-96	at G Avenue	JN 120545 - Install right-turn lane	Yes	$205
21	2018	Public Transportation	Kalamazoo Metro Transit	Community Ridesharing		Operating of Community Ridesharing Program	Yes	$48
21	2018	Public Transportation	Kalamazoo Metro Transit	Mobility Management		Mobility Management Program	Yes	$59
16	2018	Public Transportation	Kalamazoo Metro Transit	Bus Shelters		Replace, rehabilitate and/or install up to 6 bus shelters for ADA compliance	Yes	$15
11	2018	Public Transportation	Kalamazoo Metro Transit	Community Service Program		Community Service Program	Yes	$30
11	2018	Public Transportation	Kalamazoo Metro Transit	Community Service Van		Community Service Van Replacement	Yes	$40
11	2018	Public Transportation	Kalamazoo Metro Transit	Fixed Vehicle Replacements		Fixed route bus replacements	Yes	$899
11	2018	Public Transportation	Kalamazoo Metro Transit	Operating Assistance - Rural		Operating Expenses - Demand Response Rural	Yes	$170
11	2018	Public Transportation	Kalamazoo Metro Transit	Security Maintenance and Upgrades		Facility security maintenance and upgrades	Yes	$150
11	2018	Public Transportation	Kalamazoo Metro Transit	Transit Operations		Transit Operations - Fixed Route and Demand Response Urban	Yes	$19,804
11	2018	Public Transportation	Kalamazoo Metro Transit	Vehicle Replacement		Up to 6 Demand Response Van Replacements	Yes	$131

Score	Year	Project Type	Agency	Road	Limits	Description	Funded/ Illustrative	Cost Year of Expenditure 1,000s
8	2018	Public Transportation	Kalamazoo Metro Transit	Facility Renovations		Facility renovations	Yes	$50
7	2018	Public Transportation	Kalamazoo Metro Transit	Hybrid Buses		Hybrid Bus Batteries	Yes	$255
6	2018	Public Transportation	Kalamazoo Metro Transit	ITS Equipment		ITS Equipment Hardware, Software, and Licenses	Yes	$200
19	2019	Non-Motorized	RCKC	10th Street	West Main Street to Kal Haven Trailhead	Installation of 10 foot wide asphalt shared use pathway on east side of 10th Street from West Main Street to H Avenue with a 5 foot wide sidewalk facility on the west side of the road. A 10 foot wide asphalt shared use pathway would continue on the west side of the road from H Avenue to the Kal Haven Trail Head to the north. Wide shoulders are also proposed to be added to the corridor.	Illustrative	$645
16	2019	Non-Motorized	RCKC	Squires Drive	Ravine Road to Drake Road	Installation of a 10 foot asphalt shared use pathway on Squires Drive from Ravine Road to Drake Road.	Illustrative	$100
13	2019	Non-Motorized	RCKC	Off Road (near King Hwy)	King Highway to East Michigan Avenue	Installation of a 10 foot asphalt shared use pathway on Township property from King Highway north to East Michigan Avenue.	Illustrative	$46
11	2019	Non-Motorized	RCKC	Nazareth Road	East Main Street to Kenilworth	Installation of a 10 foot asphalt shared use pathway on Nazareth Road from East Main Street to Kenilworth Avenue.	Illustrative	$94
5	2019	Non-Motorized	Kalamazoo County Parks Department	Kalamazoo River Valley Trail	M-89/Gull Lake in Ross Township eastward to the Village of Richland	A 5-mile addition to the Kalamazoo River Valley Trail that will connect the eventual Gull Lake/M-89 segment eastward to the Village of Richland.	Illustrative	$3,800
18	2019	System Preservation	City of Kalamazoo	Portage Road	Stockbridge to Portage/Pitcher Connector	Road resurfacing, partial reconstruction, (include Portage/Pitcher connector - add 0.23 mile)	Yes	$1,811
18	2019	System Preservation	RCKC	Sprinkle Road	M-43 to G Avenue	Mill/ HMA overlay	Yes	$850
18	2019	System Preservation	Portage	West Milham Avenue	South Westnedge Avenue to Oakland Drive	HMA mill and resurface on West Milham Avenue from South Westnedge Avenue to Oakland Drive, including ADA sidewalk improvements and traffic signalization upgrades. .	Yes	$2,700
18	2019	System Preservation	RCKC	H Avenue	26th Street to 26th Street	Mill/ HMA Overlay/ Drainage	Yes	$75
17	2019	System Preservation	RCKC	U Avenue	29th Street to 32nd Street	Pulverize/ HMA Overlay	Yes	$975
17	2019	System Preservation	RCKC	12th Street	Ravine Road to D Avenue	Pulverize / HMA overlay	Yes	$750
17	2019	System Preservation	RCKC	Nazareth Road	South of E. Main to M-43	Mill/ HMA Overlay/ Drainage	Yes	$450
17	2019	System Preservation	RCKC	Portage Road	XY Avenue to W Avenue	HMA Overlay	Yes	$600
17	2019	System Preservation	RCKC	Ravine Road	Drake Road to 12thStreet	Reconstruct- Mill/ HMA overlay	Yes	$650
17	2019	System Preservation	RCKC	Ravine Road	F Avenue to D Avenue	Reconstruct- Mill/ HMA overlay	Yes	$1,400

Score	Year	Project Type	Agency	Road	Limits	Description	Funded/ Illustrative	Cost Year of Expenditure 1,000s
17	2019	System Preservation	RCKC	Riverview Drive	G Avenue to Mt. Olivet	HMA Overlay/ Drainage	Yes	$410
14	2019	System Preservation	Portage	Meredith Street	Kilgore Road to Sprinkle Road	Project will consist of concrete white topping on Meredith Street from Kilgore Road to Sprinkle Road. Sidewalk upgrades to include widening and extensions to Kilgore Road on the west side of Meredith Street.	Yes	$230
13	2019	System Preservation	Van Buren County Road Commission	Red Arrow Highway	28 Street to 30th Street	Trench and widen to achieve a 3-lane section. mill 2" of existing HMA, install fabric, repave to achieve new section. Install C & G at intersections and upgrade access control at commercial drives. Tree removal/trimming and minor drainage corrections.	Yes	$925
9	2019	System Preservation	Portage	Romence Road	Oakland Drive to Constitution Blvd	Mill and resurface Romence Road from Oakland Drive to Constitution Boulevard. Bike path and sidewalk with ADA compliance improvements is included in this project	Yes	$522
8	2019	System Preservation	Village of Mattawan	Murray	McGillen to Murray	Grind existing road repave.	Yes	$750
4	2019	System Preservation	MDOT	US-131	over Amtrak and KL Avenue	122664 - Deck replacement	Yes	$10,181
	2019	System Preservation	Local Agencies	Various	Various locations	System Preservation	Yes	$190
19	2019	Traffic Operations	RCKC	G Avenue	at Riverview Drive	Traffic Signal	Yes	$225
24	2019	Public Transportation	Kalamazoo Metro Transit	Mobility Management		Mobility Management Program	Yes	$61
21	2019	Public Transportation	Kalamazoo Metro Transit	Community Ridesharing		Operating of Community Ridesharing Program	Yes	$50
19	2019	Public Transportation	Kalamazoo Metro Transit	Farebox Upgrades		Illustrative Project: Farebox Upgrades for fixed route line haul system with improved technology for various pay methods	Illustrative	$1,135
16	2019	Public Transportation	Kalamazoo Metro Transit	Bus Shelters		Replace, rehabilitate and/or install up to 6 bus shelters for ADA compliance	Yes	$15
11	2019	Public Transportation	Kalamazoo Metro Transit	Community Service Program		Community Service Program	Yes	$30
11	2019	Public Transportation	Kalamazoo Metro Transit	Community Service Van		Community Service Van Replacement	Yes	$40
11	2019	Public Transportation	Kalamazoo Metro Transit	Fixed Vehicle Replacements		Fixed route bus replacements	Yes	$1,000
11	2019	Public Transportation	Kalamazoo Metro Transit	ITS Equipment		ITS Equipment Hardware, Software, and Licenses	Yes	$100
11	2019	Public Transportation	Kalamazoo Metro Transit	Operating Assistance - Rural		Operating Expenses - Demand Response Rural	Yes	$170
11	2019	Public Transportation	Kalamazoo Metro Transit	Security Maintenance and Upgrades		Facility security maintenance and upgrades	Yes	$50
11	2019	Public Transportation	Kalamazoo Metro Transit	Vehicle Replacement		Up to 6 Demand Response Van Replacements	Yes	$135

Score	Year	Project Type	Agency	Road	Limits	Description	Funded/ Illustrative	Cost Year of Expenditure 1,000s
9	2019	Public Transportation	Kalamazoo Metro Transit	Transit Operations		Transit Operations - Fixed Route and Demand Response Urban	Yes	$19,976
8	2019	Public Transportation	Kalamazoo Metro Transit	Facility Renovations		Facility renovations	Yes	$50
13	2020	Capacity	MDOT	I-94	east of Lovers Lane to east of Portage Road	JN 105885 - Roadway reconstruction and widening and interchange reconstruction	Yes	$33,098
13	2020	Capacity	MDOT	I-94	east of Portage Road to west of Sprinkle	JN 105886 - Road reconstruction and widening and reconstruction and widening of 2 railroad bridges and a large culvert	Yes	$34,660
19	2020	Non-Motorized	RCKC	KL Avenue	9th Street to Copper Beech	Installation of a 10 foot shared use pathway on the north side of KL Avenue from 9th Street to the entry drive of the Copper Beech Apartments. This connects to a previous project that provided a facility from Drake Road to the apartment entry drive. Wide shoulders are also included in the proposal for the full extent of the project.	Illustrative	$610
16	2020	Non-Motorized	RCKC	9th Street	KL Avenue to H Avenue	Installation of a 5 foot sidewalk on both sides of 9th Street from KL Avenue to West Main Street, the proposal calls for 5 foot sidewalks on both sides of the road. From West Main Street to H Avenue, a 10 foot shared use pathway is called for on the east side of 9th Street. This project corresponds to a subsequent project that will continue the Non-Motorized facility south to N Avenue. Wide shoulders are also included in the proposal for the full extent of the project.	Illustrative	$900
16	2020	Non-Motorized	RCKC	Ravine Road	Nichols Road to Drake Road	Installation of a 5 foot sidewalk on both sides of Ravine Road from Nichols Road to Drake Road. Wide shoulders are also included in the proposal for the full extent of the project.	Illustrative	$328
11	2020	Non-Motorized	City of Kalamazoo	NA	Kalamazoo River Valley Trail to Ransom Street	Construction of an of road Non-Motorized transportation trailway.	Illustrative	$300
19	2020	System Preservation	Portage	South Westnedge Avenue	Shaver Road to Romence Road	This segment of South Westnedge Avenue is the commercial corridor in the City of Portage. Roadway resurfacing along with traffic signal, sidewalk infrastructure, and pedestrian crossing improvements.	Yes	$1,425
18	2020	System Preservation	City of Kalamazoo	Howard Street	Stadium to Oakland	Road resurfacing with installation of a 10 foot sidewalk	Yes	$500
15	2020	System Preservation	Portage	Centre Avenue	Portage Road to Sprinkle Road	HMA mill and resurface on Centre Avenue from Portage Road to Sprinkle Road.	Yes	$1,271

Score	Year	Project Type	Agency	Road	Limits	Description	Funded/ Illustrative	Cost Year of Expenditure 1,000s
15	2020	System Preservation	Portage	Shaver Road	Centre Avenue to South Westnedge Avenue	HMA mill and resurface on Shaver Road from West Centre Avenue to South Westnedge Avenue. Roadway improvements along with traffic signal improvements will enhance vehicular/ pedestrian safety at the intersections.	Yes	$468
15	2020	System Preservation	City of Kalamazoo	Oakland Drive	Parkview to Howard	Road resurfacing, fill in sidewalk gaps, traffic signal conduit	Yes	$880
14	2020	System Preservation	Van Buren County Road Commission	CR 652	Red Arrow Highway to French Road	Trench and widen to complete 5 foot paved shoulders. Mill 2" of existing HMA and replace. Minor drainage corrections. C & G rehabilitation. All included work required to achieve the final section.	Yes	$275
8	2020	System Preservation	Village of Mattawan	Main Street	On Main Street from Creek Crossing to 100 feet north of	Sidewalk, storm sewer, add bike lanes, upgrade traffic light and village owned street lights, grind and repave road.	Yes	$2,050
3	2020	System Preservation	Village of Mattawan	Main Street	On Main Street from Creek Crossing to 100 feet north of	Replace Culvert, storm sewer, grind and repave road.	Yes	$1,360
	2020	System Preservation	Local Agencies	Various	Various locations	System Preservation	Yes	$13,720
29	2020	Traffic Operations	City of Kalamazoo	S Drake Road	Parkview to KL Ave	Signal Interconnect and upgrades.	Yes	$1,089
24	2020	Public Transportation	Kalamazoo Metro Transit	Mobility Management		Mobility Management Program	Yes	$63
21	2020	Public Transportation	Kalamazoo Metro Transit	Community Ridesharing		Operating of Community Ridesharing Program	Yes	$51
16	2020	Public Transportation	Kalamazoo Metro Transit	Bus Shelters		Replace, rehabilitate and/or install up to 6 bus shelters for ADA compliance	Yes	$15
14	2020	Public Transportation	Kalamazoo Metro Transit	Security Maintenance and Upgrades		Facility security maintenance and upgrades	Yes	$50
12	2020	Public Transportation	Kalamazoo Metro Transit	Community Service Program		Community Service Program	Yes	$30
11	2020	Public Transportation	Kalamazoo Metro Transit	Fixed Vehicle Replacements		Fixed route bus replacements	Yes	$1,000
11	2020	Public Transportation	Kalamazoo Metro Transit	ITS Equipment		ITS Equipment Hardware, Software, and Licenses	Yes	$100
11	2020	Public Transportation	Kalamazoo Metro Transit	Operating Assistance - Rural		Operating Expenses - Demand Response Rural	Yes	$170
11	2020	Public Transportation	Kalamazoo Metro Transit	Vehicle Replacement		Up to 6 Demand Response Van Replacements	Yes	$139
8	2020	Public Transportation	Kalamazoo Metro Transit	Facility Renovations		Facility renovations	Yes	$50
7	2020	Public Transportation	Kalamazoo Metro Transit	Community Service Van		Community Service Van Replacement	Yes	$40
6	2020	Public Transportation	Kalamazoo Metro Transit	Transit Operations		Transit Operations - Fixed Route and Demand Response Urban	Yes	$20,753
23	2021-2025	Capacity	City of Kalamazoo	Howard Street	Gar Lane to W. Michigan	Installation of a Non-Motorized pathway/ sidewalk from Gar Ln to W. Michigan Ave to be completed in conjunction with MDOT's construction of Stadium Drive.	Yes	$592

Score	Year	Project Type	Agency	Road	Limits	Description	Funded/ Illustrative	Cost Year of Expenditure 1,000s
19	2021-2025	Capacity	City of Kalamazoo	Howard Street	Cross Town to Oakland	Road diet to convert 4 lanes to 3 lanes with the addition if a center median island to provide safe passage across Howard for Kalamazoo Magnet School	Yes	$925
18	2021-2025	Capacity	City of Kalamazoo	Gull Road	Ampersee to North	Road diet to convert 4 lanes to 3 lanes and add bike lanes	Yes	$629
16	2021-2025	Capacity	City of Kalamazoo	Whites Road	Parkview to Westnedge	Road diet to convert 4 lanes to 3 lanes and add bike lanes	Yes	$962
16	2021-2025	Non-Motorized	RCKC	9th Street	KL Avenue to N Avenue	Installation of a 5 foot sidewalk on both sides of 9th Street from KL Avenue to Stadium Drive with a 5 foot sidewalk proposed on the east side of the road from Stadium Drive to N Avenue. There are some existing facilities along 9th Street in this portion of the project, and the proposed facilities will work around and/or improve those facilities. The exact design may be modified as it goes through the financing and public input process. This project corresponds to a subsequent project that will continue the Non-Motorized facility north to H Avenue. Wide shoulders are included for the full extent of the project.	Illustrative	$2,072
14	2021-2025	Non-Motorized	RCKC	H Avenue	9th Street to Drake Road	Installation of a 5 foot sidewalk on the north and south side of H Avenue from 9th Street to Drake Road. Wide shoulders are also included in the proposed project. The exact design of the facility is subject to change as the project undergoes the public input and financing components of the design process.	Illustrative	$1,311
13	2021-2025	Non-Motorized	City of Kalamazoo	NA	Kilgore to Lake	Construction of an off road Non-Motorized transportation trailway.	Illustrative	$2,960
13	2021-2025	Non-Motorized	RCKC	Olmsted Road	Miller Road to Lake Street	Installation of a 10 foot shared use pathway on Olmsted Road from Miller Road to Lake Street including a crossing of BR-94.	Illustrative	$347
13	2021-2025	Non-Motorized	RCKC	Quail Run Drive	Stadium Drive to 9th Street	Installation of a 5 foot sidewalk on the east side of Quail Run from Stadium Drive to 9th Street.	Illustrative	$64
11	2021-2025	Non-Motorized	RCKC	11th Street	Parkview Avenue to KL Avenue	Installation of a 5 foot sidewalk on the west side of 11th Street from Parkview Avenue to KL Avenue. 11th Avenue already has wide shoulders on its northern extent, but wide shoulders would be incorporated in the southern portion. Facility could be changed to a wider shared use pathway during the public input and design process.	Illustrative	$1,406

Score	Year	Project Type	Agency	Road	Limits	Description	Funded/ Illustrative	Cost Year of Expenditure 1,000s
11	2021-2025	Non-Motorized	RCKC	Grand Prairie Road	Nichols Road to Drake Road	Installation of a 10 foot asphalt shared use pathway on Grand Prairie Road from Nichols Road to Drake Road.	Illustrative	$355
7	2021-2025	Non-Motorized	Kalamazoo County Parks Department	Kalamazoo River Valley Trail	D Ave. in Cooper Township north to Allegan County Line	A 3.5-mile addition to the Kalamazoo River Valley Trail that will extend north with plans to link to existing and future trail systems.	Illustrative	$3,109
5	2021-2025	Non-Motorized	Kalamazoo County Parks Department	Kalamazoo River Valley Trail	M-89/Gull Lake in Ross Township to Barry County/Kalamazoo	A 5-mile addition to the Kalamazoo River Valley Trail that will connect the eventual Gull Lake/M-89 trail north to the Barry County/Kalamazoo County line.	Illustrative	$3,257
20	2021-2025	System Preservation	MDOT	I-94	over Paw Paw River	JN 126902 - Articulating Concrete Block, Riprap, Slope Repair (one additional location, half of total project cost, located in rural area)	Yes	$3,043
17	2021-2025	System Preservation	Portage	Lovers Lane	East Centre Avenue to Romence Road	Mill and resurface Lovers Lane from East Centre Avenue to Romence Road. Pedestrian crossing improvements at Garden Lane to access multi-mode trail on the east side of Lovers Lane	Yes	$1,407
14	2021-2025	System Preservation	Portage	Milham Avenue	South Westnedge Avenue to Portage Road	Mill and resurface of East Milham Avenue from South Westnedge Avenue to Portage Road, including ADA sidewalk improvements.	Yes	$2,664
14	2021-2025	System Preservation	Portage	Oakland Drive	Centre Avenue to Romence Road	Mill and resurface, ADA sidewalk and dedicated bike lane improvements from West Centre Avenue to Romence Road.	Yes	$1,406
14	2021-2025	System Preservation	Portage	South Westnedge Avenue	Osterhout Avenue to South Shore Drive	Mill and resurface on South Westnedge Avenue from Osterhout Avenue to South Shore Drive including ADA sidewalk and bike lane improvements	Yes	$1,243
12	2021-2025	System Preservation	Portage	Oakland Drive	Romence Road to Milham Avenue	Mill and resurface, ADA sidewalk and dedicated bike lane improvements from Romence Road to Milham Avenue. The Northwest Portage Bikeway Trail crossing on this corridor will be enhanced for all users.	Yes	$1,576
9	2021-2025	System Preservation	Van Buren County Road Commission	Red Arrow Highway	CR 671 to 46 1/2 Street	Trench and widen, mill existing HMA surface 2", install fabric and overlay 2" to achieve 34 foot paved surface with shoulders. Some tree removals and trimming. Minor drainage corrections. Slope modifications and all associated work.	Yes	$1,347
8	2021-2025	System Preservation	Village of Mattawan	Main Street	On Main Street I-94 right of way to the north village limits	Sidewalk, storm sewer, add bike lanes, village owned street lights, grind and repave road.	Yes	$3,109

Score	Year	Project Type	Agency	Road	Limits	Description	Funded/ Illustrative	Cost Year of Expenditure 1,000s
6	2021-2025	System Preservation	Van Buren County Road Commission	Red Arrow Highway	39th Street to CR 671	Trench and widen, mill existing HMA surface 2", install fabric and overlay 2" to achieve 34 foot paved surface with shoulders. Some tree removals and trimming. Minor drainage corrections. Slope modifications and all associated work required to achieve the final section.	Yes	$1,924
4	2021-2025	System Preservation	Van Buren County Road Commission	CR 653	Red Arrow Highway to M 40	Trench and widen and overlay to achieve 28 foot paved surface with shoulders. Some tree removals and trimming. Minor drainage corrections. Slope modifications and all associated work required to achieve the final section.	Yes	$1,924
	2021-2025	System Preservation	Local Agencies	Various	Various locations	System Preservation	Yes	$138,620
28	2021-2025	Traffic Operations	RCKC	9th Street	Beatrice Drive to Seeco Drive	Signal Interconnect and upgrades throughout the corridor.	Yes	$829
28	2021-2025	Traffic Operations	RCKC	Sprinkle Road	G Ave to Zylman	Signal Interconnect and upgrades throughout the corridor.	Yes	$1,791
28	2021-2025	Traffic Operations	RCKC	Stadium Drive	11th Street to 4th Street	Signal Interconnect and upgrades throughout the corridor.	Yes	$859
27	2021-2025	Traffic Operations	RCKC	35th Street	Miller Road to M-96	Signal Interconnect and upgrades throughout the corridor.	Yes	$851
27	2021-2025	Traffic Operations	City of Kalamazoo	Miller Rd	River Street to Portage Rd	Signal Interconnect and upgrades.	Yes	$1,665
27	2021-2025	Traffic Operations	RCKC	Miller Road	At River Street	Replacement of Traffic Signal.	Yes	$222
27	2021-2025	Traffic Operations	RCKC	Mosel Avenue	Douglas to Riverview	Signal Interconnect and upgrades throughout the corridor.	Yes	$1,266
25	2021-2025	Traffic Operations	City of Kalamazoo	Oakland Drive	Kilgore to Lovell	Signal Interconnect and upgrades.	Yes	$1,081
24	2021-2025	Traffic Operations	City of Kalamazoo	Douglas St	North St to Patterson St	Signal Interconnect and upgrades.	Yes	$355
10	2021-2025	Traffic Operations	MDOT	I-94	EB at MM 83 and WB at MM 82	JN 127501 - Construct Emergency/Crash Investigation Sites	Yes	$1,263
21	2021-2025	Public Transportation	Kalamazoo Metro Transit	Community Ridesharing		Operating of Community Ridesharing Program	Yes	$290
21	2021-2025	Public Transportation	Kalamazoo Metro Transit	Mobility Management		Mobility Management Program	Yes	$355
18	2021-2025	Public Transportation	Kalamazoo Metro Transit	New Transportation Hub		Illustrative Project: Building of a new transportation hub for bus line haul services within Kalamazoo Metro Transit service area	Illustrative	$1,110
16	2021-2025	Public Transportation	Kalamazoo Metro Transit	Bus Shelters		Replace, rehabilitate and/or install up to 6 bus shelters for ADA compliance	Yes	$84
13	2021-2025	Public Transportation	Kalamazoo Metro Transit	Fixed Route Vehicle Expansion		Expansion of fixed route bus fleet	Yes	$3,331
11	2021-2025	Public Transportation	Kalamazoo Metro Transit	Community Service Program		Community Service Program	Yes	$169
11	2021-2025	Public Transportation	Kalamazoo Metro Transit	Community Service Van		Community Service Van Replacement	Yes	$225
11	2021-2025	Public Transportation	Kalamazoo Metro Transit	Fixed Vehicle Replacements		Fixed route bus replacements	Yes	$5,633

Score	Year	Project Type	Agency	Road	Limits	Description	Funded/ Illustrative	Cost Year of Expenditure 1,000s
11	2021-2025	Public Transportation	Kalamazoo Metro Transit	ITS Equipment		ITS Equipment Hardware, Software, and Licenses	Yes	$563
11	2021-2025	Public Transportation	Kalamazoo Metro Transit	Operating Assistance - Rural		Operating Expenses - Demand Response Rural	Yes	$958
11	2021-2025	Public Transportation	Kalamazoo Metro Transit	Security Maintenance and Upgrades		Facility security maintenance and upgrades	Yes	$282
11	2021-2025	Public Transportation	Kalamazoo Metro Transit	Vehicle Replacement		Up to 6 Demand Response Van Replacements	Yes	$781
9	2021-2025	Public Transportation	Kalamazoo Metro Transit	Hybrid Buses		Hybrid Bus Batteries	Yes	$377
9	2021-2025	Public Transportation	Kalamazoo Metro Transit	Transit Operations		Transit Operations - Fixed Route and Demand Response Urban	Yes	$112,354
8	2021-2025	Public Transportation	Kalamazoo Metro Transit	Facility Renovations		Facility renovations	Yes	$282
6	2021-2025	Public Transportation	Kalamazoo Metro Transit	Vehicle		Maintenance/Staff Vehicle Replacement	Yes	$89
23	2026-2030	Capacity	Kalamazoo County Local Agencies	US-131 Business Route @ US 131	full interchange with connections to surface roads at the US-131/US-131 Business Route (BR)	Illustrative: Construction of a full interchange at the US-131/US- 131 Business Route (BR) in Kalamazoo County to facilitate more northbound and southbound traffic to and from the northern portion of Kalamazoo and the surrounding areas. The project would maintain the existing US-131 freeway configuration and new freeway access would be provided via the local street – G Avenue.	Illustrative	$43,223
15	2026-2030	Capacity	City of Kalamazoo	Portage Street	Pitcher to Michigan	Road diet to convert 4 lanes to 3 lanes and add bike lanes	Yes	$468
14	2026-2030	Capacity	City of Kalamazoo	Paterson Street	Riverview to Porter	Road diet to convert 4 lanes to 3 lanes and add bike lanes	Yes	$540
13	2026-2030	Capacity	Portage	Oakland Drive	I-94 to Kilgore Road	Widen Oakland Drive from 4 lanes to 5 lanes from I-94 to Kilgore Road for the additions of dedicated left turn lane and bike lanes. As part of this project, the bridge over the west fork of Portage Creek will need to be reconstructed to accommodate the wider road section.	Illustrative	$3,872
12	2026-2030	Capacity	Portage	Lovers Lane	East Milham Avenue to Romence Road Parkway	Widen Lovers Lane from 4 lanes to 5 lanes from Romence Road Parkway to East Milham Avenue. Project will include addition of a dedicated left turn lane into adjacent properties and intersections, bike trail improvements, and sidewalk upgrades.	Illustrative	$3,124
11	2026-2030	Capacity	Portage	Portage Road	Lakeview Drive to East Osterhout Avenue	Widen Portage Road from 4 lanes to 5 lanes to accommodate bike lanes on both sides of the roadway from Lakeview Drive to East Osterhout Avenue. Project will accommodate increase capacity needs in this area.	Illustrative	$3,278

Score	Year	Project Type	Agency	Road	Limits	Description	Funded/ Illustrative	Cost Year of Expenditure 1,000s
11	2026-2030	Capacity	Portage	Romence Road	Portage Road to Sprinkle Road	Widen Romence Road from 2 and 3 lanes to 4 lane boulevard from Portage Road to Sprinkle Road. The project will include bike lanes and accommodate increased industrial and airport traffic demands.	Illustrative	$3,278
9	2026-2030	Capacity	Portage	South Westnedge Avenue	Milham Avenue to Romence Road	Widen northbound lanes on South Westnedge Avenue from 2 lanes to 3 lanes from Milham Avenue to Romence Road. Project will increase capacity for northbound traffic and provide bus stop areas for Metro Transit. Project includes milling and resurfacing of all lanes from Milham Avenue to Romence Road, and replacement of sidewalks on east side of road to accommodate widening the northbound lane from 2 to 3 lanes.	Illustrative	$6,258
8	2026-2030	Capacity	Portage	Osterhout Avenue	Shaver Road to Portage Road	Widen Osterhout Avenue from 2 lanes to 3 lanes to widen existing bike lanes on both sides of the roadway and install sidewalk on the north side, from Shaver Road to Portage Road. Culvert crossing for Sugarloaf Drain will be replaced to accommodate a wider roadway.	Illustrative	$4,502
8	2026-2030	Capacity	Portage	South Westnedge Ave / Shaver Road	Romence Road to West Centre Avenue	Widen South Westnedge Avenue & Shaver Road from 5 lanes to 7 lanes from Romence Road to West Centre Avenue. Widening the road will provide additional capacity for the project area. Upgrades to sidewalks are included in this project.	Illustrative	$8,659
4	2026-2030	Capacity	Portage	Shaver Road	Vanderbilt Avenue to South City Limits	Widen Shaver Road from 2 and 3 lanes to a 4 lane boulevard or 5 lanes from Vanderbilt Avenue to south city limits. This project will include bike trails and sidewalks to accommodate non-motorist traffic. The project will provide additional capacity for traffic to/from US-131.	Illustrative	$6,483
4	2026-2030	Capacity	Portage	Vanderbilt Avenue	Oakland Drive to Shaver Road	Widen Vanderbilt Avenue from 2 lanes to 3 lanes to accommodate bikes lanes on both sides of the roadway from Oakland Drive to Shaver Road. Project will improve capacity and provide dedicated left turn lane into adjacent properties and intersections.	Illustrative	$792
1	2026-2030	Capacity	Village of Mattawan	East McGillen	Main Street to east village limits	Add roughly 700 feet of 3rd lane add 200 feet of right turn lane, 4400 feet of bike path, grind existing pavement and repave.	Yes	$4,340

Score	Year	Project Type	Agency	Road	Limits	Description	Funded/ Illustrative	Cost Year of Expenditure 1,000s
16	2026-2030	Non-Motorized	RCKC	Atlantic Avenue	9th Street to Parkview Avenue	Installation of a 5 foot sidewalk on both sides of Atlantic Avenue from 9th Street to Parkview Avenue. It is possible that during the financing, design, and public input process, this project could be modified to become a wider shared use pathway. Wide shoulders are included for the full extent of the project.	Illustrative	$353
16	2026-2030	Non-Motorized	RCKC	Parkview Avenue	Stadium Drive to Drake Road	Installation of a 5 foot sidewalk on both sides of Parkview Avenue from Stadium Drive to Drake Road. It is possible that during the financing, design, and public input process, this project could be modified to become a wider shared use pathway. Wide shoulders are also included in the proposal for the full extent of the project.	Illustrative	$1,345
16	2026-2030	Non-Motorized	RCKC	West Michigan Avenue	Stadium Drive to Drake Road	Installation of a 5 foot sidewalk on the both sides of West Michigan Avenue connecting Drake Road to Stadium Drive. Wide shoulders are also included in the proposal for the full extent of the project. It is possible that during the financing, design, and public input process, this project could be modified to become a wider shared use parkway.	Illustrative	$964
13	2026-2030	Non-Motorized	RCKC	Nazareth Road vicinity	Off road - end of Nazareth Road to KRVT	Installation of a 10 foot asphalt shared use pathway from Nazareth Road south to the KRVT going off road and crossing the railroad tracks along the way	Illustrative	$1,081
13	2026-2030	Non-Motorized	RCKC	Off Road near Lake Street	Lake Street to KRVT	Installation of a 10 foot asphalt shared use pathway from Lake Street north to the KRVT going off road and crossing the Kalamazoo River thereby requiring construction of a Non-Motorized	Illustrative	$900
9	2026-2030	System Preservation	Village of Mattawan	Front Ave	Main Street to west village limits	Grind existing road add a bike path, minor drainage and repave.	Yes	$4,142
7	2026-2030	System Preservation	Van Buren County Road Commission	CR 375	CR 653 North (Almena) to Van Kal Avenue (22nd Street)	Trench and widen, overlay1.75" to achieve 34 foot paved surface with shoulders. Some tree removals and trimming. Minor drainage corrections. Slope modifications and all associated work required.	Yes	$1,261
7	2026-2030	System Preservation	Van Buren County Road Commission	CR 653	Red Arrow Highway to CR 653 North (Almena)	Trench and widen, overlay1.75" to achieve 34 foot paved surface with shoulders. Some tree removals and trimming. Minor drainage corrections. Slope modifications and all associated work required.	Yes	$1,486
7	2026-2030	System Preservation	Village of Mattawan	French Ave	Main Street to east village limits	Grind existing road add a bike path, minor drainage and repave.	Yes	$3,800

Score	Year	Project Type	Agency	Road	Limits	Description	Funded/ Illustrative	Cost Year of Expenditure 1,000s
7	2026-2030	System Preservation	Village of Mattawan	French Ave	Main Street to west village limits	Grind existing road add a bike path, minor drainage and repave.	Yes	$3,962
	2026-2030	System Preservation	Local Agencies	Various	Various locations	System Preservation	Yes	$125,421
26	2026-2030	Traffic Operations	City of Kalamazoo	Rose St	Crosstown to Patterson	Signal Interconnect and upgrades.	Yes	$1,981
25	2026-2030	Traffic Operations	City of Kalamazoo	Burdick Street	At Reed Street	Replace Traffic Signal	Yes	$180
25	2026-2030	Traffic Operations	City of Kalamazoo	Patterson St	Riverview to Douglas	Signal Interconnect and upgrades.	Yes	$1,027
19	2026-2030	Public Transportation	Kalamazoo Metro Transit	Bus Shelters		Replace, rehabilitate and/or install up to 6 bus shelters for ADA compliance	Yes	$103
19	2026-2030	Public Transportation	Kalamazoo Metro Transit	Community Ridesharing		Operating of Community Ridesharing Program	Yes	$352
16	2026-2030	Public Transportation	Kalamazoo Metro Transit	Fixed Route Vehicle Expansion		Expansion of fixed route bus fleet	Yes	$4,052
16	2026-2030	Public Transportation	Kalamazoo Metro Transit	Mobility Management		Mobility Management Program	Yes	$432
13	2026-2030	Public Transportation	Kalamazoo Metro Transit	New Transportation Hub		Illustrative Project: Building of a new transportation hub for bus line haul services within Kalamazoo Metro Transit service area	Illustrative	$1,351
6	2026-2030	Public Transportation	Kalamazoo Metro Transit	Community Service Program		Community Service Program	Yes	$206
6	2026-2030	Public Transportation	Kalamazoo Metro Transit	Community Service Van		Community Service Van Replacement	Yes	$274
6	2026-2030	Public Transportation	Kalamazoo Metro Transit	Fixed Vehicle Replacements		Fixed route bus replacements	Yes	$6,853
6	2026-2030	Public Transportation	Kalamazoo Metro Transit	ITS Equipment		ITS Equipment Hardware, Software, and Licenses	Yes	$685
6	2026-2030	Public Transportation	Kalamazoo Metro Transit	Operating Assistance - Rural		Operating Expenses - Demand Response Rural	Yes	$1,165
6	2026-2030	Public Transportation	Kalamazoo Metro Transit	Security Maintenance and Upgrades		Facility security maintenance and upgrades	Yes	$343
6	2026-2030	Public Transportation	Kalamazoo Metro Transit	Vehicle Replacement		Up to 6 Demand Response Van Replacements	Yes	$950
4	2026-2030	Public Transportation	Kalamazoo Metro Transit	Transit Operations		Transit Operations - Fixed Route and Demand Response Urban	Yes	$135,724
3	2026-2030	Public Transportation	Kalamazoo Metro Transit	Facility Renovations		Facility renovations	Yes	$343
2	2026-2030	Public Transportation	Kalamazoo Metro Transit	Hybrid Buses		Hybrid Bus Batteries	Yes	$459
Subtotal	2031-2035	System Preservation	Local Agencies	Various	Various locations	System Preservation	Yes	$153,814
9	2031-2035	System Preservation	Village of Mattawan	Robinson	Main to east limit	Grind existing road, raise the first 800 feet with roughly 10 feet of fill, add retaining wall to south east corner of intersection for sight distance and add 12 ft bike lane repave	Yes	$5,040
9	2031-2035	System Preservation	Village of Mattawan	Main	Kinne to Robinson	Grind existing road and add 12 ft bike lane repave.	Yes	$2,629
24	2031-2035	Traffic Operations	City of Kalamazoo	Burdick Street	North Street	Replacement of the traffic signal at Burdick and North Street.	Yes	$329
21	2031-2035	Public Transportation	Kalamazoo Metro Transit	Fixed Route Vehicle Expansion		Expansion of fixed route bus fleet	Illustrative	$4,930

Score	Year	Project Type	Agency	Road	Limits	Description	Funded/ Illustrative	Cost Year of Expenditure 1,000s
16	2031-2035	Public Transportation	Kalamazoo Metro Transit	Mobility Management		Mobility Management Program	Yes	$525
16	2031-2035	Public Transportation	Kalamazoo Metro Transit	Bus Rapid Transit Line		Illustrative Project: Building of a new bus rapid transit (BRT) line within Kalamazoo Metro Transit service area	Illustrative	$43,822
14	2031-2035	Public Transportation	Kalamazoo Metro Transit	Community Ridesharing		Operating of Community Ridesharing Program	Yes	$429
11	2031-2035	Public Transportation	Kalamazoo Metro Transit	Bus Shelters		Replace, rehabilitate and/or install up to 6 bus shelters for ADA compliance	Yes	$125
6	2031-2035	Public Transportation	Kalamazoo Metro Transit	Community Service Van		Community Service Van Replacement	Yes	$334
6	2031-2035	Public Transportation	Kalamazoo Metro Transit	Fixed Vehicle Replacements		Fixed route bus replacements	Yes	$8,338
6	2031-2035	Public Transportation	Kalamazoo Metro Transit	ITS Equipment		ITS Equipment Hardware, Software, and Licenses	Yes	$834
6	2031-2035	Public Transportation	Kalamazoo Metro Transit	Operating Assistance - Rural		Operating Expenses - Demand Response Rural	Yes	$1,417
6	2031-2035	Public Transportation	Kalamazoo Metro Transit	Security Maintenance and Upgrades		Facility security maintenance and upgrades	Yes	$417
6	2031-2035	Public Transportation	Kalamazoo Metro Transit	Vehicle Replacement		Up to 6 Demand Response Van Replacements	Yes	$1,156
4	2031-2035	Public Transportation	Kalamazoo Metro Transit	Community Service Program		Community Service Program	Yes	$250
4	2031-2035	Public Transportation	Kalamazoo Metro Transit	Transit Operations		Transit Operations - Fixed Route and Demand Response Urban	Yes	$167,771
3	2031-2035	Public Transportation	Kalamazoo Metro Transit	Facility Renovations		Facility renovations/rehabilitation	Yes	$417
2	2031-2035	Public Transportation	Kalamazoo Metro Transit	Hybrid Buses		Hybrid Bus Batteries	Yes	$559
1	2031-2035	Public Transportation	Kalamazoo Metro Transit	Vehicle		Maintenance/Staff Vehicle Replacement	Yes	$131
8	2036-2040	Capacity	City of Kalamazoo	Burdick Street	Cork to Kilgore	Construct Bike lanes by widening roadway.	Illustrative	$3,199
	2036-2040	System Preservation	Local Agencies	Various	Various locations	System Preservation	Yes	$186,870
21	2036-2040	Public Transportation	Kalamazoo Metro Transit	Fixed Route Vehicle Expansion		Expansion of fixed route bus fleet	Illustrative	$5,998
19	2036-2040	Public Transportation	Kalamazoo Metro Transit	Community Ridesharing		Operating of Community Ridesharing Program	Yes	$522
16	2036-2040	Public Transportation	Kalamazoo Metro Transit	Mobility Management		Mobility Management Program	Yes	$639
14	2036-2040	Public Transportation	Kalamazoo Metro Transit	Bus Shelters		Replace, rehabilitate and/or install up to 6 bus shelters for ADA compliance	Yes	$152
6	2036-2040	Public Transportation	Kalamazoo Metro Transit	Community Service Program		Community Service Program	Yes	$304
6	2036-2040	Public Transportation	Kalamazoo Metro Transit	Community Service Van		Community Service Van Replacement	Yes	$406
6	2036-2040	Public Transportation	Kalamazoo Metro Transit	Fixed Vehicle Replacements		Fixed route bus replacements	Yes	$10,145
6	2036-2040	Public Transportation	Kalamazoo Metro Transit	ITS Equipment		ITS Equipment Hardware, Software, and Licenses	Yes	$1,014

Score	Year	Project Type	Agency	Road	Limits	Description	Funded/ Illustrative	Cost Year of Expenditure 1,000s
6	2036-2040	Public Transportation	Kalamazoo Metro Transit	Operating Assistance - Rural		Operating Expenses - Demand Response Rural	Yes	$1,725
6	2036-2040	Public Transportation	Kalamazoo Metro Transit	Security Maintenance and Upgrades		Facility security maintenance and upgrades	Yes	$507
6	2036-2040	Public Transportation	Kalamazoo Metro Transit	Vehicle Replacement		Up to 6 Demand Response Van Replacements	Yes	$1,406
4	2036-2040	Public Transportation	Kalamazoo Metro Transit	Transit Operations		Transit Operations - Fixed Route and Demand Response Urban	Yes	$202,040
3	2036-2040	Public Transportation	Kalamazoo Metro Transit	Facility Renovations		Facility renovations	Yes	$507
2	2036-2040	Public Transportation	Kalamazoo Metro Transit	Hybrid Buses		Hybrid Bus Batteries	Yes	$680
8	2041-2045	Capacity	Portage	South Westnedge Avenue	Dawnlee Avenue to Milham Avenue	Widen northbound lanes on South Westnedge Avenue from 2 lanes to 3 lane boulevard from Dawnlee Avenue to Milham Avenue. This project will include mill and resurface southbound lanes and replace sidewalk on the west side to accommodate widening of northbound lanes.	Illustrative	$4,865
7	2041-2045	Capacity	Portage	Kilgore Road	Old Kilgore Road to Lovers Lane	Widen Kilgore Road from 4 lanes to 5 lanes (addition of one lane for eastbound traffic) from Old Kilgore Road to Lovers Lane. This project will include the removal and replacement of sidewalk to accommodate widening.	Illustrative	$4,184
7	2041-2045	Capacity	Portage	Portage Road	Osterhout Avenue to Centre Avenue	Reduce Portage Road from 4-5 lanes to 3 lanes from Osterhout Avenue to Centre Avenue. This project would include upgrading/extending sidewalks, adding bike lanes on both sides of the roadway, and constructing a dedicated left turn lane.	Illustrative	$7,006
6	2041-2045	Capacity	Portage	Lovers Lane	Centre Avenue to Romence Road Parkway	Reduce Lovers Lane from 4 lanes to 3 lanes from Centre Avenue to Romence Road Parkway. This project will include bicycle trail improvements/replacement, new landscaping, sidewalk extensions, and a dedicated center left turn lane.	Illustrative	$3,438
5	2041-2045	Capacity	Portage	Zylman Avenue	Portage Road to Sprinkle Road	Widen Zylman Avenue from 2/3 lanes to 5 lanes to accommodate for dedicated left turn lane and bike lanes on both sides of the road.	Illustrative	$5,449
3	2041-2045	Capacity	Portage	Newport Avenue	Gladys Street to Romence Road Parkway	Construct new 4 lane boulevard to extend Newport Avenue from Gladys Street to Romence Road Parkway. This project will include bike lanes on both sides of the road and adding sidewalks along the east side. The purpose of this project is to improve the traffic carrying capacity and safety on Newport Avenue and Gladys Street.	Illustrative	$17,839

Score	Year	Project Type	Agency	Road	Limits	Description	Funded/ Illustrative	Cost Year of Expenditure 1,000s
3	2041-2045	Capacity	Portage	Bacon Avenue	South Westnedge Avenue to Portage Road	Widen Bacon Avenue from 2 lanes to 3 lanes to accommodate left turns and for bike lanes on both sides of the road from South Westnedge Avenue to Portage Road	Illustrative	$3,243
3	2041-2045	Capacity	Portage	Oakland Drive	Shaver Road to Centre Avenue	Widen Oakland Drive from 2 lanes to 4 lane boulevard to accommodate dedicated left turn lane, bike lanes on both sides of the road, and extending sidewalks where needed. As part of this project, the culvert crossing for Portage Creek will be replaced to accommodate a wider roadway.	Illustrative	$16,217
3	2041-2045	Capacity	Portage	Schuring Road	Oakland Drive to South Westnedge Avenue	Widen Schuring Road from 2 lanes to 3 lanes to accommodate for dedicated left turn lane and bike lanes on both sides of the road from Oakland Drive to South Westnedge Avenue.	Illustrative	$3,661
15	2041-2045	System Preservation	Portage	South Westnedge Avenue	Kilgore Road to Trade Centre Way	Widening South Westnedge Avenue from 5 lanes to 6 lane boulevard from Kilgore Road to Trade Centre Way. This project will include replacing and extending sidewalks to accommodate widening of road.	Illustrative	$11,676
	2041-2045	System Preservation	Local Agencies	Various	Various locations	System Preservation	Yes	$214,241
21	2041-2045	Public Transportation	Kalamazoo Metro Transit	Fixed Route Vehicle Expansion		Expansion of fixed route bus fleet	Illustrative	$7,298
19	2041-2045	Public Transportation	Kalamazoo Metro Transit	Community Ridesharing		Operating of Community Ridesharing Program	Yes	$635
16	2041-2045	Public Transportation	Kalamazoo Metro Transit	Mobility Management		Mobility Management Program	Yes	$777
15	2041-2045	Public Transportation	Kalamazoo Metro Transit	Bus Shelters		Replace, rehabilitate and/or install up to 6 bus shelters for ADA compliance	Yes	$185
11	2041-2045	Public Transportation	Kalamazoo Metro Transit	Operating Assistance - Rural		Operating Expenses - Demand Response Rural	Yes	$2,098
6	2041-2045	Public Transportation	Kalamazoo Metro Transit	Community Service Program		Community Service Program	Yes	$370
6	2041-2045	Public Transportation	Kalamazoo Metro Transit	Community Service Van		Community Service Van Replacement	Yes	$494
6	2041-2045	Public Transportation	Kalamazoo Metro Transit	Fixed Vehicle Replacements		Fixed route bus replacements	Yes	$12,343
6	2041-2045	Public Transportation	Kalamazoo Metro Transit	ITS Equipment		ITS Equipment Hardware, Software, and Licenses	Yes	$1,234
6	2041-2045	Public Transportation	Kalamazoo Metro Transit	Security Maintenance and Upgrades		Facility security maintenance and upgrades	Yes	$617
6	2041-2045	Public Transportation	Kalamazoo Metro Transit	Vehicle Replacement		Up to 6 Demand Response Van Replacements	Yes	$1,710
4	2041-2045	Public Transportation	Kalamazoo Metro Transit	Transit Operations		Transit Operations - Fixed Route and Demand Response Urban	Yes	$244,432
3	2041-2045	Public Transportation	Kalamazoo Metro Transit	Facility Renovations		Facility renovations	Yes	$617

Score	Year	Project Type	Agency	Road	Limits	Description	Funded/ Illustrative	Cost Year of Expenditure 1,000s
2	2041-2045	Public Transportation	Kalamazoo Metro Transit	Hybrid Buses		Hybrid Bus Batteries	Yes	$827
1	2041-2045	Public Transportation	Kalamazoo Metro Transit	Vehicle		Maintenance/Staff Vehicle Replacement	Yes	$195
							Grand Total	**$2,409,904**

In addition to the proposed projects which were modeled for the 2045 Metropolitan Transportation Plan, a proposal was received from the City of Kalamazoo for a Douglas Avenue and Kalamazoo Avenue project from Westnedge to W. Main to convert Douglas Avenue and Kalamazoo Avenue to two way. This project and others were discussed at the December 3, 2015 Technical Committee meeting. Minutes are available at www.katsmpo.org. Because there has not been sufficient operational analysis and the proposed network configurations have not been determined, it was decided to not to model the project at this time. However, it may be included as a potential project in future plans after additional analysis and information are developed.