GVMC

2040 METROPOLITAN TRANSPORTATION PLAN

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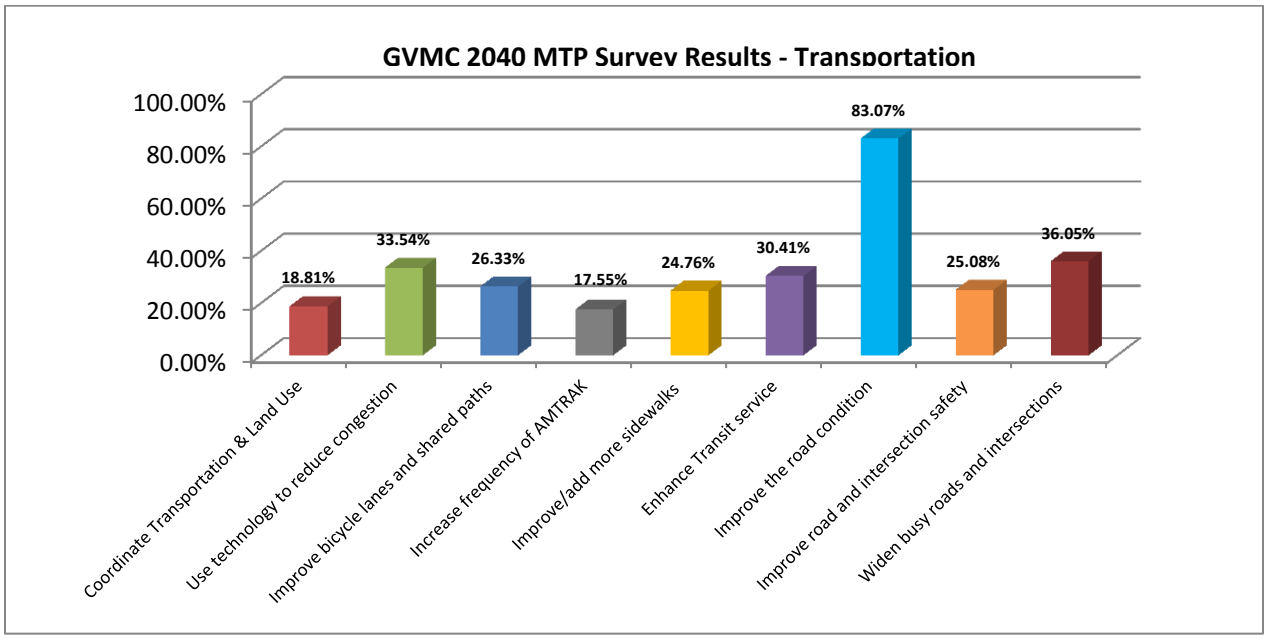
GVMC 2040 Metropolitan Transportation Plan
Executive Summary

The Grand Valley Metropolitan Council, as the Metropolitan Planning Organization (MPO) for Kent and Eastern Ottawa Counties, is responsible for the development of a multi-modal Long Range Metropolitan Transportation Plan (MTP). The purpose of the MTP is to ensure that transportation investments in our area enhance the movement of people and freight efficiently, effectively, and safely. Without an MTP federal transportation funding could not be allocated in the region. The MTP must be fiscally constrained, project specific, take into consideration public opinion, environmental justice, and meet established air quality standards when applicable. This MTP has a 25-year horizon, balancing transportation investments through the year 2040.

The vision for the 2040 MTP is to: "Establish a sustainable multimodal transportation system for the mobility and accessibility of people, goods, and services; it will provide an integrated system that is safe, environmentally sound, socially equitable, economically viable, and developed through cooperation and collaboration."

Goals and Objectives of the MTP address System Accessibility, Mobility, Inter-modalism and Efficiency, System Preservation, Safety, and Reliability, Land Use, Public Participation, Coordination and Fiscal Responsibility, Livability, and Sustainability, and Economic Development.

Early in the process GVMC conducted a survey of the general public to determine the perceptions of needs of the public in many areas of the transportation system. The results of this survey were accounted for in the deliberations of the various committees throughout the process. The survey asked respondents to identify their three things that would positively enhance transportation in the area. The results are not surprising. System condition was by far the largest need identified by the public, followed by widening busy roads and intersections and using technology to reduce traffic congestion. The graphic below shows the complete results.



GVMC maintains several subcommittees to continually address various transportation elements. Road Conditions, Non-Motorized, Safety, Passenger Rail, Freight, Transit, and Congestion are all areas that are actively discussed continually by transportation professionals and decision makers throughout the MTP four year cycle. This allows for a comprehensive viewpoint of the needs of the system as a whole.

Determination of Highest Priority

System needs are determined using various approaches during the MTP development. Taking into account all of the data that is available and public perception of need, the various committees develop a list of needs for the transportation system as a whole. When all of the needs have been identified, the GVMC Technical and Policy Committees, with input from the MTP Steering Team, formed to guide the development of the MTP, develop a list of identified transportation investment priorities. Transportation investment priorities identify areas where future available transportation funds should be allocated. This allocation of funds determines future specific priorities that are included within the MTP Project List. After a thorough review of all available funding, it was determined that approximately $505 million is available over the life of this MTP for discretionary projects. In other words the MPO may use these funds for projects deemed to be of the highest priority for the region as a whole. GVMC has determined that the highest priority for all available flexible funding is for projects that contribute to the improvement of the regions' system pavement condition. Data in recent years has shown that pavement conditions in the region are falling and as time passes without funding to address these deficiencies, the system will only continue to deteriorate and the solutions will become increasingly more costly.

The MTP Project List was developed to address the deficiencies identified in the plan and reflect this priority but is limited by estimated future available revenues. The first four years (2014–2017) of the MTP Project List are equivalent to the Transportation Improvement Program (TIP) project list and demonstrate the short-term transportation projects identified for funding in this region. Other individual projects listed in the MTP Project list reflect projected transportation capacity deficiencies with preferred alternatives identified.

Identified Need and Illustrative Vision

Throughout the development of this MTP efforts were made to establish a basic vision of what we collectively would like our transportation system to be in the year 2040. Issues related to the condition of the pavement, to the reliability of travel times, to the convenience of the local transit system, to the availability of alternate means of transportation, and the efficiency of moving freight throughout the system were all analyzed. The results of this analysis concluded that in order to greatly improve pavement condition from 64% good/fair up to 80% an additional $665 million in dedicated funding would be necessary through the year 2040. To reduce the percent of congested non-trunkline roadways by 80% an additional $30 million would be needed. To realize a completed non-motorized network, an additional $25 million would be required. To fully implement the ITP Master Plan an additional $206 million would be needed. To fully implement the needs identified in the GVMC Safety Plan an additional $37 million is necessary. All tolled the illustrative list for local federal aid in the region totals $963 million over and above the needs listed for area trunklines. GVMC and its member communities are dedicated to focusing future planning efforts in an effort to develop a strong vision of the future conditions of the transportation system in the region. The chart below depicts these needs.

Element	Identified Need	Dedicated Funding	Illustrative Balance
Congestion Mitigation	$70,805,000.00	$40,460,000.00	-$30,345,000.00
Non-Motorized	$56,704,125.00	$31,532,500.00	-$25,171,625.00
Pavement Condition	$1,170,000,000.00	$505,000,000.00	-$665,000,000.00
Safety	$54,840,000.00	$18,075,000.00	-$36,765,000.00
Transit	$1,114,000,000.00	$908,000,000.00	-$206,000,000.00
TOTAL	$2,466,349,125.00	$1,503,067,500.00	-$963,281,625.00

In May 2015, voters will be asked to approve a proposed constitutional amendment that will raise the state's 6 percent sales tax to 7 percent. If approved the measure would raise the 6 percent state sales and use taxes to 7 percent, and drop the sales tax on fuel. Transportation funding would rise by $1.3 billion a year, giving a boost to the $2 billion now collected through fuel taxes and license plate fees. At this time there is no way of knowing whether this measure will be a success. GVMC will revisit this funding issue when the results and impact are fully known.

Chapter 1: Introduction

The Grand Valley Metropolitan Council Metropolitan Planning Organization (MPO) area consists of all of Kent County, including the Cities of Grand Rapids, Wyoming, Kentwood, Walker, Grandville, East Grand Rapids, Rockford, Cedar Springs, and Lowell. In addition, eastern Ottawa County is represented by the City of Hudsonville, and the townships of Jamestown, Georgetown, Allendale, and Tallmadge.

A map depicting the MPO study area and the 2010 Census defined urban area follows on page 10.

Transportation Planning in Grand Rapids Past and Present

Beginning in 1961 with the establishment of the Kent County Planning Commission, comprehensive planning in the Grand Rapids area was done by the Kent County Planning Department. In the Mid-1960's, this agency began a comprehensive land use/transportation planning program encompassing the entire sphere of planning related activities in the Grand Rapids area. This program was designed to fulfill requirements of the Federal Aid Highway Act of 1962 as well as other federal, state and local planning requirements.

In 1964, the Grand Rapids and Environs Transportation Study (GRETS) Technical and Policy Committees were established. GRETS was formed to guide and direct the planning and development of the transportation infrastructure in the metropolitan area. Membership in GRETS originally included Grand Rapids, Wyoming, Walker, East Grand Rapids, Grandville, Kent County, Ottawa County, Kent County Road Commission, Ottawa County Road Commission, Michigan Department of State Highways, and the Federal Highway Administration. In 1967, the City of Kentwood was admitted. In 1974, the City of Rockford was added to the list of participants. Other participants include the Grand Rapids Area Transit Authority (now the Interurban Transit Partnership also known as The Rapid), the Grand Rapids Chamber of Commerce, and the Kent County Department of Aeronautics.

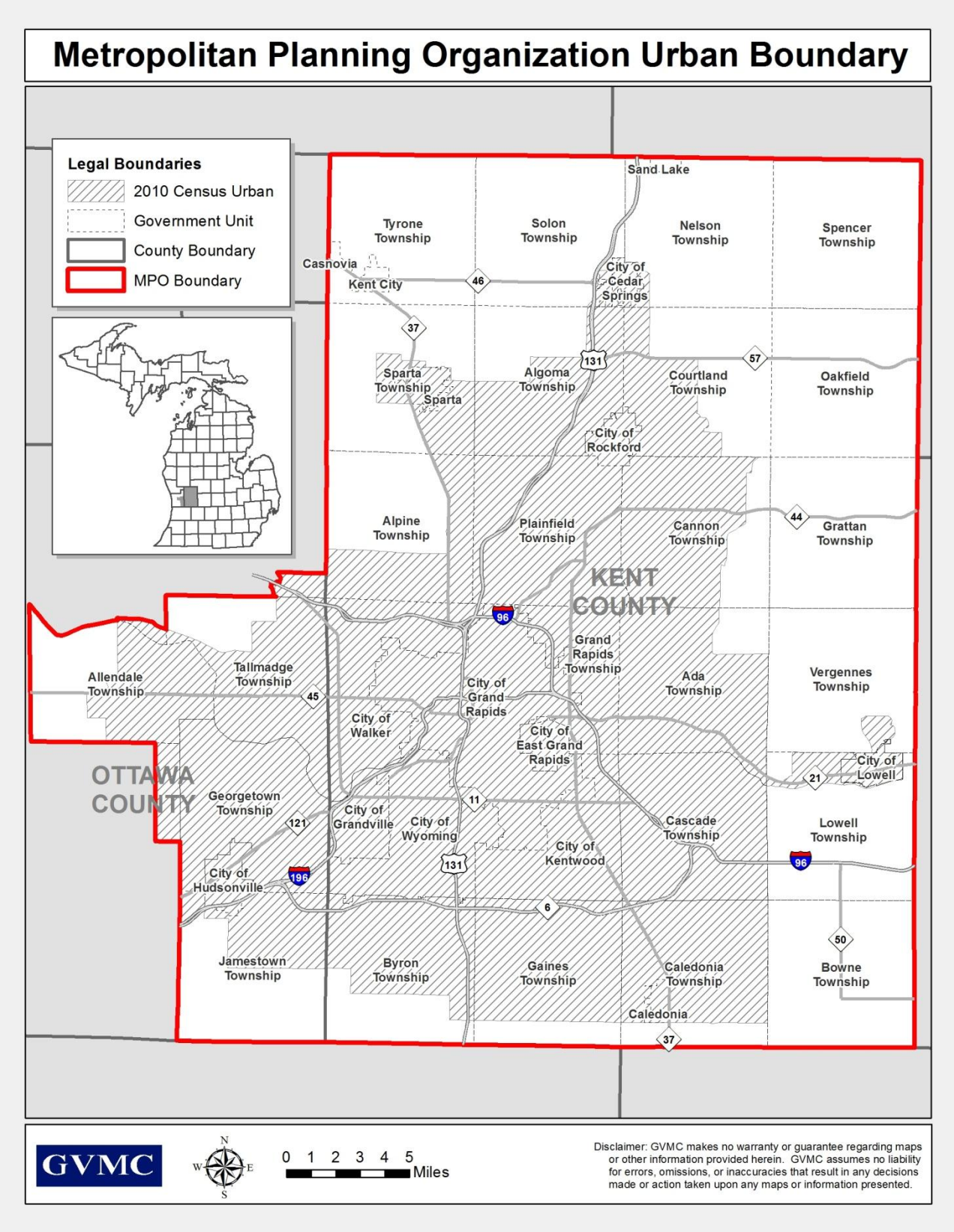
In 1966, the Kent-Ottawa Regional Planning Commission was formed because of a requirement by the Department of Housing and Urban Development that an agency be in existence to undertake comprehensive planning for the region. From 1966 to 1972, the Kent County Planning Commission and the Kent-Ottawa Regional Planning Commission (generally utilizing staff from the Kent County Planning Department) worked together within the broad conceptual framework provided by the comprehensive development plan for the region. Through an agreement with the GRETS Policy Committee, the Kent-Ottawa Planning Commission served as staff for the Metropolitan Planning Organization (MPO), carrying out all transportation related planning activities for the designated study area.

The Kent-Ottawa Regional Planning Commission became the official, independent, metropolitan planning agency responsible for coordinating all planning activities, in 1972, for the Kent-Ottawa Region, and was the coordinating agency for all transportation planning activities within the GRETS Study Area.

In 1974, the Kent-Ottawa Regional Planning Commission was dissolved and a new nine county region was formed by executive order of the Governor of the State of Michigan. The West Michigan Regional Planning Commission (WMRPC) was formed and given the responsibility for coordinating the GRETS Transportation Program. This relationship lasted until July 1990, when the State of Michigan, in conjunction with the GRETS Policy Committee, withdrew the MPO designation from the WMRPC. In October 1990, the GRETS Policy Committee recommended the Grand Valley Metropolitan Council as the MPO for the Grand Rapids Metropolitan Area.

For a historical look back at Urban Transportation Planning on a national scale go to:

http://ntl.bts.gov/DOCS/UTP.html



Map 1 – 2010 MPO Boundary Map

The Grand Valley Metropolitan Council (GVMC), as the currently designated MPO for the Grand Rapids Metropolitan Area, is responsible for carrying out all transportation-related planning activities for the designated study area. Those duties include preparation of a Unified Planning Work Program (UPWP), Transportation Improvement Program (TIP), and the development and maintenance of this Metropolitan Transportation Plan (MTP).

The 2040 Metropolitan Transportation Plan (MTP) is a vital step in allowing federal funds to be spent in the Grand Rapids area on transportation projects. Without an approved MTP in place, federal transportation dollars cannot be expended. The MTP looks at the most recent data available to assess transportation needs and priorities for the region, including items such as traffic volumes, transit ridership, population, employment, and financial forecasts. As the region changes over time, the transportation infrastructure must change as well to accommodate for the growth in West Michigan. The development and interpretation of the data for the area leads to informed analysis, identification, and prioritization of transportation-related projects and programs.

Purpose of the Metropolitan Transportation Plan

Since the inception of the Kent County Planning Commission in 1961, officials in the Grand Rapids area have been committed to developing and maintaining a comprehensive transportation planning process that included the long-range planning of transportation infrastructure.

In 1974, GRETS completed a comprehensive long-range transportation plan with a terminal year of 1990. Between 1974 and 1988, no long-range plans were completed. In the fall of 1989, GRETS approved the 2010 Long Range Transportation Plan (LRTP). This plan represented the first effort in more than 15 years to provide a comprehensive long-range transportation plan for the metropolitan area. Subsequently, there have been plans developed for 2015, 2020, 2025, 2030, and 2035. This document replaces the 2035 LRTP.

Federal Transportation Legislation, Past and Present

On December 18, 1991, the United States Congress passed the Intermodal Surface Transportation Efficiency Act (ISTEA). ISTEA would forever change the way transportation planning was undertaken in urbanized areas. ISTEA required that areas with a population of more than 50,000 update their long-range transportation plans at least every three years. In the fall of 1994, largely in response to ISTEA, the GVMC completed and approved an update to the 2010 Long Range Transportation Plan. This plan would cover transportation improvements through the year 2015.

The Transportation Equity Act for the 21st Century (TEA-21) was enacted June 9, 1998 as Public Law 105-178. TEA-21 authorizes the Federal surface transportation programs for highways, highway safety, and transit for the 6-year period from 1998-2003. TEA-21 continued to emphasize increased awareness to a cooperative and comprehensive planning process that ISTEA had begun in 1991. In 2005, the President signed into law

the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). SAFETEA-LU represented the largest surface transportation investment in our Nation's history.

On July 6, 2012, President Obama signed into law P.L. 112-141, the Moving Ahead for Progress in the 21st Century Act (MAP-21). Funding surface transportation programs at over $105 billion for fiscal years (FY) 2013 and 2014, MAP-21 is the first long-term highway authorization enacted since 2005. MAP-21 represents a milestone for the U.S. economy – it provides needed funds and, more importantly, it transforms the policy and programmatic framework for investments to guide the growth and development of the country's vital transportation infrastructure.

MAP-21 creates a streamlined, performance-based, and multimodal program to address the many challenges facing the U.S. transportation system. These challenges include improving safety, maintaining infrastructure condition, reducing traffic congestion, improving efficiency of the system and freight movement, protecting the environment, and reducing delays in project delivery.

MAP-21 builds on and refines many of the highway, transit, bike, and pedestrian programs and policies established in 1991. This summary reviews the policies and programs administered by the Federal Highway Administration. The MPO will continue to make progress on transportation options, which it has focused on in past years, working closely with stakeholders to ensure that local communities are able to build multimodal, sustainable projects ranging from passenger rail and transit to bicycle and pedestrian paths.

Setting the course for transportation investment in highways, MAP-21 –

- Strengthens America's highways

MAP-21 expands the National Highway System (NHS) to incorporate principal arterials not previously included. Investment targets the enhanced NHS, with more than half of highway funding going to the new program devoted to preserving and improving the most important highways -- the National Highway Performance Program.

- Establishes a performance-based program.

Under MAP-21, performance management will transform Federal highway programs and provide a means to more efficient investment of Federal transportation funds by focusing on national transportation goals, increasing the accountability and transparency of the Federal highway programs, and improving transportation investment decision making through performance-based planning and programming.

- Creates jobs and supports economic growth

MAP-21 authorizes $82 billion in Federal funding for FYs 2013 and 2014 for road, bridge, bicycling, and walking improvements. In addition, MAP-21 enhances innovative financing and encourages private sector investment through a substantial increase in funding for the TIFIA program. It also includes a number of provisions designed to improve freight movement in support of national goals.

- Supports the U.S. Department of Transportation's (DOT) aggressive safety agenda

MAP-21 continues the successful Highway Safety Improvement Program, doubling funding for infrastructure safety, strengthening the linkage among modal safety programs, and creating a positive agenda to make significant progress in reducing highway fatalities. It also continues to build on other aggressive safety efforts, including the fight against distracted driving and its push to improve transit and motor carrier safety.

- Streamlines Federal highway transportation programs.

The complex array of existing programs is simplified, substantially consolidating the program structure into a smaller number of broader core programs. Many smaller programs are eliminated, including most discretionary programs, with the eligibilities generally continuing under core programs.

- Accelerates project delivery and promotes innovation.

MAP-21 incorporates a host of changes aimed at ensuring the timely delivery of transportation projects. Changes will improve innovation and efficiency in the development of projects, through the planning and environmental review process, to project delivery.

Performance Management

In MAP-21, the metropolitan and statewide transportation planning processes are continued and enhanced to incorporate performance goals, measures, and targets into the process of identifying needed transportation improvements and project selection. Public involvement remains a hallmark of the planning process.

Requirements for a long-range plan and a short-term Transportation Improvement Program (TIP) continue, with the long-range plan to incorporate performance plans required by the Act for specific programs. The long-range plan must describe the performance measures and targets used in assessing system performance and progress in achieving the performance targets. The TIP must also be developed to make progress toward established performance targets and include a description of the anticipated achievements. In the statewide and non-metropolitan planning process, selection of projects in nonmetropolitan areas, except projects on the NHS or funded with funds remaining from the discontinued Highway Bridge Program, must be made in cooperation with affected nonmetropolitan officials or any regional transportation planning organization.

The Secretary is required to establish criteria for the evaluation of the new performance-based planning processes. The process will consider whether States developed appropriate performance targets and made progress toward achieving the targets. Five years after enactment of MAP-21, the Secretary is to provide to the Congress reports evaluating the overall effectiveness of performance-based planning and the effectiveness of the process in each State and for each MPO.

MAP-21 establishes national performance goals for Federal highway programs:

- **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 NHS.
- **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.

States, MPOs, and other stakeholders, will establish performance measures for pavement conditions and performance for the Interstate and NHS, bridge conditions, injuries and fatalities, traffic congestion, on-road mobile source emissions, and freight movement on the Interstate System. States (and MPOs, where applicable) will set performance targets in support of those measures, and State and metropolitan plans will describe how program and project selection will help achieve the targets.

States and MPOs will report to the DOT on progress in achieving targets. If a State's report shows inadequate progress in some areas – most notably the condition of the NHS or key safety measures – the State must undertake corrective actions, such as the following:

- NHPP: If no significant progress is made toward targets for NHS pavement and bridge condition, the State must document in its next report the actions it will take to achieve the targets.

- HSIP: If no significant progress is made toward targets for fatalities or serious injuries, the State must dedicate a specified amount of obligation limitation to safety projects and prepare an annual implementation plan.

In addition, due to the critical focus on infrastructure condition, MAP-21 requires that each State maintain minimum standards for Interstate pavement and NHS bridge conditions. If a State falls below either standard, that State must spend a specified portion of its funds for that purpose until the minimum standard is exceeded. The steps toward integration include a common set of performance measures and, a common set of goals and objectives between the CMP, the MTP, and the transportation systems operational and management strategies for a region. Items such as the regional Intelligent Transportation System (ITS) architecture and the prioritization process for improvement to be included in the plan and TIP should be consistent and seamless with the CMP. As part of developing the CMP, planners should be working in collaboration with others in the region, including public transportation operators, and State and local operations staff.

The requirement to use the CMP in TMAs designated as non-attainment for ozone or carbon monoxide to identify, evaluate, and program any project that would result in a significant increase in the carrying capacity for single occupant vehicles (SOVs) continues. Such evaluation must address the inability of all reasonable travel demand reduction and operational management strategies (including multimodal) to satisfy the need prior to choosing the SOV option.

Planning Factors

The passage of SAFETEA-LU required certain factors to be considered as part of the regional transportation planning process for all metropolitan areas. In general, these factors addressed social, environmental and land use issues as related to the transportation system (see Figure 1). These mandated planning factors originally shaped the development of goals and objectives for the 2035 Long Range Transportation Plan. Likewise, they also guided the policies and practices that the GVMC, as the MPO, follows for carrying out the transportation planning process. The passage of MAP-21 has not changed this emphasis for the 2040 MTP.

Figure 1 – Planning Factors

Factor 1	Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.
Factor 2	Increase the safety of the transportation system for motorized and non-motorized users.
Factor 3	Increase the security of the transportation system for motorized and non-motorized users.
Factor 4	Increase the accessibility and mobility options available to people and for freight.
Factor 5	Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns.
Factor 6	Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.
Factor 7	Promote efficient system management and operation.
Factor 8	Emphasize the preservation of the existing transportation system.

Chapter 2: Metropolitan Transportation Plan Process

This 2040 Metropolitan Transportation Plan (MTP) document is the culmination of efforts which began in early 2013. The development of a comprehensive transportation plan for any Metropolitan Planning Organization (MPO) is a complex and lengthy process (see Figure 2). Drawing on the success of the development process that was used for the 2035 Long Range Transportation Plan, Grand Valley Metropolitan Council (GVMC) staff worked closely with the Grand Rapids area's transit provider, the Interurban Transit Partnership (ITP/The Rapid), and the State of Michigan in the Michigan Department of Transportation (MDOT) and the Federal Highway Administration (FHWA). Meetings were held with staff from the three agencies to discuss plan coordination and public involvement. The aim was to improve coordination and outreach among the major transportation planning agencies in the Grand Rapids metro area. The figure below illustrates the process followed to complete the 2040 Long Range Plan.

Figure 2 – MTP Development Timeline

MTP Development Timeline	
2010 Base Year Socio-Economic Data Developed	October 2013
Public Participation Plan Update, Public Comments	Ongoing
Travel Demand Model Calibration	December 2013
Goals and Objectives Reviewed	January 2014
Meetings with MPO Members, ITP, MDOT,	February - March 2014
2040 Socio-Economic Data Developed	April 2014
Transportation Needs Subcommittees – Need Identification	July 2014
Deficiency Analysis	August 2014
Financial Analysis	August 2014
Transportation Alternatives Analyzed	September 2014
Deficiencies Approved by Committees	September 2014
Environmental Justice Analysis	November 2014
Environmental Mitigation Analysis	November 2014
Consultation	November 2014
Presentation of Draft MTP, Public Comment Period, Meetings	December 2014
Committee Approval of MTP	February 2015
GVMC Metropolitan Council Board Approval of MTP	March 2015

MPO Committee Representation/2040 Metropolitan Transportation Plan Oversight

The Grand Valley Metropolitan Council's transportation committees are comprised of membership that represents all modes of transportation throughout the local transportation community. Local governments from the MPO Study Area include numerous cities and townships, which are all eligible to participate. Additionally, the Kent and Ottawa County Road Commissions, the Interurban Transit Partnership/The Rapid, Gerald R. Ford International Airport, Grand Rapids Area Chamber of Commerce, the West Michigan Environmental Action Council, and the Michigan Department of Transportation participate in the MPO process as well.

There are four primary committees that impact the transportation planning and decision making process in the Grand Rapids Metropolitan Area. The Transportation Programming Study Group (TPSG) is an ad-hoc committee of the Technical Committee that is charged with making programming decisions about specific transportation projects through the short-range Transportation Improvement Program. The TPSG only deals with programming issues. All other issues that need to be considered are brought first to the Technical Committee and subsequently make their way "up" the committee structure that you see in Figure 3 on page 17. The Technical Committee is exactly what the name would imply. The representative from each of the member agencies and communities has an expertise in the technical areas of the transportation process. The Policy Committee is made up of representatives of each member agency who have a policy development responsibility in their respective agencies/communities. Most members are elected officials or appointed by the elected officials of their agency/community.. The GVMC Board is made up of the chief elected officials

(and/or their designee) for the member agencies. Many of the GVMC Board members participate on the Policy Committee so there is often a familiarity with transportation issues and discussions at this level.

Transportation Planning Study Group (Ad Hoc) Members

City of Cedar Springs
City of East Grand Rapids
City of Grand Rapids
City of Grandville
City of Hudsonville
City of Kentwood
City of Lowell
City of Rockford
City of Walker
City of Wyoming
Gerald R. Ford International Airport
Grand Rapids Chamber of Commerce*
Hope Network*
ITP/The Rapid
Kent County Road Commission
Kent County townships
Michigan Department of Transportation
Ottawa County Road Commission
Ottawa County townships
*Non-Voting Member

Technical Committee

Ada Township
Algoma Township
Allendale Township
Alpine Township
American Red Cross*
Byron Township
Caledonia Township
Cannon Township
Cascade Charter Township
City of Cedar Springs
City of East Grand Rapids
City of Grand Rapids
City of Grandville
City of Hudsonville
City of Kentwood
City of Lowell
City of Rockford
City of Walker
City of Wyoming
Courtland Township
Federal Highway Administration*
Federal Transit Administration*
Gaines Charter Township
Georgetown Charter Township
Gerald R. Ford International Airport
Grand Rapids Chamber of Commerce*
Grand Rapids Charter Township
Hope Network*
ITP/The Rapid
Jamestown Township
Kent County Board of Commissioners
Kent County Road Commission
Michigan Association of Counties*
Michigan Department of Transportation
Ottawa County Board of Commissioners
Ottawa County Road Commission
Plainfield Charter Township
Tallmadge Township
West Michigan Environmental Action Council*
*Non-Voting Members

Policy Committee

Ada Township
Algoma Township
Allendale Township
Alpine Township
Byron Township
Caledonia Charter Township
Cannon Township
Cascade Charter Township
City of Cedar Springs
City of East Grand Rapids
City of Grand Rapids
City of Grandville
City of Hudsonville
City of Kentwood
City of Lowell
City of Rockford
City of Walker
City of Wyoming
Courtland Township
Federal Highway Administration*
Gaines Charter Township
Georgetown Charter Township
Gerald R. Ford International Airport
Grand Rapids Chamber of Commerce*
Grand Rapids Charter Township
ITP/The Rapid
Jamestown Township
Kent County Board of Commissioners
Kent County Road Commission
Michigan Department of Transportation
Ottawa County Board of Commissioners
Ottawa County Road Commission
Plainfield Township
Tallmadge Township
West Michigan Environmental Action Council*
*Non-Voting Members

For Technical and Policy Committee member contact information see Appendix D. Figure 3 represents the MPO Committee structure for the Grand Rapids metropolitan area. Public participation is provided for and encouraged at all of the committee meetings:

Technical Committee meets at 9:30 a.m. the first Wednesday of the month at the Kent County Road Commission, 1500 Scribner Ave. NE, Grand Rapids, Michigan.

Policy Committee meets at 9:30 a.m. the third Wednesday of the month at the Kent County Road Commission, 1500 Scribner Ave. NE, Grand Rapids, Michigan.

GVMC Board meets at 8:30 a.m. the first Thursday of the month at the Kent County Administration Building, 300 Monroe Ave. NW, Grand Rapids, Michigan.

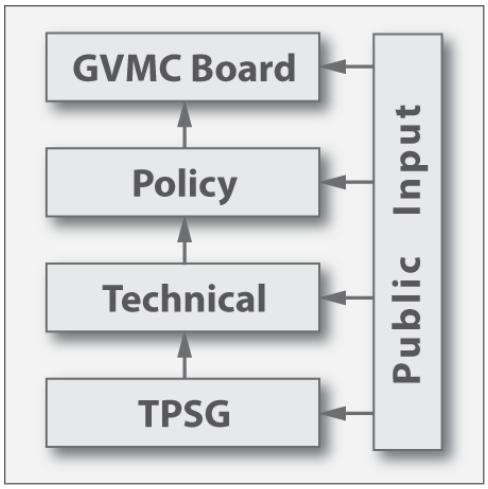


Figure 3 – MPO Committee Structure

Intermodal Focus

In order to develop a truly intermodal long-range transportation plan, issues related to more than roadways need to be addressed. Federal legislation has long required that long-range transportation plans be multi-modal in nature, meaning they address all modes of transportation: transit, rail, air, non-motorized, and roads. GVMC staff has put a process in place to integrate all modes of travel pertinent to the metropolitan area. Since the development of the 2035 Plan Update four years ago, GVMC staff has internally reviewed the process used to develop the MTP and has employed a new approach for the development of this document.

To ensure a multi-modal approach staff maintained the modal committees over time and kept them engaged in discussions regarding each of the various modes of transportation rather than convening them each time a plan needs to be developed. This approach kept members engaged in the discussions and allowed for a more comprehensive product that is reflected in the pages of the 2040 MTP.

For the development of the 2040 MTP, Subcommittees met to identify needs by program area including: Intermodal, Freight, Rail & Air; Non-Motorized; Transit & Passenger Rail; Congestion Management; Safety & Operations; and Pavement Asset Management. These six Subcommittees were made up of members of the Technical and Policy Committees as well as interested organizations and individuals that have technical expertise that contributes to our understanding of regional transportation needs. These Subcommittees met to identify the financially unconstrained needs by program area to provide information and resources to the process. A Steering Committee was developed specifically for the purposes of processing all of the information from the six modal committees. The Steering Committee discussed these needs and made recommendations to the Technical and Policy Committees.

The graphic on the next page depicts the process used for the development of this MTP.

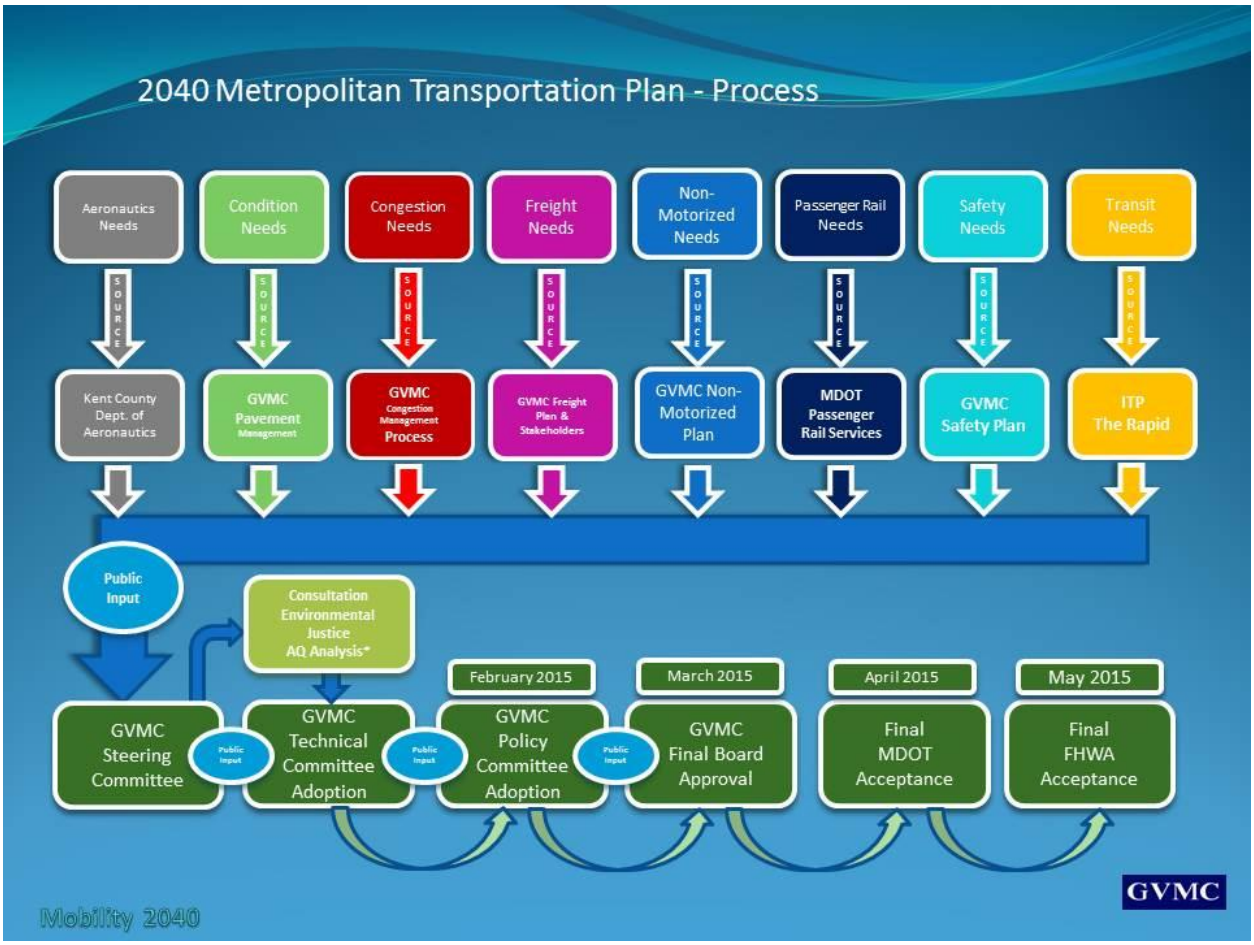


Figure 4 – MTP Development Process

Other improvements over previous efforts involved individual meetings with MTP stakeholders. For this undertaking GVMC staff scheduled meetings with nearly 40 individual stakeholders including local municipalities, business organizations, transit operators, the Gerald R. Ford International Airport, among others. These meetings were designed to promote input into the transportation needs throughout the region. Issues discussed at these one on one meetings included where population and employment growth was expected to occur, safety issues, transit needs, non-motorized deficiencies, bottlenecks in the freight network, congestion and delay issues, among others. These meetings were found to be very helpful in determining need at the source rather than attempting to garner this information at much larger committee or sub area meetings.

2040 MTP Approval Process

After the public comments, consultation, environmental justice, and environmental review was completed, a final draft of the MTP was completed that incorporated all of the comments received. Staff made the final draft document available for final review prior to the final approvals. The GVMC Board will make the final approval for this MTP.

In past years the FHWA would review the final document for assurance that all of the air quality analysis was completed according to federal regulation. Due to the fact that the GVMC region is not currently designated as a non-attainment area for air quality, the GVMC Board will make the final approval. Once this occurs GVMC staff will share the document with both MDOT and the FHWA for their concurrence.

Chapter 3: Goals and Objectives

Goals and objectives are very useful in the planning process as they provide the necessary direction and basic framework upon which future decisions can be made. The goals and objectives of the Metropolitan Transportation Plan (MTP) contribute strongly to the selection and evaluation of alternatives in the transportation system. As goals embody a desired state of affairs to be realized through future efforts, the transportation goals and objectives embraced by GVMC will affect an overall design for the 2040 MTP. These goals and objectives also influence the development of the short range Transportation Improvement Program (TIP), and indeed are meant to guide the entire regional transportation planning process.

The goals and objectives of the Metropolitan Transportation Plan are revisited with each MTP development cycle and are approved by GVMC Transportation Committees. Several of the goals and objectives are more specific than the final MTP conclusions can support. However, this specificity will become important during subsequent studies which will be completed after the MTP is adopted. It may appear that some of the goals and objectives compete or conflict with each other. This occurs because the list that is presented below is comprehensive in nature and is designed to accommodate several different types of situations. When applying these goals and objectives to any effort, decision-makers will need to find balance between different goals and different objectives. The goals and objectives are not ranked or listed in order of importance; however, they are related to the original planning factors as demonstrated in Figure 5 on page 24.

Applicable policy statements related to the goals and objectives are listed in Appendix C of this document. The policy statements are intended to provide the structure and guidelines for transportation planning in the area. In addition, the policy statements improve the overall transportation planning practices currently in use in the area. The combination of the MTP goals, objectives, and policies will help guide the implementation of the 2040 Metropolitan Transportation Plan.

Vision Statement

The 2040 MTP establishes a vision of how the future multimodal transportation system will serve the people and businesses of Kent and eastern Ottawa counties. The vision statement, adopted by the GVMC Policy Committee in March, 2010 and reaffirmed in February 2014, is as follows:

> Establish a sustainable multimodal transportation system for the mobility and accessibility of people, goods, and services; it will provide an integrated system that is safe, environmentally sound, socially equitable, economically viable, and developed through cooperation and collaboration.

To achieve this vision, the transportation system must be well maintained and the region's agencies and jurisdictions must work cooperatively to develop strategies to effectively distribute transportation funding. As such, the following goals are supported by several measurable objectives that are described in association with specific transportation components.

2040 MTP Goals and Objectives

Goal 1: Accessibility, Mobility, Intermodalism, and Efficiency
Provide access to employment, housing, services, and recreation for all people, regardless of age, ability or economic status. Design a transportation system that allows the efficient movement of motor vehicles, buses, pedestrians, bicyclists, trains, and air and freight carriers through the area. Enhance the integration and connectivity of the transportation system, across and between modes. Make the best use of existing transportation facilities by integrating systems, improving transportation operations and safety, and providing accurate real-time information to increase system-wide efficiency.

Objective 1a: Maintain and enhance a roadway system comprised of a hierarchy of roadway facilities that provide regional and statewide connectivity for the movement of people and goods within the appropriate context.

Objective 1b: Support local streets and roadways that are consistent with community character and goals and that provide access to and from residential and non-residential areas throughout the region.

Objective 1c: Encourage the enhancement of safe, efficient, and convenient public transportation system coverage to areas with supportive land use patterns and population or employment characteristics and reflecting the priorities established in the adopted Transit Master Plan.

Objective 1d: Sustain and develop the interconnected regional network of non-motorized transportation facilities to provide access to employment, services, schools leisure, and other destinations.

Objective 1e: Support opportunities for rail and air transportation for passengers and freight and maintain Gerald R. Ford International Airport's important role in connecting the Greater Grand Rapids area to the rest of the nation and the world.

Objective 1f: Encourage the coordination and integration of existing modes of transportation and promote the development of new intermodal transportation connections, facilities, and services to facilitate the movement of people and goods throughout the region.

Objective 1g: Provide mobility and accessibility through the transportation system for all people, particularly those who are transportation disadvantaged, and minimize transportation barriers which disadvantage mobility-limited people.

Objective 1h: Improve transportation system productivity by addressing capacity deficient roadways and funding improvements, where appropriate and feasible that will provide adequate capacity for the movement of people and goods throughout the region.

Objective 1i: Employ the Congestion Management Process to systematically monitor, measure diagnose, and recommend travel management alternatives for current and future congestion on our region's multi-modal transportation system.

Objective 1j: Enhance mobility and strengthen corridor efficiency by reducing overall travel time and delay by providing adequate intersection capacity and through continued investment in signal timing and progression efforts.

Objective 1k: Deploy and adapt Intelligent Transportation Systems (ITS) concepts such as vehicle flow treatments, national real-time system information programs, transit monitoring systems, and real time automated incident detection technologies, to improve the reliability and efficiency of the transportation system.

Objective 1l: Utilize Travel Demand Management (TDM) practices to manage future traffic growth, improve system efficiency, mitigate congestion and spread the travel demand to non-critical times of day.

Objective 1m: Promote and encourage the use of transit, ridesharing, carpooling, vanpooling, and non-motorized travel.

Objective 1n: Encourage critical evaluation of existing rights-of-way to identify prospective road diets that accommodate expanded safety and modal use

Goal 2: System Preservation
Assure the preservation and maintenance of existing facilities and work to educate decision-makers about the need for adequate transportation funding.

Objective 2a: Allocate transportation funds to cost-effectively preserve existing infrastructure so as to protect the serviceability of previous investments.

Objective 2b: Continue to apply transportation management principles and techniques, in cooperation with state and local agencies, to identify, assess, and maintain existing transportation infrastructure and maximize road maintenance budgets.

Objective 2c: Encourage effective and proper maintenance of state and local transportation facilities employing best practices and innovative technologies.

Objective 2d: Prioritize roadway projects that improve existing facilities over those that develop new roadways and encourage the use of existing right-of-ways for the development and expansion of the transportation system for all users.

Objective 2e: Cooperatively work with local, state, and federal officials to educate decision-makers and constituents about transportation funding needs.

Goal 3: Safety, Security and Reliability
Improve the safety and reliability of the transportation system for all transportation modes and their users.

Objective 3a: Identify, prioritize, and design projects on existing and future facilities that will reduce the likelihood or severity of crashes involving motor vehicles, trains, bicycles, and pedestrians.

Objective 3b: Employ the use of standard traffic control devices, roundabouts, standards, and practices to increase system efficiency, safety, and reliability.

Objective 3c: Support the installation, operation, upgrading, and timely maintenance of system infrastructure, including regional Intelligent Transportation Systems (ITS) to reduce the potential for secondary traffic incidents and non-reoccurring congestion within the region.

Objective 3d: Collaborate with communities, public schools, advocates and MDOT to regionally plan for safe bicycle and pedestrian routes for students to travel to and from home and school.

Objective 3e: Encourage the multiple and safe use of transportation rights-of-way by different modes, including non-motorized transportation.

Objective 3f: Coordinate with various safety and security agencies, such as the US Department of Homeland Security and the Federal Emergency Management Agency, to ensure development of safe, secure transport routes throughout the region and their connection with routes beyond the region.

Objective 3g: Accommodate design initiatives to cost effectively allow non-motorized facilities to cross over/through state trunklines and highway rights-of-way.

Goal 4: Land Use and Transportation
Strengthen the link between transportation and land use policies to encourage people and businesses to live and work in a manner that improves access to the entire transportation system for all users.

Objective 4a: Integrate land use and transportation systems by encouraging land use patterns that provide efficient, compact uses of land that facilitate a reduced number and length of trips.

Objective 4b: Coordinate local land use and master planning efforts with existing and future transportation system facilities so that public dollars are leveraged to both facilitate compact development and enhance the comprehensive network while encouraging transit friendly land development.

Objective 4c: Develop transportation services and facilities that will increase regional mobility, consistent with adopted community land use plans, housing plans, and recreation/open space plans, without compromising existing transportation system operating conditions.

Objective 4d: Develop transportation plan data and projections using accurate local land use data and regional population and employment forecasts.

Objective 4e: Evaluate all reasonable land use development alternatives and transportation improvement strategies in addition to pursuing major expansion to roadways. Consider all mobility options and operational strategies, including TDM, in congested corridors in addition to or in coordination with adding capacity for general purpose lanes or building new facilities.

Objective 4f: Manage access (curb cuts on arterials or interchanges on freeways) to improve the efficiency and flow of traffic in accordance with access management standards along state highways, and encourage local governments to develop similar standards for non-state roadways.

Goal 5: Public Participation, Intergovernmental Coordination, Equity and Fiscal Responsibility
Provide information to the public to allow active participation in the transportation decision making process. Equitably fund transportation based on need and benefit. Coordinate and design transportation improvements for all modes to assure the expenditure of resources in the most cost-effective manner. Implement transportation improvements for all transportation users that foster increased accessibility, economic development and vitality and link centers of employment, education, medical facilities, and neighborhoods for all users.

Objective 5a: Foster environmental justice through the maintenance of a planning process that does not unfairly affect any one segment of our community, regardless of race, color, national origin, age, sex, disability, religion or income.

Objective 5b: Provide early and continuing opportunities for public engagement in transportation plans, projects, and programs, particularly for those in the community traditionally underserved by the transportation planning process.

Objective 5c: Allow for timely public review and comment at key decision points in the transportation planning and project development process and consider all public input in the GVMC transportation public participation process.

Objective 5d: Promote a balanced transportation system and support the economic viability, competitiveness, productivity, accessibility and efficiency of West Michigan through directed investment in improvements across modes.

Objective 5e: Support transportation improvements that are cost-effective, realistic, reliable, equitable, and maximize the long-term cost/benefits by considering the overall life cycle costs.

Objective 5f: Enhance intergovernmental coordination and cooperation for improving multimodal transportation planning.

Objective 5g: Coordinate local, regional, state, federal and private transportation investments to maximize opportunities and benefits of joint study, design, and construction of projects.

Objective 5h: 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 administration, development and delivery process, including improved agencies' work practices.

Goal 6: Environmental Quality, Livability and Sustainability
Improve air quality, water quality, reduce vehicular emissions, conserve energy, and minimize impacts to the natural environment, social well-being, and cultural heritage.

Objective 6a: Minimize air, noise, and water pollutant emissions and concentrations.

Objective 6b: Prioritize projects and programs that contribute to the achievement of federal air quality standards.

Objective 6c: Encourage projects and programs that use low-polluting fuels and alternative fuel and engine technology in vehicles and vehicle fleets.

Objective 6d: Develop the transportation system to minimize disruption of existing neighborhoods, households, prime farmlands, natural habitats, and open spaces.

Objective 6e: Minimize negative effects of improvements to the transportation system on historical sites and recreational, cultural, religious and educational activities.

Objective 6f: Provide a wide variety of transportation facilities as alternatives to the single occupant vehicle, including bus rapid transit, fixed-route, demand response, senior and disabled person transit service, and bicycle and pedestrian facilities.

Objective 6g: Focus roadway, transit, and non-motorized improvements in the urbanized area and encourage transportation projects that directly serve designated urban centers and transit oriented development.

Objective 6h: Prioritize transportation projects which reduce the frequency and length of trips, minimize the energy resources consumed for transportation, and promote a sustainable transportation system.

Goal 7: Economic Development
Promote and develop a multi-modal regional transportation system that stimulates and supports long term economic development and business investment.

Objective 7a: Facilitate the efficient movement of goods and services in and out of the major industrial and commercial districts of the GVMC area and provide competitive logistical access to global markets by strategically supporting multi-modal freight transportation infrastructure development and improvements.
Objective 7b: Promote the efficient transportation of people, goods and services by supporting the development, maintenance and improvement of multi-modal infrastructure connections between transportation facilities including airports, deep-water ports, rail stations and highways.

Objective 7c: Develop and utilize transportation system improvements as a catalyst for attracting sustainable private economic development investment in the GVMC region.

Objective 7d: Encourage and support projects that leverage funds from a variety of sources including local, state and federal funding as well as private sector funding.

Objective 7e: Recognize and support the role infrastructure plays in place making efforts within the GVMC local communities, and support infrastructure development and improvements that meet local place making goals and objectives.

Objective 7f: Coordinate area economic development activities with MTP development

Figure 5 – Relating Planning Factors to MTP Goals

MAP-21 Planning Factors	Relevant MTP Goals	MTP Incorporation of MAP-21 Planning Factors
1) Support the economic vitality of the United States, the States, non-metropolitan areas, and metropolitan areas, especially be enabling global competitiveness, productivity and efficiency	Goal 1 Goal 3 Goal 4 Goal 5 Goal 6 Goal 7	The projects contained in this plan preserve and enhance access (by all modes) to major employment centers.
2) Increase the safety of the transportation system for motorized and non-motorized users.	Goal 3 Goal 6	Safety improvements for all modes are encouraged in this plan, such as crash reductions at intersections, along corridors, and for different user groups like seniors, bicyclists, and pedestrians.
3) Increase the security of the transportation system for motorized and non-motorized users.	Goal 3	GVMC is employing ITS strategies to increase the security of the transportation system.
4) Increase the accessibility and mobility options available to people and for freight.	Goal 1 Goal 3 Goal 4 Goal 5 Goal 6	Mobility options for non-motorized, transit, and roadway users are increased under this plan. Accessibility is improved, but it is recognized that additional activities should be considered to increase the accessibility of the transportation system for all users.
5) Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns.	Goal 3 Goal 4 Goal 5 Goal 6	The MTP seeks to minimize any negative environmental impacts as a result of programs/projects. The implementation of the programs/projects contained in this plan will reduce gaps in the system and a reduction in the number of congested miles. Consistency is achieved by developing the MTP in conjunction with GVMC members, road agencies, ITP/The Rapid, and MDOT, and by increasing the accuracy of socio-economic data input into the Transportation Model.
6) Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.	Goal 1 Goal 4 Goal 5 Goal 6	The programs/projects in the plan seek to enhance connectivity and integration between modes, for example transit and non-motorized.
7) Promote efficient system management and operation.	Goal 1 Goal 2 Goal 4 Goal 5 Goal 6 Goal 7	The programs/projects in this plan were developed with GVMC members, state and local transportation providers, and the general public. Such input helps ensure that the system is efficiently managed and operated and the projects proposed support the continuation of a system that is efficiently managed and operated.
8) Emphasize the preservation of the existing transportation system.	Goal 2 Goal 4 Goal 6 Goal 7	The MTP considered preservation of the existing transportation system through the financial analysis that identified funds for maintenance activities.

Chapter 4: Public Participation Process

The Grand Valley Metropolitan Council (GVMC) is committed to ensuring that citizen input will figure prominently throughout the planning processes and contribute to transportation problem identification through public comment periods, public meetings, and review of the draft document. GVMC, as the Metropolitan Planning Organization (MPO), is also federally required to explicitly set forth public participation policies. The standards for this process are found in Title 23, Code of Federal Regulations, Part 450, and in Title 49, Code of Federal Regulations, Part 613 which requires that the public have reasonable opportunity to comment on transportation plans and programs. These policies are laid out in the Public Participation Plan (PPP), which can be found on the GVMC website.

The Public Participation Plan document describes all of the public participation goals and requirements for GVMC, including specific details regarding the development of the Metropolitan Transportation Plan (MTP). These guidelines were followed by staff throughout the development of this 2040 MTP. The development of the 2040 MTP was a lengthy process—nearly two years in the making—that typically involve a variety of public outreach tools, including a citizen survey, public service announcements, direct mailings, and public meetings.

Public Participation Mailing List

GVMC maintains an extensive public participation mailing list that is used to provide information and notice to the public on transportation planning activities. The Interested Citizens/Organizations list includes many representatives such as elected officials, academic institutions, chambers of commerce, libraries, area media, neighborhood associations, government agencies and transportation service providers. This list is continually maintained and updated regularly and can be found in full in Appendix A.

The list of interested cities and agencies broken down by the type and numbers of contacts includes:

- Businesses
- Chambers of Commerce
- Community Organizations (incl. non-profits, faith-based organizations, etc.)
- Concerned Citizens
- Downtown Development Authorities (DDAs)
- Educational Organizations
- Elected Officials
- Environmental Organizations
- Governmental Entities and Organizations
- Historical Organizations
- Media
- Neighborhood Organizations
- Non-Motorized Advocacy Groups
- Organizations Serving the Disabled
- Organizations Serving Senior Citizens
- Transportation (including air, rail, transit, MDOT, etc.)
- Tribal Organizations

Total 738 Organizations

Public Participation Outreach

The MTP process began with a re-evaluation and update of the Public Participation Plan with input sought from the Technical and Policy Committees and the general public. Staff reviewed past public participation practices to understand which worked well and discover new practices which could improve our efforts. The updated Public Participation Plan was approved by the GVMC Policy Committee in January 2014.

Staff developed an online Citizen Survey to gain public opinion regarding the MTP update. Questions focused on those portions of the transportation system most important to them. The survey was advertised as part of the initial round of MTP public meetings, the "Kick-off," as well as on MLive, on the GVMC website, through a direct postcard mailing, and emailed to GVMC digital contacts. A summary of the survey results appears in Appendix G.

To provide the public with fast, easy access to all things related to the MTP update, staff maintained the gvmc.org website throughout the planning process. This included posting announcements for all public participation opportunities, the MTP survey, and other relevant background information and past planning documents.

The update of the 2040 MTP began with a Kick-off Meeting held on February 24, 2014. The Kick-off meeting was scheduled at an ADA accessible venue, and specifically located along fixed-route bus service lines to increase ease of access. Postcard invitations to the Kick-off Meeting were sent to our entire Interested Citizens/Organizations list consisting of 738 individuals and organizations who are interested in transportation planning related information. The Kick-off Meeting invitation, which included information on the online survey, was also posted on our website and published on MLive in early February.

Displayed at the Kick-off Meeting were materials, such as Title VI pamphlets, MDOT maps, ITP/The Rapid Transit Master Plan brochures, State Rail Plan brochures, as well as large area maps and transit system maps. In addition maps depicting deficiencies/needs identified in previous planning efforts for all of the various modes addressed in the plan were made available for public consumption. Public Comment Sheets and GVMC contact information were made available at the meetings for those who did not wish to speak to staff in person, and public comments were accepted throughout the MTP development process.

The development of the 2040 MTP also incorporated a subcommittee process that invited detailed and technical comments for each planning area (Congestion; Intermodal, Freight, Rail, & Air; Non-motorized; Pavement Asset Management; Safety & Security; and Transit & Passenger Rail.) Organizations, businesses, advocacy groups, and individual experts all provided a cross-section of data for each program to better define and narrow the transportation "needs" for the area.

Once the transportation deficiencies were identified and the Draft MTP document was complete, a 15-day public comment period was held from December 8th through December 23rd. Notices of the public comment period were posted in the Grand Rapids Press on December 5th and sent to all on the Interested Citizens/Agencies List. Throughout the public comment period, the draft document was made available for the public to view in hard-copy format at nearly every local unit of government, the Kent and Ottawa County Road Commissions, ITP/The Rapid, MDOT offices, local libraries, as well as on the GVMC website. In addition, the Draft 2040 MTP was available at the GVMC offices with staff available to respond directly to any public questions or concerns.

All public comments received during the Kick-off Meeting, as well as during the official public comment period, including comments received at the public meetings, can be found in Appendix G. All public comments received were provided to the GVMC Technical and Policy Committees for consideration, and in some instances the inquirer was directed to the respective road or transit agency for more project-specific details.

On December 17th, a final public meeting was held at the GVMC offices. The Draft 2040 MTP Document, was made available for review. This meeting was also held at an ADA accessible venue and specifically located along fixed-route bus service lines to increase ease of access. Invitations were sent to our entire Interested Citizens/Agencies List, which included information on how to access the document and other related documents. Concurrent with the meeting announcement mailing, the meeting information, methods for making public comment, and related information (Environmental Justice Analysis, and draft project lists) were posted on the GVMC website and published in the Advance Newspapers, Grand Rapids Times and El Vocero.

In addition to the public meetings, opportunities for public comment are available at monthly Technical Committee, Policy Committee, and GVMC Board meetings. Agendas and minutes for these meetings are regularly posted on gvmc.org.

All documents, events, and public comment opportunities were published on the GVMC website throughout the MTP development process and were also made public through releases to local media. Additionally, to provide ample time for staff to incorporate comments received, GVMC Board approval is not anticipated until 72 days (March 5, 2014) after the close of the public comment period.

Throughout the 2040 MTP development, all pertinent public participation information was taken to the GVMC Technical and Policy Committees for their review and consideration. This committee review aided staff during the process, helping to make decisions regarding the plan along the way. All comments received were reviewed and incorporated into the MTP when and where appropriate. Specifically, all written public comments were recorded in Appendix G. An evaluation of the 2040 MTP public participation efforts will be made through our Public Participation Plan process to identify areas of success and areas that can be improved upon for future plan development.

In total GVMC received 417 comments from the public regarding a myriad of transportation issues and concerns. In general, these comments were centered on system condition which is understandable considering that the process for soliciting public comment began during the Spring when road conditions are at their worst.

Chapter 5: Consultation

A relatively recent addition from past federal legislation to transportation planning was the Consultation Process. This is considered to be a separate and discrete process from the general public participation process and is meant as a way to better consider the needs of "consulted" agencies. There are specific requirements that outline what types of agencies or stakeholders need to be consulted during the transportation planning process and the type of information that needs to be shared with these interested parties. It is suggested that contacts with State, local, Tribal Governments, and private agencies responsible for the following areas be contacted:

- Economic growth and development
- Environmental protection
- Airport operators
- Freight movement
- Land use management
- Natural resources
- Conservation
- Historical preservation
- Human service transportation providers
-

The overarching goal of this process is to eliminate or minimize conflicts with other agencies' plans, programs, or policies as they relate to the Long Range Transportation Plan. By consulting with agencies such as Tribal governments or land use management agencies during the development of the MTP, these groups can compare the MTP project lists and maps with other natural or historic resource inventories. GVMC was also able to compare the Draft MTP to any documents received and make adjustments as necessary to achieve greater compatibility.

The consultation process that GVMC undertook is based on recommendations from the Federal Highway Administration and the Michigan Department of Transportation. The process used for the previous plan was evaluated and only minor modifications were made to the process.

Consultation Agency List

The organizations from the Interested Citizens/Agencies list that GVMC maintains for transportation public participation was used as a starting point for the consultation process, as this list encompasses many of the types of agencies and contacts targeted for this process. The Consultation List is presented in Appendix F.

Consultation Agency Notification

For those agencies targeted for consultation, a process of notification and information was chosen. The following materials were sent to the consulted agencies on November 20, 2014:

- A letter explaining the consultation process, the Metropolitan Transportation Planning process, and the role of the Grand Valley Metropolitan Council
- Directions on how to provide input on the planning process and the project list, as well as how to contact GVMC staff
- The draft 2040 MTP Project List
- A map of the draft 2040 MTP projects

The Consulted Agencies were contacted prior to the general Public Participation comment period in order to provide additional time for their review and to give GVMC the opportunity to make changes to the MTP before the official public comment period begins. The Consulted Agencies' public comment period was November 21st – December 4th.

Documentation of Consultation

The intent of the consultation requirement is to exchange information with the consulted agencies and compare plans, maps, and inventories developed with the MTP to ensure compatibility. To document this exchange, a list of the agencies contacted and when, the consultation mailing materials, comments from consulted agencies, and documentation of a comparison of any plans received to the Draft MTP may be found in Appendix E.

Findings of Consultation

In the spirit of cooperation and collaboration, and acknowledging the critical role that a number of agencies play in achieving the goals of the transportation industry, the Grand Valley Metropolitan Council (GVMC) consulted with Federal, State, Tribal, and local agencies responsible for land use management, natural resources, environmental protection, conservation, transportation/transit services, economic development, human services, historic preservation, and land use planning.

Consulted agencies were asked to review the Draft Metropolitan Transportation Plan (MTP) Project List and map (enclosed) and compare these materials to their own planning documents. The purpose of this consultation process was to meaningfully engage consulted agencies in a conversation to not only address the needs of transportation agencies, but to be supportive of resources and regulatory agencies' and planning organizations' goals and initiatives. This consultation process was not meant to replace other regulatory agencies' responsibilities under federal laws and regulations, and does not supersede any existing programmatic agreement, memorandum of understanding or other collaboration tools.

In total, 202 agencies and organizations were contacted and asked to provide insight into the Metropolitan Transportation Plan relative to their areas' of expertise and to identify environmental issues for which mitigation measures could be proposed. State, regional, and local agencies and organizations were contacted. Participants were also informed that GVMC will be seeking their involvement in future planning activities by providing inventories, sharing policies from their area of focus, and other pertinent issues. No significant issues were identified from the consultation process.

GVMC staff received one letter of correspondence from the Michigan Department of Environmental Quality regarding the MTP Consultation Process. Due to the fact that the majority of the projects listed in the MTP have already cleared the Environmental Assessment stage or the intent of the improvements will stay within existing right-of-way, the comments received were cautionary.

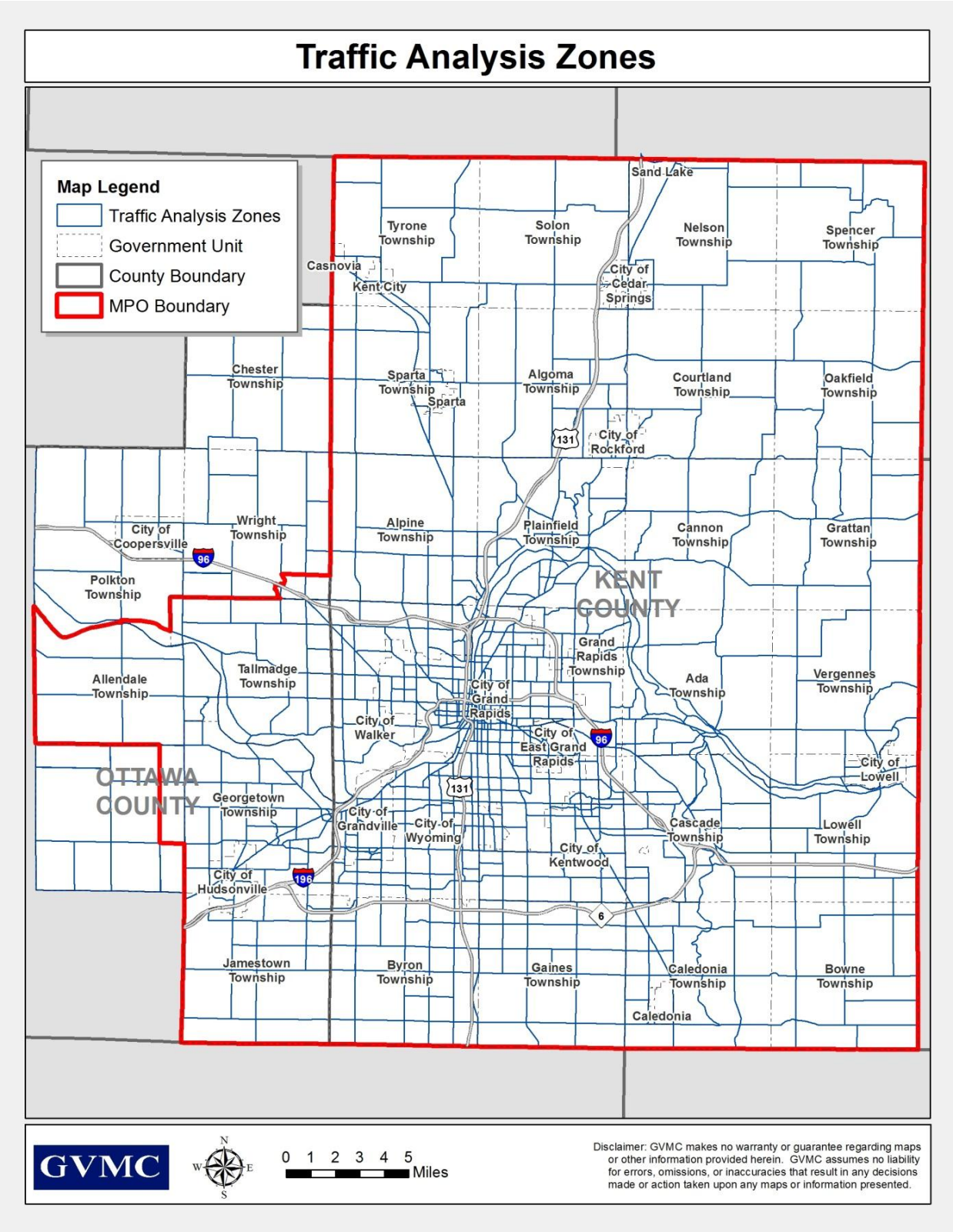
Chapter 6: Socio-Economic Data Projections

One of the most important elements in the development of a transportation plan is an assessment of population and employment data for the region. Socio-Economic (SE) data forecasts are essentially an inventory of what currently exists in terms of population and employment and what will exist for the Year 2040. For the MTP, GVMC transportation, in collaboration with the Transportation Committees and local jurisdictions, collected population and employment projections through the year 2040 for use in the transportation model.

Population and employment projections developed by GVMC for the 2040 Metropolitan Transportation Plan used nationally recognized data sources such as U.S. Census Data, American Community Survey (ACS) data, Claritas Business Facts data, and Regional Economic Model Inc. (REMI) data as the basis for projections. Local information such as building permits and examining the accuracy of employer data can help to refine the national data sets and better reflect regional trends. Together the population and employment projections are referred to as the socio-economic projections, and they serve as the basis for projecting future travel patterns and for identifying current and future deficiencies in the transportation system.

The SE data collected is recorded by Traffic Analysis Zone (TAZ), as this is the unit used in the Transportation Planning Model. The boundary of a TAZ is usually a major street or highway, body of water, or any other major physical feature, and there are approximately 864 of them in the area (see Map 2). The TAZs allow for the transportation network to be divided up into smaller pieces having similar transportation characteristics to allow for more effective analysis of travel patterns and a better simulation of future transportation activities.

Population and employment information is populated into the Transportation Planning Model by TAZ to help understand the number of trips produced and attracted to each zone. With information about the number of trips by zone, the model can calculate those road segments anticipated to be over capacity (capacity deficient) in the future. It is important to keep in mind that GVMC is responsible for modeling for some areas beyond the MPO boundaries by the Michigan Department of Transportation (MDOT). These areas, including Blendon, Polkton, Wright, and Chester Townships and the City of Coopersville, are not part of any MPO, but they were included in the SE data collection process. (See the Subregional Map 3.)


Traffic Analysis Zones
Map Legend
Traffic Analysis Zones
Government Unit
County Boundary
MPO Boundary
Sand Lake
Tyrone Township
Solon Township
Nelson Township
Spencer Township
Casnovia
Kent City
City of Cedar Springs
Chester Township
Sparta Township
Sparta
Algoma Township
Courtland Township
Oakfield Township
City of Rockford
City of Coopersville
Wright Township
Alpine Township
Plainfield Township
Cannon Township
Grattan Township
Polkton Township
KENT COUNTY
Grand Rapids Township
Allendale Township
Tallmadge Township
Ada Township
Vergennes Township
City of Grand Rapids
City of Walker
City of East Grand Rapids
City of Lowell
OTTAWA COUNTY
Georgetown Township
City of Grandville
City of Wyoming
Cascade Township
Lowell Township
City of Kentwood
City of Hudsonville
Jamestown Township
Byron Township
Gaines Township
Caledonia Township
Bowne Township
Caledonia
GVMC
0 1 2 3 4 5 Miles
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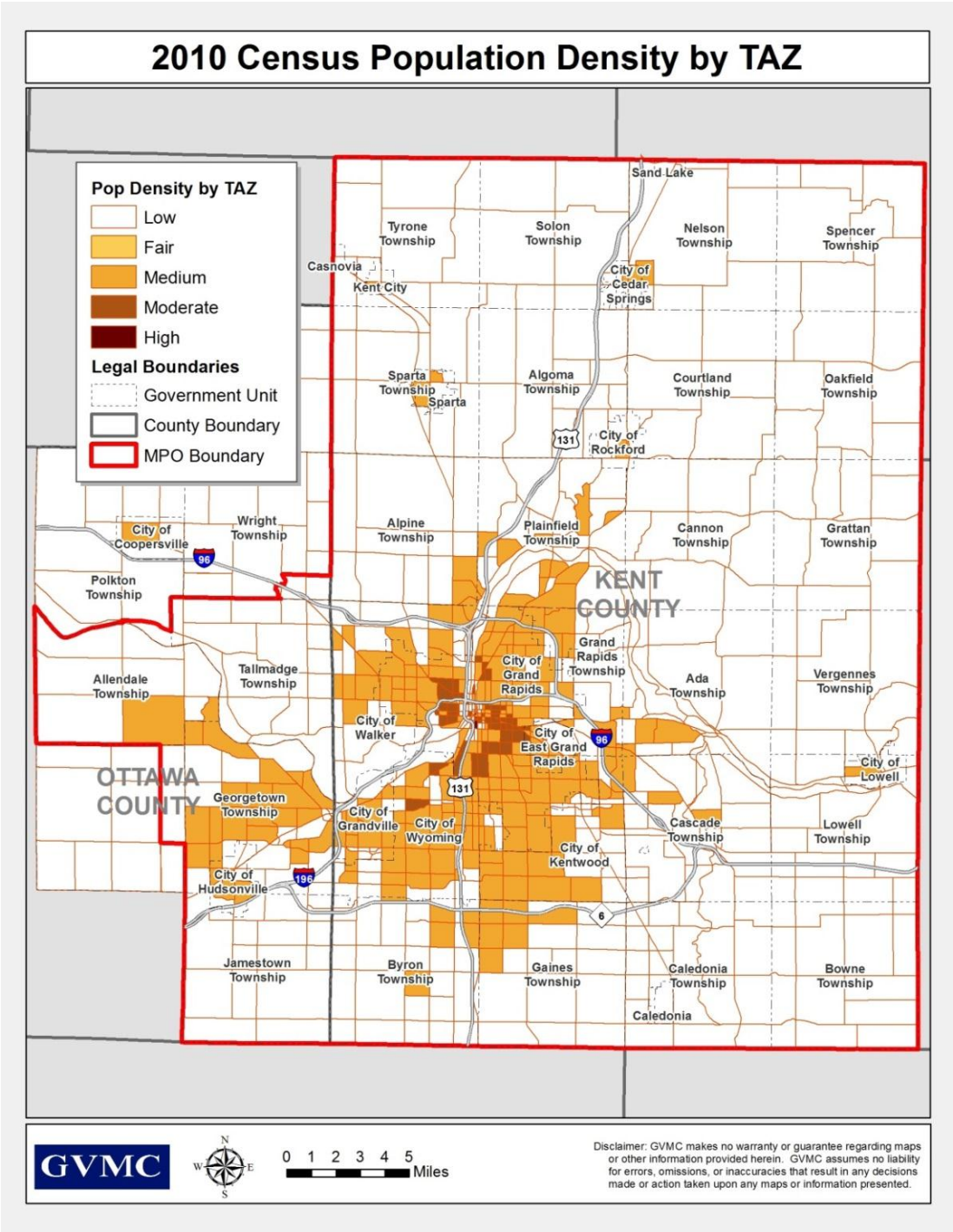
Map 2 – TAZ Map

2010 Base Year Data

To initiate the SE data process, staff first established a 2010 base for population and employment, from which projections into the outer years of the MTP could be made. Much of this work was conducted with assistance from GIS software, as this data is geographical in nature. Population totals were taken directly from the 2010 U.S. Census. Staff using GIS software disseminated the 2010 Census Data into the Traffic Analysis Zone level throughout the MPO.



Map 3 – 2010 Population Map

Population Projections Process

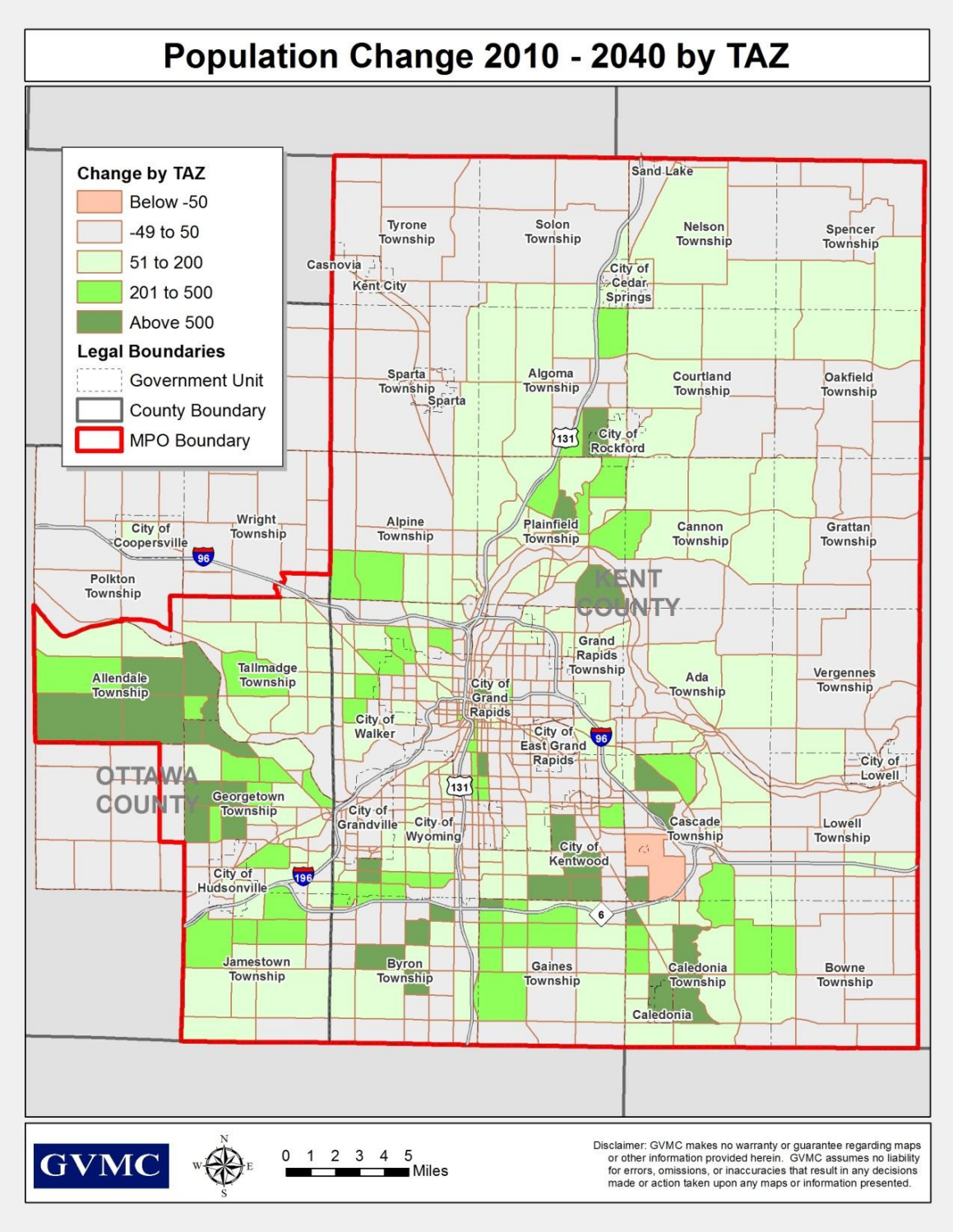
An important step in the development of any MTP is the projection of where people are going to live and work. This establishes the trip needs of the population and determines where transportation improvements may need to be made to meet the growing demand. During the development of the MTP, staff met with jurisdictions throughout the study area to determine where growth was expected to occur and how much growth could be expected. In general the overall growth was capped by the overall region-wide projections made by the University of Michigan report.

While traditional growth is expected to occur in areas that are currently rural in nature, a strengthening local trend toward redevelopment in more urban areas is beginning to make an impact. Areas that were once predominantly single family homes are being converted to higher density developments. Structures that were once vacant or in some cases a parking lot are being converted to much higher density developments that can take advantage of already existing transportation services. In many cases these developments are located in walking distance to many of the areas employment and commercial centers.

Strong residential growth is still expected in the more traditional suburban locations such as Cascade, Georgetown and Byron Townships. The Cities of Kentwood and Rockford are also expected to experience some residential growth. Caledonia Township is beginning to see a great deal of growth as southeast Kent County continues to expand. Allendale Township based upon the growth of Grand Valley State University will continue to grow as the University continues its strong presence in the region.

Population – 2040

The University of Michigan Regional Economic Model Inc. (REMI) is a great source of information for countywide population projections in Michigan. For Kent and eastern Ottawa counties, GVMC projects a population increase of 77,111 people over the next 25 years.



Map 4 – Population change 2010 – 2040

	2010 Population Total	2040 Population Projection	2010-2040 Population Growth	2010 Household Total	2010 Persons per Household	2040 Household Total	2040 Persons per Household	2010 Total Retail Employment	2040 Total Retail Employment	2010 Other Employment	2040 Other Employment	2010 Service Employment	2040 Service Employment	2010-2040 Employment Change
Kent County														
Ada Township	13,142	13,862	720	4,447	2.96	4,811	2.88	1,561	1,175	9,104	9,191	2,916	3,837	622
Algoma Township	9,932	12,232	2,300	3,425	2.90	4,326	2.83	370	218	1,020	1,343	881	1,478	769
Alpine Township	13,336	15,586	2,250	5,268	2.53	6,315	2.47	1,072	976	4,986	5,784	3,288	4,515	1,929
Bowne Township	3,084	3,434	350	1,007	3.06	1,150	2.99	32	12	986	1,101	197	239	137
Byron Township	20,317	25,417	5,100	7,589	2.68	9,737	2.61	1,957	1,930	5,261	6,296	3,677	4,814	2,146
Caledonia Township	12,332	17,832	5,500	4,253	2.90	6,308	2.83	375	356	2,779	2,675	2,940	5,123	2,061
Cannon Township	13,336	14,136	800	4,582	2.91	4,981	2.84	233	321	1,027	944	1,557	1,968	417
Cascade Township	17,134	20,434	3,300	6,286	2.73	7,689	2.66	2,074	1,772	16,754	18,081	9,277	11,521	3,269
City of Cedar Springs	3,509	3,709	200	1,215	2.89	1,317	2.82	150	132	691	605	816	1,036	117
Courtland Township	7,678	8,178	500	2,582	2.97	2,821	2.90	103	83	506	508	525	660	117
City of East Grand Rapids	10,694	10,782	88	3,818	2.80	3,948	2.73	286	264	861	845	6,678	7,324	609
Gaines Township	25,146	29,692	4,546	9,220	2.73	11,166	2.66	1,013	1,129	4,321	4,848	6,019	8,631	3,255
Grand Rapids Township	16,661	18,461	1,800	6,006	2.77	6,826	2.70	648	829	4,079	4,468	8,068	10,949	3,452
City of Grand Rapids	188,040	197,840	9,800	72,126	2.61	77,831	2.54	8,068	7,588	48,401	46,896	72,719	96,491	21,787
City of Grandville	15,378	15,618	240	5,982	2.57	6,231	2.51	3,099	3,128	6,486	6,280	7,421	9,369	1,771
Grattan Township	3,621	3,821	200	1,371	2.64	1,484	2.58	31	28	496	447	261	318	5
City of Kentwood	48,707	52,832	4,125	18,126	2.69	20,165	2.62	5,557	4,944	17,328	16,853	15,858	21,404	4,458
City of Lowell	3,783	3,933	150	1,457	2.60	1,554	2.53	208	258	1,050	979	954	1,203	229
Lowell Township	5,949	6,449	500	2,179	2.73	2,423	2.66	84	66	491	485	454	617	139
Nelson Township	4,764	5,164	400	1,672	2.85	1,859	2.78	66	52	275	303	265	330	78
Oakfield Township	5,782	5,967	185	2,103	2.75	2,226	2.68	55	50	269	266	245	294	41
Plainfield Township	30,952	35,052	4,100	11,943	2.59	13,872	2.53	1,688	1,750	4,492	4,758	6,430	8,272	2,170
City of Rockford	5,719	5,834	115	2,201	2.60	2,303	2.53	345	348	1,990	1,854	1,565	1,988	291
Solon Township	5,974	6,374	400	2,176	2.75	2,381	2.68	404	285	578	745	542	941	448
Sparta Township	4,970	5,820	850	1,780	2.79	2,138	2.72	266	233	1,863	1,801	1,123	1,640	422
Village of Sparta	4,140	4,251	111	1,644	2.52	1,731	2.46	119	92	792	1,036	344	510	382
Spencer Township	3,960	4,210	250	1,494	2.65	1,629	2.58	14	12	257	269	118	140	32
Tyrone Township	4,731	4,916	185	1,610	2.94	1,716	2.87	97	66	1,020	1,360	713	874	471
Vergennes Township	4,189	4,389	200	1,408	2.98	1,513	2.90	49	41	412	507	509	639	217
City of Walker	23,537	26,437	2,900	9,684	2.43	11,156	2.37	3,604	3,638	11,962	13,042	6,842	9,160	3,432
City of Wyoming	72,125	75,717	3,592	26,970	2.67	29,039	2.61	4,520	4,530	23,205	22,245	17,554	23,994	5,490
	602,622	658,379	55,757	225,624	2.67	252,820	2.60	38,146	36,307	173,741	176,816	180,755	240,280	60,761
Ottawa County														
Allendale Township	20,708	30,497	9,789	5,594	3.70	8,450	3.61	347	453	1,763	1,918	2,370	3,455	1,347
Blendon Township	5,772	5,897	125	1,975	2.92	2,070	2.85	90	104	1,272	1,327	320	448	198
Chester Township	2,017	2,202	185	739	2.73	827	2.66	22	22	298	311	165	231	79
City of Coopersville	4,275	4,360	85	1,604	2.67	1,678	2.60	326	415	1,496	1,808	910	1,326	817
Georgetown Township	46,985	53,965	6,980	16,683	2.82	19,653	2.75	1,389	1,710	5,953	6,935	5,877	8,574	3,999
City of Hudsonville	7,116	7,566	450	2,582	2.76	2,816	2.69	494	731	2,253	2,600	1,817	2,649	1,416
Jamestown Township	7,034	8,784	1,750	2,264	3.11	2,900	3.03	76	126	1,598	1,699	667	1,108	593
Polkton Township	2,423	2,488	65	847	2.86	892	2.79	13	14	418	430	126	158	46
Tallmadge Township	7,575	9,375	1,800	2,707	2.80	3,436	2.73	89	114	1,697	1,937	657	923	531
Wright Township	3,147	3,272	125	1,127	2.79	1,202	2.72	154	167	1,168	1,286	264	385	253
	107,052	128,406	21,354	36,122	2.96	44,438	2.89	3,001	3,857	17,915	20,252	13,172	19,256	9,277
GVMC Study Area Total	709,674	786,785	77,111	261,746	2.71	297,627	2.64	41,146	40,164	191,656	197,068	193,927	259,535	70,038

Figure 6 – Socio-Economic Data by Jurisdiction

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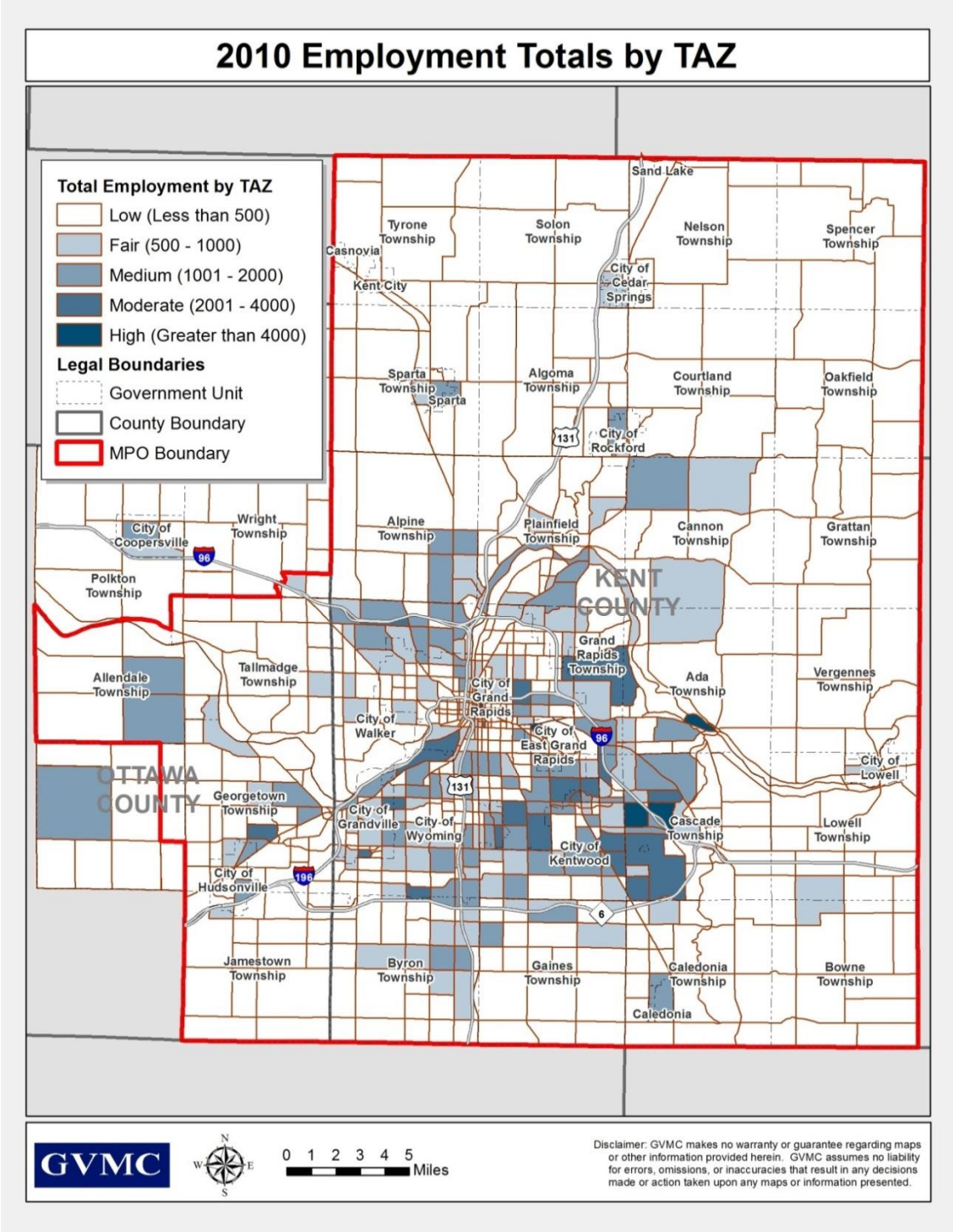
Retail/Non-Retail Employment – 2010

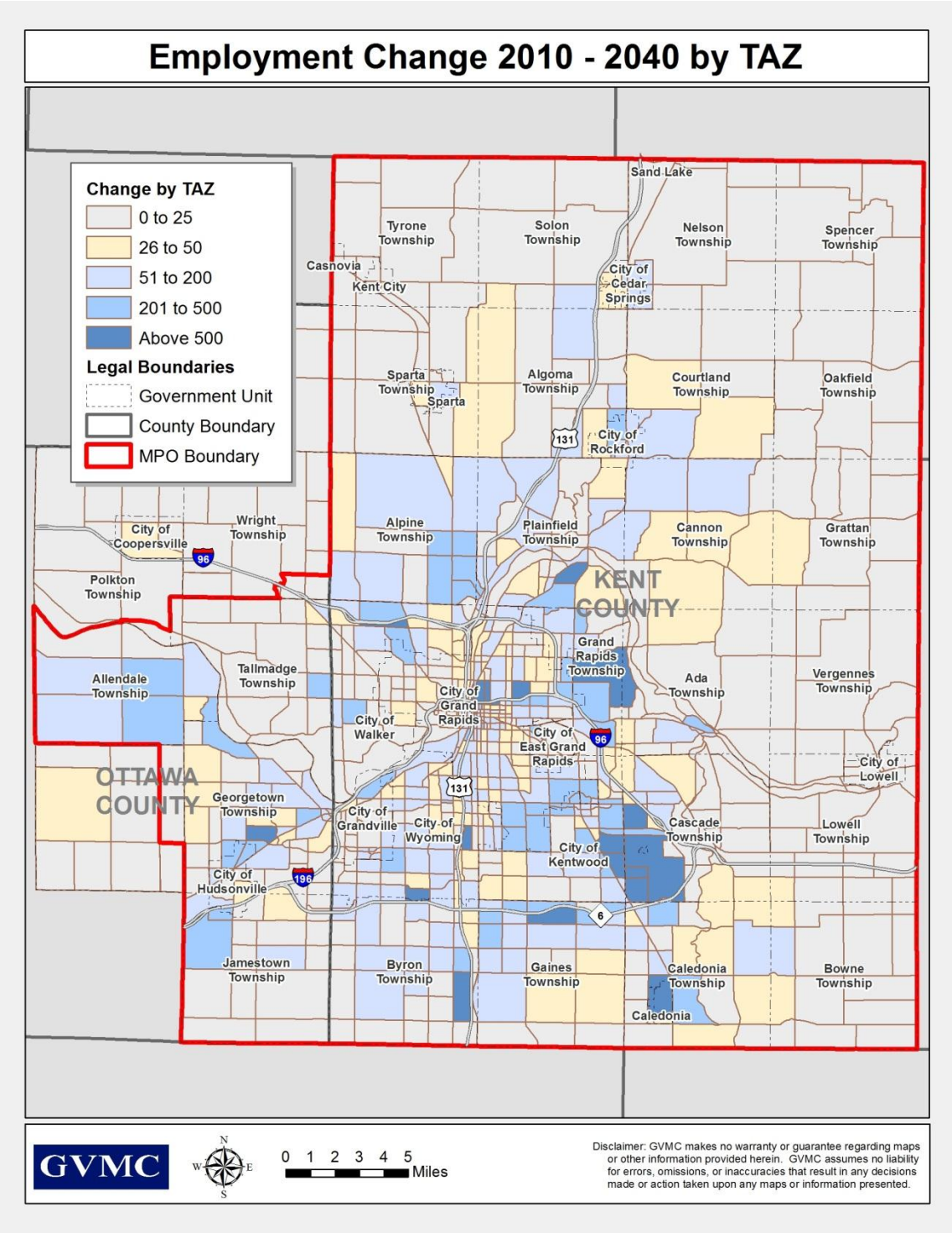
In order to have a picture of employment by TAZ in 2010, staff relied on data purchased from Claritas, as has been done for the last several MTPs. Claritas is a source of accurate, up-to-date demographic data about the population, consumer behavior, consumer spending, households and businesses within any specific geographic area.



Map 5 – Areas of Employment Concentration in the base year - 2010

Retail/Non-Retail Employment – 2040

Using population growth rates and information from REMI, it is estimated that the area will see an increase of approximately 91,000 jobs between 2010 and 2040. Of these jobs, about 14% will be retail, 81% will be office jobs, and about 4% will be other non-retail jobs.



Map 6 – Employment change 2010 – 2040

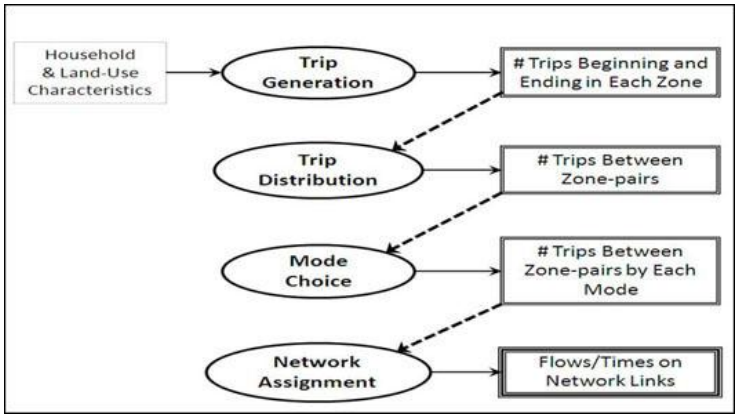
Chapter 7: Transportation Modeling Process

Once all of the socio-economic data, including population, employment, dwelling units, income group, etc., has been gathered and the most recent traffic counts are compiled, a transportation model is then used to project where roadway deficiencies are likely to occur by the year 2040. Information on current highway geometric is gathered and included in the model. Information such as number of lanes, capacity, roadway length, traffic count and speed are included in modeling calculations. The GVMC travel demand model steps appear in the figure below and are summarized as follows:

- Network and traffic analysis zone (TAZ) definition and development. The GVMC roadway network was established based upon the approved National Functional Classification for the region. Every facility that is eligible for federal funding has been included in the model. The Traffic Analysis Zone (TAZ) is the geographic unit used for trip making data in the model. TAZs are used to divide the entire region into manageable "zones" to which socioeconomic data can be associated. (See TAZ Map in Chapter 6.)

- External Trips. External trips are trips with at least one trip end outside of the model area. External stations are determined by GVMC and the Michigan Department of Transportation (MDOT) staff to represent the major roadways that lead into and out of the GVMC model area.

- Trip generation. Trip generation forecasts the number of person trips produced and attracted in each TAZ in the study area. Socioeconomic data are used to estimate the number of person trips within the study area.



- Trip distribution. Trip distribution procedure determines the destination of the trips produced in each zone and distributes the trips to all other zones in the study area.

- Mode Split. This step in the process determines what mode the person trips are utilizing for their journey

- Trip assignment. Trip assignment procedure determines the street network paths that the distributed trips will take. The assigned traffic volume on each link can then be compared with observed traffic counts to validate the travel demand model.

The results of the Grand Rapids regional model represent calibration to the year 2010. The last full calibration was completed in 2013. Based on discussions between GVMC and MDOT staff in 2009, four townships in Ottawa County were added into GVMC's model area. Therefore, the model network and TAZs have been rebuilt to accommodate these changes. Thus, the socio-economic data was collected for an area larger than the MPO boundaries, including Chester, Polkton, Wright, and Blendon Townships. This expansion improved air quality conformity analysis when necessary, enabled sub-area analysis across shared MPO model boundaries, and encompasses the expansion of the 2010 Census Urban Boundary.

The GVMC travel demand model employs TransCAD software to develop a four-step modeling process. GVMC Transportation staff maintains a stand-alone document called the Model Calibration Report. This report provides documentation and technical details of the model calibration process. The report also provides a more detailed look at the modeling process. In addition, a reasonableness check is performed after each individual modeling step instead of a reasonableness check based on the overall results of the travel model. The advantage of this approach is that it can reduce aggregation errors in each modeling step.

Capacity Deficient Facilities Identification

Upon determination of the future travel demand on each of the federal aid facilities in the region, an analysis of the volume to capacity ratio (V/C) needs to be accomplished. The product of the initial V/C analysis is a listing of all federal aid facilities that are either currently over their designed capacity or are projected to be deficient by the year 2040. Designation of a facility as deficient is not a determination that the facility is to be widened in the future, it merely means that special attention should be made on these "deficient" facilities. Once the list of capacity deficient facilities has been identified the list is then submitted for analysis through the GVMC Congestion Management Process so a determination of possible solutions can be determined. A comprehensive discussion on the GVMC CMP is found in the next chapter. The full list of 2040 Capacity Deficient Facilities is listed on the following pages.

2040 Capacity Deficient Facilities List

The following list depicts the facilities that are projected to have exceeded their designed capacity by the year 2040. These deficient segments will become the basis for the Congestion Management Process Analysis that is discussed in Chapter 8. Inclusion on this list does not mean that these facilities will be slated for capacity improvement through the MTP process.

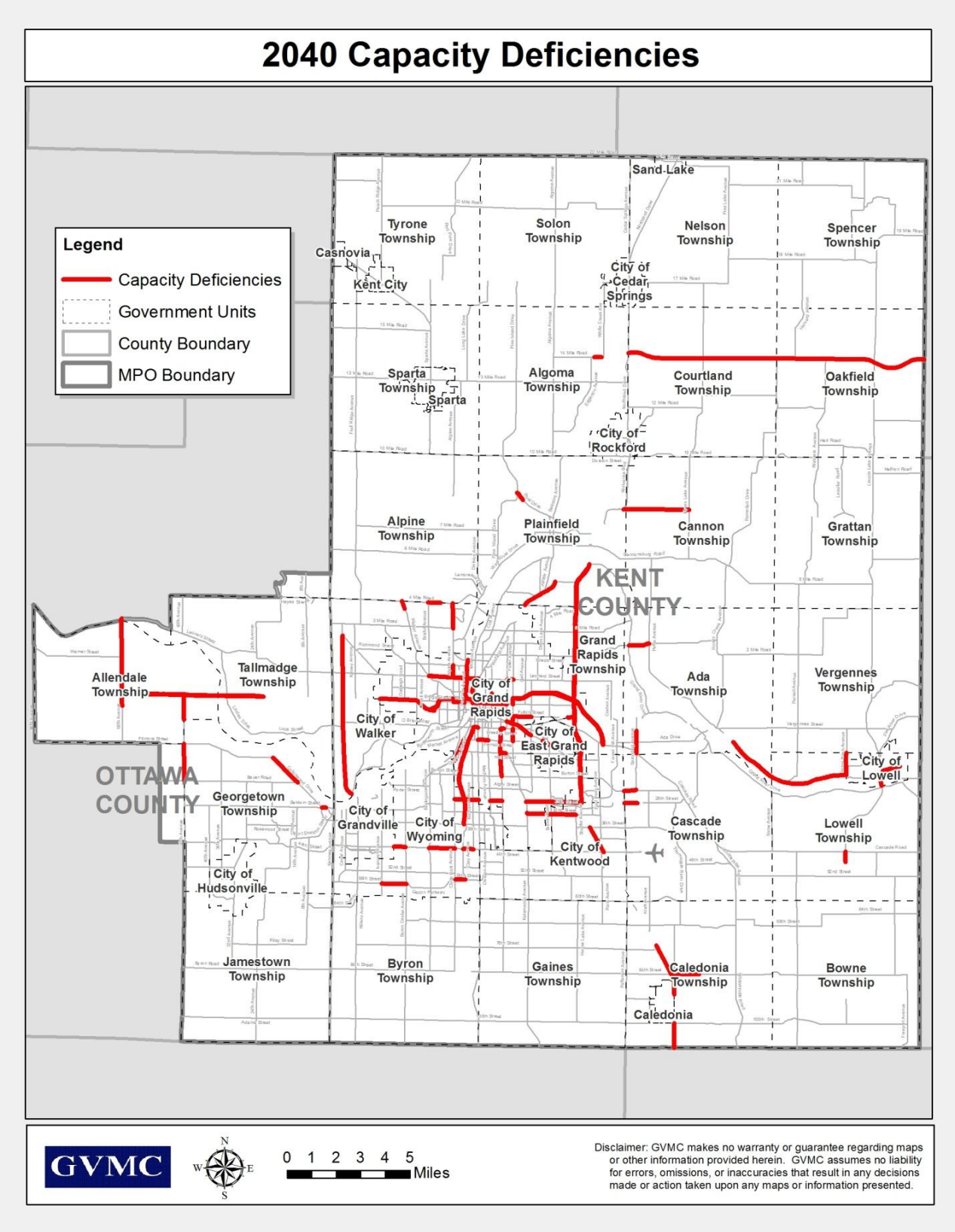
Street	From	To	Length	Jurisdiction
M-11 (Wilson Ave)	Fennessy St NW	South of Lake Michigan	1.15	MDOT
Fuller Avenue	Lake Drive	Fulton Street	0.30	City of Grand Rapids
M-11 (Wilson Ave)	Lake Michigan Dr NW	Leonard St NW	1.01	MDOT
M-37 (Broadmoor Ave)	84th Street	North of 76th Street	1.31	MDOT
M-44 (East Beltline Ave) SB	Knapp Street	South of Bradford Street	1.64	MDOT
Burton Street	Spaulding Avenue	Patterson Avenue	0.50	KCRC
Fulton Street	Plymouth Avenue	Fuller Avenue	0.74	City of Grand Rapids
M-37 (Alpine Avenue)	4 Mile Road	3 Mile Road	1.03	MDOT
Lake Drive	Fuller Avenue	Carleton Avenue	0.21	City of Grand Rapids
I-196 BL (Grandville Ave)	Hall Street	Clyde Park Avenue	0.44	MDOT
Eastern Avenue	Hall Street	Burton Street	0.95	City of Grand Rapids
M-44 (East Beltline Ave) NB	South of Bradford Street	Knapp Street	1.64	MDOT
M-37 (East Beltline Ave)	Michigan Street	South of Bradford Street	0.42	MDOT
Knapp Street	Pettis Avenue	Grand River Drive	0.84	KCRC
M-11 (Wilson Ave)	Fennessy St SW	Butterworth St SW	2.87	MDOT
M-37 (East Beltline Ave) SB	Michigan Street	Cascade Road	0.86	MDOT
Wealthy Street	US-131	Division Avenue	0.18	City of Grand Rapids
US-131 NB	36th Street	28th Street	1.01	MDOT
48th Avenue	Pierce Street	M-45	1.01	OCRC
M-37 (Broadmoor Ave)	Glengarry Avenue	84th Street	0.86	MDOT
Leonard Street	Turner Avenue	Scribner Avenue	0.06	MDOT
68th Avenue	Warner Avenue	Twp Line	1.55	OCRC
Leonard Street	Diamond Avenue	Fuller Avenue	0.25	City of Grand Rapids
M-45 (Lake Michigan Dr)	I-196	Covell Avenue	0.85	MDOT
Eastern Avenue	Wealthy Street	Hall Street	1.00	City of Grand Rapids
M-37 (East Beltline Ave) SB	Cascade Rd SE	Lake Dr SE	0.94	MDOT
M-37 (East Beltline Ave) NB	Cascade Road	Michigan Street	0.87	MDOT
M-37 (East Beltline Ave) NB	Lake Drive	Cascade Road	1.34	MDOT
M-37 (East Beltline Ave) SB	Lake Dr SE	End of BLVD	1.27	MDOT
M-37 (East Beltline Ave) NB	North of Lake Eastbrook	Lake Drive	1.27	MDOT
Lake Drive	Carleton Avenue	City Limits	0.37	City of Grand Rapids
Alpine Avenue	Leonard Street	Richmond Street	0.50	City of Grand Rapids
Hudson Street	The Grand River	Main Street	0.61	City of Lowell
M-44 (Belding Rd)	Blakely Drive	Myers Lake Avenue	1.51	MDOT
Cottonwood Drive	Bauer Road	Fillmore Street	1.43	OCRC
Alden Nash Avenue	I-96 WB Ramps	Cascade Road	0.42	KCRC
Spaulding Avenue	Clear Springs Drive	Cascade Road	0.92	KCRC
4 Mile Road	Bristol Avenue	Cordes Avenue	0.50	KCRC
Lake Drive	Eastern Avenue	Fuller Avenue	0.25	City of Grand Rapids
M-44 (Belding Rd)	Wolverine Blvd	Blakely Drive	1.17	MDOT
68th Avenue	M-45	Warner Street	1.51	OCRC
College Avenue	Bissell Street	I-196	0.31	City of Grand Rapids
Knapp Street	Maguire Avenue	Dunnigan Avenue	1.01	KCRC

2040 Capacity Deficiency List pg. 2

Street	From	To	Length	Jurisdiction
44th Street	Clay Ave SW	Buchanan Avenue	0.42	City of Wyoming
32nd Street	Shaffer Avenue	Breton Avenue	1.00	City of Kentwood
M-11 (28th Street)	Patterson Ave SE	I-96	0.52	MDOT
Fuller Avenue	Michigan Street	I-196	0.23	City of Grand Rapids
M-45 (Lake Michigan Dr) EB	48th Avenue	East of 24th Avenue	3.18	MDOT
M-11 (Wilson Ave)	Leonard St NW	Remembrance Rd NW	1.53	MDOT
M-45 (Lake Michigan Dr) WB	East of 24th Avenue	48th Avenue	3.25	MDOT
M-37 (East Beltline Ave) NB	M-11 (28th Street)	N. of Lake Eastbrook	0.48	MDOT
I-196 (WB)	Ottawa Avenue	US-131	0.42	MDOT
M-21 (Main St)	James Street SE	Hudson Street SE	0.73	MDOT
Monroe Avenue	Leonard Street	Ottawa Street	0.15	City of Grand Rapids
M-57 (14 Mile Rd)	US-131 SB Ramps	US-131 NB Ramps	0.28	MDOT
M-57 (14 Mile Rd)	Lincoln Lake Ave NE	East County Line	2.17	MDOT
I-196 (EB)	US-131	Ottawa Avenue	0.42	MDOT
I-196 (EB)	Lake Michigan Drive	Lane Avenue	0.88	MDOT
M-11 (28th Street)	US-131	S Division Ave	0.59	MDOT
I-196 (WB)	Lane Avenue Off Ramp	Lake Michigan Drive	1.15	MDOT
68th Avenue	Sunset Drive	M-45	0.48	OCRC
I-96/I-196/East Beltline Interch.	n/a	n/a	1.17	MDOT
Baldwin Street	Cottonwood Drive	Main Street	0.16	OCRC
I-196 BL (Grandville Ave)	Franklin Street	Hall Street	0.54	MDOT
Lake Drive	City Limits	Plymouth Avenue	0.32	City of East GR
US-131 SB	Leonard Street	Michigan Street	1.01	MDOT
M-45 (Lake Michigan Dr)	Covell Avenue	Maynard Avenue	1.51	MDOT
M-37 (Cherry Valley Ave)	108th Street	100th Street	1.00	MDOT
Leonard Street	Scribner Avenue	Monroe Avenue	0.46	MDOT
Michigan Street	College Avenue	Lafayette Avenue	0.25	City of Grand Rapids
M-21 (Fulton St)	M-37	Robinson Road	0.26	MDOT
Wealthy Street	Eastern Avenue	Eureka Avenue	0.25	City of Grand Rapids
US-131 SB	Wealthy Street On Ramp	Hall Street	0.94	MDOT
54th Street	Clyde Park Ave SW	Clay Avenue SW	0.42	City of Wyoming
M-21 (Fulton St)	Settlewood Drive	BLVD Start	2.85	MDOT
Michigan Street	Lafayette Avenue	Monroe Avenue	0.53	City of Grand Rapids
M-44 (East Beltline Ave) SB	4 Mile Road	Knapp Street	2.03	MDOT
84th Street	Alaska Avenue	M-37 (Broadmoor Ave)	1.14	KCRC
Fuller Avenue	Wealthy Street	Franklin Street	0.50	City of Grand Rapids
M-45 (Lake Michigan Dr) EB	West of 68th Avenue	48th Avenue	2.86	MDOT
M-45 (Lake Michigan Dr) WB	48th Avenue	West of 68th Avenue	2.86	MDOT
M-11 (28th Street)	Kalamazoo Ave SE	Chamberlain Ave SE	1.01	MDOT
M-57 (14 Mile Rd)	Wabasis Ave NE	Lincoln Lake Ave NE	2.00	MDOT
Walker Avenue	Sharp Drive	Waldorf Street	0.21	City of Walker
M-44 (East Beltline Ave) NB	Knapp Street	4 Mile Road	2.03	MDOT
M-44 (Plainfield Ave)	5 Mile Road	4 Mile Road	1.60	MDOT
US-131 NB	28th Street	Burton Street	1.04	MDOT
I-196 (EB)	Fuller Avenue	I-96	2.10	MDOT
M-57 (14 Mile Rd)	Northland Drive NE	Tefft Avenue NE	1.57	MDOT
I-96 (EB)	Fulton Street	Cascade Road	1.23	MDOT

2040 Capacity Deficiency List pg. 3

Street	From	To	Length	Jurisdiction
M-57 (14 Mile Rd)	Ramsdell Dr NE	Wabasis Rd NE	1.99	MDOT
US-131 SB	Burton Street	28th Street	1.04	MDOT
44th Street	City/Twp Line	Byron Center Avenue	0.49	City of Wyoming
I-96 (EB)	I-196	M-37	0.48	MDOT
M-57 (14 Mile Rd)	Tefft Avenue NE	Myers Lake Avenue NE	1.50	MDOT
US-131 NB	Burton Street	Hall Street	0.98	MDOT
M-57 (14 Mile Rd)	Myers Lake Ave NE	Ramsdell Ave NE	3.01	MDOT
Franklin Street	Madison Avenue	Division Avenue	0.43	City of Grand Rapids
M-44 (East Beltline Ave) NB	4 Mile Road	Grand River Avenue	1.89	MDOT
Leonard Street	Walker Avenue	Turner Avenue	1.52	City of Grand Rapids
56th Street	Ivanrest Ave SW	Byron Center Avenue	1.00	City of Wyoming
US-131 SB	Ann Street	Leonard Street	0.75	MDOT
M-44 (East Beltline Ave)	Grand River Avenue	4 Mile Road	1.71	MDOT
44th Street	Burlingame Ave SW	Clyde Park Avenue SW	1.06	City of Wyoming
32nd Street	City Limits	Kalamazoo Avenue	0.75	City of Grand Rapids
US-131 SB	Hall Street	Burton Street	0.98	MDOT
I-196 (WB)	I-96	Fuller Avenue	2.06	MDOT
US-131 NB	Hall Street	Wealthy Street	0.92	MDOT
Michigan Street	Diamond Avenue	College Avenue	0.62	City of Grand Rapids
M-37 (Broadmoor Ave) NB	44th Street	36th Street	1.16	MDOT
M-11 (28th Street)	Breton Rd SE	Woodlawn Ave SE	1.25	MDOT
Lake Drive	Bagley Avenue	Breton Avenue	0.32	City of East GR
Hall Street	Kalamazoo Avenue	Eastern Avenue	0.21	City of Grand Rapids



Map 7 – 2040 Capacity Deficiencies

Chapter 8: Congestion Management Process

After deficiencies have been identified through the modeling process, GVMC staff use the GVMC Congestion Management Process (CMP) to determine the best strategy for addressing each identified congested location. A preferred group of alternatives are identified at this stage.

The Congestion Management Process (CMP) is intended to be a systematic way of monitoring, measuring and diagnosing the causes of current and future congestion on a region's multi-modal transportation systems; evaluating and recommending alternative strategies to manage or mitigate current and future regional congestion; and monitoring and evaluating the performance of strategies implemented to manage or mitigate congestion.

Federal transportation legislation requires Metropolitan Planning Organizations to develop and implement a Congestion Management Process (CMP) as part of the metropolitan transportation planning process (23 CFR 500).

The CMP emphasizes effective management of existing facilities through use of travel demand and operational management strategies. In cases where these methods are deemed ineffective to resolve the congestion issue of a corridor, capacity enhancing projects may be selected as the preferred alternative.

In Transportation Management Areas that are in non-attainment for ozone or carbon monoxide (CO) standards, Federal funds may not be expended for any new project that will significantly increase the carrying capacity for single-occupant vehicles (SOVs) unless the project results from a CMP. For the Grand Rapids area, a significant increase in carrying capacity for SOVs is defined as a project that adds one or more through-travel lanes for a distance in excess of one mile or more on a roadway classified as a Collector or higher on the Federal functional class map for the area. Currently the GVMC MPO area is not classified as non-attainment. However, future changes or interpretations of environmental law/policy will likely cause this analysis to once again be required.

Congestion Defined

Highway congestion is caused when traffic demand approaches or exceeds the available capacity of the highway system. Though this concept is easy to understand, congestion can vary significantly from day to day because traffic demand and available highway capacity are constantly changing. Traffic demands vary significantly by time of day, day of the week, and season of the year, and are also subject to significant fluctuations due to recreational travel, special events, and emergencies (e.g. accidents and evacuations). Available highway capacity, which is often viewed as being fixed, also varies constantly, being frequently reduced by incidents (e.g., crashes and disabled vehicles), work zones, adverse weather, and other causes.

To add even more complexity, the definition of highway congestion also varies significantly from time to time and place to place based on user expectations. An intersection that may seem very congested in a rural community may not even register as an annoyance in a large metropolitan area. A level of congestion that users expect during peak commute periods may be unacceptable if experienced on Sunday morning. Because of this, congestion is difficult to define precisely in a mathematical sense—it actually represents the difference between the highway system performance that users expect and how the system actually performs.

Commonly used measures to assess congestion are—level of service, speed, travel time, and delay. However, travelers have indicated that more important than the severity, magnitude, or quantity of congestion is the reliability of the highway system. People in a large metropolitan area may accept a 20 mile freeway trip taking 40 minutes during the peak period, so long as this predicted travel time is reliable and is not 25 minutes one day and two hours the next. This focus on reliability is particularly prevalent in the freight community, where the value of time under certain just-in-time delivery circumstances may exceed $5 per minute.

The ability to identify and measure different types of congestion is key to developing appropriate responses. Recurring congestion is defined as the relatively predictable congestion caused by routine traffic volumes operating in a typical environment. Non-recurring congestion is defined as unexpected or unusual congestion caused by unpredictable or transient events, such as accidents, inclement weather, or construction. The CMP includes a third category, Corridor Progression, to addresses congestion caused within corridors at localized intersections.

Recurring Congestion

GVMC determines a roadway to be congested when the total number of vehicles exceeds the number of vehicles that roadway was designed to safely carry. For instance, a two-lane road in a suburban area may be designed to carry 13,200 vehicles per day. When the count reaches an average volume of 13,201 vehicles per day, that facility is deemed "congested." This does not mean that adding capacity will occur; merely, the facility is flagged as deficient and studied further to determine a means to alleviate that congested situation.

In most situations, a remedy somewhat less than added capacity is selected as the preferred alternative. This represents a change of focus from past years when a widening project may have been the only solution considered. GVMC is taking this conservative approach in an effort to provide a transportation infrastructure that is as sustainable as possible and still meets the demands of the traveling public.

Future (2040) Volume is determined using a travel demand model built on the TransCAD platform. Information regarding projected population and employment statistics are fed into the model. TransCAD uses this information to project traffic volumes/demand on each of the federal-aid facilities in the region. Additional information on the model can be found in Chapter 7.

Staff processes the model output and develops a list of facilities that are expected to be deficient by the year 2040. This list is the basis for programming corridor- related capacity deficiencies on the network that are included in the 2040 Metropolitan Transportation Plan. This deficiency list is then analyzed to determine the most efficient sustainable options for alleviating the congested conditions projected to occur in the future.

Corridor Progression/Operations

In many instances the roadway facility has not exceeded its designed capacity, yet congestion will be experienced. Most times this congestion is caused by delay experienced at signalized intersections. Individual road segments can operate as they were designed, only to have a poorly timed signal cause unnecessary delay to the traveling public. GVMC has begun a program to track travel time on major corridors to determine the level of congestion on the corridor level caused by sources other than roadway capacity.

While corridor progression is vital to keeping people and goods moving efficiently, individual intersections may need both geometric and technological upgrades to maximize efficiency. With nearly 600 signalized intersections in the region and the lack of a comprehensive inventory, it is difficult to establish a complete determination of need. In lieu of an inventory, GVMC will strive to maximize efficiencies along these corridors of significance. Through focused investment, these key corridors can be upgraded and will move people and goods as efficiently as possible.

The primary operational cost for the system is signalized intersections. There are three primary costs that have traditionally been funded through the MPO: upgrades of the physical signals, including the heads, controller boxes, detectors, etc.; communications upgrades; and optimizing the signals to work in unison, moving people and goods throughout the area as efficiently as possible. Upgrades and communications investments are done on the entire federal-aid system. The optimization efforts are focused on key transportation corridors throughout the region.

Signal/Corridor Upgrades

As is the case with the entire transportation system, signal equipment wears out or becomes obsolete and needs replacement or upgrading. There are several hundred signalized intersections on the federal-aid system in the area. The reliability of this equipment is crucial to the continued and efficient operation of the transportation

system. Typically one or two corridors can be upgraded in a year's time. Over the period of 15–20 years most of the major corridors can be retrofit with the latest technology.

Communications Upgrades

The ability for the individual intersection controllers to communicate with other controllers and a centralized control center is important to maintaining traffic flow in the region. Technology is being deployed that allow for improved signal timing and real time operation of the signal system in times of planned and unplanned events that are outside the normal operating conditions of the system. These communications upgrades will make the system more responsive to real time demand.

Corridor Progression/Signal Optimization

The third piece in the transportation operations puzzle is Corridor Progression/Signal Optimization. This process determines an optimized signal timing plan that utilizes all available technology and data to allow the corridor to operate as efficiently as possible and allow for maximum capacity, possibly eliminating the need for costly added through lanes. GVMC has supported these efforts for nearly a decade. As travel patterns change over time, these efforts will need to continue to maintain the maximum efficiency of the system. GVMC monitors corridors of significance semi-annually through the use of a Travel Time Index (TTI) effort.

Non-Recurring Congestion

Non-recurring congestion includes the development and deployment of strategies designed to mitigate traffic congestion due to non-recurring causes, such as crashes, disabled vehicles, work zones, adverse weather events, and planned special events. Approximately half of all congestion is caused by temporary disruptions that take away part of the roadway from use—or "non-recurring" congestion.

The three main causes of non-recurring congestion are: incidents ranging from a flat tire to an overturned hazardous material truck (25 percent of congestion), work zones (10 percent of congestion), and weather (15 percent of congestion). Non-recurring events dramatically reduce the available capacity and reliability of the entire transportation system. This is the type of congestion that surprises the traveling public. We plan for a trip of 20 minutes and we experience a trip of 40 minutes. Travelers and shippers are especially sensitive to the unanticipated disruptions to tightly scheduled personal activities and manufacturing distribution procedures. Aggressive management of temporary disruptions, such as incidents, work zones, weather, and special events, can reduce the impacts of these disruptions and return the system to "full capacity."

In recent years a great deal of time and funding has been dedicated to this form of congestion. The deployment of Intelligent Transportation Systems (ITS) that includes cameras and automated detection on the freeways and main arterials has greatly advanced the area's capabilities when it comes to detecting and responding to non-recurring congestion.

Another tool in addressing non-recurring congestion is the implementation of a courtesy patrol. To improve the safety and efficiency of the freeway system, many cities and states have implemented a Freeway Service Patrol (FSP). Although the name, hours of service, operational procedures, and equipment may vary from one location to the next, the goal remains the same: to clear incidents as quickly as possible and reduce the likelihood of congestion and secondary incidents. The services provided vary depending on the situation and typically range from providing assistance to emergency responders at the scene of a crash to changing a flat tire or providing gas to a stranded motorist.

In 2007, the MDOT completed a feasibility study to determine if a service of this nature was warranted for the GVMC area. The findings of that report indicate that an initial overall return on investment could be as high as 5:1 with a very conservative service in place.

CMP Characteristics

The 2014 GVMC Congestion Management Process consists of eight major characteristics. These characteristics include:

1. Develop Congestion Management Objectives
2. Identify Area of Application
3. Define System of Interest
4. Develop Performance Measures
5. Institute System Performance Monitoring Plan
6. Identify/Evaluate Strategies
7. Implement Strategies/Improvements
8. Monitor Effectiveness

1. Congestion Management Objectives

Historically, GVMC has relied on measures that related to capital improvements, such as volume to capacity (V/C) and level of service (LOS). This revision of the CMP does not completely abandon that traditional approach. Current and future V/C and LOS are measures that GVMC will continue to monitor. This new GVMC CMP places a new emphasis on operations oriented measures.

Operations oriented measures are intended to focus on the experience of the system users. This approach is able to address non-recurring congestion where the traditional approach could not. This shift in focus allows for a transition from facility oriented measures, such as traffic counts and speed, to trip related, user oriented measures such as mobility. GVMC and its member transportation facility providers will strive to improve system performance by enhancing Mobility, Reliability, Productivity and Safety.

The following are objectives designed to address many types of congestion on many types of facilities:

Objective 1: Improve transportation system productivity by addressing capacity deficient miles on the federal-aid system by funding improvements that provide sufficient capacity for the movement of people and goods throughout the region. Capacity is defined as 24- hour highway capacity or daily seats available on transit.

Objective 2: Enhance mobility by reducing overall travel times and delays along "corridors of significance" by providing adequate intersection capacity for the throughput of people and freight and by strengthening the efficiency of corridor operations through continued investment in signal timing/progression efforts.

Objective 3: Increase the reliability of the transportation system and reduce travel delay caused by incidents by continuing enhancement of real time automated incident detection technologies and working toward improved response protocol when incidents are identified.

2. Areas of Application

For each of the three CMP objectives, "Areas of Application" must be determined. An Area of Application is the geographic area that the CMP process will be applied. At a minimum the Area of Application should be the MPO study area. For the GVMC CMP this Area of Application has been determined to be all of Kent County and the eastern portions of Ottawa County including Allendale, Georgetown, Jamestown and Tallmadge Townships as well as the City of Hudsonville.

3. Systems of Interest

A "System of Interest" is the specific transportation subset within the Area of Application that will be the focus of a particular portion of the CMP. Traditionally, the entire MPO Metropolitan Area Boundary (MAB) would be the area of focus for the CMP. In the past this approach was sufficient. For many parts of the new CMP the entire transportation system within the region will serve as the System of Interest. Due to the exorbitant costs

associated with the types of data required for this enhanced CMP, a subset of the entire area in some cases is deemed a more practical approach.

For Objective 1 (Improve transportation system productivity by addressing capacity deficient miles on the federal-aid system) the System of Interest is defined by the transportation system in the entire MPO MAB.

For Objective 2 (Enhance mobility by reducing overall travel times and delays along "corridors of significance") the System of Interest includes a listing titled "Corridors of Significance."

For Objective 3 (Increase the reliability of the transportation system and reduce travel delay caused by incidents) the System of Interest is defined by the corridors which have closed circuit video surveillance capabilities and MDOT operations center coverage. As the coverage expands, this area will be redefined with CMP updates.

4. Performance Measures

The use of performance measures to assess the effectiveness and efficiency of the transportation network and of operations has greatly increased in recent years. Rather than using highly technical measures, such as level of service, measures such as speed, travel time, and delay are used to describe mobility and access at various levels, from the entire regional system to particular corridors of significance, and even intersection level. The GVMC CMP defines performance measures for each of the three objectives as follows:

For Objective 1 (Improve transportation system productivity by addressing capacity deficient miles on the federal-aid system) there are two performance measures. The primary performance measure are the total number of capacity deficient miles on the federal-aid network. The second performance measure is the Vehicle Miles Traveled (VMT) by congestion level.

For Objective 2 (Enhance mobility by reducing overall travel times and delays along "corridors of significance") there are two performance measures. The first performance measure is the overall level of service for each of the specified intersections within the "corridors of significance." For an intersection to be selected for further analysis, it would be rated at a LOS of "D" or worse. At LOS "E" and "F" there is significant delay experienced. The second performance measure is travel time along identified corridors of significance subdivided by major cross streets.

For Objective 3 (Increase the reliability of the transportation system and reduce travel delay caused by incidents) the performance measure is the incident clearance times registered by the MDOT ITS Operations Center.

5. System Performance Monitoring Plan

Historically, the availability of data has been the greatest challenge when determining if performance measures are meeting their mark. With the advent of ITS technology for freeway and arterial management, detector data is increasingly available for major facilities in many metropolitan areas. The GVMC area is no different. Beginning in 2010, the Grand Rapids metropolitan area implemented the first of many phases of real time traffic detection. By the time the project is complete, the majority of the urban freeways will be instrumented with detection at a minimum of one mile increments. Over time this technology will be placed at strategic locations on many of the area's major arterial corridors.

Currently, GVMC maintains a traffic count database that includes nearly 2,000 locations. Each of the links in the modeled federal-aid network, are counted a minimum of every three years.

For Objective 1 (Improve transportation system productivity by addressing capacity deficient miles on the federal-aid system) there is a two-fold approach to the performance monitoring plan. The first step is to maintain the traffic count database on the entire network. Count data is collected at each location in the modeled network. Second, GVMC maintains a transportation travel demand model to project the impact of transportation and development projects on the congestion levels of the transportation system.

For Objective 2 (Enhance mobility by reducing overall travel times and delays along "corridors of significance") the performance monitoring plan involves collecting travel times for each of the identified "Corridors of Significance." In addition, intersections within the "Corridors of Significance" that exceed LOS "D" are be flagged for review. This review takes place as updates are made to the signal progression plans (every 5–7 years). A report is generated for each MPO MTP (every 3–4 years) that identifies deficient intersections, efforts made to alleviate congested conditions, and the results of those efforts.

For Objective 3 (Increase the reliability of the transportation system and reduce travel delay caused by incidents) the performance measure is the average clearance times as noted by the MDOT ITS/Operations Center. Recently, MDOT has begun a process where incidents are monitored for clearance time efficiency. Reports are generated monthly that detail detected incidents within view of the camera network available to the center. These reports are the basis of the monitoring plan. As the camera coverage expands so too will the coverage of the reporting.

6. Identify/Evaluate Strategies

Selection of the appropriate performance measures, analytical tools, and available data enables the identification of congested locations. Congestion may be recurring or non-recurring; the CMP should be capable of analyzing both types of congestion. Recurring congestion, which takes place at predictable intervals at particular locations, can generally be traced to a specific cause, such as a physical bottleneck or to conditions such as sun glare. Causes of non-recurring congestion may be more difficult to isolate, and solutions may require non-traditional strategies.

The GVMC CMP provides information about a wide range of congestion management strategies applicable to the Grand Rapids area. Using the many options available in the CMP," the MPO committees can select the appropriate solution for recurring congested locations.

A. Highway Projects

The Long Range Transportation Plan for the area presents the potential highway infrastructure projects that may be applicable for the Grand Rapids area. The regional travel model is the primary analysis tool to assess transportation impacts.

B. Transit Projects

Transit services and infrastructure projects have traditionally been implemented in regions to provide an alternative to automobile travel, potentially reducing peak-period congestion and improving mobility and accessibility for commuters. The 2030 ITP Master Plan, presents the transit projects that may be applicable for the area. These projects will tend to reduce system-wide VMT in relatively small increments but do improve corridor and system-wide accessibility, improve roadway travel times, and decrease congestion on the roadway system.

C. Intelligent Transportation System (ITS) and Transportation System Management (TSM)

Intelligent Transportation System (ITS) and Transportation System Management (TSM) strategies have traditionally focused on improving the operation of the transportation system without major capital investment and cost. While ITS strategies may be costly compared to more traditional TSM strategies, their relative congestion reduction impacts can be significant. The CMP Technical Report contains the ITS and TSM strategies that may be applicable for the Grand Rapids area. The strategies identified in that document can build upon current ITS initiatives in the region, such as the traffic signal coordination program

D. TDM Measures

Transportation Demand Management (TDM) strategies are used to reduce travel during the peak commute period. They are also used to help the area meet air quality conformity standards and are intended to provide ways to provide congestion relief/mobility improvements without high cost infrastructure projects. The CMP Technical Report presents the TDM strategies that may be applicable for the region. These strategies can potentially build upon current initiatives being implemented in the region, such as the local ride share program funded through the MPO.

E. Land Development Strategies

Land development strategies have been used in some areas to manage transportation demand on the system and to help agencies meet air quality conformity standards. Local municipal units land development strategies should be encouraged to include limits on the amount and location of development until certain service standards are met, or policies that encourage development patterns better served by public transportation and non-motorized modes. The Grand Valley Metropolitan Council Blueprint strives to work with local jurisdictions to plan for land development strategies that strike an appropriate balance between land use and transportation.

F. Bicycle and Pedestrian Projects

Non-motorized modes of transportation, such as biking and walking, are often overlooked as alternatives for alleviating congestion. Investments in these modes can increase safety and mobility in a cost-efficient manner, while providing a zero-emission alternative to motorized modes. The strategies listed can be implemented in the area with relatively little cost, but tend to have local rather than system-wide impacts. The effectiveness of an investment in non-motorized travel depends heavily on coordination with local land use policies and connections with other modes, such as transit, for longer distance travel. Safety and aesthetics should also be emphasized in the design of bicycle and pedestrian facilities in order to increase their attractiveness.

G. Access Management

Access management is a broad concept that can include everything from curb cut restrictions on local arterials to minimum interchange spacing on freeways. Restricting turning movements on local arterials can reduce accidents and prevent turning vehicles from impeding traffic flow. Similarly, eliminating merge points and weaving sections at freeway interchanges increases the capacity of the facility. The access management strategies listed in the CMP Technical Document are applicable to the area and can be used in either the modification or original design of a facility.

7. Implement Strategies/Improvements

This step involves the implementation and management of the defined strategies. GVMC will work closely with its member operating agencies that have participated in the CMP process throughout the implementation of congestion management strategies and activities. It is at this point that information gathered through the CMP process are applied to establish priorities in the MTP and TIP thereby facilitating the implementation of the congestion management process. This ensures a linkage between the CMP and funding decisions.

Integration into MPO Planning Process

The GVMC CMP is only one component of the overall metropolitan planning process. It is integrated with the MTP, Transportation Improvement Program (TIP), Major Investment Studies (MIS), and Corridor Studies through its data and analysis functions. These relationships are summarized below.

Relationship to the MTP

The GVMC CMP is related to the development of the regional MTP in three ways:

- The CMP provides system performance information which may be used by GVMC staff to identify corridors or segments for detailed analysis in Corridor or Major Investment Studies, as recommended by the MTP; and

- The CMP Cafeteria Plan provides alternative congestion management strategies for consideration in MIS and Corridor Studies, which ultimately provide recommendations for preferred strategies to be incorporated into the MTP.

- The CMP provides system performance information for local jurisdictions which sponsor improvements. This information may influence their recommended projects for corporation in the MTP.

Regionally Significant Projects not in CMP

Occasionally, regionally significant projects on facilities not included on the CMP network are considered for implementation. Due to the fact that all federal-aid urban facilities in the study area are included in the GVMC CMP, only new facilities would fall into the category of regionally significant facilities not in the CMP.

An analysis of alternatives, including TDM and TSM, is conducted in the context of a Major Investment Study, Corridor Study or development of a NEPA Environmental Document to develop the preferred strategy for the project;

8. Monitoring Strategy Effectiveness

GVMC, as administrators of the CMP, will periodically evaluate the effectiveness of strategies identified through the CMP. GVMC will continue to utilize the performance measures developed through the CMP to determine the effectiveness of the selected strategies. In assessing the degree to which the CMP strategies addressed the problems of congestion, GVMC will also examine the issue of how well, and to what extent, the strategies were implemented, and consider factors that may have contributed to the success or failure of the selected projects or programs. This evaluation will take place prior to each full update of the region's MTP.

This approach will require a plan to collect pre-implementation data, as well as make preparations for an ongoing monitoring process. This ongoing monitoring should isolate even marginal changes in system performance that may be associated with the improvement.

Based on the feedback from the assessment process, GVMC will make appropriate adjustments. These adjustments may be with respect to the strategies considered, or may reflect back to the performance measures used; the data collection and management component of the process; or the analytical methods and tools applied. The CMP is subject not only to periodic review, but to a timetable for upgrading the tools and methods to keep pace with current practice.

Congestion Management Process Results

As was stated earlier, it is the intent of GVMC to minimize the permanent impact on the physical environment by limiting as much as possible the construction of addition through lanes on the existing transportation infrastructure in the region. Every possible alternative is explored prior to the designation of a proposed solution involving additional pavement. To this end the GVMC CMP potential reduction in demand on the system by through the implementation of non-capacity adding solutions such as transit, TDM, and land use strategies. In addition, increased capacity is often possible by exploring consolidating driveways, improved signage and other methods. In many cases a decision is made to simply "live with" the conditions as they are rather than add additional through lanes. Only after all of these non-intrusive solutions have been exhausted will GVMC suggest adding additional through lanes as the preferred solution in situations where the additional capacity can be mitigated where possible.

Each of the identified deficiencies are listed along with the projected severity of the deficiency. In addition, each of the possible solutions contained in the GVMC CMP Cafeteria Plan are listed along with the potential reduction in demand or increase in capacity. Upon review of each of the related solutions an analysis is made to determine if the group of solutions was enough to alleviate the congestion conditions. If the facility remains congested a determination is made whether the condition is severe enough that it warrants additional capacity through the construction of additional lanes. In most cases the facility will be classified as constrained, meaning that there is no desire on a regional basis for the addition of added capacity. Of the 116 facilities determined to be capacity deficient by the year 2040, only a few have been recommended for additional capacity. These projects are listed in the funded improvements on page 125.

The Spreadsheet on the following page demonstrates how the analysis works.

GVMC MTP Congestion Management Process Working Spreadsheet

	STREET	FROM	TO	LENGTH	JURISD	FUNCTIONAL CLASS	LANES	Current Volume	2040 Volume	2040 Capacity	V/C	Transit Available	Excess Volume	Added Transit Capacity Impact	Potential Trips Reduced	Trans. Demand Management Impact	Potential Trips Reduced	Non Motorized Impact	Potential Trips Reduced	Land Development Impact	Potential Capacity Increase	Technology Implementation Impact	Potential Capacity Increase	Access Management Impact	Potential Capacity Increase	Non-Widening Capacity Potential	Potential Capacity Increase	Potential 2040 Demand	Potential 2040 Capacity	Do Nothing 2040 V/C	Potential 2040 V/C	Deficiency Resolved	Physically Constrained	Constrained Alternative (DRAFT)
1	M-11 (Wilson Ave)	Fennessy St NW	South of Lake Michigan Dr	1.15	MDOT	Urban Principal Arterial	2	21,419	37,119	13,200	2.81	No	23,919	Moderate	557	Moderate	278	Low	46	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	36,237	13,860	2.81	2.61	No	No	Further Study
2	Fuller Avenue	Lake Drive	Fulton Street	0.30	City of	Urban Minor Arterial	2	16,434	22,400	12,000	1.87	Yes	10,400	Low	224	Moderate	168	Moderate	56	n/a	1.25%	n/a	2.50%	n/a	1.25%	Yes	8.00%	21,952	13,560	1.87	1.62	No	Yes	No Added Capacity
3	M-11 (Wilson Ave)	Lake Michigan Dr NW	Leonard St NW	1.01	MDOT	Urban Principal Arterial	2	20,696	23,496	13,200	1.78	Yes	10,296	Low	235	Moderate	176	Low	29	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	23,055	13,860	1.78	1.66	No	No	Further Study
4	M-37 (Broadmoor Ave)	84th Street	North of 76th Street	1.31	MDOT	Urban Minor Arterial	2	21,781	23,284	13,200	1.76	No	10,084	Low	0	Moderate	175	Low	29	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	23,080	13,860	1.76	1.67	No	No	Further Study
5	M-44 (East Beltline Ave) SB	Knapp Street	South of Bradford Street	1.64	MDOT	Urban Principal Arterial	2	26,270	30,673	17,500	1.75	No	13,173	High	920	Moderate	230	Low	38	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	29,485	18,375	1.75	1.60	No	No	6 Lane Blvd per EIS
6	Burton Street	Spaulding Avenue	Patterson Avenue	0.50	KCRC	Urban Minor Arterial	2	15,095	20,235	12,000	1.69	No	8,235	Low	202	Moderate	152	Moderate	51	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	19,830	12,600	1.69	1.57	No	No	Further Study
7	Fulton Street	Plymouth Avenue	Fuller Avenue	0.74	City of	Urban Principal Arterial	3	19,351	19,751	12,000	1.65	Yes	7,751	Low	198	Moderate	148	Moderate	49	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	19,356	12,600	1.65	1.54	No	Yes	No Added Capacity
8	M-37 (Alpine Avenue)	4 Mile Road	3 Mile Road	1.03	MDOT	Urban Principal Arterial	6	51,065	55,839	34,800	1.60	Yes	21,039	Moderate	838	Moderate	419	Low	70	n/a	5.00%	n/a	2.50%	n/a	5.00%	No	0.00%	54,513	39,150	1.60	1.39	No	No	Further Study
9	Lake Drive	Fuller Avenue	Carleton Avenue	0.21	City of	Urban Minor Arterial	2	16,124	19,152	12,000	1.60	Yes	7,152	Low	192	Moderate	144	Moderate	48	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	18,769	12,600	1.60	1.49	No	Yes	No Added Capacity
10	I-196 BL (Grandville Ave)	Hall Street	Clyde Park Avenue	0.44	MDOT	Urban Principal Arterial	2	17,403	18,602	12,000	1.55	Yes	6,602	Low	186	Moderate	140	Moderate	47	n/a	2.50%	n/a	2.50%	n/a	2.50%	Yes	8.00%	18,230	13,860	1.55	1.32	No	Yes	No Added Capacity
11	Eastern Avenue	Hall Street	Burton Street	0.95	City of	Urban Minor Arterial	2	14,534	18,527	12,000	1.54	Yes	6,527	Low	185	Moderate	139	Moderate	46	n/a	1.25%	n/a	2.50%	n/a	1.25%	Yes	8.00%	18,156	13,560	1.54	1.34	No	Yes	No Added Capacity
12	M-44 (East Beltline Ave) NB	South of Bradford Street	Knapp Street	1.64	MDOT	Urban Principal Arterial	2	26,270	26,870	17,500	1.54	No	9,370	High	806	Moderate	202	Low	34	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	25,829	18,375	1.54	1.41	No	No	6 Lane Blvd
13	M-37 (East Beltline Ave)	Michigan Street	South of Bradford Street	0.42	MDOT	Urban Principal Arterial	5	44,081	48,484	32,000	1.52	No	16,484	High	1,455	Moderate	364	Low	61	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	46,606	33,600	1.52	1.39	No	No	6 Lane Blvd
14	Knapp Street	Pettis Avenue	Grand River Drive	0.84	KCRC	Urban Minor Arterial	2	15,245	17,674	12,000	1.47	No	5,674	Low	0	Moderate	133	Moderate	44	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	17,497	12,600	1.47	1.39	No	No	Further Study
15	M-11 (Wilson Ave)	Fennessy St SW	Butterworth St SW	2.87	MDOT	Urban Principal Arterial	2	21,419	23,181	16,000	1.45	No	7,181	Moderate	348	Moderate	174	Low	29	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	22,630	16,800	1.45	1.35	No	No	Further Study
16	M-37 (East Beltline Ave) SB	Michigan Street	Cascade Road	0.86	MDOT	Urban Principal Arterial	2	22,041	25,211	17,500	1.44	No	7,711	High	756	Moderate	189	Low	32	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	24,234	18,375	1.44	1.32	No	No	6 Lane Blvd
17	Wealthy Street	US-131	Division Avenue	0.18	City of	Urban Principal Arterial	4	32,938	37,567	26,400	1.42	Yes	11,167	Low	376	Moderate	282	Moderate	94	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	36,816	27,720	1.42	1.33	No	Yes	No Added Capacity
18	US-131 NB	36th Street	28th Street	1.01	MDOT	Urban Freeway	3	47,940	49,492	34,800	1.42	No	14,692	Low	495	Moderate	371	Low	62	n/a	0.00%	n/a	0.00%	n/a	0.00%	No	0.00%	48,564	35,670	1.42	1.36	No	No	Under Study
19	48th Avenue	Pierce Street	M-45	1.01	OCRC	Urban Minor Arterial	2	11,290	19,235	13,600	1.41	Yes	5,635	Low	192	Moderate	144	High	240	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	18,658	14,280	1.41	1.31	No	No	4 Lane Blvd
20	M-37 (Broadmoor Ave)	Glengarry Avenue	84th Street	0.86	MDOT	Rural Minor Arterial	2	15,954	18,466	13,200	1.40	No	5,266	Low	0	Moderate	138	Low	23	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	18,304	13,860	1.40	1.32	No	No	Further Study
21	Leonard Street	Turner Avenue	Scribner Avenue	0.06	MDOT	Urban Principal Arterial	6	23,604	24,723	18,000	1.37	Yes	6,723	Low	247	Moderate	185	Moderate	62	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	24,228	18,900	1.37	1.28	No	Yes	No Added Capacity
22	68th Avenue	Warner Avenue	Twp Line	1.55	OCRC	Urban Minor Arterial	2	12,358	16,468	12,000	1.37	No	4,468	Low	0	Moderate	124	Moderate	41	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	16,104	12,600	1.37	1.29	No	No	Further Study
23	Leonard Street	Diamond Avenue	Fuller Avenue	0.25	City of	Urban Principal Arterial	3	15,995	16,395	12,000	1.37	Yes	4,395	Low	164	Moderate	123	Moderate	41	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	16,067	12,600	1.37	1.28	No	Yes	No Added Capacity
24	M-45 (Lake Michigan Dr)	I-196	Covell Avenue	0.85	MDOT	Urban Principal Arterial	4	32,114	35,832	26,400	1.36	Yes	9,432	Low	358	Moderate	269	Low	45	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	35,160	27,720	1.36	1.27	No	No	Further Study
25	Eastern Avenue	Wealthy Street	Hall Street	1.00	City of	Urban Minor Arterial	3	15,148	15,874	12,000	1.32	Yes	3,874	Low	159	Moderate	119	Moderate	40	n/a	1.25%	n/a	2.50%	n/a	1.25%	Yes	8.00%	15,557	13,560	1.32	1.15	No	Yes	No Added Capacity
26	M-37 (East Beltline Ave) SB	Cascade Rd SE	Lake Dr SE	0.94	MDOT	Urban Principal Arterial	2	20,892	23,083	17,500	1.32	No	5,583	High	692	Moderate	173	Low	29	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	22,188	18,375	1.32	1.21	No	No	6 Lane Blvd
27	M-37 (East Beltline Ave) NB	Cascade Road	Michigan Street	0.87	MDOT	Urban Principal Arterial	2	20,892	22,858	17,500	1.31	No	5,358	High	686	Moderate	171	Low	29	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	21,972	18,375	1.31	1.20	No	No	6 Lane Blvd
28	M-37 (East Beltline Ave) NB	Lake Drive	Cascade Road	1.34	MDOT	Urban Principal Arterial	2	20,755	22,835	17,500	1.30	No	5,335	High	685	Moderate	171	Low	29	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	21,950	18,375	1.30	1.19	No	No	6 Lane Blvd
29	M-37 (East Beltline Ave) SB	Lake Dr SE	End of BLVD	1.27	MDOT	Urban Principal Arterial	2	21,878	22,755	17,500	1.30	No	5,255	High	683	Moderate	171	Low	28	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	21,873	18,375	1.30	1.19	No	No	6 Lane Blvd
30	M-37 (East Beltline Ave) NB	North of Lake Eastbrook	Lake Drive	1.27	MDOT	Urban Principal Arterial	2	21,878	22,723	17,500	1.30	No	5,223	High	682	Moderate	170	Low	28	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	21,842	18,375	1.30	1.19	No	No	6 Lane Blvd
31	Lake Drive	Carleton Avenue	City Limits	0.37	City of	Urban Minor Arterial	2	14,387	15,449	12,000	1.29	Yes	3,449	Low	154	Moderate	116	High	193	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	14,986	12,600	1.29	1.19	No	Yes	No Added Capacity
32	Alpine Avenue	Leonard Street	Richmond Street	0.50	City of	Urban Principal Arterial	2	13,574	15,419	12,000	1.28	Yes	3,419	Low	154	Moderate	116	Moderate	39	n/a	1.25%	n/a	2.50%	n/a	2.50%	Yes	8.00%	15,111	13,860	1.28	1.09	No	Yes	No Added Capacity
33	Hudson Street	The Grand River	Main Street	0.61	City of	Urban Minor Arterial	2	13,887	15,352	12,000	1.28	No	3,352	Low	0	Moderate	115	Moderate	38	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	15,199	12,600	1.28	1.21	No	Yes	No Added Capacity
34	M-44 (Belding Rd)	Blakely Drive	Myers Lake Avenue	1.51	MDOT	Urban Minor Arterial	2	15,319	16,745	13,200	1.27	No	3,545	Low	0	Moderate	126	Low	21	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	16,599	13,860	1.27	1.20	No	No	Further Study
35	Cottonwood Drive	Bauer Road	Fillmore Street	1.43	OCRC	Urban Minor Arterial	2	10,439	15,288	12,150	1.26	No	3,138	Low	0	Moderate	115	Low	19	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	15,155	12,758	1.26	1.19	No	No	Widen 2 - 4 lanes
36	Alden Nash Avenue	I-96 WB Ramps	Cascade Road	0.42	KCRC	Rural Minor Arterial	3	13,382	14,533	12,000	1.21	No	2,533	Low	0	Moderate	109	Low	18	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	14,406	12,600	1.21	1.14	No	No	Further Study
37	Spaulding Avenue	Clear Springs Drive	Cascade Road	0.92	KCRC	Urban Minor Arterial	2	10,636	14,525	12,000	1.21	No	2,525	Low	0	Moderate	109	Low	18	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	14,398	12,600	1.21	1.14	No	No	Further Study
38	4 Mile Road	Cordes Avenue	Bristol Avenue	0.50	KCRC	Urban Minor Arterial	2	10,465	14,166	12,000	1.18	No	2,166	Low	0	Moderate	106	Low	18	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	14,042	12,600	1.18	1.11	No	No	Further Study
39	Lake Drive	Eastern Avenue	Fuller Avenue	0.25	City of	Urban Minor Arterial	2	13,625	14,106	12,000	1.18	Yes	2,106	Low	141	Moderate	106	Moderate	35	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	13,824	12,600	1.18	1.10	No	Yes	No Added Capacity
40	M-44 (Belding Rd)	Wolverine Blvd	Blakely Drive	1.17	MDOT	Urban Minor Arterial	2	15,319	15,454	13,200	1.17	No	2,254	Low	0	Moderate	116	Low	19	n/a	2.50%	n/a	2.50%	n/a	2.50%	No	0.00%	15,319	14,190	1.17	1.08	No	No	Further Study
41	68th Avenue	M-45	Warner Street	1.51	OCRC	Urban Minor Arterial	2	11,391	14,011	12,000	1.17	No	2,011	Low	0	Moderate	105	Low	18	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	13,888	12,600	1.17	1.10	No	No	Further Study
42	College Avenue	Bissell Street	I-196	0.31	City of	Urban Minor Arterial	2	9,602	14,006	12,000	1.17	Yes	2,006	Low	140	Moderate	105	Moderate	35	n/a	2.50%	n/a	2.50%	n/a	2.50%	Yes	8.00%	13,726	13,860	1.17	0.99	Yes	No	No Added Capacity
43	Knapp Street	Maguire Avenue	Dunnigan Avenue	1.01	KCRC	Urban Minor Arterial	2	12,886	13,937	12,000	1.16	No	1,937	Low	0	Moderate	105	Low	17	n/a	2.50%	n/a	2.50%	n/a	2.00%	No	0.00%	13,815	12,780	1.16	1.08	No	No	Further Study
44	Bridge Street	Mt Vernon Avenue	Straight Avenue	0.44	City of	Urban Minor Arterial	2	12,380	13,852	12,000	1.15	Yes	1,852	Low	139	Moderate	104	High	173	n/a	1.25%	n/a	2.50%	n/a	1.25%	Yes	8.00%	13,437	13,560	1.15	0.99	Yes	Yes	No Added Capacity
45	44th Street	Clay Ave SW	Buchanan Avenue	0.42	City of	Urban Principal Arterial	4	36,851	39,958	34,800	1.15	Yes	5,158	Low	400	Moderate	300	Moderate	100	n/a	3.00%	n/a	2.50%	n/a	3.00%	No	0.00%	39,159	37,758	1.15	1.04	No	No	No Added Capacity
46	32nd Street	Shaffer Avenue	Breton Avenue	1.00	City of	Urban Minor Arterial	2	10,765	13,735	12,000	1.14	Yes	1,735	Low	137	Moderate	103	Low	17	n/a	2.50%	n/a	2.50%	n/a	2.50%	Yes	8.00%	13,477	13,860	1.14	0.97	Yes	No	No Added Capacity
47	M-11 (28th Street)	Patterson Ave SE	I-96	0.52	MDOT	Urban Principal Arterial	5	37,846	39,581	34,800	1.14	No	4,781	Moderate	594	Moderate	297	Moderate	99	n/a	5.00%	n/a	2.50%	n/a	5.00%	No	0.00%	38,592	39,150	1.14	0.99	Yes	No	Further Study
48	Fuller Avenue	Michigan Street	I-196	0.23	City of	Urban Principal Arterial	5	24,856	29,885	26,400	1.13	Yes	3,485	Low	299	Moderate	224	High	374	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	28,989	27,720	1.13	1.05	No	Yes	No Added Capacity
49	M-45 (Lake Michigan Dr) EB	48th Avenue	East of 24th Avenue	3.18	MDOT	Urban Principal Arterial	2	15,694	19,783	17,500	1.13	Yes	2,283	Low	198	Moderate	148	Low	25	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	19,412	18,375	1.13	1.06	No	No	No Added Capacity
50	M-11 (Wilson Ave)	Leonard St NW	Remembrance Rd NW	1.53	MDOT	Urban Principal Arterial	2	13,191	14,866	13,200	1.13	Yes	1,666	Low	149	Moderate	111	Low	19	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	14,587	13,860	1.13	1.05	No	No	Further Study
51	M-45 (Lake Michigan Dr) WB	East of 24th Avenue	48th Avenue	3.25	MDOT	Urban Principal Arterial	2	15,694	19,646	17,500	1.12	Yes	2,146	Low	196	Moderate	147	Low	25	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	19,277	18,375	1.12	1.05	No	No	No Added Capacity
52	M-37 (East Beltline Ave) NB	M-11 (28th Street)	North of Lake Eastbrook	0.48	MDOT	Urban Principal Arterial	5	37,912	39,018	34,800	1.12	Yes	4,218	Low	390	Moderate	293	Low	49	n/a	2.50%	n/a	2.50%	n/a	2.50%	No	0.00%	38,287	37,410	1.12	1.02	No	No	6 Lane Blvd
53	I-196 (WB)	Ottawa Avenue	US-131	0.42	MDOT	Urban Interstate	2	36,057	40,110	35,800	1.12	No	4,310	Low	401	Moderate	301	Low	50	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	39,358	37,590	1.12	1.05	No	No	Added Cap/Flow Imp
54	M-21 (Main St)	James Street SE	Hudson Street SE	0.73	MDOT	Urban Minor Arterial	3	14,012	14,769	13,200	1.12	No	1,569	Low	0	Moderate	111	Low	18	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	14,640	13,860	1.12	1.06	No	Yes	No Added Capacity
55	Monroe Avenue	Leonard Street	Ottawa Street	0.15	City of	Urban Minor Arterial	2	13,472	15,660	14,000	1.12	Yes	1,660	Low	157	Moderate	117	Moderate	39	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	15,347	14,700	1.12	1.04	No	Yes	No Added Capacity
56	M-57 (14 Mile Rd)	US-131 SB Ramps	US-131 NB Ramps	0.28	MDOT	Rural Minor Arterial	2	14,171	14,714	13,200	1.11	No	1,514	Low	0	Moderate	110	Low	18	n/a	0.00%	n/a	2.50%	n/a	0.00%	No	0.00%	14,585	13,530	1.11	1.08	No	No	Further Study
57	M-57 (14 Mile Rd)	Lincoln Lake Ave NE	East County Line	2.17	MDOT	Rural Minor Arterial	2	13,323	14,706	13,200	1.11	No	1,506	Low	0	Moderate	110	Low	18	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	14,578	13,860	1.11	1.05	No	No	Further Study
58	I-196 (EB)	US-131	Ottawa Avenue	0.42	MDOT	Urban Interstate	2	36,057	39,797	35,800	1.11	No	3,997	Low	398	Moderate	298	Low	50	n/a	0.00%	n/a	2.50%	n/a	0.00%	No	0.00%	39,051	36,695	1.11	1.06	No	No	Added Cap/Flow Imp
59	I-196 (EB)	Lake Michigan Drive	Lane Avenue	0.88	MDOT	Urban Interstate	2	32,079	36,233	32,800	1.10	No	3,433	Low	362	Moderate	272	Low	45	n/a	0.00%	n/a	2.50%	n/a	0.00%	No	0.00%	35,554	33,620	1.10	1.06	No	No	No Added Capacity
60	M-11 (28th Street)	US-131	S Division Ave	0.59	MDOT	Urban Principal Arterial	5	36,865	38,424	34,800	1.10	Yes	3,624	Low	384	Moderate	288	Low	48	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	37,703	36,540	1.10	1.03	No	No	Further Study
61	I-196 (WB)	Lane Avenue Off Ramp	Lake Michigan Drive	1.15	MDOT	Urban Interstate	2	32,079	36,189	32,800	1.10	No	3,389	Low	362	Moderate	271	Low	45	n/a	0.00%	n/a	2.50%	n/a	0.00%	No	0.00%	35,510	33,620	1.10	1.06	No	No	Further Study
62	68th Avenue	Sunset Drive	M-45	0.48	OCRC	Urban Collector	2	9,663	13,226	12,000	1.10	No	1,226	Low	0	Moderate	99	Low	17	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	13,110	12,600	1.10	1.04	No	No	Further Study
63	I-96/I-196/East Beltline Interchange	n/a	n/a	1.17	MDOT	Urban Interstate	var.	67,500	74,000	67,500	1.10	No	6,500																					Reconfigure per EIS
64	Baldwin Street	Cottonwood Drive	Main Street	0.16	OCRC	Urban Minor Arterial	5	31,001	38,292	34,800	1.10	No	3,492	Low	0	Moderate	287	Moderate	96	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	37,909	36,540	1.10	1.04	No	No	No Added Capacity
65	I-196 BL (Grandville Ave)	Franklin Street	Hall Street	0.54	MDOT	Urban Minor Arterial	2	11,757	13,200	12,000	1.10	Yes	1,200	Low	132	Moderate	99	Moderate	33	n/a	3.00%	n/a	2.50%	n/a	3.00%	No	0.00%	12,936	13,020	1.10	0.99	Yes	Yes	No Added Capacity
66	Lake Drive	City Limits	Plymouth Avenue	0.32	City of	Urban Minor Arterial	2	12,136	13,198	12,000	1.10	Yes	1,198	Low	132	Moderate	99	Moderate	33	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	12,934	12,600	1.10	1.03	No	Yes	No Added Capacity
67	US-131 SB	Leonard Street	Michigan Street	1.01	MDOT	Urban Interstate	3	56,151	58,469	53,700	1.09	No	4,769	Low	585	Moderate	439	Low	73	n/a	0.00%	n/a	2.50%	n/a	0.00%	No	0.00%	57,373	55,043	1.09	1.04	No	No	Under Study
68	M-45 (Lake Michigan Dr)	Covell Avenue	Maynard Avenue	1.51	MDOT	Urban Principal Arterial	5	32,114	37,890	34,800	1.09	Yes	3,090	Low	379	Moderate	284	High	474	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	36,753	36,540	1.09	1.01	No	No	No Added Capacity
69	M-37 (Cherry Valley Ave)	108th Street	100th Street	1.00	MDOT	Rural Minor Arterial	2	11,608	13,058	12,000	1.09	No	1,058	Low	0	Moderate	98	Low	16	n/a	5.00%	n/a	2.50%	n/a	5.00%	No	0.00%	12,943	13,500	1.09	0.96	Yes	No	No Added Capacity
70	Leonard Street	Scribner Avenue	Monroe Avenue	0.46	MDOT	Urban Principal Arterial	4	23,604	26,080	24,000	1.09	No	2,080	Moderate	391	Moderate	196	Moderate	65	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	25,428	25,200	1.09	1.01	No	Yes	No Added Capacity
71	Michigan Street	College Avenue	Lafayette Avenue	0.25	City of	Urban Principal Arterial	5	22,000	26,035	24,000	1.08	Yes	2,035	Low	260	Moderate	195	Moderate	65	n/a	5.00%	n/a	2.50%	n/a	5.00%	No	0.00%	25,515	27,000	1.08	0.94	Yes	Yes	No Added Capacity
72	M-21 (Fulton St)	M-37	Robinson Road	0.26	MDOT	Urban Principal Arterial	2	12,588	14,266	13,200	1.08	No	1,066	Low	0	Moderate	107	Moderate	36	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	14,123	13,860	1.08	1.02	No	No	No Added Capacity
73	Wealthy Street	Eastern Avenue	Eureka Avenue	0.25	City of	Urban Minor Arterial	2	11,577	12,535	11,600	1.08	Yes	935	Low	125	Moderate	94	High	157	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	12,159	12,180	1.08	1.00	No	Yes	No Added Capacity
74	US-131 SB	Wealthy Street On Ramp	Hall Street	0.94	MDOT	Urban Freeway	3	53,652	58,028	53,700	1.08	No	4,328	Low	580	Moderate	435	Low	73	n/a	0.00%	n/a	2.50%	n/a	0.00%	No	0.00%	56,940	55,043	1.08	1.03	No	No	No Added Capacity
75	54th Street	Clyde Park Ave SW	Clay Avenue SW	0.42	City of	Urban Principal Arterial	5	33,734	37,566	34,800	1.08	Yes	2,766	Low	376	Moderate	282	Moderate	94	n/a	5.00%	n/a	2.50%	n/a	5.00%	No	0.00%	36,815	39,150	1.08	0.94	Yes	No	No Added Capacity
76	M-21 (Fulton St)	Settlewood Drive	BLVD Start	2.85	MDOT	Urban Minor Arterial	2	12,392	14,218	13,200	1.08	No	1,018	Low	0	Moderate	107	Low	18	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	14,094	13,860	1.08	1.02	Yes	No	No Added Capacity
77	Michigan Street	Lafayette Avenue	Monroe Avenue	0.53	City of	Urban Principal Arterial	5	22,266	26,413	24,600	1.07	Yes	1,813	Low	264	Moderate	198	High	330	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	25,621	25,830	1.07	0.99	Yes	Yes	No Added Capacity
78	M-44 (East Beltline Ave) SB	4 Mile Road	Knapp Street	2.03	MDOT	Urban Principal Arterial	2	15,505	18,762	17,500	1.07	No	1,262	Low	0	Moderate	141	Low	23	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	18,598	18,375	1.07	1.01	No	No	No Added Capacity
79	84th Street	Alaska Avenue	M-37 (Broadmoor Ave)	1.14	KCRC	Urban Minor Arterial	2	9,219	12,863	12,000	1.07	No	863	Low	0	Moderate	96	Low	16	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	12,750	12,600	1.07	1.01	No	No	No Added Capacity
80	Fuller Avenue	Wealthy Street	Franklin Street	0.50	City of	Urban Minor Arterial	2	12,105	12,837	12,000	1.07	Yes	837	Low	128	Moderate	96	High	160	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	12,452	12,600	1.07	0.99	Yes	Yes	No Added Capacity
81	M-45 (Lake Michigan Dr) EB	West of 48th Avenue	48th Avenue	2.86	MDOT	Urban Principal Arterial	2	14,676	18,682	17,500	1.07	No	1,182	Moderate	280	Moderate	140	Moderate	47	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	18,215	18,375	1.07	0.99	Yes	No	No Added Capacity
82	M-45 (Lake Michigan Dr) WB	48th Avenue	West of 48th Avenue	2.86	MDOT	Urban Principal Arterial	2	14,676	18,682	17,500	1.07	No	1,182	Moderate	280	Moderate	140	Moderate	47	n/a	1.25%	n/a	2.50%	n/a	1.25%	No	0.00%	18,215	18,375	1.07	0.99	Yes	No	No Added Capacity
83	M-11 (28th Street)	Kalamazoo Ave SE	Chamberlain Ave SE	1.01	MDOT	Urban Principal Arterial	5

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Chapter 9: Pavement Management System

For more than 100 years the municipalities in the Grand Rapids metropolitan area have been developing, improving, and maintaining a viable transportation system for the residents and businesses to use for the expressed purpose of efficiently moving people and goods throughout the region and beyond.

Map 8 on page 56 depicts the pavement condition ratings for the federal-aid system. The GVMC Pavement Management System will continue to be an invaluable tool for managing and keeping a close inventory on pavement conditions throughout the metropolitan area. The PaMS will provide local decision makers with the data necessary to make well-informed choices on roadway condition improvements.

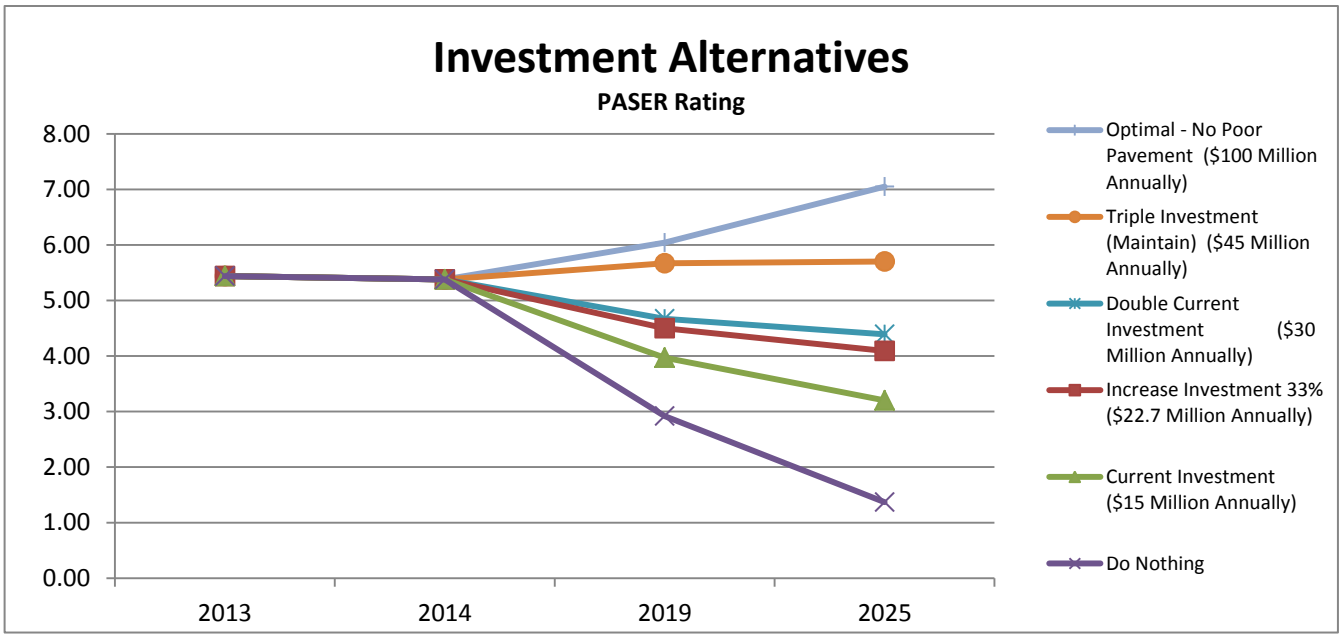
Pavement Infrastructure Need

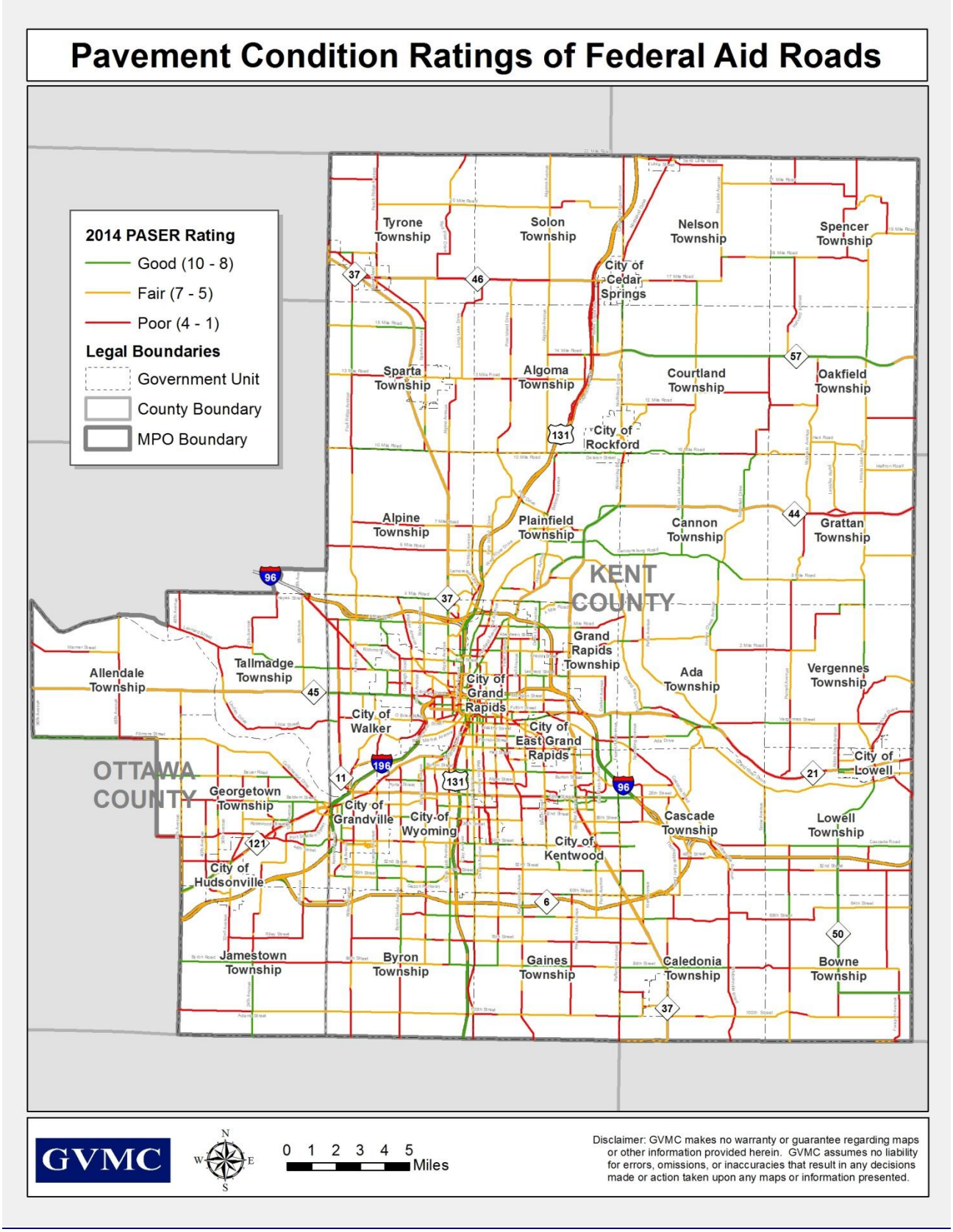
The GVMC PaMS committee is continuously working on a plan to maximize the use of all available funding that comes to this area for the purposes of maintaining and, where possible, improving the system. The goal of this effort was to determine the absolute need for maintaining the system at various levels of condition for the next 25 years.

As of 2014, 69% of the federal aid system is in good or fair condition, with 64 percent of the non-trunkline federal-aid system in the GVMC area in good or fair condition and 88% of the trunklines in the region rated at good or fair. To maintain the system in its current state, it is estimated that the investment in the system will need to nearly double. To get the system up to 80 percent overall good or fair condition, it will require an investment of more than triple the current investment every year. The figure below shows the results of various levels of investment in the regions roads.

MDOT analysis shows a rapid deterioration of the trunkline network, with approximately half the Freeway and Non-Freeway Networks in poor condition by FY 2028 and FY 2021, respectively. Major factors contributing to this deterioration are insufficient Road preservation funds and a high amount of existing fair condition pavement. To meet and sustain the current Good/Fair pavement condition goal, it is estimated that a total of $157 Million is needed each year for the Grand Region. When comparing this amount to Grand Region's current road preservation budget of $42 Million, this translates to a $115 Million (276%) annual increase in funding needed to sustain the current condition goals, for the 8 counties in the Grand Region.

Figure 10 – Future Pavement Condition Scenarios





Map 8 – Pavement Management System Road Map with General Rankings

Chapter 10: Transit and TDM

Grand Rapids has a long history of public transportation dating back over 130 years. The earliest years consisted of horse-drawn carriages that began in the mid-1870s. Public transportation eventually evolved into a comprehensive electric interurban streetcar system beginning in the early 1890s that became the pride of the city and represented the "glory years" of transit in Grand Rapids. Nevertheless, certain federal, state, and local polices dating back to the end of WWII culminated in the significant and widespread disinvestment of U.S. cities and transit infrastructure. Consequently, both the investment in public transportation and corresponding ridership began to decline dramatically. Grand Rapids was no different; the streetcar system was converted to rubber-tired buses by 1935. In order to maintain public transit services that had historically been operated by private companies, the Grand Rapids Transit Authority was formed by the City of Grand Rapids in 1963. The Grand Rapids Transit Authority leased assets from Grand Rapids City Coach Lines (CCL), a private management company, and retained them to manage and operate the transit system. Nevertheless, by the mid-1960s the Grand Rapids Transit Authority experienced a significant decline in both passengers and revenues, as did most transit systems in the country. By 1968, the City of Grand Rapids began underwriting the area's transit system with payments in order to keep the essential transit services alive. The State of Michigan began offering financial operating assistance to the City for the operation of the transit system in1972 and the Federal government followed suit beginning in 1974.

In July 1978, the Grand Rapids Area Transit Authority (GRATA) was created in an effort to provide effective cross-jurisdictional public transportation services. GRATA was a voluntary association of local governments established to provide public transportation services to the cities of East Grand Rapids, Grand Rapids, Grandville, Kentwood, Walker, and Wyoming and the townships of Byron and Gaines. Service was also provided on a contract basis to the townships of Ada, Alpine, Cascade, and Plainfield.

In January, 2000, the Interurban Transit Partnership (ITP) was formed by the cities of Grand Rapids, East Grand Rapids, Grandville, Kentwood, Walker and Wyoming under Act 196 of the Public Acts of the State of Michigan. The creation of ITP allowed for the expansion of public transportation in the Grand Rapids area. Shortly after incorporating under Act 196, ITP chose the name The Rapid to distinguish the services it provides and promote easier identification of a transit service "brand-name." Act 196 allows The Rapid to ask voters for a millage election to support the funding of public transportation. On April 11, 2000, a 0.75 mill millage election was successfully passed. The result was the implementation of a six-point improvement plan in the six cities beginning in October 2000.

In November 2003, voters in the six-city region passed an increase in the mill-rate for The Rapid. The new 0.95 millage rate replaced the pre-existing 0.75 rate approved by voters in 2000. The 0.2 mill increase covered decreased State Operating Assistance and generated revenues that were invested in modest service enhancements. These service improvements included frequency improvements, additional evening service, and additional weekend service.

The Rapid embarked on a Comprehensive Operational Analysis (COA) of The Rapid's services beginning in May 2005. The product of the COA was both a Phase 1 (near-term) and a Phase 2 (short-range) implementation plan. The Phase 1 plan was designed to provide The Rapid with an efficient base transit system from which to continue to improve service levels and performance in the near future with little cost

increase. The Rapid Board implemented the Phase 1 improvements, with enhanced services coming into effect in May 2007.

The Phase 2 plan was designed to build upon the Phase 1 plan and included expanded system area coverage. In addition to service alignment and service level improvements, transit passenger facility improvements were included to improve system attractiveness and ease of system use. Phase 2 required an additional $2,246,219. Therefore, in May 2007, The Rapid Board went to the community with a millage renewal request that included a 0.17 increase in the current 0.95 property tax millage to pay for the Phase 2 improvements. The millage was approved by the area voters and improvements were implemented in August 2007.

Again in 2011, ITP went to voters seeking an increase in the millage. By approving the millage, voters agreed to increase The Rapid bus system's current five-year 1.12 mill tax levy by 0.35 mills to a total of 1.47 mills for seven years. The improvements were made gradually with the full millage levy eventually raising $15.6 million a year. One-third of the millage increase goes toward operating the Silver Line. The extra funding was used to pay for a variety of improvements over five years including: increasing weekday bus frequency to 30 minutes on all routes from 5 a.m. To 7:15 p.m., run all routes until 11:15 p.m. weekdays, extending weekday evening service to 12:15 a.m. on the seven most productive routes, improving weekday peak frequency service to 15 minutes on the six next most productive routes, adding Bus Rapid Transit on Division Avenue, extending Saturday evening service to 10 p.m. on all routes except Woodland Mall/Airport Route 17, extending GVSU Campus route to Central Station on weekdays at current frequency, increase weekday evening frequency to 30-minutes on six most productive routes to 11:15 p.m., and increasing weekday evening frequency to 30-minutes on seven most productive routes to 12:15 a.m.

Existing Service, Travel Demand Management Strategies & Special Projects

The Rapid Transit Master Plan (TMP)

A **Transit Master Plan,** or TMP, is a comprehensive, 20-year plan that guides the future development of The Rapid transit system, primarily for its current service area of the cities of East Grand Rapids, Grand Rapids, Grandville, Kentwood, Walker and Wyoming.

The plan also helps The Rapid understand how our system stacks up against those of comparable cities, identify what we can learn from those systems, ways we can enhance our transit system and services, and how we can improve service, attract and retain riders, increase efficiencies, and lower costs based on peer best practices.

Three scenarios were developed varying in scope of transit investment and cost, with Scenario A being the least aggressive and Scenario C being the most aggressive. Based on the responses from the public and the Mobile Metro 2030 Task Force (MMTF), which assisted in the development of the TMP, the Project Team developed a "Preferred" Scenario that matches the vision of Scenario C but at a cost closer to Scenario B. The "Preferred" Scenario incorporates the span of service improvements from Scenario A, most of the frequency improvements from Scenarios A and B, develops Bus Rapid Transit on The Rapid's two most successful transit corridors and includes the full Regional Express Bus program from Scenario C as well as a Modern Streetcar starter network that would connect the West Side, downtown Grand Rapids and Medical Mile, laying the foundation for future streetcar expansion projects (West Grand, East Grand Rapids). The "Preferred" Scenario would also include improvements to the Go!Bus system, including extension of Go!Bus service to new service areas, development of an Accessibility Improvement Plan, and same day booking service (subject to space available). In presenting the recommendation on behalf of the Task Force, Bob Roth, president of RoMan Manufacturing and Chair of the MMTF urged the Board to adopt the "Preferred" Scenario and encouraged them not to lose sight of the vision in Scenario C so that additional projects could be reincorporated at a later date.

Both the annual 2030 operating and maintenance costs and the aggregated FY 2011-2030 capital cost for the "Preferred" Scenario are roughly double today's costs after adjusting for inflation. Fortunately, the millage would not have to double. Since some of the new services and service improvements would occur outside current Rapid boundaries, they would be funded as contracted services. The State of Michigan is also

considering an increase in the state sales tax, from 6 to 7 percent, and some of that increase could help supplement local transit funding. Any remaining deficit would need to be funded through local sources, either as millage or as local contributions for the streetcar services. Without these additional contributions though, the "Preferred" Scenario would require an increase in the local millage rate from 1.12 mills to approximately 2.00 mills.

A more detailed description of the service improvements incorporated in the TMP may be found on The Rapid's website.

Fixed-Route Services

The Rapid currently operates 28 fixed-routes that provide service to the Grand Rapids Area serving the cities of Grand Rapids, East Grand Rapids, Grandville, Kentwood, Walker and Wyoming and the townships of Byron, Gaines, Cascade and Alpine. The Rapid's fixed-route system is currently a radial system with three cross-town routes; the radial hub for routes is Rapid Central Station in downtown Grand Rapids. The Rapid also operates service out to Grand Valley State's Pew Campus in Allendale and runs circulator fixed routes in the Allendale area. Service frequencies are 15–30 minutes during weekday peak hours (6:15 AM – 8:45 AM and 3:45 PM – 6:15 PM) and 30–60 minutes during off-peak hours.

The Rapid Specialized Services

The Rapid, in its role as regional coordinator for specialized transportation service, receives an annual allocation from the State of Michigan for Specialized Services Operating Assistance. Specialized Services Operating Assistance funds are used by human service agencies to provide demand response service that is beyond The Rapid's service area and/or hours.

The Rapid brings these human service agencies together on a bi-monthly basis to assist them in the coordination of service, to help prevent duplication of service, and to share information.

Six agencies receive funding under this program. Hope Network, which is the second largest provider of transportation in the area, offers transportation for persons with disabilities. Hope Network operates 120 vehicles per day, with approximately 60 buses operating in Kent County. Other transportation providers that receive funding under this program include the American Red Cross, which provides transportation to medical services for seniors and persons with disabilities. The Area Community Service Employment and Training Council (ACSET) offers transportation to seniors and persons with disabilities for their clients at their site in Cedar Springs. Senior Neighbors offers transportation for seniors at their sites in Sparta, Lowell and Grandville. Goodwill offers transportation for persons with disabilities for employment purposes, and Community Mental Health provides funding for mental health transportation services throughout Kent County.

Paratransit Service

The Rapid provides GO!Bus service to seniors and persons with disabilities who meet the Americans with Disabilities Act (ADA) guidelines. This service operates door to door on advance reservations and offers wheelchair lift equipped vehicles. The GO! Bus service area includes the entire fixed-route service area and is also offered by contract to eligible residents of Ada and Cascade townships as well as parts of Alpine, Byron and Gaines Townships that are outside the ¾ mile ADA transit zone and under contract with The Rapid. The Rapid manages and oversees GO!Bus, including user eligibility, trip reservations, scheduling, and service monitoring. Trip delivery is competitively procured every three to five years. However, the 70 vehicles are provided by The Rapid. The fleet of GO! Bus vehicles are made up of cutaway buses. The current provider of trip delivery for GO! Bus is MV Transportation.

Supportive Housing Program (SHP) and GAP Program

The City of Grand Rapids contracts with The Rapid to provide transportation service for homeless persons participating in the Homeless Assistance programs. The GAP Program is basically for persons who fall through the cracks (or gaps) in assistance available. GAP supplies service to area churches and shelters, while

the SHP Program is for individuals and families in Transitional Housing and emergency shelters. The Rapid has a contract to provide the following:

1. Mobility assessment, training and coordination
2. Bus tickets and passes

Community Mental Health

Kent County Community Mental Health Department (CMH) contracts with The Rapid to provide transportation services for persons with mental or developmental disabilities.

Travel Training

The Rapid offers the Travel Training Program that teaches individuals with disabilities to ride public transportation independently. The training process includes a series of steps which include close instructor assistance at the beginning with gradual fading assistance as the student demonstrates readiness. Participants generally include persons with developmental disabilities. The training includes route training, landmark identification, appropriate social behavior, safety and emergency training, parent, guardian, and case manager consultation, street crossing, stranger awareness, and follow-up training. Travel training is available to other groups such as senior citizens and refugees relocating to the area as time is available.

RideLink

RideLink is a collaboration between five providing agencies (Hope Network of West Michigan, Red Cross, Senior Neighbors, United Methodist Community House and ACSET) to provide low cost shared rides to persons age 60 and older throughout Kent County. The Rapid operates the call center and schedules the trips with the area providers. The program is monitored by the Area Agency on Aging of West Michigan since the majority of the funds used to provide the service come from the Kent County Senior Millage.

Business Transportation Services

The Rapid has provided assistance to individuals and employers in arranging shared ride transportation through the Business Transportation Services since 1990. Business Transportation Services includes rideshare, carpooling, and GreenRide programs. Cumulatively, The Rapid's rideshare program reduces 11 million miles traveled annually. Furthermore, The Rapid continues to complete outreach to area employers and represents The Rapid at area employer fairs and other events.

The Rideshare program includes carpooling, vanpooling and any other sustainability-based program that helps remove single occupant vehicles from the roads. Currently, The Rapid has twenty-one (21) RapidVan vanpools in operation. The 32 vans in operation save 850,000 vehicle miles traveled annually.

Transit Accessibility/Environmental Justice Analysis

GVMC recently completed an exercise that was intended to determine the percentage of population within a reasonable walking distance to an ITP transit route. Using the methodology that was used to define all Environmental Justice areas, GVMC staff compared the ITP transit service area with the previously defined poverty area. This analysis was completed in an effort to determine if/where service improvements could be targeted in the future to better accommodate those who rely on transit as their primary means of transportation..

A map showing this analysis can be found in Appendix G on page 231.

Bus Rapid Transit – Silver Line

In August of 2014 The Interurban Transit Partnership (The Rapid) implemented the regions first Bus Rapid Transit (BRT) along Division Avenue from the Grand Rapids central business district (CBD) to 60th Street/Division Avenue. The project includes real-time passenger information at stations, transit signal priority, off-board fare collection and the purchase of ten hybrid-fueled, low-floor branded vehicles. An existing bus maintenance facility has also been expanded to accommodate the BRT vehicles. The service operates with 10-minute headways during peak periods and 15-minute headways during weekday off-peak periods.

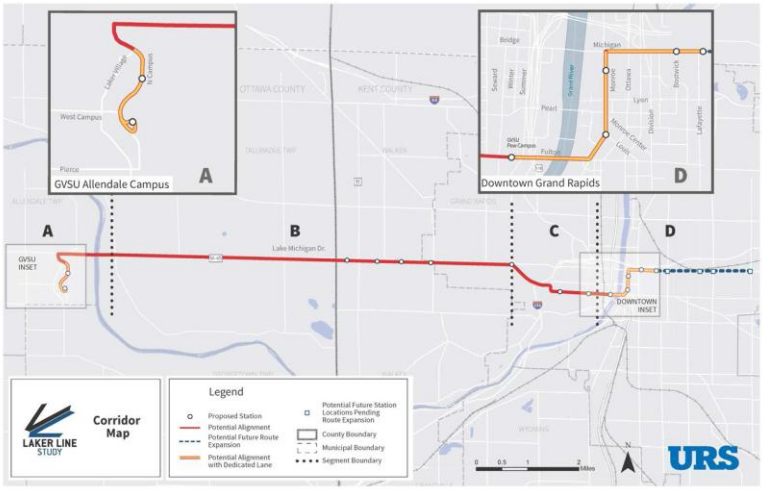
Laker Line

ITP is currently studying the merits of a second BRT line in the region. The purpose of the "Laker Line" will be to improve connectivity between downtown Grand Rapids and Grand Valley State University, the largest university in the region.

The Locally Preferred Alternative (LPA) includes:

Length: 13.1 miles
Stations: 14
Capital Cost: $64.22 Million
Operating Costs: $3.8 Million
Ridership Impact: +13%

The Laker Line BRT LPA is a fiscally constrained project. GVMC acknowledges FTA's Small Start Program's requirement that an LPA needs to be adopted into the LRTP fiscally constrained portion in order for the Laker Line BRT to proceed into the Project Development Phase.



Chapter 11: Passenger Rail

Passenger service is provided by Amtrak on 521 of the total miles of railroad in Michigan and 80 miles are owned by Amtrak. The state of Michigan recently acquired another 135 miles from Norfolk Southern between Kalamazoo and Dearborn, MI, to ensure continuation and development of Accelerated Rail Passenger Service between Pontiac/Detroit and Chicago. MDOT is also working with the states of Illinois and Indiana on an Environmental Impact Statement (EIS) to develop more efficient routes into Chicago from Michigan. The results of this EIS could impact Grand Rapids to Chicago service. The Pere Marquette service between Grand Rapids/Holland and Chicago operates over trackage owned by CSX in the GVMC MPO area. Additional passenger service on the Pere Marquette route has been discussed locally, but has been delayed due to funding issues.

MDOT is moving forward with a feasibility study in FY2015 which is the first step in an effort to re-establish a rail passenger service between Holland and Detroit through Grand Rapids. As noted in the State Rail Plan, there is also interest locally in an Alternatives Analysis of long term options for the Grand Rapids area to access Chicago and points east, including the feasibility of connecting to the Accelerated Rail Corridor owned by MDOT at Kalamazoo. Currently, there is no funding available for this study or service development.

Passenger Rail – Amtrak Pere Marquette

There are currently three passenger rail routes in Michigan: the Wolverine (Chicago-Detroit/Pontiac), the Blue Water (Chicago-Port Huron), and the Pere Marquette (Chicago-Grand Rapids). Refer to Map 10 for the Michigan Intercity Passenger Rail System. Michigan passenger rail service is provided by the National Railroad Passenger Corporation (Amtrak), which was created by the passage of the National Railway Passenger Service Act by Congress in 1970. Amtrak began service on May 1, 1971, with the Pere Marquette beginning service in Michigan on August 5, 1984. Fifteen states, including Michigan, contract with Amtrak for the operation of trains to supplement the national Amtrak network, extending passenger rail service and/or increasing frequencies on national routes. This operating assistance helps to provide some of Michigan's heaviest travel corridors and population centers with intercity passenger rail service.

Funding

The Pere Marquette passenger rail service, which runs roundtrip between Grand Rapids and Chicago seven days a week, celebrated its 30th anniversary in 2014. The Pere Marquette is operated by Amtrak at the request of the State of Michigan, which provides an operating subsidy for service. Between Fiscal Year (FY) 2004 and 2006, the State of Michigan provided an Amtrak operating subsidy of $7.1 million for both the Blue Water and the Pere Marquette. However, between FY2006 and 2009, the operating subsidy hovered at around $6.2 million annually, a 12 percent decrease from previous contract years. In FY2010, the operating subsidy increased to $7.6 million, and from FY2011 through FY2013, the operating subsidy stayed relatively steady at approximately $8 million or slightly over per year. In FY2014, the subsidy increased significantly to $25.2 million because of the Passenger Rail Investment and Improvement Act of 2008 (PRIIA), which required the state to also fund the Wolverine in addition to the Blue Water and the Pere Marquette. It is hoped that continued Michigan Department of Transportation funding, through the state legislature, will provide for a better and more viable national passenger rail system in the future.

Performance Challenges for the Pere Marquette

The Pere Marquette operates over rail lines owned by CSX and Norfolk Southern. It is typical for Amtrak operations to run over freight-owned railroads. The freight railroads used by Amtrak generally allow maximum speeds of 65-79 mph. Significant coordination must occur between Amtrak operations and the freight-owned railroads in dispatching passenger trains, which may create on-time performance issues. Scheduled maintenance on the rail lines as well as unforeseen challenges, such as inclement weather, may impact on-time performance as well. Michigan's peninsular geography also poses challenges for railroad economics (both passenger and freight), since most of the rail lines must be supported by traffic originating or terminating in Michigan.

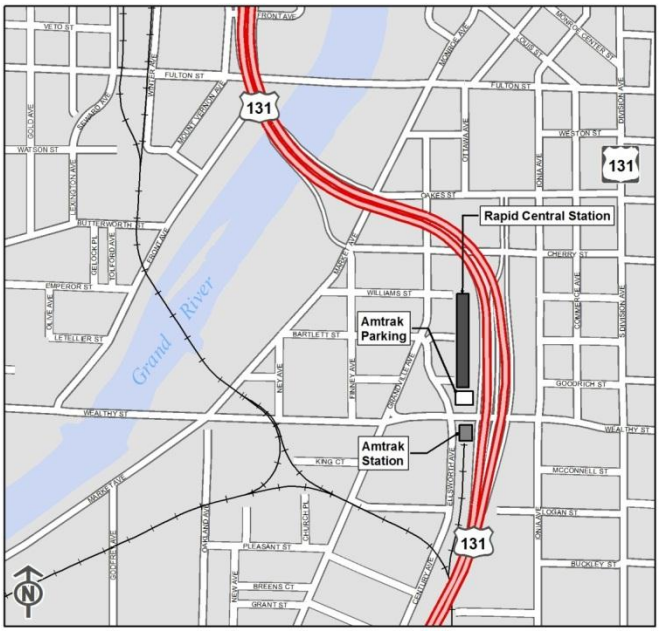
Ridership

Ridership on the Pere Marquette continued to increase from 2004-2008, with a record-setting 111,575 riders in

2008. Ridership declined significantly in 2009, but continued to climb again in consecutive years until 2012, which saw 109,501 riders. In 2014, 100,961 people rode the Pere Marquette, a decrease of approximately 7,500 from 2012. There are a number of possible reasons for the decreases in 2009 and 2014, including ending service to and from New Buffalo along the line, which occurred in 2009 (see Figure 10) and, more recently, an increase in options for travelers going from Grand Rapids to Chicago. The area is now serviced by Megabus in addition to Indian Trails and the Pere Marquette. Consequently, the route showed a decrease in ticket revenue of 3.8% between 2013 and 2014, which is reflective of the reduction in ridership. (See Figure 10 and 11.)
Source: Michigan Department of Transportation; http://mdotcf.state.mi.us/public/railstats

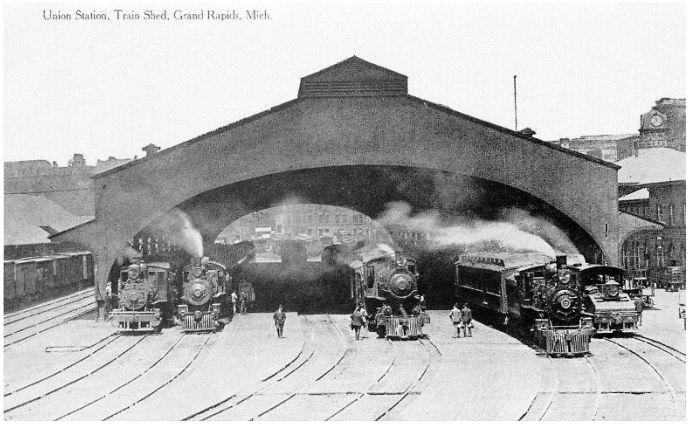
New Amtrak Station

The new Vernon J Ehlers Pere Marquette Grand Rapids station opened on October 27th 2014. The $6.1 million station, located at 440 Century Avenue SW, serves one daily round trip of Amtrak's Grand Rapids-to-Chicago *Pere Marquette*. The first train departed at 7:40 a.m. on October 27th. Named in honor of the former U.S. Congressman, the station will integrate bus and rail transportation, offer more passenger amenities, and streamline train operations.
The public was invited to celebrate the grand opening with a special ceremony that included speeches from U.S. Senator Carl Levin, Grand Rapids Mayor George Heartwell, and officials from MDOT and Amtrak.



Map 9 – Grand Rapids AMTRAK Station

The New Amtrak Station, taken January, 2014



WESTRAIN

Passenger rail issues are currently being studied by the WESTRAIN Collaborative. The WESTRAIN Collaborative is a group of agencies working to further rail issues in West Michigan. Participants include the Michigan Department of Transportation, the Grand Valley Metropolitan Council, the Macatawa Area Coordinating Council, Michigan Association of Railroad Passengers (MARP), the Cornerstone Chamber of Commerce, Sharp Marketing, the City of Bangor, the

Rapid, Van Buren County Public Transit, and the Southwest Michigan Planning Commission. The focus of WESTRAIN is to secure and maintain passenger rail service from Grand Rapids to communities along the Pere Marquette line to Chicago, Illinois and beyond.

The WESTRAIN Collaborative has also worked closely with Amtrak on a number of initiatives to increase awareness of and traffic on the Pere Marquette rail line. Utilizing special promotions, give-aways, and other marketing strategies, WESTRAIN serves to continue to help attract new riders to the passenger rail experience.

Source: mitrain.org/pere-marquette

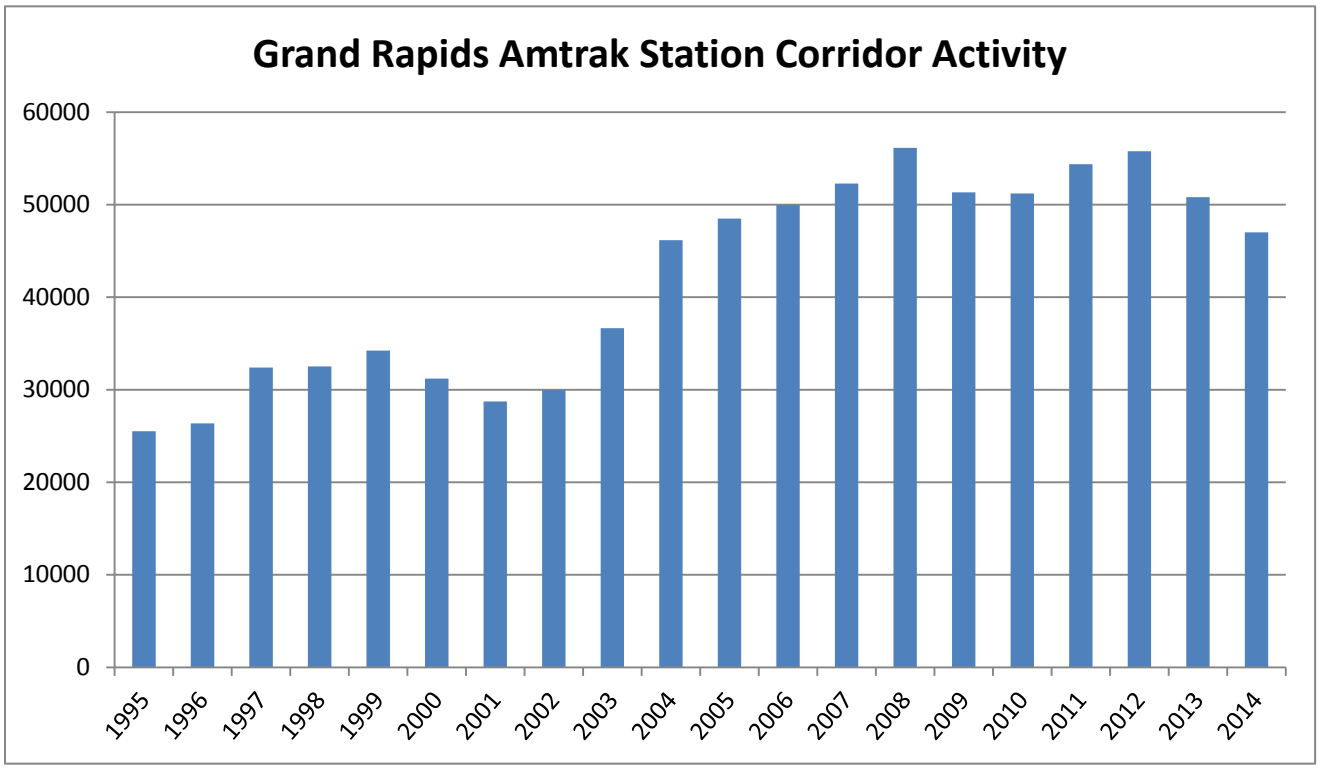
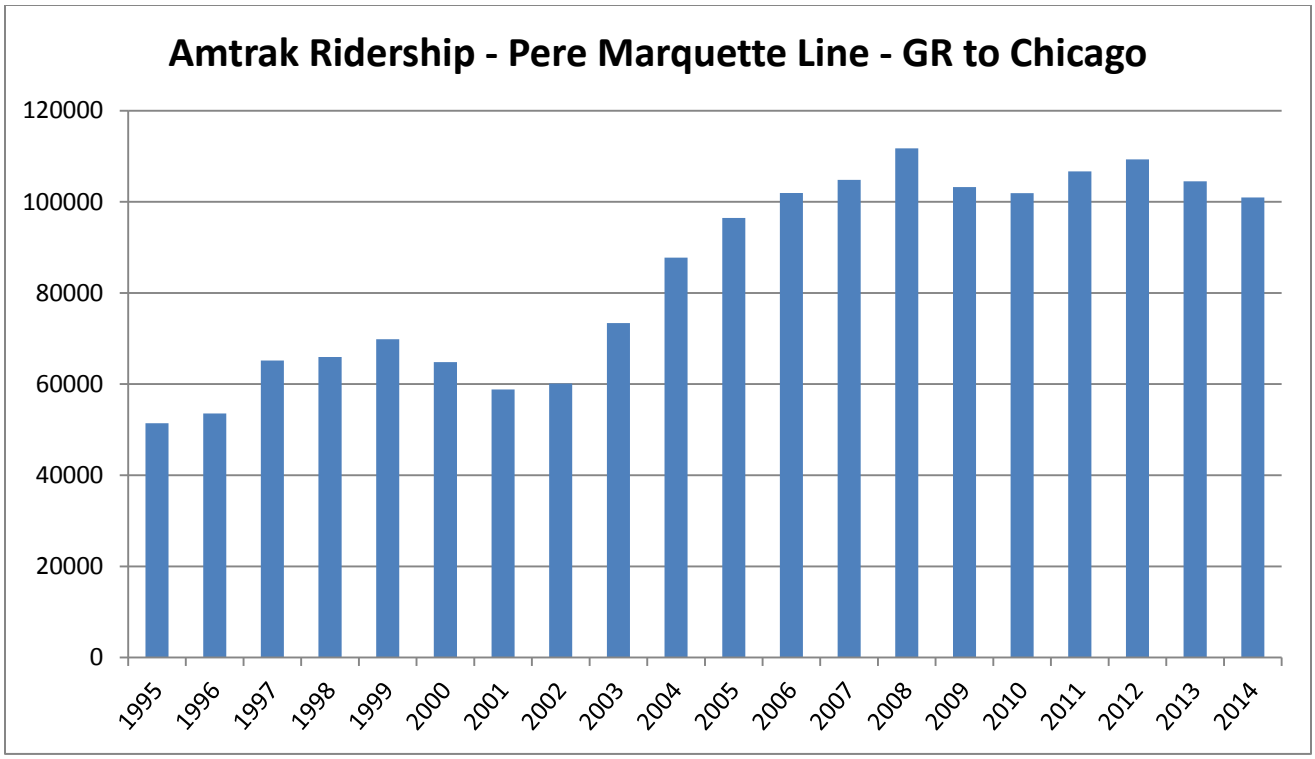
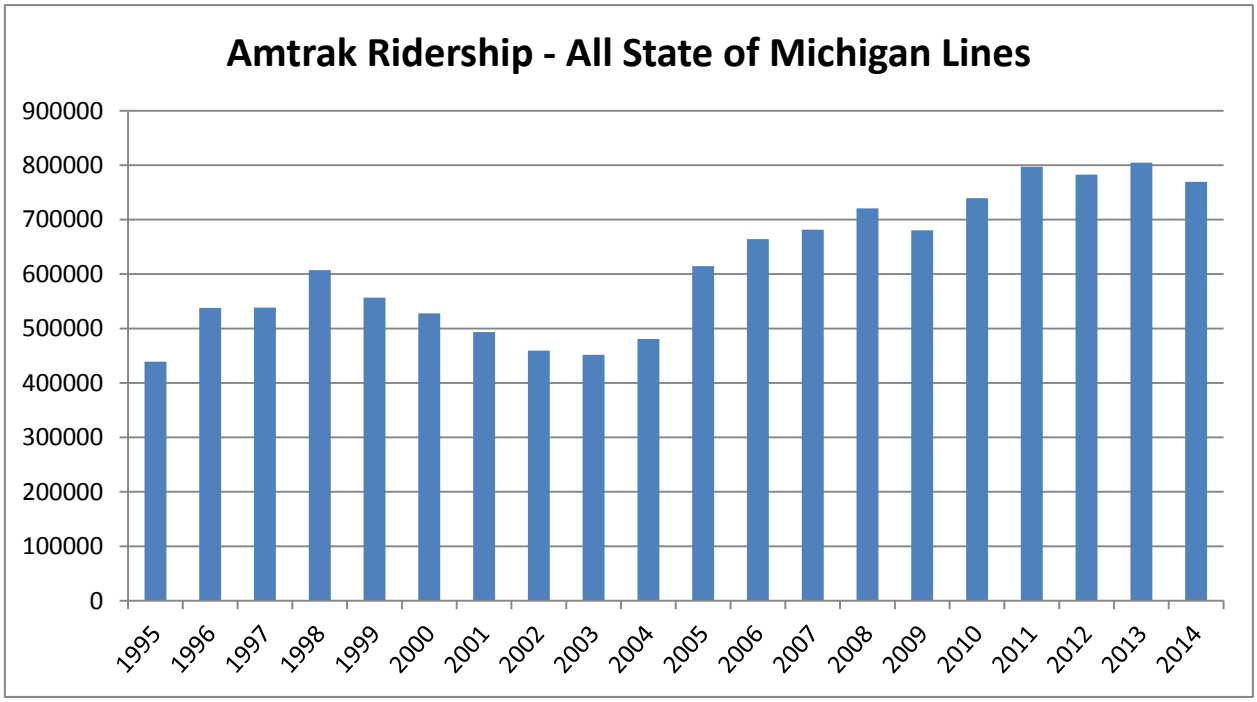


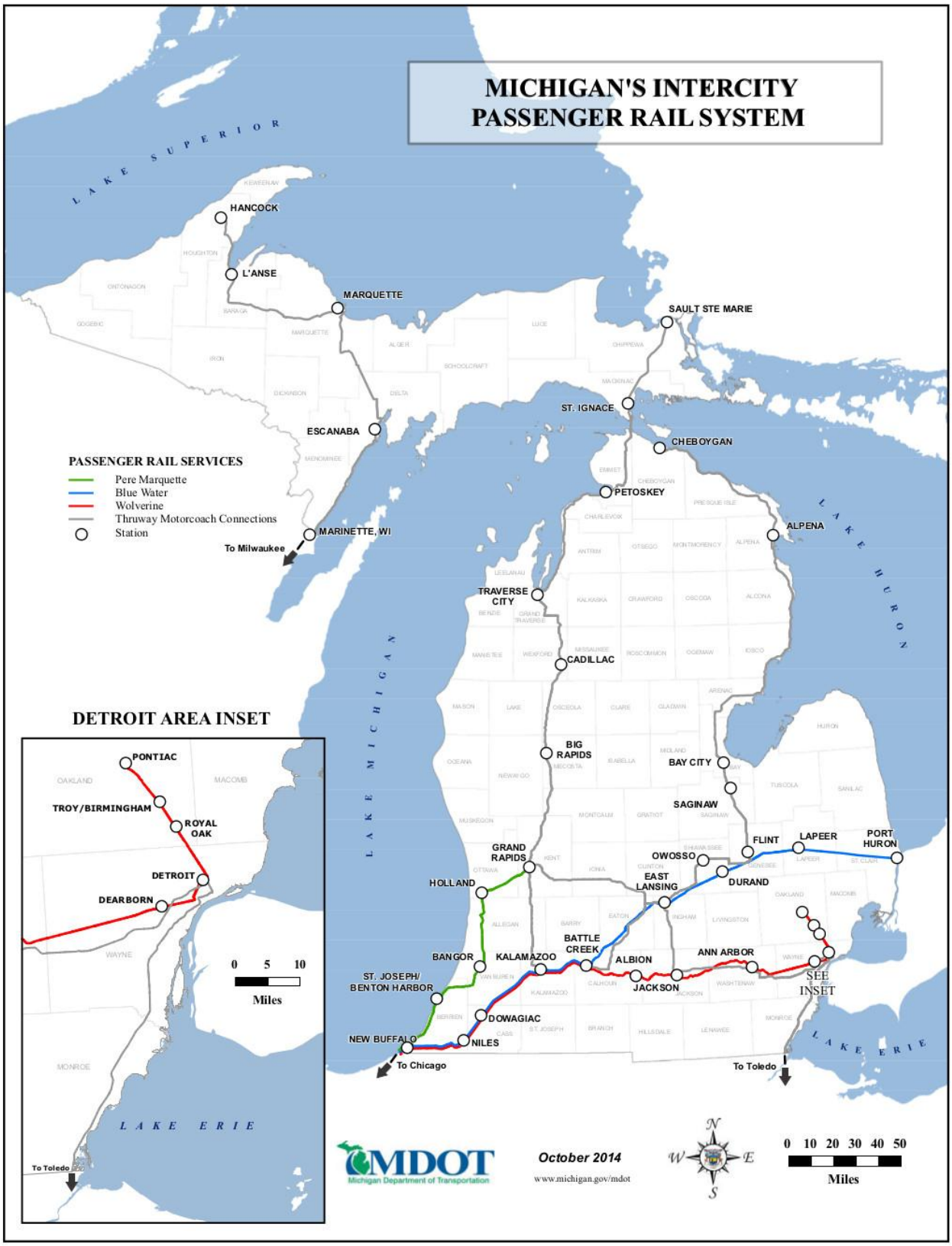
Figure 10: Grand Rapids Amtrak Station Corridor Activity 1995-2014



Source: Michigan Department of Transportation
Figure 11 Amtrak Ridership Pere Marquette Line 1995-2014



Source: Michigan Department of Transportation
Figure 12: Amtrak Ridership State of Michigan 1995-2014



Map 10 – Michigan Statewide Intercity Passenger Rail Routes and Stations

Midwest Rail Initiative

The Midwest Regional Rail Initiative (MWRRI) is a cooperative effort between Amtrak, the Federal Railroad Administration, and nine states—Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Nebraska, Ohio, and Wisconsin—to develop an improved and expanded passenger rail system in the Midwest (see Map 11). In September 2004, MWRRI released a report conducted by their consultant, Transportation Economics & Management Systems, Inc., which outlines a new vision for passenger rail travel in the Midwest. This vision is a transportation plan known as the Midwest Regional Rail System (MWRRS), a 3,000-mile rail network serving nearly 60 million people.

MWRRS would operate as a hub-and-spoke system providing through-service in Chicago to locations throughout the Midwest. Trains operating at speeds up to 110 mph would link Chicago with Milwaukee, Madison and Minneapolis; Des Moines and Omaha; St. Louis and Kansas City; Indianapolis and Cincinnati; Grand Rapids and Detroit; Toledo and Cleveland; as well as many smaller cities and towns. Increased speeds and service efficiencies would reduce travel times dramatically. The Chicago-Detroit trip, for example, would drop from the current five hours, thirty-six minutes to less than four, Chicago-Twin Cities from the current eight plus to less than six, and St. Louis-Kansas City from five hours, 40 minutes to just over four hours. The nearly eight-plus-hour Chicago-Cincinnati trip would be cut in half.

The total capital investment for the MWRRS, including infrastructure and rolling stock, is estimated to be $7.7 billion (in 2002 dollars). The rolling stock for the entire system will cost approximately $1.1 billion. Infrastructure improvements required to implement the MWRRS are estimated to cost $6.6 billion, or about $2 million per mile. This compares favorably with typical highway costs of $10 million per mile.

The funding plan consists of a mix of funding sources, including federal loans and grants, state funding, general funds, and capital and revenue generated from system-related activities, such as joint development proceeds. Federal funding will be the primary source of capital funds. MWRRS funding is based on the establishment of an 80/20 federal/state funding program similar to those that already exist for highways; implementation will remain the responsibility of the states. The State of Michigan would contribute $873 million for infrastructure and $234 million for train equipment.

As of 2014, the MWRRI is still an active initiative. However, most recently, states have been focused on completing work that has been awarded through FRA's High Speed Intercity Passenger Rail Grant Program. And as technologies have emerged and priorities have changed, a second initiative has surfaced that is specifically focusing on the feasibility of high speed rail.

Coast-to-Coast Initiative

In recent months an effort to study the feasibility of passenger rail service between Holland and Detroit has been established. The "Coast-to-Coast" initiative is being touted as a means to ignite innovation by providing a conduit for new partnerships between the world-class medical centers, and over a dozen colleges and universities along its tracks, provide workers access to jobs along the corridor and make their commutes more pleasant and productive, breathe new life into our centers of arts and entertainment by giving out-of-town visitors a reliable and relaxing way to reach new cultural experiences, help Michigan attract and retain more of the talented workers the state needs to prosper in the future.

The initiative is being headed by the Ann Arbor Area Transportation Authority and the Michigan Department of Transportation. A federal grant has been secured to study the feasibility of added service along the corridor. The next step in the process is to select a consultant and work toward a full recommendation.
Further information on this effort can be found at: http://mibyrail.wordpress.com/coast-to-coast-line/

Source: Michigan Department of Transportation

Map 11 – Proposed Midwest Regional Rail Initiative (MWRRI) System

Chapter 12: Freight

The Michigan Department of Transportation Michigan Freight Plan defines freight as: "any good, product, or raw material carried by a commercial means of transportation – including air, highway, rail, water, and pipeline." This chapter will concentrate on the three most significant freight movement activities in the GVMC area; Rail, Trucking and Air.

Freight; Rail, Trucking and Air

In response to growing pressures on the freight network, MAP-21 emphasized that the policy of the United States is to improve the condition and performance of the national freight network to help provide the foundation for the country to compete in the global economy.

Rail

There are approximately 3,600 total miles of active railroad lines in the State of Michigan. Freight service is provided by four Class I railroads—Canadian National (CN), Canadian Pacific (CP), CSX Transportation (CSX), and Norfolk Southern (NS)—and 24 regional or short-line railroads.

Approximately 2,990 miles of railroad lines in Michigan are owned by private freight railroad companies, 665 miles are owned by the State of Michigan, and 80 miles are owned by Amtrak. In addition, the State of Michigan recently purchased the NS line between Kalamazoo and Dearborn to preserve the line for future passenger and freight traffic expansion. The state owned lines are mostly light density lines in northern Michigan purchased from Penn Central in the 1970's and 80's to avoid rail abandonments that would have left some regions of Michigan without any rail service. Some lines were in the Grand Rapids area, but have since been abandoned. These lines are operated primarily by short-line railroads and haul natural resource products, agricultural, and other products, in the affected regions.

The Grand Rapids Metropolitan Area is fortunate to have six freight rail companies—Grand Rapids Eastern Railroad (GRE), Marquette Rail (MQT), CSX Transportation, Mid-Michigan Railroad (MM), Grand Elk Railroad (GDLK), the Coopersville and Marne Railroad—and one passenger rail option, the Amtrak Pere Marquette service to Chicago on the CSX line through Holland. There are approximately 120 miles of operational track in the metropolitan area. However, several major corridors have been abandoned within the past decade and have been converted for use by non-motorized travel (rail-trails). Three shortline railroads are now owned by the G&W Railroad, which is a national shortline operator.

Trucking

In Michigan, the trucking industry accounts for more than 50% of the total freight tonnage moved and more than 75% of the tonnage moved by value. The trucking industry is a vital element of all industrial/commercial sectors, especially manufacturing, agriculture, wholesale, retail and construction. The figure below indicates that the level of commercial traffic on area highways is similar to the national average.

Road Segment	Highest Segment – Average Daily Traffic	Highest Segment – Average Daily Commercial Traffic	Commercial Traffic (%)
I-196 — I-96 west to M-121/Chicago Dr	66,800	3,500	5%
US-131 — I-96 north to Kent county line	51,200	3,200	6%
US-131 — M-6 north to I-96	104,900	6,400	6%
US-131 — M-6 south to Kent county line	43,200	4,800	11%
M-6 — I-96 to I-196	50,400	4,600	9%
I-96 — I-196 west to Kent county line	54,900	3,100	6%
I-96 — Kent County line east to I-196	63,300	3,900	6%

Source: Michigan Department of Transportation

Figure 13 – Percent of Commercial Traffic on Area Highways

Air

Michigan moved a total of 265,000 tons of air cargo in 2013, and on an annual basis, households, businesses, and governments spend about $7 billion on aviation-related services. A total of 18 airports offer scheduled services that handle air cargo throughout the state. Local airports continue to serve as strong economic engines for local communities by providing service to airport-dependent businesses to connect to the global marketplace in the quickest way possible.

The Gerald R Ford International Airport, one of Michigan's largest airports serves as a vital connection to the Grand Rapids area and moved 39,940 total tons in 2013. Highway access to the airport is a critical issue to ensure freight is moved efficiently between modes and local shippers/receivers in the MPO.

Source: Michigan Department of Transportation

Map 12 – State of Michigan Rail Map

Freight Improvements

The GVMC interfaces with rail, truck and air freight/shipping interests through the Public Participation Plan mailing list, through the Intermodal, Freight, Rail, & Air Subcommittee, and by meeting with some of the area's largest employers/shippers through MDOT meetings that are specifically geared toward the freight community. When the 2035 Long Range Transportation Plan was developed, a list of priorities emerged through meetings and input from these sources, including:

- The relocation and improvement of US-131 south to the Indiana/Michigan border
- Bridge improvements along I-196 and US-131 as well as operational improvements such as weave and merge lanes between 36th and 44th Street and Leonard and Ann Street
- Improved maintenance of existing traffic during construction times and completing more construction activities during off-peak hours
- Additional lanes on I-196 over the Grand River connecting to US-131

The relocation and improvement of US-131 south of Kalamazoo to the Michigan/Indiana state border has generated substantial discussion. The Preferred Alternative selected for this corridor identifies a $31 million (2007 dollars) project which generally keeps the roadway alignment within the existing US-131 corridor with the exception of a two-lane non-freeway bypass of the Village of Constantine. This is expected to improve travel times and access to Indiana Toll Road (I-80/I-90) for US-131 communities, including Grand Rapids, and relieve congestion in Constantine and was completed in the fall of 2013.

While the roadway system in the region carries the majority of goods and products produced and consumed in this area, there are other modes of freight movement used. Rail and air transport are also very viable modes for the movement of goods, and intermodal and storage facilities round out a family of freight options. Improvements by the railroad sector are more difficult to document as all of rail is privately owned.

The other items mentioned above remain a priority with area freight stakeholders. In 2010, using American Recovery and Reinvestment Act funds, MDOT completely reconstructed and replaced several bridges on I-196 between the Grand River and Fuller Avenue for a total project cost of approximately $40 million. The Fuller Avenue bridge over I-196 and interchange improvements were completed in 2011 for a total project cost of approximately $7.8 million. The Burton, Franklin, and Hall Street bridges over US-131 were also completed in 2011. Bridge improvements over area highways will likely occur on an incremental basis over the next 25 years. Additional operational improvements were completed along congested segments of US-131, including weave/merge lanes between 36th Street and 44th Street and from US-131BR/Leonard Street to Ann Street.

Freight Interests

In general, GVMC relies on our members to suggest freight-related projects and often considers projects that improve roadway capacity as serving to enhance freight access. To address freight issues, GVMC uses our Congestion Management Program, which incorporates performance measures for the total number of capacity deficient miles on the freight network. GVMC also maintains an Area Freight Network Map which lists the state and county truck routes, all season routes, rail lines, intermodal facilities (such as the Gerald R. Ford International Airport), and major employers/shippers (see map on page 76).

In an exercise to highlight some areas of concern, staff overlaid some of the major employers/shippers in the MPO area with the GVMC's congestion deficient segments as determined by the model. Staff then put in a buffer of

one mile and map 16 is a preliminary result of road segments that may inhibit these employers/shippers to move freight in an efficient manner.
GVMC has also been working with the ten cities and two road commissions to refine the traffic count program to better record commercial traffic. Over the past few years GVMC has phased out the old counting equipment and purchased new software to initiate more comprehensive commercial traffic counting.

GVMC staff is exploring other options for connecting with the freight community to better plan for their needs and enhance the economic competitiveness of our region. In 2006, GVMC was able to partner with MDOT Grand Region staff to co-host a meeting specifically geared to the largest employers in West Michigan. GVMC used the opportunity to explain the transportation planning process, share project information for the local federal-aid network, share contact information for other MPOs in Michigan, and establish contacts for some of the larger employers in the Grand Rapids area. GVMC still uses and maintains the contacts developed during this effort.

Michigan Freight Plan

In 2013, MDOT completed its first Freight Plan, which provided statewide guidance on freight and transportation issues. The strategies from the Michigan Freight Plan (MFP) provide a framework for current and future MPO freight planning activities. The MFP links the 2035 Michigan Transportation Plan freight goals with MAP-21 national freight goals and priorities. Infrastructure ownership is described as follows:

Mode	Infrastructure	Freight Services
Highway	Public	Private
Rail	Public and Private	Private
Air	Public	Private

Federal Priorities for freight, which provide guidance for the development of the MFP and MPO freight planning activities, are as follows:

- Improvements to intermodal connectors
- Improvements to freight and truck bottlenecks (Freight Performance Measures (FPM) Initiative: Congestion Monitoring at 250 Freight Significant Highway Locations)
- Projects for a public rail facility or private rail facility providing benefit for highway users
- Projects or groups of projects along a Major Freight Corridor

Statewide Issues and Strategies in the MFP regarding freight, with a 'GVMC application' identified include:

- Travel time
- Safety
- Highway bottle necks
- Truck size and weight
- Pavement and bridge condition
- Rail car availability
- Rail accessibility
- Retaining air cargo services

These issues and strategies provide direction for the identification and prioritization of freight projects in the GVMC MPO area.

Map-21 also provides opportunities for increased federal share on (state and local) freight related projects. This is not additional federal funding but can result in the need for less local funding for match. This program is competitive and includes state and local projects, selected by FHWA. The minimum MFP selection criteria for increased federal aid percentages include the following:

- The project must be contained within the STIP (MPO TIP) or the MDOT Five-Year Transportation Program
- Must be located on a COHS or within the 20 mile band
- Must be located on the NHS

Eligible project types include the following:

- Construction, rehabilitation, reconstruction, or operational improvements
- ITS or other technology
- Efforts to reduce environmental impacts
- Railway-highway grade separation
- Truck only lanes
- Climbing and runaway truck lanes
- Truck parking facilities
- Real-time traffic, parking, condition, and multi-modal information systems

The MDOT criteria and Federal freight priorities are used by MDOT to develop a list of priority freight projects for increased federal match. Annually, GVMC submits candidates to MDOT as requested, also based on these factors. To date, the following MPO (MDOT/Local) projects have been submitted to MDOT for FHWA consideration:

Fiscal Year	Route	Location	Work Description	Est. Total Funding
2014	I-96	At 3 locations in Kent county	PHASE II – GVMC Area Deployment	$2,748,500
2014	I-96	Under M-50	Bridge Replacement	$4,973,730
2015	M-21	Over the GTW RR	Superstructure Replace	$2,512,000
2015	I-96	I-96 Under Cascade Rd	Deck replc, substr repr, widen	$5,412,000
2017	US-131	Kent SCL to 76th Street	Reconstruction	$19,908,000
2014	44th Street	Stafford to Division	Reconstruction	$2,100,000
2014	4 Mile Road	Old Orchard to Walker Ave	Reconstruct & Add center turn lane	$2,735,000
N/A	Grand Elk RR	Between Kalamazoo & Grand Rapids	Replace 20,000 RR Ties	$2,300,000
2014	GRFIA	Concourse B	Ramp Expansion	$1,612,000

The MPO Freight network (see map on page 76) includes the NHS as noted the MFP criteria. Freight may become more of an issue for TIP project selection with MAP-21 performance based planning and future federal transportation legislation.

Local Freight Planning Activities

GVMC staff regularly participates in the Transportation Committee meetings hosted by the Grand Rapids Chamber of Commerce and The Right Place, Inc, (an economic development organization in Grand Rapids) which identified several goals for reforms that promote the efficient movement of goods, reduce transportation cost, and maintain our infrastructure assets to make West Michigan businesses more competitive. The proposed goals and issues are as follows:

- Support updating transportation funding mechanisms to secure sufficient resources to maintain our roads, bridges and other transportation infrastructure assets.
- Promote the fair and equitable distribution of funds statewide to all modes of transportation, including public transit and airports.
- Advocate for the construction of the New International Trade Crossing.
- Support greater access to efficient and reliable intermodal opportunities in West Michigan, including enhanced rail, port and air facilities.

- Advocate for specific projects that improve the transportation of goods and people in our region, including ease of movement in Northern Kent County and US-131 to the border.
- Address the critical shortage of qualified truck drivers that is threatening to delay deliveries and drive up freight costs.

Source: Chamber of Commerce Transportation Committee

There has been on-going interest among some shippers to develop improved intermodal opportunities with the metro area railroads. There are several bulk commodity distribution facilities in the MPO area, but not container (COFC/TOFC) facilities. This has required industries in the area to truck commodities in containers, to and from intermodal train yards in Detroit and Chicago, where there are multiple routing options. At this time, railroads have determined this model is the most cost effective for their operations. However, fuel prices may make that option less desirable and cost effective in the future for local shippers. The lack of a nearby COFC/TOFC facility is noted as a concern for some business location and expansion decisions.

As a result of this issue, a separate effort by the Grand Rapids Area Chamber of Commerce and the Right Place took on a privately funded effort titled: West Michigan Competitiveness in Transportation Study. The Chamber, Right Place and several major businesses came together to determine how they could enhance competitiveness and reduce logistics costs. It was determined that the best way to achieve significant savings was through collaboration, increased efficiency and alternative methods of moving products. It was decided that as a first phase, an origin-destination study, is necessary to determine the best way to position West Michigan for success. The purpose of this study was to develop a clear picture of the movement of products in and out of our region by major shippers, in order to identify opportunities for efficiency, cost reduction and savings, including the following:

- Assess the viability of various forms of business collaboration
- Identify corridors of opportunity
- Determine the feasibility of an intermodal logistics hub in West Michigan that would facilitate collaboration

The first phase of the study, completed in May 2014, recommended the following:

- Development of an Intermodal Hub is best strategy based on information provided
- Implementation of multiple transportation strategies to serve the US and Canada from West Michigan
- Provide opportunities for local companies to collaborate to reduce cost and transportation times

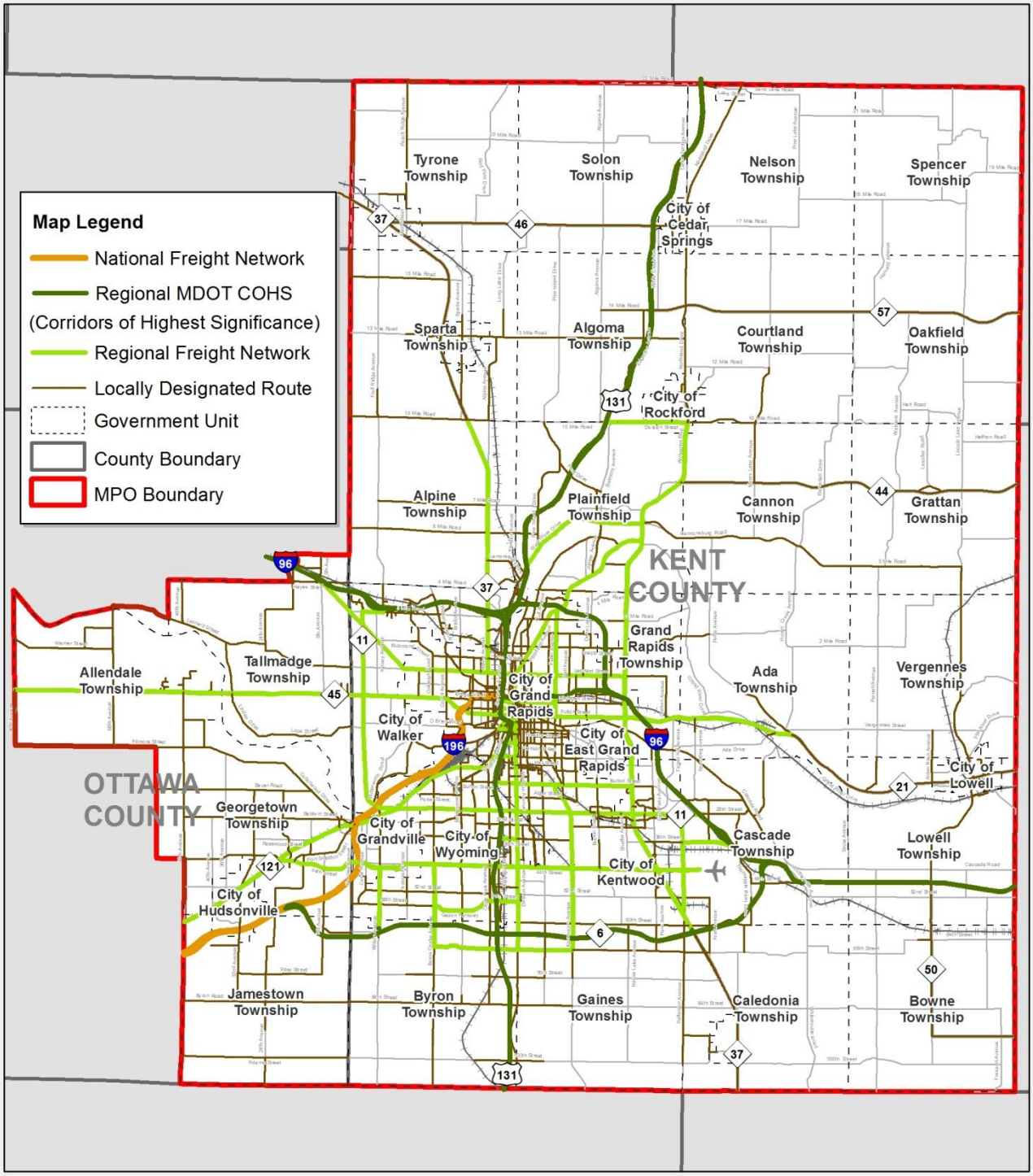
An Intermodal Hub provides:

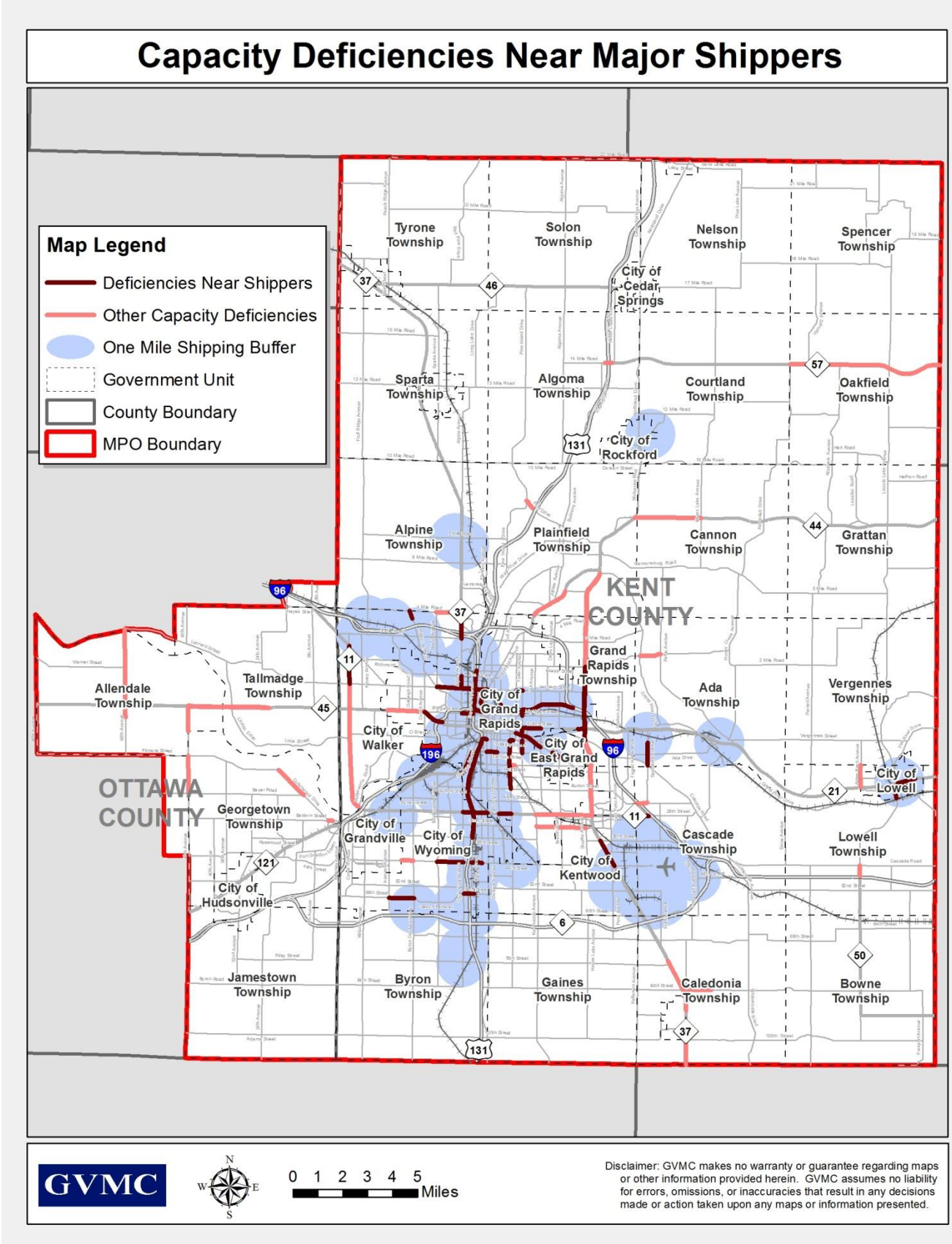
- Ability to handle rail, motor carrier and container shipments in one location
- Opportunity for inbound and outbound freight cost reductions
- A location for multi-company shipment consolidation
- Alignment with Class I rail volumes and operations
- Opportunities for developing transportation service locations

Future actions may include:

- Additional participation from area industries in the study to better evaluate the balance between inbound and outbound shipments
- Evaluate 500+ mile shipments for viable rail opportunities to shift modes and consolidate shipment to and from major east coast, west coast and gulf of Mexico ports

MPO Regional Freight Network





Map 14 – MPO Capacity Deficiencies near Major Shippers

As an additional effort for the development of the 2040 Plan, GVMC staff met with all jurisdictions throughout the MPO. Each local jurisdiction was asked a series of questions relating to various issues. One of those questions was for the jurisdiction's staff to identify any area they thought may have any freight movement related problem(s). These are some of the major areas identified:

- Finish the Fulton Street/I-96 interchange
- The abandoned rail line between Patterson and Kraft south of 52nd. The suggestion is to try to protect that corridor from further encroachment. This comment was heard on numerous occasions from all of the jurisdictions surrounding that area.
- There was a discussion regarding the possibility of a rail line being constructed from the existing line north of the airport around the east end and south of the airport to provide multi-modal opportunities between rail and air.
- Big needs would include a south end rail "bypass" along M-6 perhaps.
- Some issues noted in the north end industrial park in the City of Walker. Also the addition of a connector from Bristol/Pannell to Walker Avenue might help improve access to the freeway system for freight shippers in the area.

GVMC staff also worked with The Right Place Program and the MDOT Grand Region to identify and address various rail freight issues in the metro area. Some specific issues include:

- The sale or leasing of Class I lines to short-line railroads. This includes the recent sale of the Norfolk Southern line from Grand Rapids to Kalamazoo to the Grand Elk Railroad, and the Grand Rapids to Ludington/Manistee to Marquette Rail.

- The future ownership of the CSX lines east and west from Grand Rapids needs to be monitored. Generally, short-line railroads can provide improved customer service to their on-line customers and may have connections to multiple Class I railroads. However, the smaller railroads may not, on their own, be able to develop longer distance freight movements as economically as a Class I with a national network.

- The DIFT (Detroit Intermodal Freight Terminal) intermodal project in Detroit and the CREATE (Chicago Region Environmental and Transportation Efficiency Program) program in Chicago directly affect intermodal potential and service in Grand Rapids.

MDOT rail loans and grants have been provided by MDOT to construct or improve sidings to industries located on the existing rail corridors in the MPO area, including Columbian Logistics in Grand Rapids, Grand Elk/Brinks transload facility in Walker and Profile Films in Walker. The objective is to make efficient use of the existing rail infrastructure in the MPO area and identify opportunities to develop public/private partnerships to enhance the system.
This information will be provided to the State Rail Plan to help identify rail-related freight transportation issues in the MPO area.

Summary and Emerging Issues

The MPO will also monitor and implement any policies and programs resulting from the State Rail Plan. If feasible, any additional use of the rail system can reduce truck traffic on the MPO road and highway network, and improve operations and mobility for the system. The efficient use of all transportation modes will also help to encourage economic development and promote sustainable land use patterns. The efficient movement of freight is a critical component of MTP goals and Objectives, and is becoming more of a focus for the National, State and MPO planning process.

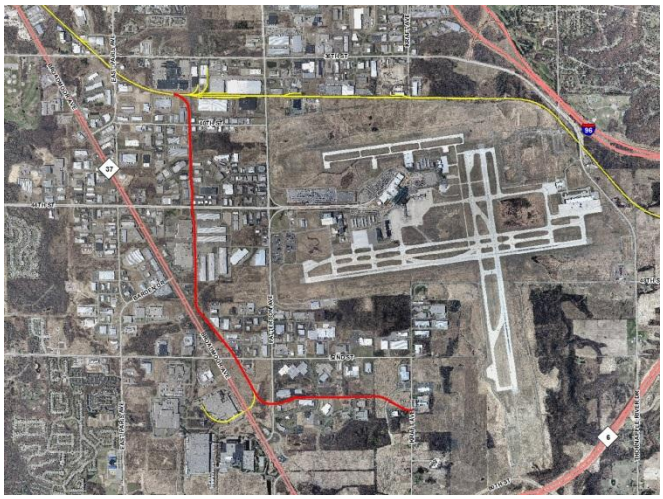
Some ongoing and emerging issues in the GVMC MPO area include the following:

- Adequate funding is needed to complete the I-196/I-96 EA projects to improve freeway operations and access.
- The US-131/I-96 Planning and Environmental Linkages Study will need to assess the movement of freight along these critical freeway corridors and connecting surface routes; any future improvements should consider freight transportation needs.
- As railroads focus more on intermodal and bulk distribution transload facilities at their major yards, surface road access and operations need to be considered as part of the MPO project prioritization process.
- Any new intermodal (COFC/TOFC) facilities proposed will need to be evaluated to determine if the highway and local road access is adequate to accommodate truck traffic in and out of that facility.

CSX Southeast Rail Spur

One issue that received numerous comments throughout the MTP development process is the ongoing abandonment of the CSX rail spur taking off from the CSX main east west line south of 36th Street and east of East Paris Avenue in the City of Kentwood. With exception of the 40th Street and 44th Street Crossings, the line runs to the south until reaching Patterson Avenue. From there the rail and ties have been removed but the bed still seems to be available. Eventually the line ends in Cascade Township near Kraft Avenue. The map below shows the line and the adjacent industrial development that could take advantage of the spur if it was to resume operations.

Careful consideration should be given to this line and others in the region prior to allowing development to encroach to the point where they are no longer maintained in an operational capacity. While not listed as a formal project in this MTP, GVMC would likely support any activities that preserve these lines for future use and productivity.



CSX Southeast Rail Spur

GVMC Freight Study

GVMC staff is looking at options to improve information about freight in our region, including conducting a comprehensive freight study and survey. This study would be used to determine desired routes, specific system deficiencies, commercial safety issues, and the potential for enhanced inter-modalism in the freight community. Staff is also exploring the development of a sustainable freight network, developed in conjunction with the GVMC Pavement Asset Management and Freight Committees, which would incorporate acceptable levels of congestion, condition, as well as coordinated routing. Deficiencies and incidents on Freight networks in the MPO area will be monitored and use as a potential criteria for the selection of future operational and capacity improvement projects.

GVMC staff will continue to work with area rail/truck freight interests and consider the issues and priorities put forward by those groups and incorporate those items into the transportation planning process. GVMC also intends to continue to work with State and Federal partners to improve the level of analysis that takes place related to freight levels within the Grand Rapids area.

Chapter 13: Air Transportation

This section outlines operations at the Gerald R. Ford International Airport (GRFIA). The GVMC and its members work with staff from the GRFIA to determine transportation access deficiencies in and around the airport property. When issues are identified, the MPO works with member communities to address these issues. Examples of access improvements include the addition of an interchange to/from I-96 and improvements to Oostema Boulevard, the main public access point for the airport.

In the late 1950s, due to urban encroachment of development and the advent of heavier turbojet aircraft, local officials commissioned a study to identify a new location for the airport. The study revealed that the Kent County Airport should be relocated from the existing site located north of 44th Street between Jefferson and Eastern Avenues to a new location in Cascade Township east of Patterson Avenue off 44th Street. With financial backing of a taxpayer approved millage and bond issue, the new Kent County Airport was constructed on the 1,800 acre site and opened in late 1963.

This "new" airport provided a 6,600 foot east-west air carrier Runway 8R/26L, complete with an Instrument Landing System (ILS), and a 3,400 foot north-south general aviation Runway 18/36. The 1970's saw construction of a 4,000 parallel east-west general aviation Runway 8L/26R. Two subsequent runway extensions brought the primary use Runway 8R/26L to a length of 10,000 feet. At 10,000 feet long the primary Runway 8R/26L is capable of handling all aircraft except the recently produced Airbus 380 double-decker aircraft. In 1997 the Airport finished construction of a new $70 million north-south air carrier Runway 17/35. In the year 1999 the Airport saw construction of the new Air Cargo and Trade Center located on the Airport's east side. Also in 1999, the Kent County Board of Commissioners took action renaming the Kent County International Airport the Gerald R. Ford International Airport. This was done in honor of Grand Rapids resident, longtime airport supporter, and the 36th President of the United States, Gerald R. Ford.

In the year 2000 and 2001, the Airport completed a $50 million major renovation of the passenger terminal building and a $32 million reconstruction of the primary east-west Runway 8R/26L. In 2002 the Airport expanded the parking facilities by adding a 100-space express shuttle parking lot preparation for the construction of a future parking structure. Also in 2002 the Airport became the first airport in the nation to screen 100% of checked baggage or explosives using new technology explosive detection machines. In 2003 the Airport marked the 40th anniversary at the current Cascade location. In 2004 the Airport recognized its importance as the "Gateway to West Michigan" with the construction of significant landscape improvements to the John J. Oostema Boulevard entrance drive to the Airport. Also in 2004 the Airport set a record for the passengers served in one year exceeding the two million passenger mark (2,150,125). In the mid 2000's the Airport completed many infrastructure projects which included several perimeter security roads, taxiway reconstruction projects, and the expansion of parking facilities.

In 2009 the Airport completed the largest construction project in airport history (over $120,000,000). The award-winning project is known as the Terminal Area and Parking Improvement Program, which included road and utility infrastructure improvements, a 5,000 space parking structure, a canopy over the Terminal Drive between the parking structure and the terminal building, and enclosed pedestrian crosswalks connecting the terminal building to the parking structure.

Airfield Configuration and Information

Currently, the airport makes use of three runways. The Primary air carrier runway (8R/26L) is 10,000 feet long. The secondary air carrier runway (17/35) is 8,500 feet long, and the north general aviation runway (8L/26R) is 5,000 feet in length.

The airfield has approximately 1,550,000 square yards of pavement which equates to enough concrete to construct a two-lane road (10 inches thick) from Grand Rapids to the Mackinac Bridge.

The Airport maintenance staff maintains approximately 2,000 acres of grass on the airfield. This is the equivalent of 1,515 football fields—including end zones. In an "average winter" the same staff removes

approximately 83,000,000 cubic feet of snow from airfield pavement surfaces. This is enough to fill 20,000 Olympic-sized swimming pools.

Passenger Air Transportation

Gerald R. Ford International Airport is served by five passenger airlines *with 120 daily scheduled nonstop flights to and from 24 major market destinations. Approximately 6,250 travelers pass through Gerald R. Ford International Airport each day. 2,237,979 passengers traveled through Gerald R. Ford International Airport in 2013. Takeoffs and landings in 2013 totaled more than 75,000 - an average of more than 200 a day. Gerald R. Ford International Airport is the 82nd busiest commercial airport in the nation and the second busiest airport in Michigan.*

Cargo

There are two cargo airlines located at Gerald R. Ford International. More than 222,500 pounds of air cargo pass through Gerald R. Ford International Airport each day...that's more than 111 tons per day! More than 80 million pounds of air cargo passed through Gerald R. Ford International Airport in 2013.

Airport Property Information

The Airport covers nearly 3,200 acres (over five square miles), an area almost as large as the city of Grandville and a bit larger than East Grand Rapids. There is over 12 miles of fence surrounding the perimeter of the Airport property. That's enough to stretch from the Airport to downtown Grand Rapids. The Airport's passenger terminal building is just over 240,850 square feet, with over 170,000 square feet open to the public. There are two concourses and 13 gates in the passenger terminal building. The Airport also provides approximately 9,600 public parking spaces.

- Gerald R. Ford International Airport is managed and operated by the Kent County Department of Aeronautics. The Kent County Aeronautics Board is a six-member body appointed by the Kent County Board of Commissioners with responsibility for policy setting and general oversight of the airport.
- More than 1,500 people work at the airport, the majority being employed by airport tenants.
- Replacement value of the airport, its property, and facilities is estimated at $675,000,000.
- The airport has its own police, fire, and maintenance departments.
- The airport generates over $500 million annually in economic activity throughout its West Michigan 13-county service area.
- The airport is financially self-supporting and requires no funding from property taxes, general funds, or special taxes. Airport operations and improvements generate local net airport revenue, rather than spend valuable tax dollars.
- GRFIA's capital requirements are met through various sources, including earned surpluses, revenue bonds, passenger facility charges, and grants under the federal Airport Improvement Program and the Michigan State Aviation Grant Program. Operational requirements are met through rates and charges assessed to airport tenants and airport patrons for the use of airport services and facilities.

Chapter 14: Non-Motorized Transportation

Federal statute requires metropolitan areas of a certain size, such as the Greater Grand Rapids area, to effectively plan an integrated and intermodal transportation system that includes pedestrian and bicycle facilities. The GVMC is therefore responsible for developing a non-motorized transportation plan element as a part of its Long Range Transportation Planning process. Additionally, bicycle and pedestrian projects using Federal-aid transportation funds must be included in the MPO Transportation Improvement Program (TIP).

The Non-Motorized element identifies existing facilities, regionally-significant projects, enhances cooperation and coordination between jurisdictions for non-motorized facility development, addresses some of the challenges to non-motorized transportation facility development, and provides prioritization guidelines and funding information.

The GVMC originally developed bicycle and pedestrian plans approved in 1996 and 1997, respectively. Subsequently, non-motorized transportation issues were integrated into a single comprehensive document. In 2006 and 2009, Draft Non-Motorized Transportation Plans were completed. While neither document was ever formally adopted, many of the prioritized projects have since been completed. The current GVMC Draft Non-Motorized Plan serves as an integral foundation of the GVMC Long Range Transportation Plan.

The Non-Motorized Plan was divided into four segments. An inventory of the existing non-motorized facilities was made to help identify network deficiencies and improvement opportunities. The GVMC Non-Motorized Transportation Committee then developed a selection methodology and project list to provide a basis for future investment. Research was conducted into the various options for non-motorized transportation funding as a resource to those striving to increase these types of transportation investments. In addition to funding options for non-motorized facilities, there exist related policy decisions that may enhance the accessibility and development of pedestrian and bicycle transportation options.

Benefits of Non-Motorized Transportation

Non-motorized transportation consists of pedestrian and bicycle travel. As technology has changed, an increasing array of options for movement of people and goods have presented themselves and non-motorized transportation has become one of many options. In the past century, pedestrian and bicycle transportation had switched from a utilitarian to a more recreational mode for most people. This is partly why transportation investments have been strongly focused on the continued development of roads for automobiles. Now as the benefits of non-motorized transportation resurface, increasing attention is returning to enhancing the non-motorized transportation option. To provide for the most efficient network possible, these types of facilities must be included in transportation plans.

Transportation and Accessibility Options

Non-motorized facilities give people the option to walk, bike or use public transit if they choose. A comprehensive non-motorized network is crucial to the mobility of many older, home-bound Americans lacking transportation options. Beyond the aging populace, there is a social equity component to the provision of alternate forms of transportation. A more complete non-motorized network increases the viability of pedestrian and bicycle transportation as options and provides a mode for those unable or unwilling to use motorized vehicles. Furthermore, in areas where low-income or minority populations live, the demand for non-motorized options may be greater.

Transit Support

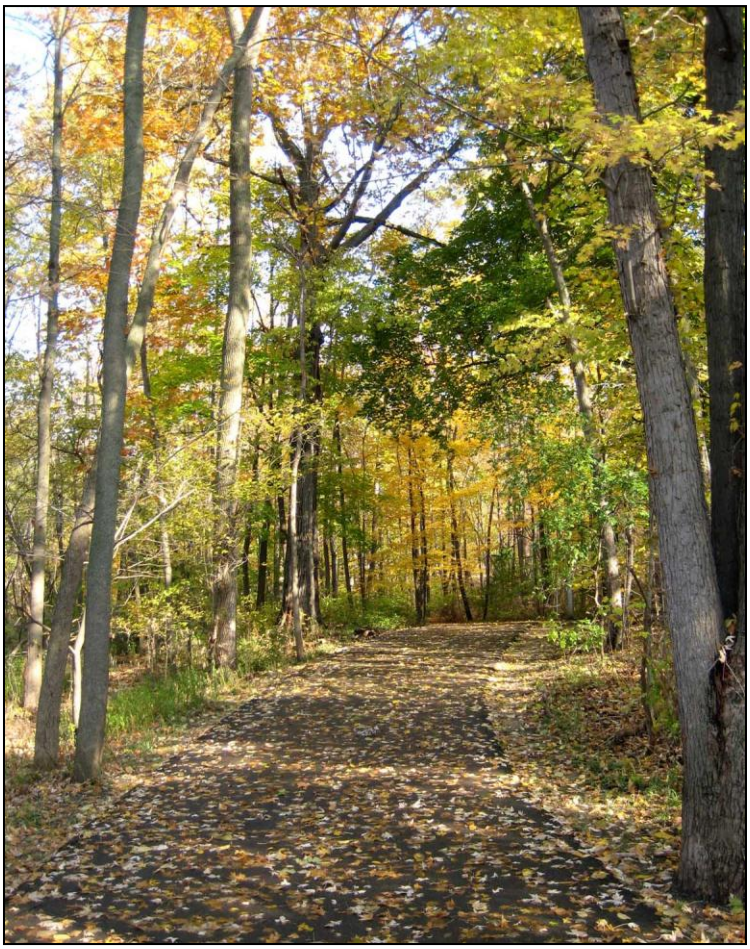
For those who use transit as their preferred mode of travel and those for which it is the only option, non-motorized facilities support the transit system by providing access to transit stops. Walking and biking facilities tying into the transit network are critical for optimal efficiency of the transit system.

Air Quality

Regional air quality is an issue for West Michigan. The majority of the ground-level ozone pollution is caused by motor vehicles. Poor air quality due to vehicle emissions contributes to respiratory problems, especially for

the very young and elderly. An improved non-motorized system gives residents the opportunity to use a non-polluting form of transportation for some trips and simultaneously reduces pollutants detrimental to human health as well as regional air quality attainment status. We can reduce greenhouse gas emissions, reduce our dependence on oil, save money, and improve regional air quality by using alternative forms of transportation such as bicycling and walking.

Economic



In Grand Rapids, the estimated cost per traveler for traffic congestion is $315 every year. Every private automobile removed from the road reduces the overall traffic congestion for an area, and while some trips are not suited to non-motorized transportation, many trips could be diverted to this mode.

The cost of owning and operating a new vehicle continues to rise, especially as fuel prices continue to increase. The cost of operating a bicycle, however, is anywhere from 1-2% of the cost of vehicle operation, with fuel cost increases having almost no impact on that amount. Aside from the personal cost savings, the infrastructure cost savings of building and maintaining non-motorized options as opposed to roads is dramatic.

Expanding non-motorized transportation also brings an economic development component with regard to the bicycle industry—a multi-billion dollar industry and a major contributor to the nation's economy—as well as increases in property values, tourism and the overall quality of life of a community. Non-motorized transportation facilities are used as a centerpiece to attract home buyers as well as focal points in chamber of commerce advertising campaigns. A great deal of tourism in the State of Michigan is derived from the value of our trail systems. While the focus of this element is bicycle transportation, recreational use of non-motorized facilities in our state is an important revenue generator. 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

More than a quarter of Michiganders are considered obese. This expensive and largely preventable condition can be battled through land use and transportation planning that encourages and supports physical activity. By offering non-motorized transportation options, physical activity can be incorporated into everyday activities. The provision of a transportation system which both connects people with destinations and is a means of achieving a healthier lifestyle is paramount. Walking or bicycling to work, school, church, or for pleasure is a convenient way people can incorporate exercise into their daily lives and improve their health.

Quality of Life

An improved non-motorized system reduces water and noise pollution associated with automobile use by shifting short trips from automobiles to pedestrian options. More non-motorized transportation options could also reduce the need for parking spaces, improve safety for current users—especially the young, old, and

disabled, foster community connection and interaction, and reduce 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.

Obstacles to Non-Motorized Transportation

While pedestrian and bicycle transportation has been illustrated as a viable choice, people utilizing non-motorized modes of transportation still experience a number of deterrents and obstacles. These obstacles include cross-jurisdictional cooperation, coordination among multiple users, lack of adequate facilities, seasonal weather, demand, time and distance, land use patterns, funding, safety, maintenance, and liability. 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.

There is a lack of unified public sentiment for a particular form of non-motorized facility. Disparate groups each petition for "their" type of facility. The non-motorized advocacy community lacks a single voice or organization. Thus, competition exists not just between road and non-motorized advocates, but between non-motorized groups as well. The divided non-motorized lobby weakens its overall impact and ability to secure transportation dollars for projects.

Adequate facilities are lacking in many areas, like sidewalks, safe intersections, transit accessibility, bicycle lanes, bicycle parking and storage, and shared-use paths. In particular, bridge crossings in key areas, especially over and beneath limited-access highways, are a significant impediment to safe pedestrian movements. Seasonal weather, such as cold, heat, humidity, rain, wind and snow, can hamper bicycling and pedestrian commutes. However, people can and do elect to bicycle in the warmer months, walk in the winter, or utilize sidewalks to public transportation stops when the weather becomes inclement. Municipalities can make non-motorized options more appealing, especially in the winter months, with regular snow plowing and other weather-related maintenance initiatives.

Non-motorized transportation currently makes up a very small percentage of trips taken. Some studies, however, suggest the use of alternative modes would increase dramatically if facilities were provided. Competition among projects for priority within the transportation improvement program requires a quantitative basis to demonstrate that all projects, including non-motorized ones, are essential and can reach measurable objectives. Within the MPO, non-motorized planning objectives are identified by the respective jurisdictions and these projects, facilities and plans are assumed to be representative of local demand. The reasoning remains that with more facilities, more people would take advantage of these transportation modes and rely less on the automobile.

While time and distance are perceived as obstacles to non-motorized transportation, the short distances of most commutes indicate one could walk or bicycle to destinations instead of driving a vehicle without adding significant time to their journey. Non-motorized transportation is an option that may often only add a few extra minutes, and the benefit of exercise, to the vast majority of short trips.

The density and pattern of land use greatly influences the amount of non-motorized trips. Mixed-use developments encourage more walking trips as more destinations are located within a reasonable distance. While current zoning regulations grouping similar uses together increases land use compatibility, it discourages efficient and direct pedestrian or bicycle trips. Typical suburban travel characteristics break up non-motorized routes and heighten traffic levels for non-motorized travelers. Developers, planners, and government agencies are recognizing the value of designing for "walkability"—the idea of location-efficiency—having the ability and convenience of using non-motorized modes to get to work, school, or social centers.

The cost of non-motorized facilities may be the chief deterrent to their inclusion in area road rights-of-way. Funding is limited by the historic emphasis on automobile travel, as the most demanded mode of transportation, and the perception non-motorized travel is solely recreational and, thus, ineligible for federal transportation money. Federal surface transportation law provides flexibility to organizations like the GVMC

to fund bicycle and pedestrian improvements from a wide variety of programs. However, the federal funding opportunities for non-motorized projects are limited locally by the GVMC Committees. For example, the GVMC Committees have restricted the use of federal funding for sidewalks to only those road reconstruction projects where the existing sidewalk is removed but not for new sidewalk facility construction, a restriction that the federal government does not place on Surface Transportation Program funds. The GVMC Non-Motorized Committee is working to open up some federal funding categories, such as Congestion Mitigation/Air Quality (CMAQ) funds, for non-motorized projects that serve a transportation purpose.

Safety is extremely important in the development of non-motorized facilities. While, nationwide, almost 12% of all traffic fatalities were bicyclists or pedestrians, that number reaches nearly 18% in Michigan. Indeed, over 100 people were killed in incidents between bicyclists or pedestrians and motor vehicles over a decade within the GVMC region. Improving the safety features of our non-motorized network will not only protect current users, but non-motorized options will be more desirable, attracting more trips to these modes.

Among the many sources of funding available for non-motorized transportation, there is a marked lack of money for ongoing maintenance of facilities. Regular maintenance, feasibility studies and engineering cannot be paid for with Transportation Alternatives Program (TAP) grants, the primary funding source for many non-motorized facilities. While some communities may be supportive of constructing pedestrian and bicycle resources, they may be deterred by the associated ongoing maintenance costs.

Local jurisdictions are often hesitant to include bicycle lanes 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. 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.

Existing Non-Motorized Transportation Network

The greater Grand Rapids metropolitan area has over 1,000 miles of non-motorized infrastructure. These resources were constructed primarily by local municipalities assisted by county and state road agencies and the state natural resource department. 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.

Non-Motorized Facility Types

The American Association of State Highway and Transportation Officials (AASHTO) is considered the source for guidance and standards on the development of bicycle and non-motorized facilities. Each type of facility provides different opportunities for the non-motoring public:

Sidewalks – paved pathways paralleling a highway, road, or street and intended for pedestrians, typically from four to five and up to eight feet wide and made from concrete and/or other materials, depending on their location.

Shared Use Paths – generally serve corridors not served by streets and highways, or where wide utility or former railroad rights-of-way exist, permitting such facilities to be constructed away from the influence of parallel streets. Shared use paths offer opportunities not provided by the road system, like recreation or, in some instances, as direct commuter routes if cross flow by motor vehicles and pedestrians is minimized.

Bicycle Lanes – established with appropriate pavement markings and signing along streets in corridors with existing significant bicycle demand and where distinct needs are served by such facilities. Bike lanes improve conditions for bicyclists on the streets, delineating the right-of-way assigned to bicyclists and motorists and providing for predictable movements by each. They also increase the total capacities of highways carrying mixed bicycle and motor vehicle traffic.

Signed Shared Roadway – designated by bike route signs, serving to provide continuity to other bicycle facilities or designate preferred routes through high-demand corridors. As with bike lanes, signing of shared roadways indicates to bicyclists particular advantages exist to using these routes compared with other routes. This means responsible agencies have taken actions to assume that these routes are suitable shared routes and will be maintained consistent with the needs of bicyclists. Signing also serves to advise vehicle drivers that bicycles may be present.

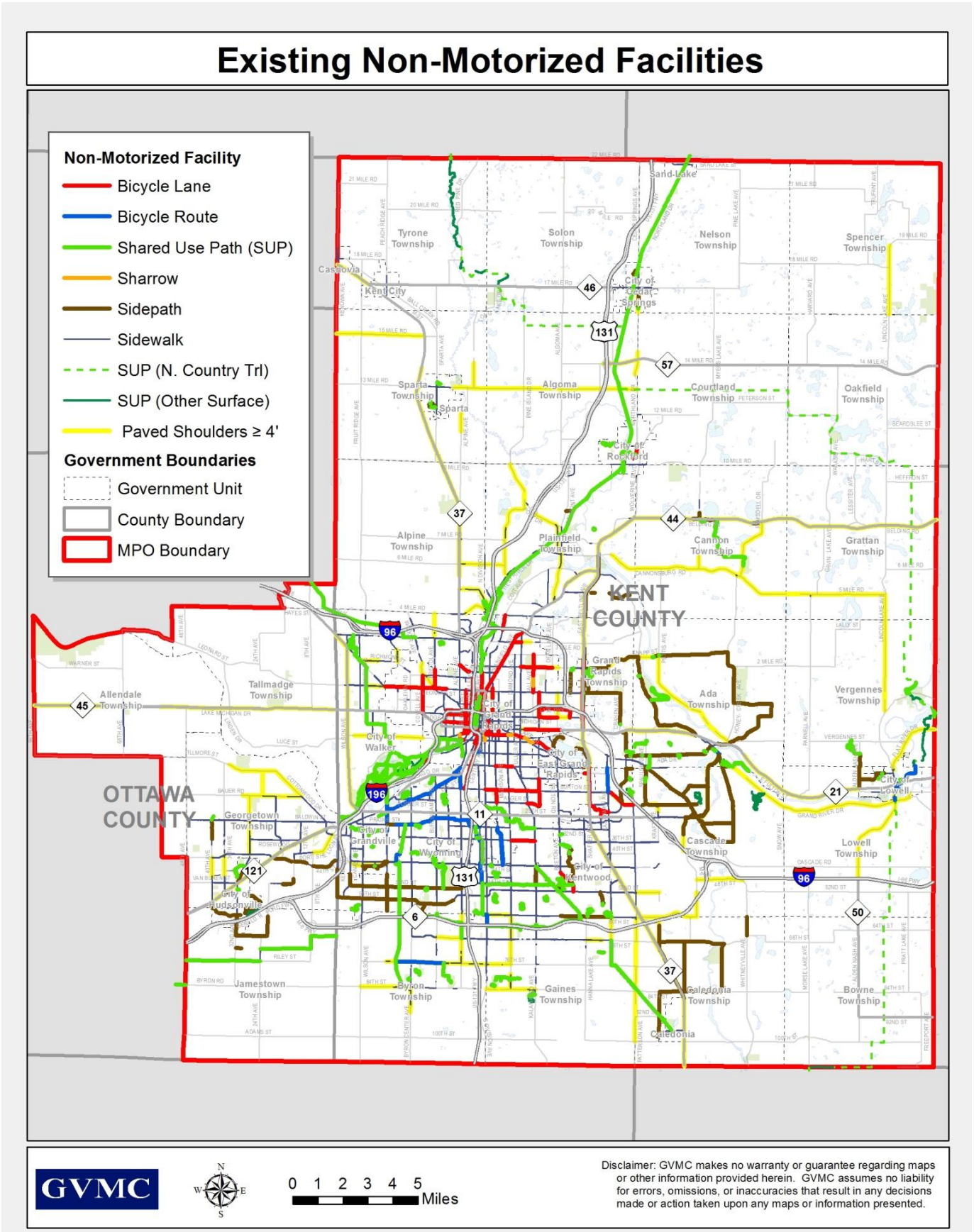
Shared Roadways (No Bikeway Designation) – Most bicycle travel in the United States occurs on streets and highways without bikeway designations. Signing may be unnecessary or unwarranted because a community's existing street system is already fully adequate for efficient bicycle travel, or the streets and highways are unsuitable for bicycle travel, or it may be inappropriate to designate some routes as they may not be considered high bicycle demand corridors.

Bicycle Centers and Staging Areas – auxiliary facilities that increase the convenience and effectiveness of non-motorized transportation. Bicycle centers may offer indoor bicycle parking facilities, lockers, showers, snack bars, bicycle repair and rentals, and other amenities intended to encourage bicycling. Non-motorized staging areas typically have designated motorized vehicle parking areas for accessing non-motorized networks.

Pedestrian Bridges or Refuges - Occasionally significant crossings in a non-motorized network over railroads, water, other roads, or freeways, present major impediments. Many options exist to provide pedestrian access over these obstacles. Several local bridge crossings have been identified where a dedicated crossing or bridge modification for pedestrians would complete a network gap, increasing the attractiveness and safety of non-motorized travel.

Existing Non-Motorized Facilities

An extensive inventory of existing facilities already exists in the GVMC MPO area (see Map 15 on the next page). The resources already on the ground in the Grand Rapids area are a regional accomplishment and a basis for a larger and more integrated non-motorized transportation network. GVMC staff has worked with area jurisdictions to develop a comprehensive non-motorized facility inventory including sidewalk facilities along Federal-Aid eligible roadways, shared use paths, signed shared roadways or bicycle routes and lanes, as well as Federal-Aid eligible roads with wide paved shoulders. Maps of these facilities are produced by GVMC Transportation using data collected from federal, state, regional, county and local units of government (see Map 15 on the next page).



Map 15 – Existing Non-Motorized Facility Map

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 Grand Valley Metropolitan Council Non-Motorized Transportation Committee worked together to identify priority non-motorized projects for our MPO area.

Committee Makeup

A Non-Motorized Transportation Committee was formed to help guide GVMC staff and direct the planning process. Representatives from local units of government, members of the Grand Valley Metropolitan Council Transportation Committees, as well as other advocacy groups, concerned citizens, and other stakeholders were invited to be members of the committee. Other members include local bicycle club members, the Michigan Department of Transportation, Disability Advocates, local environmental advocates, trail advocates and volunteers, professional planners, media representatives, bicycle enthusiasts, and those who rely on non-motorized transportation as their primary mode of travel. All meetings of this group are open to the general public.

In addition to providing GVMC 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 Transportation Committee, 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 GVMC Non-Motorized Transportation Committee Members by Agency

First Name	Last Name	Agency	First Name	Last Name	Agency
Jim	Ferro	Ada Township	Suzanne	Schulz	City of Grand Rapids
Julie	Sjogren	Algoma Township	Jay	Steffen	City of Grand Rapids
Jerry	Alkema	Allendale Township	Chris	Zull	City of Grand Rapids
Alex	Arends	Alpine Township	Ken	Krombeen	City of Grandville
Sue	Thomas	Alpine Township	Dan	Strikwerda	City of Hudsonville
Audry	Nevins	Byron Township	Tim	Bradshaw	City of Kentwood
Bonnie	Blackledge	Cannon Township	Sandra	Otey	Cascade Township
Joe	Pung	City of Kentwood	Terry	Schweitzer	City of Kentwood
Steven	Patrick	City of Coopersville	Charlie	Ziesemer	City of Kentwood
Brian	Donovan	City of East Grand Rapids	Mark	Howe	City of Lowell
Joe	Slonecki	City of East Grand Rapids	Phil	Vincent	City of Rockford
Rick	Devries	City of Grand Rapids	Michael	Young	City of Rockford
Dale	Fitz	City of Grand Rapids	Scott	Conners	City of Walker
Peter	Lewak	City of Grand Rapids	Travis	Mabry	City of Walker
Skippy	Magilicutty	City of Grand Rapids	Darrel	Schmalzel	City of Walker
Tim	Cochran	City of Wyoming	Thomas	Tilma	Greater GR Bicycle Coalition
Russ	Henckel	City of Wyoming	Nick	Monoyios	ITP-The Rapid
Rebecca	Rembrandt	City of Wyoming	Conrad	Venema	ITP-The Rapid
Brett	Boncher	Courtland Township	Ken	Bergwerff	Jamestown Township
Richard	Granse	Friends of the White Pine	Tim	Haagsma	Kent County Road Commission
David	Heyboer	Friends of the White Pine Trail	Rick	Sprague	Kent County Road Commission
Jeff	Gritter	Gaines Township	Steve	Warren	Kent County Road Commission
Don	Hilton Sr.	Gaines Township	Karen	Dunnam	League of American Wheelman

First Name	Last Name	Agency	First Name	Last Name	Agency
Denny	Bishop	Georgetown Township	Dennis	Kent	MDOT
Dan	Carlton	Georgetown Township	Steve	Redmond	MDOT
Dale	Mohr	Georgetown Township	Mark	Knudson	Ottawa County
Howard	Meyerson	Grand Rapids Press	Rick	Solle	Plainfield Township
Mike	Devries	Grand Rapids Township	Jay	Spencer	Plainfield Township
Joshua	Duggan	Greater GR Bicycle Coalition	Gregory	Ransford	Tallmadge Township
Jay	Fowler	Greater GR Bicycle Coalition	Rick	Chapla	The Right Place
Joshua	Leffingwell	Greater GR Bicycle Coalition	Norm	Sevensma	West Michigan Env. Action Council
Ted	Lott	Greater GR Bicycle Coalition	Dave	Bee	West Michigan Regional Planning
Scott	Steiner	Greater GR Bicycle Coalition	Dennis	Kneibel	West Michigan Trails & Greenways

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 GVMC 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 Grand Valley Metropolitan Council (GVMC) 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

Facility Development:

- Preserve the function of the existing non-motorized transportation system.
- Identify projects which will contribute to a continuous, coordinated, and safe regional non-motorized network of bicycle and pedestrian facilities and will provide access to employment, shopping, schools, transit, and other destinations.
- Encourage local, county, and state roadway agencies fully consider the needs of pedestrians and cyclists in all projects.
- Continue to research and identify funding sources for the development of non-motorized facilities.

Safety:

- Reduce the number of bicycle and pedestrian accidents, injuries, and fatalities.
- Encourage the use of safe and consistent construction/design standards for new non-motorized facilities that conform to the Americans with Disabilities Act (ADA).

Coordination and Cooperation:

- Support locally determined bicycle and pedestrian program implementation efforts.
- Plan and coordinate facility development between jurisdictions to maximize resources.
- Cooperate among various interest groups and municipalities to equitably prioritize facility development.

Education and Encouragement:

- Work with GVMC members and advocacy groups to promote public awareness, acceptance, and utilization of non-motorized transportation modes.

Performance Measures

Performance measures are a key feature with MAP-21 and is an outcome based program for states to invest resources in projects that collectively will make progress towards the achievement of national goals. The performance measures are built upon the plan goals and objectives and will allow us to review the success or our plan objectives. Unfortunately for non-motorized, measuring opportunities are limited. In the following table there has been provided an action plans if no performance measure exists for the objective.

Goal	Objective	Performance Measure
1) Facility Development	1a) Preserve the function of the existing non-motorized transportation system.	Development/update of the NM Plan every 4 years prior to the development of the MTP.
	1b) Identify projects which will contribute to a continuous, coordinated and safe regional non-motorized network of bicycle and pedestrian facilities and will provide access to employment shopping, schools, transit, and other destinations.	Develop and utilize a project selection and/or prioritization process that specifically considers accessibility and connectivity between facilities and across modes, given the new MAP-21 Transportation Alternatives program.
	1c) Encourage local, county, and state roadway agencies to fully consider the needs of pedestrians and cyclists in all projects.	Provide proximity reports to member agencies that have projects in the TIP that would align well with projects needed from the Non-Motorized plan.
	1d) Continue to research and identify funding sources for the development of non-motorized facilities.	Update and report annually to our member agencies on any changes to available funding opportunities.
2) Safety	2a) Reduce the number of bicycle and pedestrian accidents, injuries, and fatalities.	Evaluate injury and fatality rates across the MPO area to target specific locations in an effort to reduce crashes 10% by 2020.
	2b) Encourage the use of safe and consistent construction/design standards for new non-motorized facilities that conform to the American with Disabilities Act (ADA).	Promote the use of AASHTO documents and make them available for check out through the MPO. Provide announcements of newly available resources or changes in laws that influence federal or state requirements.

3) Coordination and Cooperation	3a) Support locally determined bicycle and pedestrian program implementation efforts.	Coordinate priorities with jurisdictions that have adopted local non-motorized or recreation plans. Provide MPO support to secure any available funding opportunities.
	3b) Provide opportunities for cross-jurisdictional project coordination and stakeholder involvement.	Provide an MPO sponsored yearly meeting for jurisdiction planners and engineers to meet and discuss intended transportation and bike/ped. improvements to encourage cross-jurisdictional project coordination.
	3c) Cooperate among various interest groups and municipalities to equitably prioritize facility development.	The non-motorized committee will be called on to help plan and prioritize improvements that go to the TPSG committee for TIP programming.
4) Education and Encouragement	4a) Work with GVMC members and advocacy groups to promote public awareness, acceptance, and utilization of non-motorized transportation modes.	Present information to the public regarding newly scheduled projects, major trail ceremonies, training opportunities, and upcoming events.

Figure 13 – Performance Measures

Study Process and Project Evaluation Criteria

To understand what non-motorized projects are especially important for our area, the Non-Motorized Transportation Committee 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 Transportation Committee developed project evaluation criteria.

In June 2008, GVMC staff requested that the Non-Motorized Committee collect project suggestions from all the MPO jurisdictions in a combined effort to develop the non-motorized plan and as part of the Rails-to-Trails 2010 Campaign for Active Transportation process. Through this effort, basic evaluation criteria for reviewing projects was agreed upon, and each jurisdiction took it upon themselves to examine all of their desired projects, screen each project according to the evaluation system, and refine their local list of projects accordingly. The review process developed used a system of tiers to review projects based on their level of performance.

In July 2013, the Non-Motorized committee reviewed the tier system and created a new evaluation process for projects submitted for inclusion into the Non-Motorized Plan. The new priority process involves the rating of five major components outlined below. Each factor has the possibility of 1 to 3 points awarded relating to low, medium, and high, with a minimum of 5 and maximum of 15 points awarded for each project. The hope is that the projects that score the highest by the MPO will also be the priority by its member agencies for funding them. You will notice that the rating system was designed to have minimal personal influence by the rater, and that the physical location of the project primarily determined each project score. The five rating factors are as follows along with the methodology for determining their scores.

Priority Rating System

Mode Shift: There will be measurable changes in bicycling, walking trips, or transit ridership based on the geographic proximity to trip attractors, trip generators and transit bus stops.

Methodology: Three points are awarded for each project that would display a measurable likelihood of mode shift, with a minimum award of one point. Each project is awarded a point for being in close proximity to trip attractors, trip generators, and transit.

For measuring trip attractors, Claritas 2011 employment statistics were used to determine what projects are close to retail, education services, health care, arts, entertainment, recreation, and food services. Point employment values are aggregated using a point density analysis in GIS that calculates a magnitude per unit area from point features that fall within a neighborhood around each cell. In other words, the higher concentration of services within a specified distance from any given location, the greater the value is. This calculation was used because a picture can be painted for the whole MPO area. Projects located in an area with moderate to high attractors were awarded a point.

Trip generators are traditionally factors of population and can represent the possibility of latent demand. Census block centroids are used to create a point density analysis for population in GIS to find the highest concentration of people, using a similar methodology to that which was used to determine trip attractors. Projects located in an area with moderate to high generators are awarded a point.
Although ¼ mile is the standard for the average distance people are willing to walk to a bus stop it cannot be seen as a hard boundary. For the purpose of giving each project a rating based on transit, this distance is used to define whether the project receives a point for transit. Projects that may bridge a gap for bus access and/or be in close proximity to a bus stop are awarded a point.

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.

Methodology: Three points are awarded for each project that can be seen as bridging a gap or removing a current barrier that exists, with a minimum of one point. A point was awarded if existing facilities were found on both sides of the proposed project. If the project is a small piece of a proposed alignment and connected by proposed facilities on either side as part of a larger connector to existing facilities it would still be awarded a point for this rule. Another point award occurred if the facility being proposed services both bikers and pedestrians if nothing currently exists for either mode along the proposed facility/street alignment. A final point was awarded if the proposed project allowed for the continuous flow of travel for either bikers or pedestrians.

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: Three 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 the past ten years. If the project falls in an area of moderate to high accidents it receives two points. If a project falls in an area of low accidents it receives one point. Any project identified within a half mile of a past pedestrian or bicycle related fatality was awarded a final point.

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

Methodology: Three points are awarded based on the regional impact of the project proposed, with a minimum award of one point. If 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, it is awarded a point. If the project allows for the continuous flow of a travel between jurisdictions it is awarded another point. If the

project has been identified as a multi-jurisdictional need and has formally received such support, it is awarded a final point.

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.

Methodology: Three points are awarded for each project that serves a population center within an environmental justice area, with a minimum award of one point. Using GIS analysis from the 2010 census blocks, the projects that are in moderate areas of density were awarded two points. If the project is found to be in an area of low population density the project was awarded one point. Disadvantaged and underserved communities are those areas that have a statistically high occurrence of any particular race or poverty status. These are known as Environmental Justice areas 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. If a project falls inside an Environmental Justice area, as defined by the Metropolitan Planning Organization, it received a final point.

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. Figure 15 provides a visual example of the priority system and how it was used to evaluate projects from the needs list.

Project Name	Jurisdiction	Scoring Criteria - 3 points Possible*					Total Points
		Mode Shift	Connectivity/ Continuity	Safety/ ADA	Regional vs. Local Facility	High Use/ Social Equity	
North Connector	KCRC	3	2	2	1	3	11
South Connector	GR	2	1	2	1	3	9
East Connector	Kentwood	2	2	2	2	3	11
West Connector	Wyoming	3	3	2	3	3	14

*Points awarded on a High, Medium, and Low Scale from 3 to 1 based on the criteria in the methodology.
Figure 15 – Scoring Criteria Example

Non-Motorized Transportation Improvement Project List

The Non-Motorized Transportation Improvement Project List developed far exceeds the historic levels of funding non-motorized transportation receives within this MPO area. Indeed, the levels of funding provided for non-motorized modes of transportation are inconsistent over time and vary with competition between projects for grant funds. Projects are more often than not paid for with local funds entirely and do not rely upon federal transportation dollars. Unlike the Metropolitan Transportation Plan projects for which federal funds are used and which must be financially constrained, the list of non-motorized projects is broad in scope and summarizes all of the projects in the region unbound by projected funding levels.

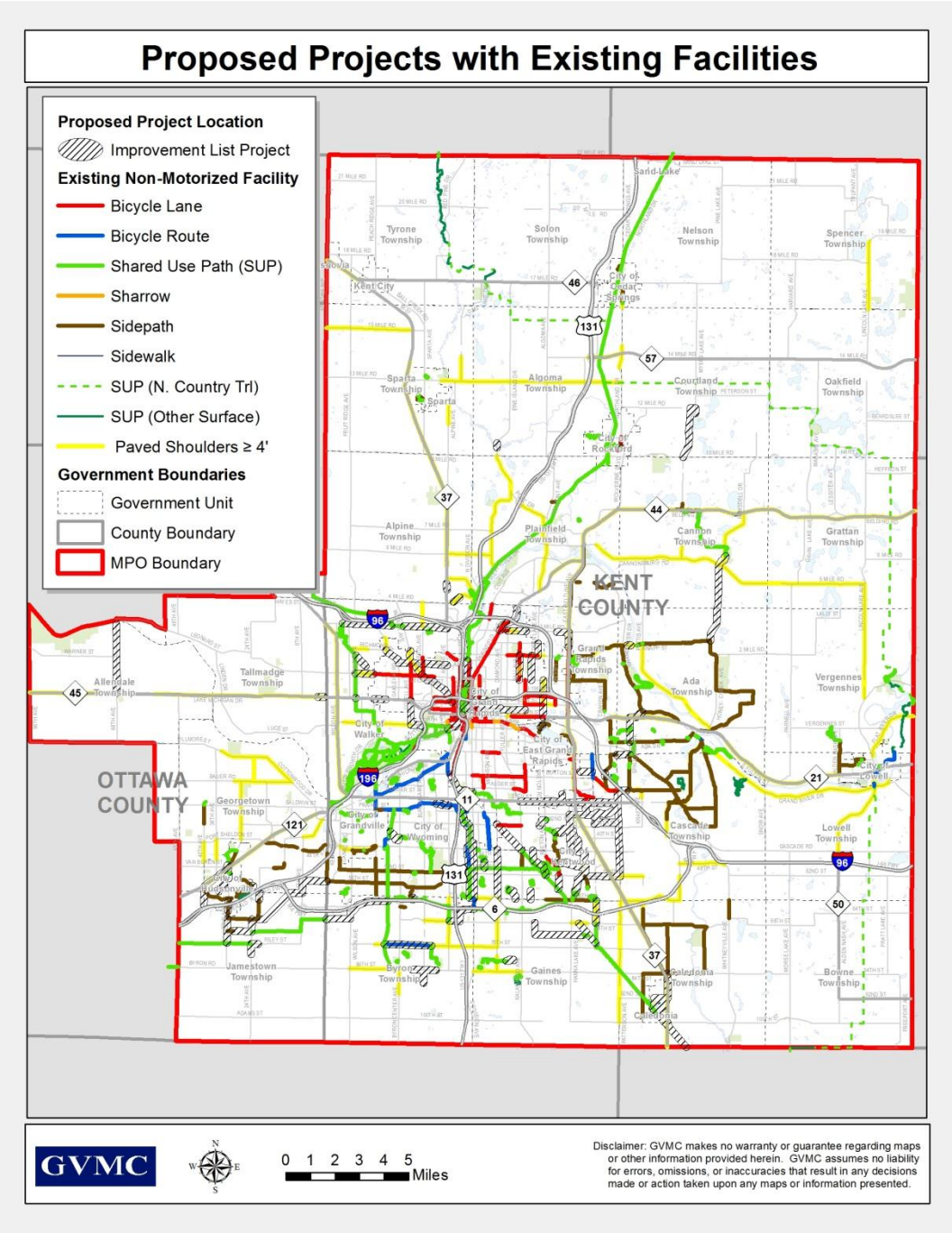
The project list contained within this document brings together the desires of transportation agencies, communities, and the public for all future non-motorized improvements. It is a living document that will be updated as the desires of the communities and their residents evolve. The list contains individually requested projects as well as mileage for projects previously identified by communities and recorded in our geographic database. It should also 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 improvements.

Proposed Projects by Jurisdiction	Project Name	Project Scope	Facility Type	Length (Miles)	Priority (5-15)	Cost (Funded)
Ada Township	Honey Creek Trail (Ada-Cannon Conn.)	Knapp St to 4 Mile Rd	Sidepath	1.4	7	$654,000
Ada Township	Knapp St Bridge	Across the Grand River	Pedestrian Bridge	n/a	8	$1,770,000
Ada Township	Spaulding Ave/Fulton St/Carl Dr	Ada Dr to Grand River Dr	Sidepath	1.61	12	$820,000
Algoma Township	Pine Island Dr Bridge	Over the Rogue River	Pedestrian Bridge	n/a	6	$247,210
Allendale Township	68th Avenue Trail	Lake Michigan Dr to Eastmanville Bayou	Sidepath	2.81	6	$396,000
Alpine Township	4 Mile Rd Sidewalk	Yorkland Dr to Yorkview Dr	Sidewalk	0.32	13	$44,400
Alpine Township	M-37 Sidewalks	Lamoreaux Dr to North of York Creek	Sidewalk	0.18	14	$175,000
Byron Township	68th Street Trail	Kenowa Avenue to Byron Center Avenue - Connecting Fred Meijer Kenowa Trail to Kent Trails and Byron Center Ave	Shared Use Path	3	10	$2,900,000
Byron Township	84th Street Sidewalk	Burlingame to Byron Commerce Drive, connecting Downtown Byron to Douglas Walker Park to Tanger Outlet Mall	Sidewalk	1.4	7	$375,000
Byron Township	Burlingame Avenue Sidewalk	Planters Row Drive to 76th Street	Sidewalk	1.6	7	$492,000
Byron Township	Douglas Walker Park Trail	Whistlestop Park to Douglas Walker Park	Sidepath	1	7	$320,000
Byron Township	Fred Meijer M-6 Trail Phase IV	Division Avenue to 68th Street along M-6 and Clay Avenue	Shared Use Path	1.2	13	$1,600,000
Byron Township	Whistlestop Park Trail (76th St Trail)	Kent Trail to Whistlestop Park - Connecting Kent Trail to Bicentenial Park and Whistlestop Park	Sidepath	0.9	7	$470,000
Caledonia Township	Cherry Valley Ave	84th St to 92nd St	Sidepath	1.06	10	$202,740
Caledonia Township	Paul Henrey Trail Connection	Main St to 180th St	Shared Use Path/Bike Lanes	1.96	8	$278,924
Caledonia Township	Village Loop	92nd to Main St	Shared Use Path/Bike Routes	2.06	8	$169,395
Cannon Township	Honey Creek Trail (Ada-Cannon Conn.)	4 Mile Rd to Cannonsburg Rd	Sidepath	1.76	7	$1,700,000
Cannon Township	Townshend Park	Ramsdell Dr to Cannonsburg Rd	Shared Use Path	0.52	7	$457,652
Cascade Township	Burton St Bridge	Pedestrian Path across I-96 Overpass	Pedestrian Bridge	n/a	11	$2,000,000
Cascade Township	Burton St Trail	Patterson Ave to Spaulding Ave	Sidepath	0.35	11	$150,000
City of East Grand Rapids	Reeds Lake Trail Bridge & Boardwalk	Lakeside Dr to Reeds Lake Blvd (North Arm)	Boardwalk	0.11	12	$435,995
City of Grand Rapids	28 th St	Kalamazoo Ave to Patterson Ave	Sidewalk	2.7	15	$750,000
City of Grand Rapids	3 Mile Rd	Fuller Ave to East City Limits	Paved Shoulder	0.75	11	$140,000
City of Grand Rapids	Ball Ave	Leonard St to Knapp St	Bike Lane	1	15	$53,000
City of Grand Rapids	Covell Ave	Obrien St to Lake Michigan Dr	Bike Lane/Paved Shoulder	1	13	$53,000
City of Grand Rapids	Crescent St Corridor Phase II	Division Ave & Crescent St Intersection to Ottawa Ave	Pedestrian Improvments	0.05	14	$1,540,000
City of Grand Rapids	Crescent St Corridor Phase III	Ottawa Ave to Monroe Ave	Pedestrian Improvments	0.11	14	$2,040,000
City of Grand Rapids	Dean Lake Ave	Knapp St to Aberdeen St	Paved Shoulder	0.5	11	$36,000
City of Grand Rapids	Division Ave/Newberry St	Stair Improvements	Streetscaping/Stairs/Ramps	n/a	13	$905,000
City of Grand Rapids	Grand River Edges (East)	US-131 to Wealthy St with connection to Oxford St Trail and Kent Trails	Shared Use Path	0.14	13	$500,000
City of Grand Rapids	Grand River Edges (East)	Fulton St South to US-131	Shared Use Path	0.42	13	$500,000
City of Grand Rapids	Grand River Edges (East) Phase III	Leonard St to Ann St	Shared Use Path	0.75	15	$6,000,000
City of Grand Rapids	Grand River Walkway (East)	Canal St Park to Leonard St and East to Monroe Ave	Shared Use Path	0.23	14	$304,615
City of Grand Rapids	Grand River Walkway (West)	West bank of the River under and around Fulton St	Shared Use Path	0.78	15	$1,750,000
City of Grand Rapids	I-196/Hastings Streetscape and Gateways	CollegeAve to Division Ave	Streetscaping/Gateways	0.5	14	$3,727,550
City of Grand Rapids	Lake Michigan Dr	Maynard Ave to Collindale Ave	Sidewalk - South Side	0.48	13	$140,000
City of Grand Rapids	Lyon St Bikeway	Bicycle Track Diamond to Division , Bicycle lanes/sharrows from Grand River to Division & Diamond to Plymouth	Bicycle Track, Bike Lane, Sharrow	2.52	13	$670,000
City of Grand Rapids	Maryland Ave	Fulton St to Michigan St	Paved Shoulder	0.5	13	$31,500
City of Grand Rapids	Maryland Ave	Michigan St to Leonard St	Paved Shoulder	1	13	$53,000
City of Grand Rapids	O'Brien St	Covell Ave to Butterworth Ave	Paved Shoulder	0.52	11	$35,000
City of Grand Rapids	Paul Henrey Trail Extension	44th St to 36th St	Shared Use Path	1.45	15	$950,000
City of Grand Rapids	Perkins Ave	Leonard St to Knapp St	Bike Lane/Paved Shoulder	1	15	$53,000
City of Grand Rapids	Plainfield Ave	I-96 to 390' N of Salemo Dr	Sidewalk	1	14	$275,000
City of Grand Rapids	Plainfield Ave	3 Mile Rd to I-96	Sidewalk	0.75	14	$396,000
City of Grand Rapids	Plaster Creek Trail	Buchanan Ave to Burton St	Shared Use Path	1.04	14	$330,000
City of Grand Rapids	Plaster Creek Trail	West to Plaster Creek Blvd and up to Division Ave	Shared Use Path	0.28	14	$181,523
City of Grand Rapids	Plaster Creek Trail	Planning Study Only East of Kalamazoo Ave and west of Division Ave	Shared Use Path Planning Study	n/a	n/a	$50,000

Proposed Projects by Jurisdiction	Project Name	Project Scope	Facility Type	Length (Miles)	Priority (5-15)	Cost (Funded)
City of Grand Rapids	Richmond St	Elmridge Ave to Oakleigh Ave	Bike Lane/Paved Shoulder	0.77	10	$140,000
City of Grand Rapids	Richmond St	Oakleigh Ave to covell Ave	Bike Lane/Paved Shoulder	0.5	11	$31,500
City of Grand Rapids	Richmond St	Covell Ave to Bristol Ave	Bike Lane	0.5	13	$31,500
City of Grand Rapids	Richmond St	Bristol Ave to Garfield Ave	Bike Lane	0.5	14	$31,500
City of Grand Rapids	Richmond St	Garfield Ave to Alpine Ave	Bike Lane	0.5	14	$31,500
City of Grand Rapids	Seward Ave to Grand Walk, Musketawa, White Pine	Planning Study Only	Shared Use Path Planning Study	n/a	n/a	$25,000
City of Grand Rapids	Walker Ave & Stocking Ave Bikeway	Bridge St to North City Limits	Bike Lanes/Sharrows,/Widening	2.88	12	$426,708
City of Hudsonville	32nd Avenue	I-196 wb ramp to Corporate Grove Dr	Paved Shoulder/Sidepath	0.37	11	$40,000
City of Hudsonville	32nd Avenue, west side	Allen Street to Veteran's Park	Sidepath	0.13	11	$105,000
City of Hudsonville	40th Ave	Glenview Ct to New Holland St	Sidepath	0.53	7	$175,000
City of Hudsonville	Barry Street	24th Ave to city limits	SidePath	0.06	10	$16,000
City of Hudsonville	Buttermilk Creek Pathway	New Holland St to 32nd Ave	Shared Use Path	0.63	10	$140,000
City of Hudsonville	Buttermilk Creek Pathway	32nd Ave to Prospect St	Shared Use Path	0.17	11	$100,000
City of Hudsonville	Buttermilk Creek Pathway	Prospect St to Oak St	Shared Use Path	0.29	11	$1,000,000
City of Hudsonville	Chicago Drive, south side	40th Ave to 32nd Ave	Sidepath	1.07	10	$583,000
City of Kentwood	28th St Sidewalk	South Side-Patterson to Shaffer	Sidewalk	1.24	15	$375,000
City of Kentwood	28th St Sidewalk	North Side-East Paris to Patterson	Sidewalk	0.76	15	$375,000
City of Kentwood	52nd Street corridor Trail	Bailey's Grove Drive to East Paris	Bike Lanes/Sharrows	0.42	10	$10,000
City of Kentwood	52nd Street corridor Trail	East Paris to Broadmoor	Bike Lanes/Sharrows	0.63	10	$15,000
City of Kentwood	52nd Street corridor Trail	Broadmoor to Patterson	Bike Lanes/Sharrows	0.38	7	$10,000
City of Kentwood	Ada, Cascade, GR Township and Kentwood Trail Conn	Hall Street to Spaulding Avenue	Sharrows/Sidewalk/Shared Use Path	0.53	13	$170,000
City of Kentwood	Breton Trail	52nd to 60th Streets	Shared Use Path	0.56	13	$132,000
City of Kentwood	Calvin College Trail	East Paris to W. City Limits	Shared Use Path	0.5	11	$40,000
City of Kentwood	Division Ave	54th to 60th	Bike Lanes	0.75	14	$160,000
City of Kentwood	Division Ave	44th to N City Limits	Bike Lanes/Shared Lanes	0.25	13	$10,000
City of Kentwood	Division Ave	48th to 44th	Bike Lanes/Shared Lanes	0.5	14	$15,000
City of Kentwood	Division Ave	54th to 48th	Bike Lanes/Shared Lanes	0.75	13	$25,000
City of Kentwood	Eastern Avenue Trail	44th to 60th Streets	Bike Lanes/shared lanes	0.78	14	$60,000
City of Kentwood	East-West Trail	Lamberts Park through Fisheries Park	Shared Use Path	0.77	12	$300,000
City of Kentwood	East-West Trail Connector	Fisheries Park to 52nd Street - Wildflower Creek Sub.	Sharrows	0.27	11	$10,000
City of Kentwood	East-West Trail Connector	400 blk 48th St south to East-West Trail along Heyboer Drain	Shared Use Path	0.25	14	$40,000
City of Kentwood	East-West Trail Crossing	5000 Block of Division	Refuge Island	n/a	14	$30,000
City of Kentwood	East-West Trail- Lamberts Park	Walma Avenue, 2600 feet East	Shared Use Path	0.57	13	$65,000
City of Kentwood	Forest Creek Drive/ Cons. Energy Trail	East Paris to Patterson	Shared Use Path	1	12	$200,000
City of Kentwood	Forest Hill Trail Bridge	At I-96	Pedestrian Bridge	n/a	14	$2,000,000
City of Kentwood	Lake Eastbrook Boulevard	28th to 32nd	Bike Lanes	0.5	15	$65,000
City of Kentwood	Non-Motorized Crack Seal	10 Miles of Existing Facilities	Maint. on Sidepath/Shared Use Path	10	n/a	$20,000
City of Kentwood	Patterson Avenue Trail - I	28th St to Burton Street	Side Path	0.48	14	$66,000
City of Kentwood	Patterson Avenue Trail - II	36th Street to 28th Street	Side Path	1	14	$132,000
City of Kentwood	Patterson Avenue Trail - III	44th St to 36th Street	Side Path	1	10	$132,000
City of Kentwood	Patterson Avenue Trail - IV	52nd St to 44th St	Side Path	1	9	$132,000
City of Kentwood	Patterson Trail Crossing	28th Street	Refuge Island	n/a	15	$60,000
City of Kentwood	Pinetree Ave	60th St to Gentian Dr	Sidewalk	0.67	14	$80,000
City of Kentwood	Plaster Creek Trail	Breton to West City Limits	Shared Use Path	0.43	14	$85,000
City of Kentwood	Plaster Creek Trail	Shaffer to Stanaback Park	Shared Use Path	0.84	11	$85,000
City of Kentwood	Plaster Creek Trail	Paris Park Dr Extended to 52nd Street	Shared Use Path	0.88	12	$250,000
City of Kentwood	Plaster Creek Trail	44th St to Shaffer	Shared Use Path	1.31	12	$250,000

Proposed Projects by Jurisdiction	Project Name	Project Scope	Facility Type	Length (Miles)	Priority (5-15)	Cost (Funded)
City of Kentwood	Plaster Creek Trail	44th To 52nd Streets	Shared Use Path	1.03	11	$250,000
City of Kentwood	Ridgebrook Dr/Brookcross Dr	60th St to Brookcross/Ridgebrook to Christie	Sidewalk	0.96	14	$90,000
City of Kentwood	Ridgemoor Trail	28th Street to N City Limits	Bike Lanes/Shared Lanes/Sidewalk	0.32	13	$80,000
City of Kentwood	Saddleback Trail	32nd St to Plaster Creek Trail via Shaffer	Bike Lane	0.72	13	$30,000
City of Kentwood	Saddleback Trail	East Paris to Shaffer along 32nd St	Side Path	1	13	$132,000
City of Kentwood	Saddleback Trail	Woodland Creek Apartments to East Paris	Shared Use Path	0.63	14	$96,000
City of Kentwood	Saddleback Trail	Patterson to Woodland Creek Apartments	Shared Use Path	0.84	14	$132,000
City of Kentwood	Shaffer Trail	32nd to 44th Streets	Bike Lanes/Shared Lanes	1.5	11	$45,000
City of Kentwood	Stauffer Trail	44th To 52nd Streets	Bike Lanes/Shared Lanes	1.3	12	$45,000
City of Lowell/Vergennes Township	Fred Meijer Flat River Valley Rail Trail I	Railroad Corridor From Foreman Road North and East to the County Line	Shared Use Path	8.46	8	$800,000
City of Lowell/Lowell Township	Fred Meijer Flat River Valley Rail Trail II	Railroad Corridor from Jackson St East to the County Line	Shared Use Path	1	8	$200,000
City of Lowell	Fred Meijer River Valley Trail Connector	Connecting Flat River Valley Rail Trails through the City of Lowell	Shared Use Path/Bike Lane/Bike Route	2	11	$2,000,000
City of Rockford	Rum Creek Shelter	201 Northland Dr	Pedestrian Shelter	n/a	10	$16,804
City of Walker	Fred Meijer Pioneer / Standale Trail Connector	.25 Miles W of Kinney along 3 Mile Rd to Fred Meijer Pioneer Trail	Shared Use Path	2	10	$630,000
City of Walker	Lake Michigan Dr Tunnel	Fredrick Meijer Standale Trail & Lake Michigan Dr	Pedestrian Bridge - Tunnel	n/a	14	$1,670,000
City of Walker	Remebrance Rd & Leonard St	Rembrance from Walker Village Dr to Fred Meijer Standale Trail, Leonard St from Fred Meijer Standale Trail to Remebrance Rd	Bike Lanes	1.31	11	$20,000
City of Walker	Remembrance Rd	Walker Village Dr to Fred Meijer Standale Trail	Sidewalk	0.85	14	$125,000
City of Walker	Standale Trail Crossings	Crossings for Remembrance and Leonard along the Standale Trail	Crossing Signals	n/a	13	$50,000
City of Wyoming	Buck Creek Trail/Kent Trail Connection	Byron Center Ave to Kent Trails	Shared Use Path/Refuge Island	0.72	14	$560,000
City of Wyoming	Frog Hollow/M-6 Trail Connection	Frog Hollow park to the M-6 Trail	Shared Use Path	0.1	13	$82,000
City of Wyoming	Interurban Trail & Kentwood Trail Connector	From Interurban Trail Just South of 50th St to Kentwood Trial due East	Shared Use Path/Refuge Island	0.16	14	$72,800
City of Wyoming	Widen & Resurface Interurban Trail	Along the Interurban Trail	Shared Use Path/Bike Route/Sharrows	4.55	15	$540,000
Courtland Township	Myers Lake Trail	10 Mile Rd to 12 Mile Rd	Sidepath	2.5	11	$685,014
Gaines Township	Brewer Park/Prairie Wolf Park Connector	Connection between the two parks	Shared Use Path	0.36	5	$150,000
Gaines Township	Dutton Spur to Paul Henry Trail	From Dutton / 68th St to Existing trail	Shared Use Path	1.06	8	$175,000
Gaines Township	Paul Henry Trail (East Paris Ave)	60th St to 68th St	Sidepath	0.91	13	$329,835
Gaines Township	Township Trail (Electric Transmission ROW)	Gaines Township population Center to the Dutton Spur connecting to the Paul Henry Trail	Shared Use Path	2.46	10	$500,000
Grand Rapids Township	3 Mile Road/East Beltline Ave	Leffingwell to East Beltline/3 Mile to 1800' North of Knapp St	Sidepath	1.08	14	$710,000
Jamestown Township	22nd Ave connector	Bridlewood to Township Line	Sidepath	0.31	6	$52,100
Jamestown Township	24th Ave Shoulder	Quincy St to Greenly St	Paved shoulder	0.5	10	$21,120
Jamestown Township	24th Ave Sidepath	Quincy St to Greenly St	Sidepath	0.5	10	$120,000
Jamestown Township	24th Ave sidewalks	Outback St to Riley St	Sidewalk	0.82	6	$200,000
Jamestown Township	32nd Ave connector	Riley to Quincy	Paved shoulder	1	7	$42,240
Jamestown Township	Angling Rd connector	Quincy, Angling Rd, Jackson, 8th Ave, Barry St, to Kenowa Ave	Paved Shoulder	3.75	7	$169,000
Jamestown Township	Greenly St connector	Sun Ridge Dr to 24th Ave	Sidepath	0.75	9	$95,000
Jamestown Township	Riley St sidewalks	Cobblestone to 24th Ave	Sidewalk	0.55	6	$150,000
Kent County Parks	Fred Meijer Pioneer Trail Sidewalk	Walker Ave to Alpine Ave	Sidewalk	1.78	14	$190,000
Tallmadge Township	Lake Michigan Ave Sidewalk	1st Avenue to 3rd Avenue	Sidewalk	0.23	6	$50,000
TOTAL COST				128.64		$56,704,125

The total cost to implement roughly 128 miles of the Non-Motorized Transportation Improvement Projects is estimated at $56,704,125. Based on historical federal/state funding for non-motorized facilities in the GVMC MPO, it is estimated that at little more than $1 million of Transportation Alternatives Program funds are spent in the area on non-motorized projects every year. Given the number and expense of projects and projected funding levels, it will take decades for the non-motorized project list to be completed. The total to implement the projects list does not include maintenance estimates which are the responsibility of the facilities owner and can be a great expense. Fortunately many local communities are constructing non-motorized facilities entirely with local funds and keeping maintenance in mind as their residents increasingly demand transportation options.



Map 16 – Proposed Non-Motorized Projects

Chapter 15: Safety Management System

There are currently several Traffic Safety Committees in the State of Michigan sponsored by the Office of Highway Safety Planning and AAA Michigan. In 2005, The Grand Valley Traffic Safety Committee (TSC) was formed through the involvement of the GVMC. The TSC consists of agencies in Kent, Ottawa and Allegan counties. The goal of this committee is to bring traffic safety professionals together on a regular basis to exchange information on best practices being utilized in their individual agencies and to maximize the resources available to them. GVMC also supports a local Safety Committee that was supportive in development of the Strategic Safety Planning Process technical document.

Definition of a Traffic Crash

A traffic collision can be defined as when a vehicle collides with another vehicle, pedestrian, animal, road debris, or other geographical or architectural obstacle. Traffic collisions can result in injury, property damage, and death. Studies suggest that there are four basic causes for traffic crashes: equipment failure, roadway design, poor roadway maintenance, and driver behavior. Over 95% of crashes can be attributed to some degree of driver behavior combined with one of the other three factors.

Background

According to the National Highway Traffic Safety Administration, 32,719 people died in U.S. motor vehicle crashes in 2013. Nationwide, motor vehicle traffic crashes are the eighth leading cause of death among Americans of all ages and the number one cause of death for every age from three through 33.

In the GVMC study area there are an average of more than 21,000 traffic accidents each year. Of these 21,000 accidents, 4,200 include an injury, and unfortunately, an average of 76 fatal traffic accidents occur each year. Nearly one-third of all fatal crashes in the GVMC region since 2005 have involved an impaired driver. Over the past five years traffic crashes have cost the residents of the region an estimated average of $550 million each year. According to a AAA study completed in 2008, traffic crashes cost the residents of the GVMC region in excess of five times the cost of traffic congestion (5.44:1).

With these statistics in mind, GVMC has undertaken an effort to focus planning resources on traffic crashes in an effort to minimize the impact they have on the economy of the region as well as the loss of human life. This focused effort will ensure that safety planning is integrated into the GVMC overall transportation planning process.

The major difference between most safety plans and this process is that GVMC will identify locations where countermeasures can be implemented to help reduce the number of crashes. This analysis will be the basis for the use of federal funding for safety related improvements.

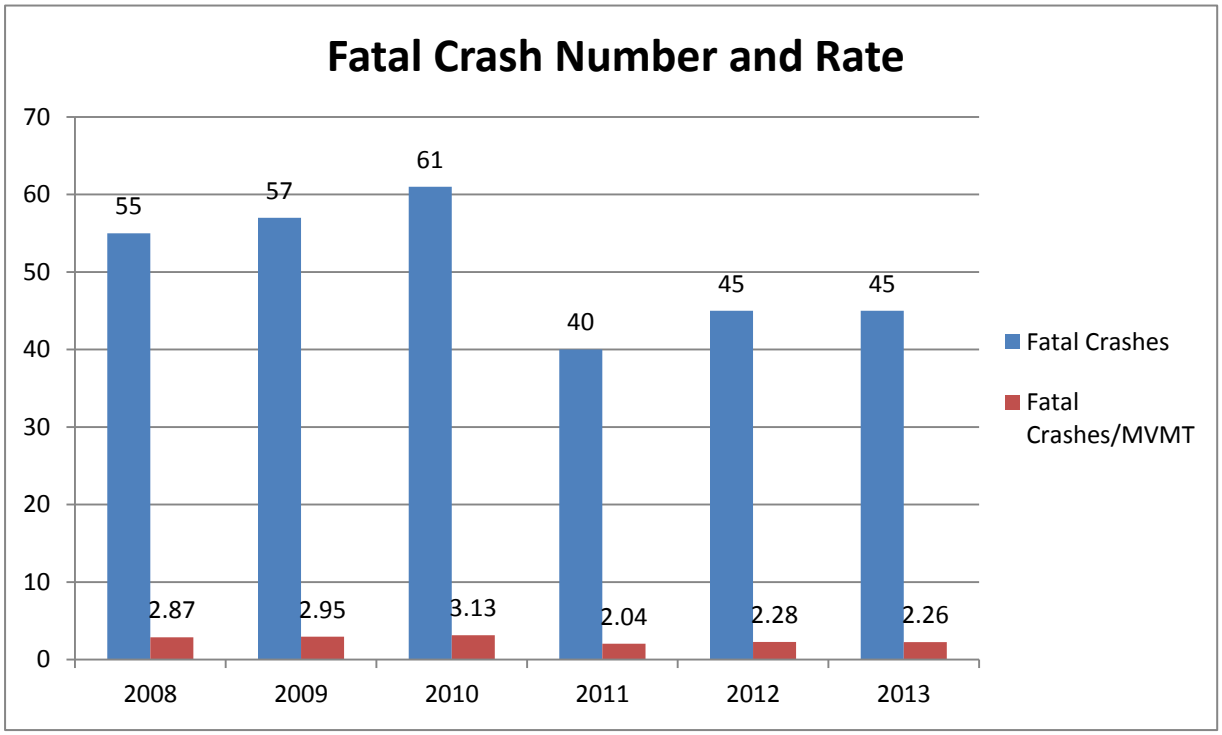


Figure 16 – Fatal Crash Number and Rate 2008–2013
Includes alcohol, speeding and deer crash data

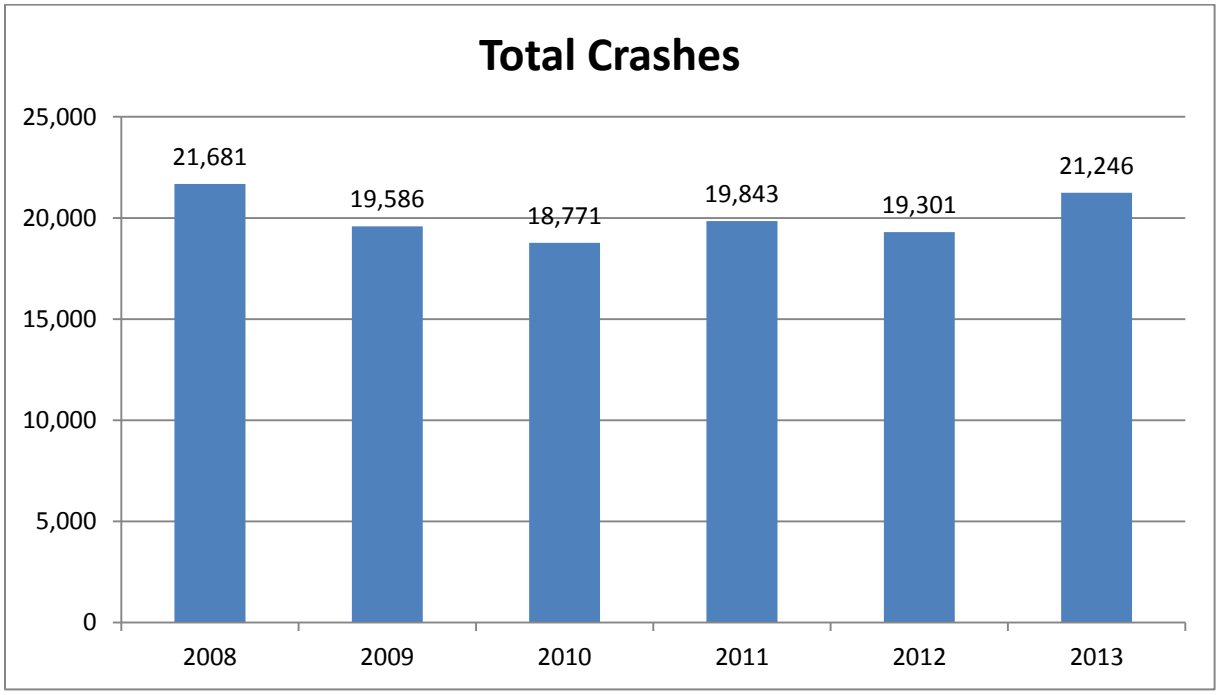


Figure 17 – Total Crashes 2008–2013
Includes alcohol, speeding and deer crash data

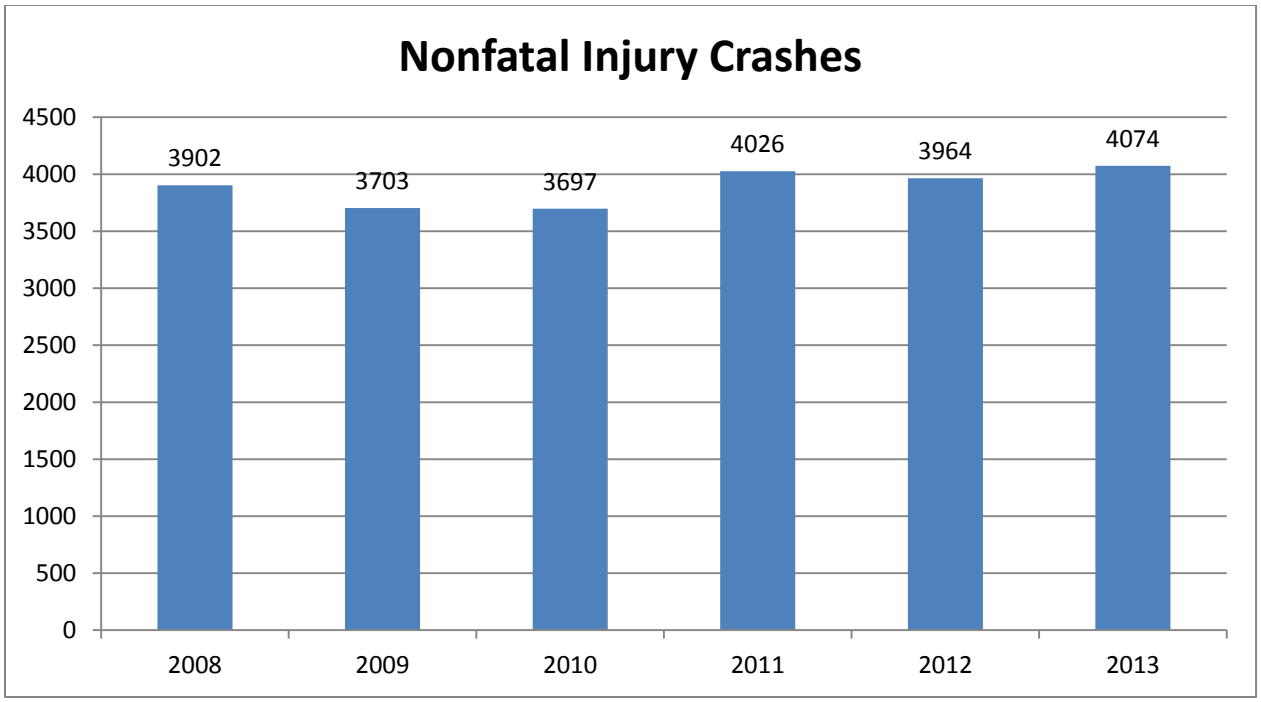


Figure 18 – Total Injury Crashes 2008–2013
Includes alcohol, speeding and deer crash data

Six Basic Elements

The GVMC Strategic Safety Planning Process is built upon six basic elements. For five emphasis areas, these elements are addressed in the Strategic Safety Planning Process technical document.

1. Local Policy/Objectives – The development of localized objectives that place focus on each element of the safety program.

2. Data Collection – Provides information to support decisions for identifying the safety inventory, needs, and countermeasures, and monitoring the results of safety decisions (system performance).

3. Data Analysis - Converts field data into usable information to assist decision makers in identifying safety needs and countermeasures, and monitoring the results of their decisions.

4. Project Prioritization/Program Development – Includes final prioritizing of transportation safety needs, selecting cost effective solutions.

5. Program Implementation – Carries out funded projects resulting in safety enhancements and educational, enforcement, and emergency programs.

6. Performance Monitoring/Annual Report – Measures and analyzes results of transportation safety decisions, countermeasures, and programs; provides information from which "out year" efforts are forecast and evaluated, and future work programs are developed. GVMC will produce an annual safety report that outlines progress made from safety planning efforts, the results of safety system work efforts, expenditures, and system performance.

Emphasis Areas

The AASHTO Strategic Highway Safety Plan: A Comprehensive Plan to Substantially Reduce Vehicle-Related Fatalities and Injuries on the Nation's Highways, which was published in 2005, identified 22 safety emphasis areas on a national level. The emphasis areas include populations (e.g., older and younger drivers), crash types (e.g., head-on crashes, rear end crashes), infrastructure/hazards (e.g., intersections, tree and utility pole collisions), behavior (e.g., occupant protection, distracted driver), and modes (e.g., pedestrian, bicycle, motorcycle).

After reviewing regional traffic crash data, staff selected seven emphasis areas for focus in GVMC MPO region, which included intersection safety, corridor safety, elderly driver safety, young driver safety, alcohol-involved and car-deer conflictions.

Intersection Safety

Intersections are the place in the transportation system where all roadway users – cars, trucks, buses, and vulnerable road users (pedestrians, bicyclists, and motorcyclists) converge creating potential for conflict. Research indicates low-cost safety improvements such as improved sight distance, channelization, signage, and other infrastructure treatments can produce positive results. While these infrastructure improvements can improve safety, it is often the behavior of the road user that can cause a crash, e.g., speeding, red light and stop sign running, failure to use a pedestrian crosswalk, etc.

In GVMC study region there were 7,867 intersection crashes in 2013 representing 37% of all the reported crashes. The GVMC region exceeded the ratio of crashes at intersections reported at the state and MDOT regional level.

These intersection crashes within the GVMC region resulted in 13 fatalities in 2013 (31% of all roadway fatalities in the region) and 1,901 injuries (44% of all roadway injuries in the region). Nationally intersection crashes accounted for about 21 percent of all fatalities. Again GVMC region exceeded the national ratio for traffic fatality, and the statewide ratio for injuries.

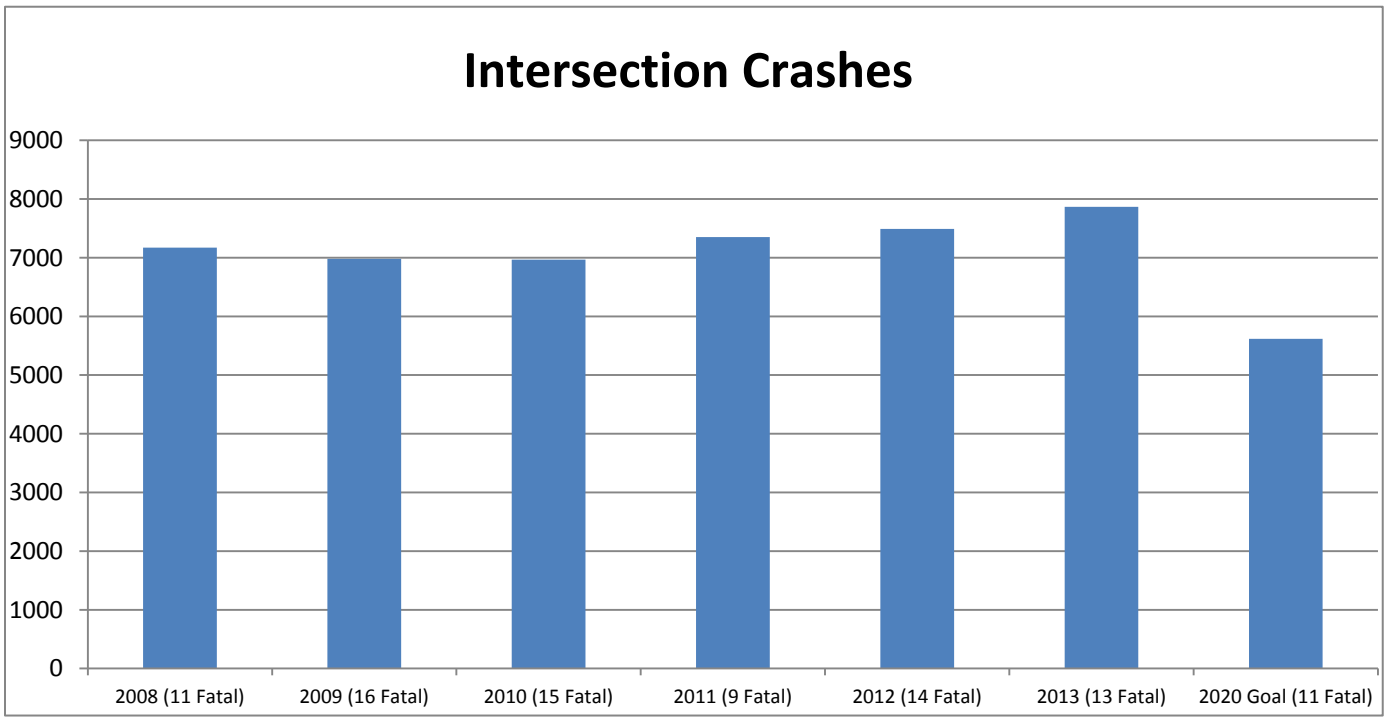


Figure 19 – Intersection Crashes

Corridor Safety

Away from the influence of intersections 63% (13,379) of all crashes occurred in 2013 in the GVMC region. These corridor crashes within the GVMC region resulted in 27 fatalities, a significant reduction from previous years.

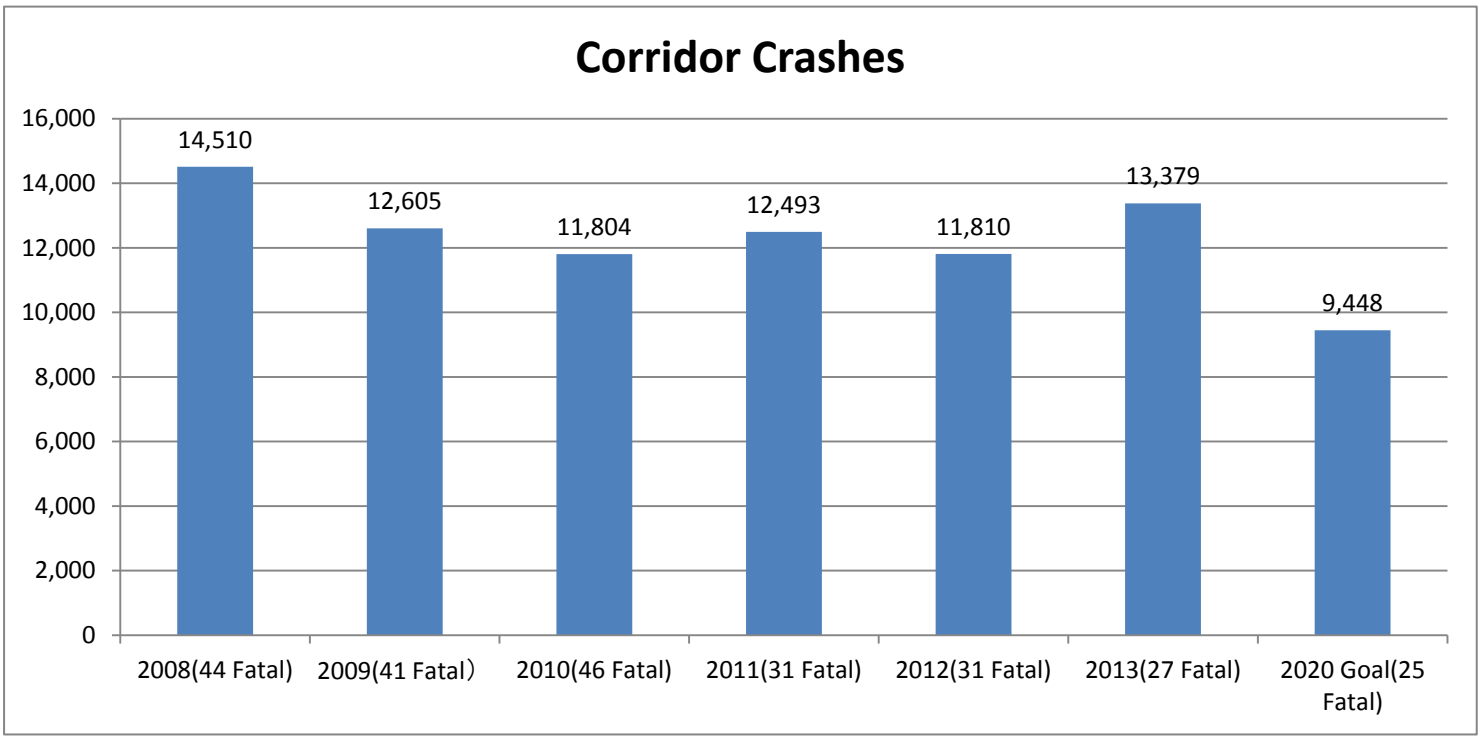


Figure 20 – Corridor Crashes

The GVMC region contains in excess of 5,000 miles of public streets and highways. Within these 5,000 miles there are nearly 1,600 miles designated as "federal-aid eligible." Between 2010 and 2013 there were 79,161 reported accidents in the GVMC study region. Of these, nearly 80% were on the federal-aid road network. While the federal-aid network represents approximately 32% of the total road mileage in the region, it carries nearly 90% of the total miles traveled. It stands to reason that a high percentage of the accidents occur on the federal-aid system. For this reason and the fact that the MPO is required to limit planning efforts to the federal-aid network, corridor accident analysis will be limited to the federal-aid system. The full safety report contains a complete list of each federal-aid segment in the GVMC study area ordered by crash rate.

For corridors, GVMC employed a ranking process similar to the one used for intersections. Region- wide crash data for the years 2011-2013 were used. A database was created containing crashes located outside the 158 foot (0.03 miles) buffer considered to be the area of influence at each signalized intersection. Individual corridor segments were created based on logical segmentation. This logical segmentation follows the same methodology used for the GVMC congestion management and condition analyses. Logical segmentation allows for programming and implementation.

The annual loss attributed to the road segments on the federal-aid system is in excess of $500 million. In many cases low cost countermeasures can be applied to reduce the cost of crashes at these locations in the coming years. The Michigan Department of Transportation Safety Programs Unit has developed a widely used

spreadsheet that depicts benefits that can be expected through the implementation of a variety of improvements. This list of countermeasures and expected benefits can be found in the Strategic Safety Planning Process technical document.

Based on current trends in the region, the predominant segment crash type is rear end crashes. According to the Michigan Department of Transportation Safety Programs Unit, rear end crashes can be reduced by up to 80% with the installation of a center turn lane. Most other accident types that occur in the region, fixed object, sideswipe and head on, typically have causes not based in roadway geometry. For this reason further analysis will focus on rear end crashes.

To identify segments where the introduction of a center turn has the potential for the reduction of rear end crashes, GVMC selected crashes that occurred between 2007 and 2009 that were rear end crashes. These crashes were further reduced by eliminating behavior-related crashes that involved alcohol and excessive speed. The remaining accidents were located along their respective corridors.

The addition of a center turn lane to all facilities would be an approach that could lead to improved corridor safety. However, this is not a luxury that is financially, environmentally, or socially viable. Adding a center turn lane can increase the cost of maintaining a facility between 20% and 33% annually, not to mention the cost (nearly $900,000 per mile) of the initial construction. With tightening budgets, stagnant funding levels and increasing construction costs being experienced by each of the GVMC member communities, a set of thresholds was created to guide the implementation of center turn lanes on federal-aid facilities using federal funding. These thresholds can be used as a guide for programming road improvements.

The recommended threshold for the addition of a center turn is based on the rate of return on investment. A new asphalt pavement can be expected to last between seven and 20 years provided that the facility is properly maintained. GVMC typically experiences a 12-year lifecycle for new reconstruction on asphalt roads. Twelve years will be the period used for this cost benefit analysis.

For this analysis the return on investment is based on an initial construction cost of $900,000. Additional maintenance costs of $42,000 (two crack filling treatments and one light overlay) for the additional lane are added to the calculation. The theoretical cost of $942,000 is determined to be the base "cost" of the additional center turn lane. For the addition of the center turn lane to be justified, the expected benefits of that additional lane should exceed $942,000 ($78,500 annually) over a 12-year period.

The Strategic Safety Planning Process technical document contains the results of the analysis completed for rear end segment crashes and outlines segments that would be good candidates for center turn lane implementation. Many of the segments identified currently have sufficient pavement width to accommodate a center turn lane without the additional expense of widening. The MPO encourages consideration of these segments when road resurfacing projects are undertaken.

There is a growing trend in recent years to convert 4 lane facilities with less than 18,000 ADT down to a three-lane configuration. The term "road diet" has been coined for the process of this roadway conversion. In many cases four lanes have excess capacity and are not "community friendly." Road diets are often conversions of four lane undivided roads into three lanes (two through lanes and a center turn lane), as shown below. The fourth lane may be converted to bicycle lanes, sidewalks, and/or on-street parking. In other words, existing space is reallocated; the overall area remains the same.

A recent study completed by the Federal Highway Administration revealed that crash rates can be reduced by as much as 6% when a road diet is implemented. It should be noted that in this study crash severity was not impacted. More information on this report can be found at:
http://www.tfhrc.gov/safety/hsis/pubs/04082/index.htm

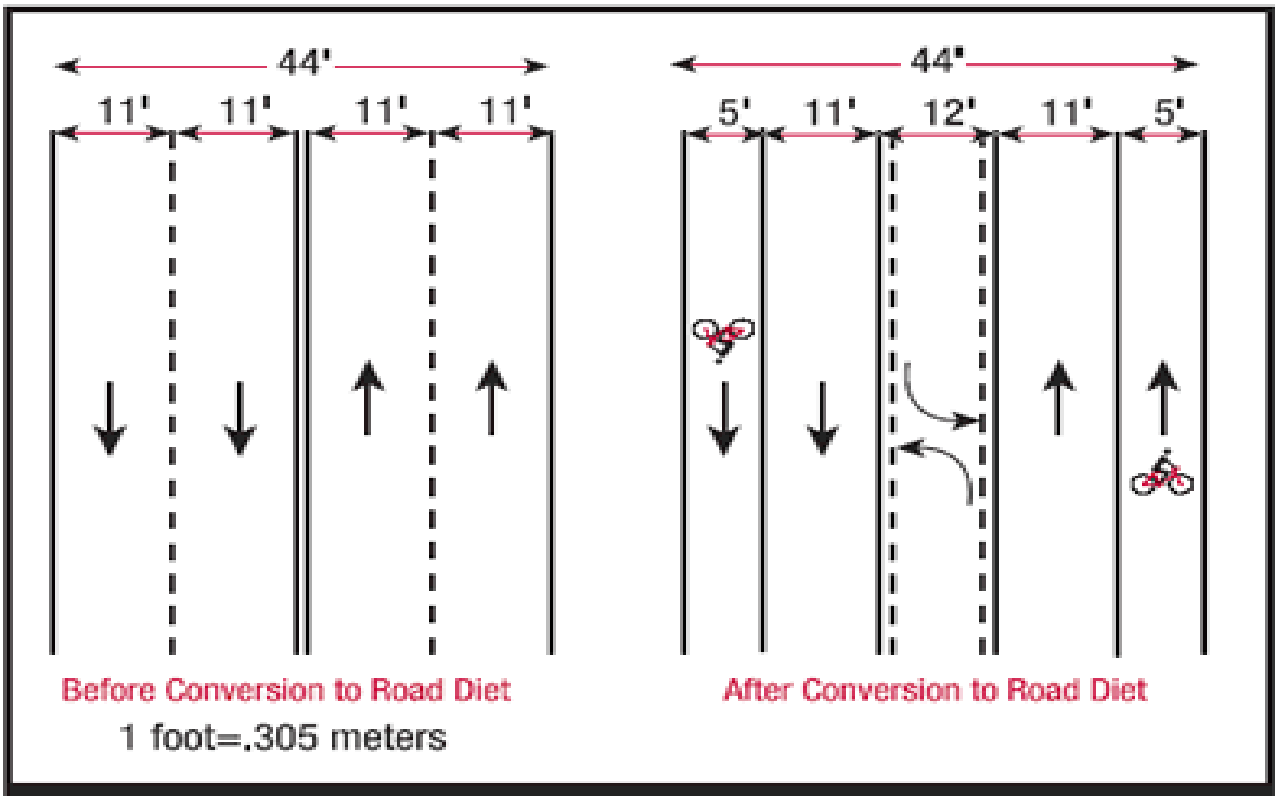


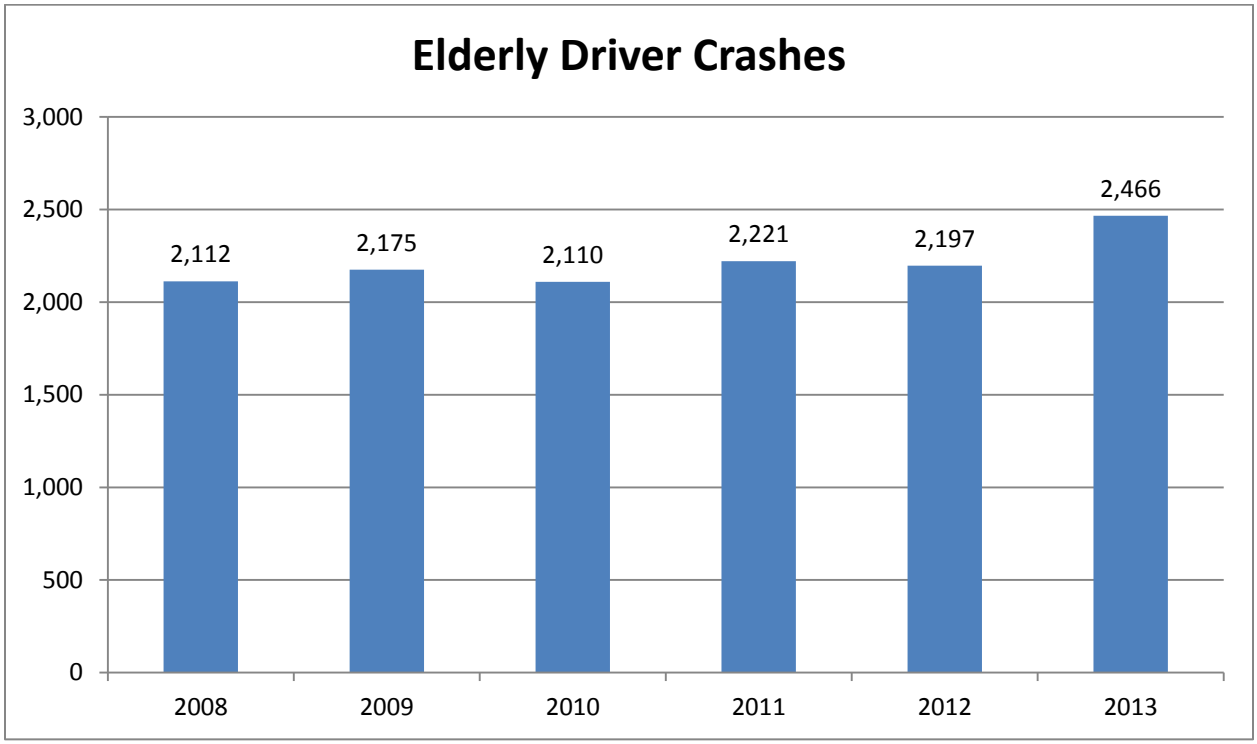
Figure 21 – Road Diet

Elderly Driver Crashes

In the GVMC area today there are approximately 715,000 people. Of those, approximately 13% or 93,000 are over the age of 65. Based on currently available data 90% of elderly residents use a passenger vehicle as their primary source of transportation with 70% doing the driving themselves. According to the Michigan Secretary of State there are nearly 70,000 licensed drivers in the GVMC area over the age of 65. This represents nearly 15% of the total number of licensed drivers. By 2030, the elderly population in the GVMC area is expected to nearly double to 177,500 and make up more than 20% of the population.

Crash data shows that the percentage of traffic crash involving senior drivers accounted for about 11 percent from 2009 to 2013, while fatal crashes percentage for senior drivers increased from 26 percent in 2009 to 29 percent in 2013.

Figure 22 Elderly Driver Crashes



Young Driver Safety

It is widely known that young drivers lack basic driving experience and are more likely to engage in risky and aggressive driving behaviors (such as speeding and tailgating), they are also more likely to have more passengers in their vehicles. Therefore, young drives are much more likely than other groups to be involved in violent traffic crashes. In GVMC region, Young drivers under age 24 are involved in 39% of all traffic crashes and 49% of fatal crashes in 2013, as well as 41% of all injury crashes. In addition, alcohol was a factor for 10 out of 22 fatal crashes involving young drivers in 2013, and one-half of fatal crashes occurred in the early morning hours between midnight and 6:00 a.m.

Graduated Driver Licensing (GDL) is a driver licensing system designed to teach teens to drive by gradually increasing their driving privileges as they advance through the system. GDL consists of two segments of driver education instruction and three licensing levels.

The three licensing levels in GDL are: a supervised learner's license (Level 1 License), an intermediate license that limits passengers and unsupervised nighttime driving (Level 2 License), and a full-privilege driver's license (Level 3 License) issued after a teen driver has successfully completed all previous instruction and driving requirements.

GDL license levels 1 and 2 have certain restrictions to limit teens' driving exposure to high-risk situations and help protect them while they are learning to drive.

The GDL program can help young drivers to reduce many at-risk situations and allows then to more comfortably progress through a series of licensing levels.

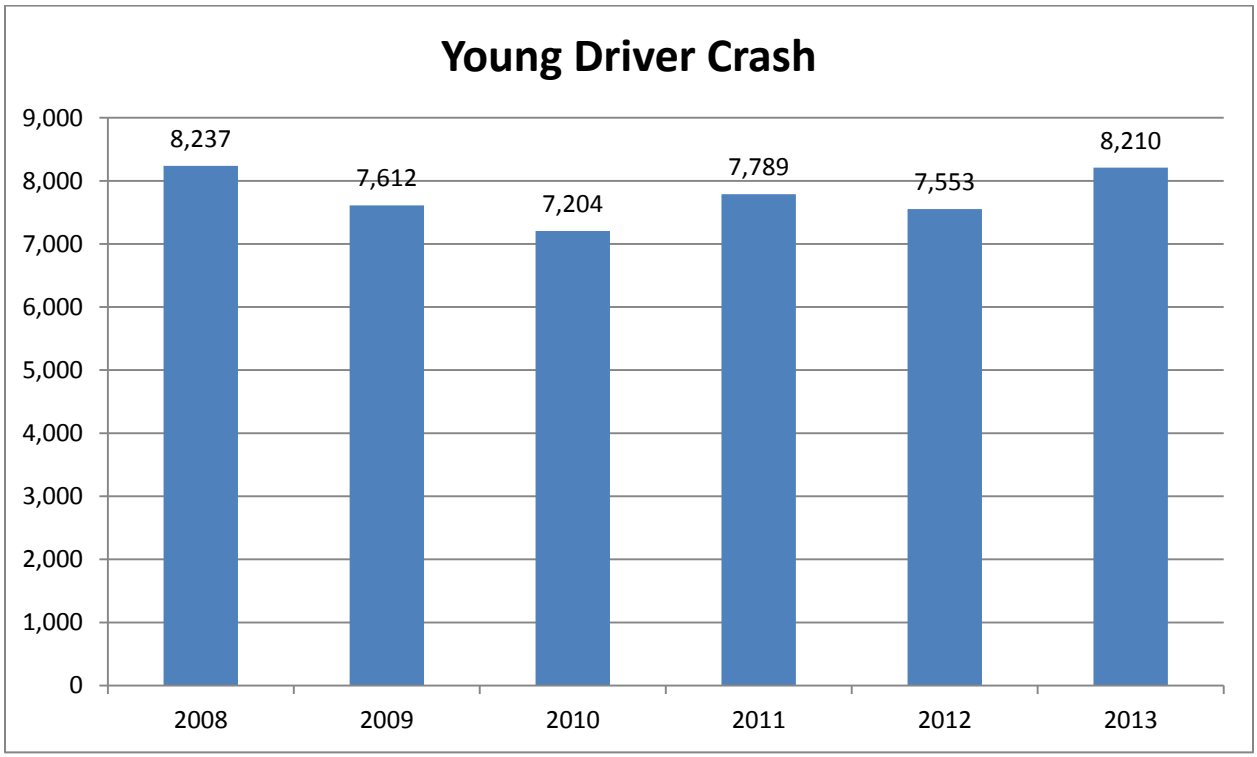


Figure 23 -Young Driver Crashes

Pedestrian/Bicyclist Safety

Nearly every trip begins and ends with walking. With this in mind GVMC is placing a renewed emphasis on providing support to local communities with a focus on non-motorized transportation safety.

On average there is nearly one crash per day that involves a motor vehicle and bike or pedestrian in the GVMC study area. (see Figure below). Pedestrians and bicyclists are most at-risk road users, and are more vulnerable to significant injuries since they lack the protection from the steel and airbags in a vehicle when involved in traffic crashes. Data shows that while in GVMC area traffic crashes involving pedestrian and bicyclist only accounted for about 2 percent of total traffic crashes in 2013, more than 24 percent of fatal crashes in 2012 were vehicle-pedestrian/Bicycle crashes.

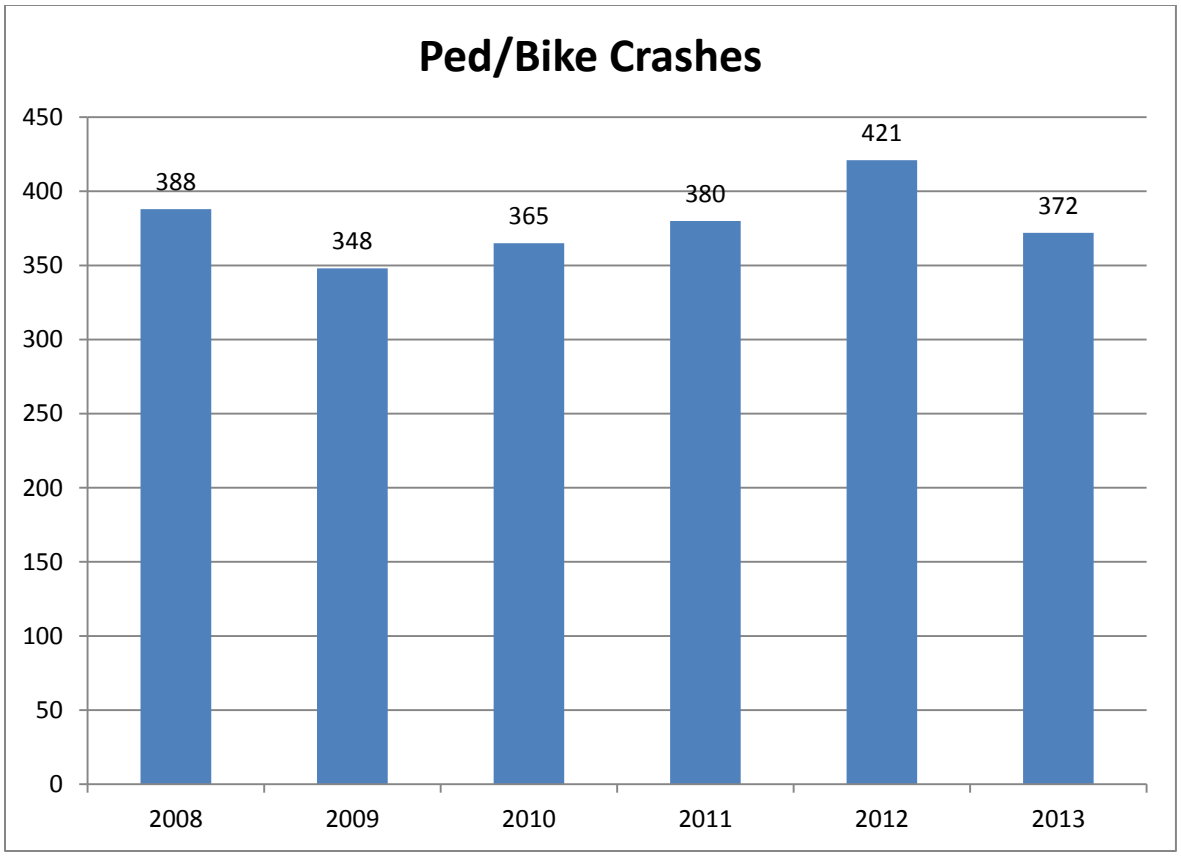


Figure 24 - GVMC Bicycle/Pedestrian Crashes

Although it is often lumped into the same "non-motorized" category bicycle and pedestrian safety requires analysis by specific mode as the causes and often the fault for crashes vary greatly between bikes and pedestrians.

The latest available data (2013) for the GVMC area shows that of the 194 reported bicycle/motor vehicle crashes 60% were the fault of the bicycle operator. The primary causes for crashes where bicycle operators were at fault was excessive speed and ignoring traffic control devices. The primary cause for crashes where vehicles were at fault was failing to yield when entering the roadway either at driveways or side streets. Many cited not seeing the bicyclist.

Pedestrian/motor vehicle crashes reported in 2013 (178 total) revealed a different story in terms of definable fault. More than 60% of the reported crashes were determined to be the fault of the motor vehicle operator, while less than 40% were crashes where the pedestrian was determined to be at fault. The primary area for the causes of these crashes seemed to be when a motor vehicle was making a legal right turn on red. Of the primary causes for crashes where the pedestrian was at fault the primary cause was not using a cross walk or cutting between cars.

While this document focuses on improvements that can be made to the transportation system to improve safety, analysis in this area seems to lead to the need for more education in terms of the possible interactions between motor vehicles and the non-motorized traveler. Better awareness by the traveling public of the other modes may lead to reducing the crash rates.

This is not to say that geometric upgrades in existing and future roadways that are designed to improve safety for non-motorized travelers will not be beneficial, but increased education would also appear to have an impact as well.

Car/Deer Crashes

In Michigan in 2013, there were 49,205 reported vehicle-deer crashes with 12 motorists killed. About 80 percent of all car-deer crashes take place on two-lane roads between dusk and dawn. Vehicle-deer crashes are costly. In Michigan, vehicle-deer crashes cost at least $130 million per year; the average insurance claim is about $2,100 in damage, usually to the front of the vehicle. The total number of vehicle-deer crashes from 2008-2013 in GVMC area is provided in the figure below.

GVMC region because of its physical size, amount of travel and areas that are conducive to supporting large deer populations perennially leads the state in the number of car/deer crashes. In 2013, car/deer crashes represented nearly 8% of all traffic crashes in the GVMC study region.

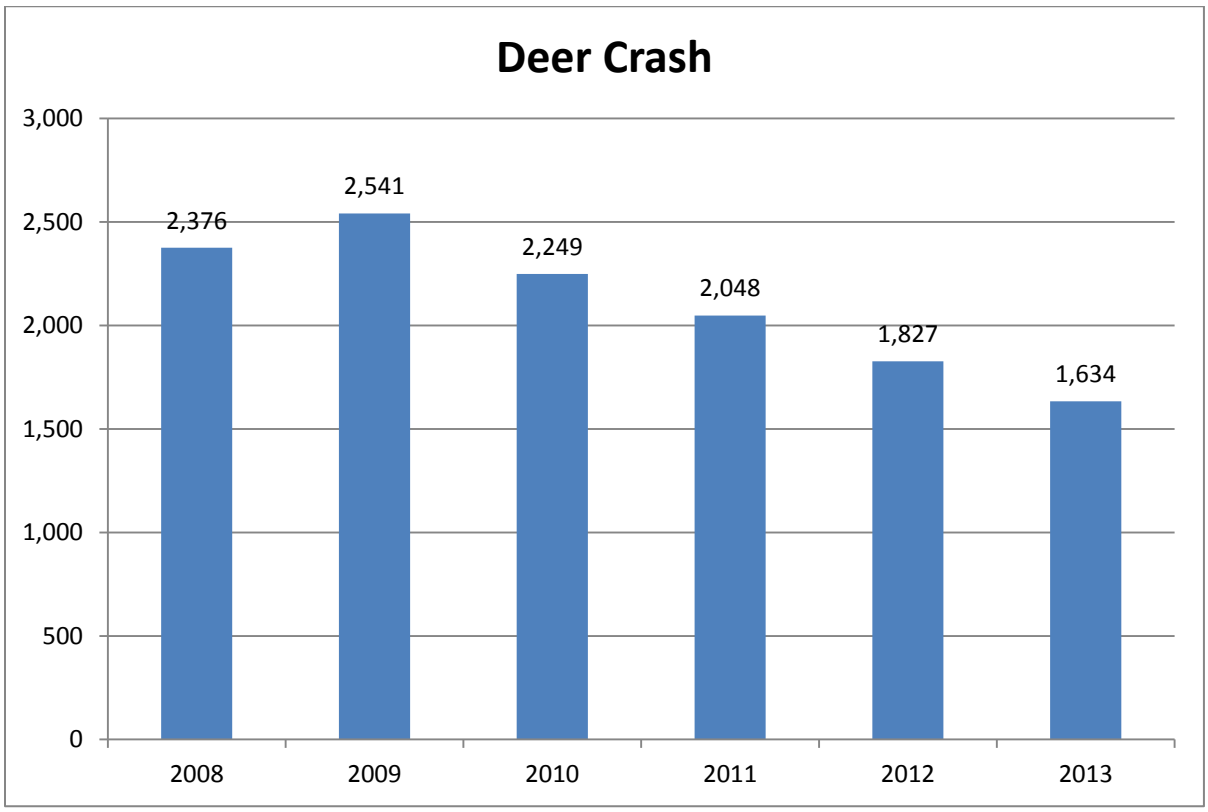


Figure 25 - GVMC Deer Crash

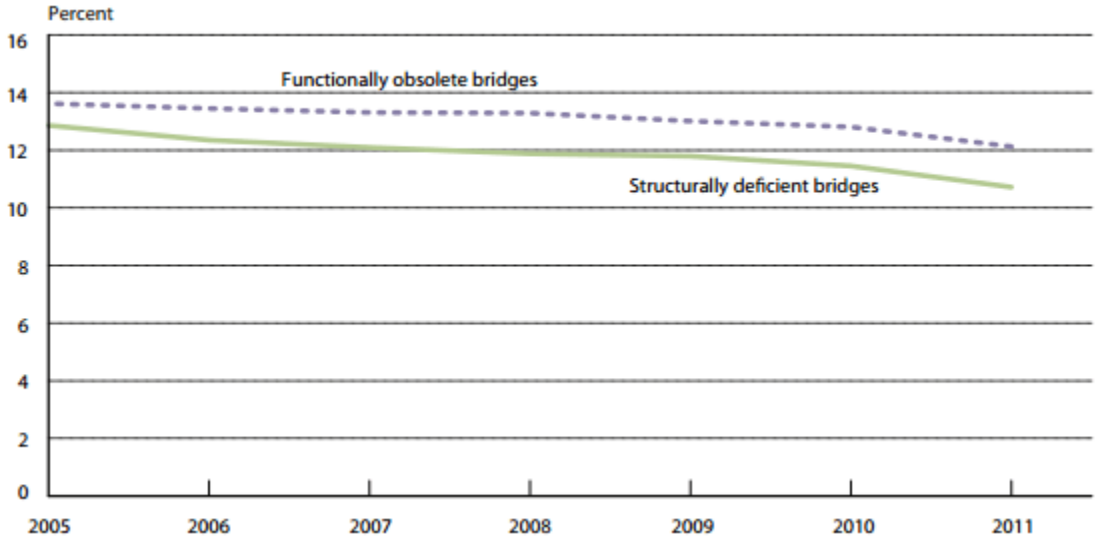
Unfortunately, there are no proven methods to reduce the number of these kinds of accidents. Deer whistles, fences and reflective barriers have not proven as an effective means for reducing the conflicts between motor vehicles and deer. The best approach to minimizing the impact of these unfortunate occurrences is to minimize the severity. Often to avoid hitting a deer in the roadway a motorist will react by swerving. This action can have more severe consequences when the vehicle leaves the road or swerves into the path of another vehicle. Education efforts are underway to bring light to this issue. The Michigan Deer Crash Coalition (MDCC) was established in 1996. The mission of the MDCC is to mitigate both the frequency and severity of vehicle-deer crashes through public information, education, and research.

Chapter 16: Bridge Conditions

Overview

The overall condition of highway bridges has improved slowly over time. In 2011, 67,522 bridges (slightly less than 10.7 percent) were considered structurally deficient, a circumstance characterized by the deteriorated condition of bridge elements and reduced load bearing capacity. This was an improvement from 2005, when 75,923 bridges (12.9 percent) were considered structurally deficient. Such bridges are not necessarily unsafe, but do require maintenance and repair to remain in service and eventual rehabilitation or replacement. The portion of structurally deficient bridges varies greatly among states, from 2 percent in Nevada to 26 percent in Pennsylvania.

Many bridges are considered functionally obsolete even though structurally sound. Often, this is because traffic volume exceeds those anticipated when the bridge was built, so the bridge may need to be widened or replaced. Functional obsolescence of bridges often occurs in urban areas due to growth in bridge traffic volumes. In 2011, there were about 33,742 functionally obsolete bridges in urban areas, compared to 31,391 in 2005. The number of functionally obsolete bridges declined in rural areas during the period.



SOURCE**:** U.S. Department of Transportation, Federal Highway Administration

In the GVMC study area only 4% of bridges fall under the structurally deficient category with 11% categorized as functionally obsolete. Bridge repairs and heavy maintenance funding comes from a statewide competitive program. Traditionally GVMC has deferred participation in this program to the engineers from local jurisdictions. GVMC will continue to monitor and expand reporting on this program.

Chapter 17: Financial Analysis

The GVMC Plan consists of the FY2014-2017 Transportation Improvement Program (TIP) and the 2040 Metropolitan Transportation Plan (MTP). 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 FY2018 through FY2040. Therefore, this transportation plan covers a period of 26 years. The MTP list of projects are 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 GVMC.

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 at $0.184 per gallon on gasoline and $0.244 per gallon on diesel and Michigan 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 amount collected per gallon does not increase when the price of gasoline or diesel fuel increases. Over time, inflation erodes the purchasing power of the motor fuel tax.

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.

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 travelled by vehicles nationwide and in the State of Michigan, 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. FWG is comprised of members from the Federal Highway Administration (FHWA), the Michigan Department of Transportation (MDOT), transit agencies, and Metropolitan Planning Organizations, including GVMC. 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

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. The current law governing these apportionments is Moving Ahead for Progress in the 21st Century (MAP-21). 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 GVMC will receive approximately $27.97 million through NHPP through FY2040.

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 26 year period GVMC will receive approximately $313.25 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. Local agencies within GVMC are projected to receive around $36.15 million in HSIP funding between FY2014 and 2040, based on past awards. However, Safety funding has been substantially increased nationwide under MAP-21, so the region may receive Safety funding in excess of the estimate.

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 GVMC 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 GVMC to eligible projects. Traditionally, GVMC has divided local funding evenly between highway and transit projects. Changes brought about by MAP-21 may require a reexamination of the distribution formulas. GVMC's share of this funding is estimated to be approximately $68.9 million over the 26 year period, based on funding targets issued by MDOT.

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. GVMC's share of this funding is estimated to be approximately $23.67 million over the 26 year period and will be distributed to local agencies on a competitive basis.

Base and Assumptions Used in Forecast Calculations of Federal Highway Funds

Each year, the targets (amount GVMC 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 2013, 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. For the MTP it was determined that FY2018 and FY2019 would have no growth then increasing to 2.39% annually from FY2020 through FY2040. If targets for the 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 higher-MPG 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 2014-2040 MTP period.

Table 1. Federal Highway Transportation Revenue Projections for the 2014-2040 MTP (Millions of Dollars).

FY	STPU	STPR	NHPP	CMAQ	Bridge	HSIP	TAP	TOTAL
2014	$8.84	$0.80	$0.79	$2.55	$1.57	$1.02	$0.67	$16.23
2015	$9.02	$0.81	$0.81	$2.55	$1.60	$1.04	$0.67	$16.51
2016	$9.20	$0.83	$0.82	$2.55	$1.63	$1.06	$0.69	$16.79
2017	$9.38	$0.85	$0.84	$2.55	$1.66	$1.08	$0.71	$17.07
2018	$9.38	$0.85	$0.84	$2.55	$1.66	$1.08	$0.71	$17.07
2019	$9.38	$0.85	$0.84	$2.55	$1.66	$1.08	$0.71	$17.07
2020	$9.60	$0.87	$0.86	$2.55	$1.70	$1.11	$0.73	$17.42
2021 - 2025	$51.58	$4.65	$4.61	$12.76	$9.30	$5.95	$3.90	$92.60
2026 - 2030	$58.05	$5.24	$5.18	$12.76	$10.30	$6.70	$4.39	$102.61
2031 - 2035	$65.32	$5.89	$5.83	$12.76	$11.59	$7.53	$4.94	$113.87
2036 - 2040	$73.51	$6.63	$6.56	$12.76	$13.04	$8.48	$5.55	$126.54
TOTAL:	$313.25	$28.26	$27.97	$68.90	$55.59	$36.15	$23.67	$553.79

Part II. Highway Funding Forecast—State Funding

Sources of State Highway Funding

There are two main sources of state highway funding: the state motor fuel tax and vehicle registration fees. The motor fuel tax, currently set at 19 cents per gallon on gasoline and 15 cents per gallon on diesel, raised approximately $935.1 million in fiscal year 2013. Like the federal motor fuel tax, this is also an excise tax that doesn't increase as the price of fuel increases, so over time, inflation erodes the purchasing power of these funds. Approximately $902.2 million in additional revenue is raised through vehicle registration fees when motorists purchase their license plates or tabs each year. The state sales tax on motor fuel, which taxes both the fuel itself and the federal tax, is not deposited in the Michigan Transportation Fund. Altogether, approximately $1.9 billion was raised through motor fuel taxes, vehicle registrations, heavy truck fees, interest income, and miscellaneous revenue in FY 2013.

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 incorporated cities, incorporated 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 FY2013 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 at GVMC provides an overall distribution total for the region. That amount was approximately $62.5 million in FY 2013.

The Financial Work Group predicted an increase of 0.4% in state revenues for fiscal years 2014-2017 increasing to 2.16% annually during the FY2018-2040 time period. Table 2 shows the amount of MTF funding cities, villages, and road commissions within GVMC are projected to receive during the FY2014-2040 period, based on the agreed-upon rates of increase.

Table 2. Projected MTF Distribution to Act-51 Agencies for Highway Use, FY 2014 through FY 2040 (Millions of Dollars)

Fiscal Year(s)	Amount
2014	$62.8
2015	$63.0
2016	$63.3
2017	$63.5
2018	$64.9
2019	$66.3
2020	$67.7
2021 - 2025	$361.3
2026 - 2030	$402.1
2031 - 2035	$447.4
2036 - 2040	$497.8
TOTAL	$2,160.2

State funding is projected to grow much more slowly than federal funding during the 26 year period. This will have two effects on the region's highway funding. First, available funding for operations and maintenance of the highway system will most likely not keep pace with the rate of inflation, leaving less money for a growing list of maintenance work. Secondly, the federal highway funding will grow at a greater rate than non-federal money to match it. For those federal transportation sources requiring match, this means that some funding will go unused, despite the demand.

Part III. 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 (Kent County only);
- TEDF Category D: All-season road network in rural counties (Ottawa County only);
- 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, and Category E is not awarded for GVMC. Therefore, this discussion will be limited to Category C and Category D.

Both programs are blends 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 C and D programs with additional Surface Transportation Program funding. (Also known as STP Flex, this funding was included with the STP dollar amount in table 1).

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 FY2013. 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 period, so the state portion is not increased.

Table 3. Projected Transportation Economic Development Fund (Categories C and D)

FY2014-2040 (Millions of Dollars).FY	State Portion	TOTAL
2014	$0.99	$0.99
2015	$0.99	$0.99
2016	$0.99	$0.99
2017	$0.99	$0.99
2018	$0.99	$0.99
2019	$0.99	$0.99
2020	$0.99	$0.99
2021 - 2025	$4.94	$4.94
2026 - 2030	$4.94	$4.94
2031 - 2035	$4.94	$4.94
2036 - 2040	$4.94	$4.94
TOTAL	$26.68	$26.68

Part IV. 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 for roads within GVMC. 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 GVMC, this level of accuracy is difficult to achieve.

Base and Assumptions Used in Forecast Calculations of Local Highway Funds
The current TIP covers fiscal years 2014 through 2017. The current TIP, plus FY 2013 from the previous TIP, were queried for all projects with funding codes indicating that local funding was or will be used. Local funds programmed by transit agencies were removed, as were advance construct funds. Advance construct (AC) means the agency uses its own money to build the project, and then pays itself back in a future year with

federal funding. Because of the way AC projects are shown in the TIP, counting them exaggerates the amount of local funding actually used. When this was done, the five-year annual average of local funding totaled about $6 million. It's highly unlikely that there will be increases in local funding over the four-year TIP period, so the actual programmed figure for FY 2014 was used, and then $6 million was used for each year through FY 2017. A total of $24 million in local funding is expected to be available over the four-year TIP period.

Highway Funding Forecast - MDOT

The state of Michigan maintains an extensive network of highways across the state and within the GVMC Region. All highways with an "I," "M," or "US" designation, such as I-96, US-131, or M-6 is part of this network, which is known as the State Trunkline System. The portion of the State Trunkline System in West Michigan is comprised of over 1,024 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). 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 4.

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 economic 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.

Total estimated federal revenue: $29.8 billion
Total estimated state revenue: $26.3 billion

Revenue available for Capital outlay
Debt service, non-capital uses and routine maintenance are deducted from the estimated federal and state revenue. The resulting FY2014-2040 total estimated revenue available for highway capital outlay is $34.3 billion (in future year dollars).

Methodology for MPO Allocation of Capacity Improvement/New Road Dollars
The trunkline capacity improvement and new road (CI/NR) projects in the Long Range Revenue Forecast are in the 2014-2018 Five-Year Transportation Program, have earmarks or are on corridors of National Significance. They were reviewed and vetted by MDOT Leadership. The revenue remaining after accounting for the CI/NR projects is available for the preservation program. Additional committed CI/NR commitments will be shown in future year revenue projections or as Illustrative Projects if funding is not committed at this time.

Methodology for MPO Allocation of Highway Program Preservation Dollars
A ten-year history (2004-2013) of highway capital program investments (excluding CI/NR) was compiled. Each MPO's share was calculated by dividing the MPO investment by the total statewide investment over the ten year time frame. Next, the FY2014-2040 total estimated revenue for preservation was multiplied by each MPO share of historic investments. The result is FY2014-2040 total estimated revenue for preservation for each MPO.

Based on this methodology the GVMC area will receive 4.8% of the preservation funding available in the forecast period for a total of $1.4 billion. This amount includes trunkline road and bridge rehabilitation and reconstruction, Capital Preventive Maintenance, CMAQ, Traffic/Safety and related preservation projects. Projected resources available for highway preservation and bridge projects in the portion of the State Trunkline System in West Michigan, FY2014-2040 (millions of Dollars) are shown in Table 4 below.

Table 4. Long-Range Preservation Revenue Forecast, 2014-2040

Fiscal Year(s)	Amount
2014	$45.87
2015	$42.36
2016	$39.94
2017	$39.61
2018	$36.81
2019	$38.33
2020	$36.89
2021-2025	$235.90
2026-2030	$265.34
2031-2035	$289.71
2036-2040	$345.62
Total:	$1,416.38

Part VI. 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 states 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.

Part VII. 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 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 2014-2040 MTP period. This section of the Financial Plan provides an estimate for GVMC and details the method used to estimate these costs.

The Statewide operations and maintenance annual budget is approximately $275 million in FY 2014 for the state trunk line highway system (roads with "I-,", "US-," and "M" designations). This amount varies annually. The Grand Region's component of the total is approximately $22 million per year. Of that, the estimated expenditures in the GVMC MPO area, for operations and maintenance activities is approximately $11.0 million. ITS/WMTOC costs are not included in these amounts, and the $275 million 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 2040.

Local communities' and agencies' costs to operate and maintain their portions of the federal-aid highway system were estimated through surveys of the two county road commissions. By determining the total lane mileage of all roads and total lane mileage of federal-aid eligible roads under each respondent's jurisdiction, it was possible to derive an estimated local per-lane-mile operations and maintenance expenditure. This was then applied to the total lane mileage of federal-aid eligible roads within GVMC to get a region-wide total for FY 2013. The assumption in this case is that local communities and agencies are spending every available operations and maintenance dollar, so funds expended equal funds available. 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 2014 through 2017, then increasing to 2.16% annually from 2018 through 2040. MDOT and local operations and maintenance funding available is summarized in Table 5.

Table 5. Projected Available Highway Operations and Maintenance (O&M) Funding, Federal-Aid Eligible Roads, FY 2014 through FY 2040 (Millions of Dollars).

FY	MDOT	Local Agencies	Total
2014	$11	$8.07	$19.07
2015	$11.04	$8.10	$19.14
2016	$11.09	$8.13	$19.22
2017	$11.13	$8.17	$19.30
2018	$11.37	$8.34	$19.71
2019	$11.62	$8.52	$20.14
2020	$11.87	$8.71	$20.58
2021 - 2025	$63.31	$46.43	$109.74
2026 - 2030	$70.45	$51.67	$122.11
2031 - 2035	$78.39	$57.49	$135.88
2036 - 2040	$87.23	$63.98	$151.21
TOTAL	$378.50	$277.60	$656.10

Part VIII. 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 26 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 Categories C and D, are also expected to be available between FY 2014-2040. 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. Funds from federal competitive programs are not included in the revenue forecast.

All federally-funded projects must be in the TIP/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. Part IX. 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.

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 5337, State of Good Repair Grants: Funding to state and local governmental authorities for capital, maintenance, and operational support projects to keep fixed guide-way systems in a state of good repair. Recipients will also be required to develop and implement an asset management plan. 50% of Section 5337 funding will be distributed via a formula accounting for vehicle revenue miles and directional route miles; 50% is based on ratios of past funding received.

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 GVMC, approximately one-half 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 2013, the first year of MAP-21. It was determined (by the MTPA Financial Workgroup) to keep revenues at the FY2013 levels for FY2014 and 2015. For FY2016 through 2019, the annual growth rate will be 1.65% (90% of the 5 year average). Beyond FY2019, the annual growth rate will be 3.68% (90% of the 10 year average). Table 7 shows the federal transit forecast for the FY2014-2040 MTP period.

Table 7. Federal Transit Revenue Projections for the transit agencies in the GVMC area FY2014-2040 MTP (Millions of Dollars).

FY	Sec 5307	Sec 5310	Sec 5311	Sec 5339	Total
2014	$8.7	$.44	$0.00	$.99	$10.17
2015	$8.7	$.44	$0.00	$.99	$11.17
2016	$8.9	$.45	$0.00	$1.01	$10.34
2017	$9.0	$.45	$0.00	$1.02	$10.51
2018	$9.2	$.46	$0.00	$1.04	$10.69
2019	$9.3	$.47	$0.00	$1.06	$10.86
2020	$9.7	$.48	$0.00	$1.10	$11.26
2021 - 2025	$54.0	$2.70	$0.00	$6.12	$62.83
2026 - 2030	$64.7	$3.24	$0.00	$7.33	$75.27
2031 - 2035	$77.5	$3.88	$0.00	$8.78	$90.18
2036 - 2040	$92.9	$4.65	$0.00	$10.52	$108.04
Total	$352.7	$17.66	$0.00	$39.94	$410.30

Part X. 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. Approximately $162 million was distributed to the CTF in FY 2013.

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 GVMC area received in FY 2013. 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 GVMC transit agency is shown in Table 8, broken down by state match and state operating.

Table 8. State Transit (CTF) Revenue Projections in the GVMC area for the 2014-2040 MTP (Millions of Dollars).

FY	Sec 5307 State Match	State Match for JARC-Type Projects	Sec 5310 (Sen/Dsbld) Cap State	Sec 5339 Bus & Bus Facilities (State)	Local Operating (addl. CTF)	Total
2014	$1.75	$0.00	$.09	$.20	$12.60	$14.6
2015	$1.75	$0.00	$.09	$.20	$12.60	$14.6
2016	$1.78	$0.00	$.09	$.20	$12.60	$14.7
2017	$1.80	$0.00	$.09	$.20	$12.60	$14.7
2018	$1.83	$0.00	$09	$.21	$12.60	$14.7
2019	$1.87	$0.00	$.09	$.21	$12.60	$14.8
2020	$1.94	$0.00	$.10	$.22	$12.64	$14.9
2021 - 2025	$10.80	$0.00	$.54	$1.22	$63.93	$76.5
2026 - 2030	$12.94	$0.00	$.65	$1.47	$65.12	$80.2
2031 - 2035	$15.50	$0.00	$.78	$1.76	$66.33	$84.4
2036 - 2040	$18.60	$0.00	$.93	$2.10	$67.57	$89.2
Total	$70.54	$0.00	$3.53	$8.00	$351.17	$433.2

The third column of Table 7, State Match for JARC-Type Projects, shows the maximum amount of match that the state will provide to transit agencies using some of their Section 5307 funding for projects eligible under the Job Access and Reverse Commute program. ITP does not have any funding from either the Federal Transit Administration or state for this program. This program was a stand-alone under the old SAFETEA-LU law, but has been folded into the Sec 5307 program under MAP-21. JARC projects are intended to connect persons without an automobile to job opportunities in many parts of the region.

Part XI. 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 GVMC area collect fares from riders. This fare-box funding totaled approximately $12.5 million in 2013. ITP collected a millage of approximately $14.2 million in 2013.

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 ITP The Rapid. 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 9). The local amounts include fare-box receipts, general fund transfers, millages, and miscellaneous income.

Table 9. Local Transit Revenue Projections in the GVMC area for the 2014-2040 MTP Period (Millions of Dollars).

FY	Amount
2014	$40.1
2015	$42.1
2016	$42.8
2017	$43.5
2018	$44.2
2019	$45.0
2020	$46.6
2021 - 2025	$260.2
2026 - 2030	$311.7
2031 - 2035	$373.5
2036 - 2040	$447.4
Total:	$1,697.2

Part XII. 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.

Part XIII. 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 ITP. The four-year average split (from previous TIPs) is 34.7% capital and 65.3% operations for ITP-The Rapid within GVMC. It is assumed that this basic split will continue for the FY 2014 - 2040 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. Table 10 shows the amounts estimated to be available for transit capital and operations during the FY 2014 - 2040 MTP period.

Table 10. Anticipated amounts for transit agencies in the GVMC area to expend on transit capital and transit operations for the 2014-2040 MTP (Millions of Dollars).

FY	Capital	Operations	Total
2014	$10.71	$40.0	$50.71
2015	$10.21	$40.0	$50.21
2016	$16.45	$40.66	$57.11
2017	$23.99	$41.33	$65.32
2018	$11.64	$42.01	$53.66
2019	$18.93	$42.71	$61.63
2020	$14.95	$44.28	$59.23
2021 - 2025	$142.62	$257.68	$400.30
2026 - 2030	$170.86	$308.71	$479.58
2031 - 2035	$204.70	$369.85	$574.56
2036 - 2040	$245.24	$443.10	$688.35
Total:	$870.31	$1,670.34	$2,540.65

Part XIV. 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 2014 - 2040 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.

Chapter 18: Transportation Project List

Once the socio-economic (SE) data was incorporated into the Transportation Model and congestion deficiencies were identified, GVMC staff worked with the Technical and Policy Transportation Committees to address the projected deficiencies for all modes of transportation using the Congestion Management Process. Projects that would help improve accessibility, decrease congestion, and preserve the current infrastructure through the year 2040 were considered. The list of proposed projects relates to those roadways on the federal-aid road network, as these are the only road projects eligible for federal funds.

Revenues were projected for each of the funding categories available, and project costs are listed in the year or range of years that they will be expended (YOE), per federal reporting requirements. See Chapter 17 for more information about Revenue projections and YOE calculations.

The first four years (2014–2017) of the MTP Project List are equivalent to the Transportation Improvement Program project list and demonstrate the short-term transportation projects identified for funding in this region. Other individual projects listed in the MTP Project list reflect the projected transportation deficiencies, and these are grouped in year ranges required by the Financial Feasibility Analysis process.

The project list also contains line item expenses related to the different funding categories, particularly those funding categories where precise funding levels are not available in advance (CMAQ) or where the funding is competitive (e.g., TAP, Safety, Small Urban), and thus, projects cannot be programmed until the funds are awarded. As future projects in these programs are selected for funding, those projects will be amended into the GVMC Transportation Improvement Program (TIP). For more information about the types of transportation projects are eligible for each of these funding source, please see the preceding chapter's Financial Analysis.

Determination of Highest Priority

System needs are determined using various approaches during the MTP development. Taking into account all of the data that is available and public perception of need, the various committees develop a list of needs for the transportation system as a whole. When all of the needs have been identified, the GVMC Technical and Policy Committees, with input from the MTP Steering Team, formed to guide the development of the MTP, develop a list of identified transportation investment priorities. Transportation investment priorities identify areas where future available transportation funds should be allocated. This allocation of funds determines future specific priorities that are included within the MTP Project List. After a thorough review of all available funding, it was determined that in excess of $500 million is available over the life of this MTP for discretionary projects. In other words the MPO may use these funds for projects deemed to be of the highest priority for the region as a whole. GVMC has determined that the highest priority for all available flexible funding is for projects that contribute to the improvement of the regions' system pavement condition. Data in recent years has shown that pavement conditions in the region are falling and as time passes without funding to address these deficiencies, the system will only continue to deteriorate and the solutions will become increasingly more costly.

The MTP Project List was developed to address the deficiencies identified in the plan and reflect this priority but are limited by estimated future revenues. The first four years (2014–2017) of the MTP Project List are equivalent to the Transportation Improvement Program (TIP) project list and demonstrate the short-term transportation projects identified for funding in this region. Other individual projects listed in the MTP Project list reflect projected transportation capacity deficiencies with preferred alternatives identified.

An illustrative list of identified need is located following the funded list. The illustrative list includes several transit, non-motorized, and MDOT projects that cannot be included in the Project List because funding for these projects is not assured. (For example, transit funding may rely on a future millage to pass.) The MTP Project List must show financial constraint, meaning that expenditures cannot exceed revenues for any Phase of the MTP. The Illustrative List is not required to be financially constrained, and those projects with uncertain funding are thus recorded.

2014 – 2017 GVMC Metropolitan Transportation Plan Projects List

Fiscal Year	Responsible Agency	Project Name	Limits	Length	Project Description	Federal Cost ($1000s)	Federal Fund Source	State Cost ($1000s)	State Fund Source	Local Cost ($1000s)	Total Project Cost ($1000s)
2014	American Red Cross	One (1) Minivan w/lift replacement	Areawide		One (1) Minivan w/lift replacement MI-16-X002	$27,717.00	5310	$6,929.00	CTF		$34,646.00
2014	American Red Cross	Two (2) vehicles (auto-Impala) replacement	Areawide		Two (2) vehicles (auto-Impala) replacement	$34,217.00	5310	$8,554.00	CTF		$42,771.00
2014	American Red Cross	Two (2) vehicles expansions	Areawide		Two (2) vaehicles expansions	$54,022.00	5310	$13,506.00	CTF		$67,528.00
2014	American Red Cross	Two (2) vehicles (auto-Impala) replacement	Areawide		Two (2) vehicles (auto-Impala) replacement	$34,217.00	5310	$8,554.00	CTF		$42,771.00
2014	American Red Cross	Expansion Vehicle (1)	Areawide		1 Expansion vehicle	$18,390.00	5310	$4,597.00	CTF		$22,987.00
2014	City of East Grand Rapids	Reeds Lake Trail Channel Bridge and Boardwalk	Lakeside Dr. to Reeds Lake BLVD. north arm		Boardwalk	$318,746.00	TAU			$171,632.00	$490,378.00
2014	City of East Grand Rapids	Lakeside Drive	Greenwood Drive to Wealthy Street	0.36	Reconstruct Existing	$403,627.00	STU			$141,373.00	$654,000.00
2014	City of Grand Rapids	Michigan Street	College Avenue to Eastern Avenue	0.38	Rotomill/resurface	$165,000.00	STU			$85,000.00	$300,000.00
2014	City of Grand Rapids	Buchanan Avenue	Alger Street to Stewart Street	0.50	Reconstruct	$231,438.00	STU			$81,063.00	$375,000.00
2014	City of Grand Rapids	Carlton Avenue	Lake Drive to Fulton Street	0.35	Reconstruct	$159,970.00	STU			$56,030.00	$259,200.00
2014	City of Grand Rapids	Burton Street	Plymouth Avenue to Breton Avenue	0.75	Rotomill/resurface	$460,231.00	STU			$161,199.00	$745,716.00
2014	City of Grand Rapids	Richmond Street	Alpine Avenue to 200' E. of Turner Avenue	0.53	Reconstruct	$277,725.00	STU			$97,275.00	$450,000.00
2014	City of Grand Rapids	Turner Avenue	Ann Street to US-131 SB Ramps	0.27	Rotomill/Resurface	$124,421.00	STU			$43,579.00	$201,600.00
2014	City of Grand Rapids	Fuller Avenue	Michigan Street to Race Street	0.16	Rotomill/resurface	$185,150.00	STU			$64,850.00	$300,000.00
2014	City of Grand Rapids	Michigan Street	Lafayette Avenue to College Avenue	0.25	Reconstruct	$185,150.00	STU			$64,850.00	$300,000.00
2014	City of Grand Rapids	Burton Street	Towner Avenue to Division Avenue	0.59	Reconstruct	$229,586.00	STU			$80,414.00	$372,000.00
2014	City of Grand Rapids	Monroe Avenue	Louis Street to I-196	0.49	Rotomill/resurface	$166,635.00	STU			$58,365.00	$270,000.00
2014	City of Grand Rapids	College Avenue	Michigan Street		Design and implementation of improvements through geometric alteration to include left turns at Michigan and College intersection	$416,531.00	CM			$104,133.00	$624,797.00
2014	City of Grand Rapids	ITS Signal Communications	Areawide		ITS Traffic signal communications and synchronization, Phase II (transfer to IP and GPS clocks at up to 60 locations)	$160,000.00	CM			$40,000.00	$240,000.00

Fiscal Year	Responsible Agency	Project Name	Limits	Length	Project Description	Federal Cost ($1000s)	Federal Fund Source	State Cost ($1000s)	State Fund Source	Local Cost ($1000s)	Total Project Cost ($1000s)
2014	City of Grand Rapids	ITS Operations	Areawide		Regional Signal System TMS Operations	$373,600.00	ST			$93,400.00	$467,000.00
2014	City of Grand Rapids	Fuller Avenue	Malta Street to Leonard Street	0.56	Rotomill/resurface	$370,300.00	STU			$129,700.00	$600,000.00
2014	City of Grand Rapids	Butterworth Avenue Realignment and Reconfiguration Project	Veteran's Memorial Drive to Garfield Avenue/ Wealthy Street		Preliminary design engineering services	$500,000.00	TCSP				$642,500.00
2015	City of Grand Rapids	Leonard Street	At College Avenue		Traffic Signal Modernization, count down pedestrian signals and install ADA ramps	$80,000.00	STH			$20,000.00	$100,000.00
2014	City of Grand Rapids	Grand River Walkway (east)	Canal Street Park to Leonard Street and East to Monroe Avenue	0.24	Construct a non-motorized shared use path	$193,122.00	TAU			$111,493.00	$335,077.00
2014	City of Grandville	Canal Avenue	Chicago Drive to 44th Street	1.50	Resurface	$555,450.00	STU			$194,550.00	$900,000.00
2014	City of Kentwood	East Paris Avenue	44th Street to Barden Drive	0.66	Reconstruct Existing	$777,630.00	STU			$472,370.00	$1,260,000.00
2014	City of Kentwood	M-11 (28th Street) Pedestrian Project	Breton Avenue to Patterson Avenue	3.00	Construct sidewalks between Breton and Patterson	$600,000.00	CM			$150,000.00	$750,000.00
2014	City of Rockford	Courtland Street	180' E. of Fremont to E. of Main Street	0.16	Rotomill/Resurface	$74,630.00	STU			$26,140.00	$120,924.00
2014	City of Walker	Remembrance Road	Leonard Street to Walker Village Drive	0.48	2/3 resurface, 1/3 reconstruct Existing	$789,313.00	NH			$310,687.00	$1,320,000.00
2014	City of Walker	3 Mile Rd VW	Wilson Avenue to Kinney Avenue	0.50	Adding a mid-block left center turn lane, to an existing 4 lane cross-section, to address congestion from left turning traffic at several service drives and public streets.	$688,000.00	CM			$172,000.00	$860,000.00
2014	City of Wyoming	44th Street	Hansen Avenue to Division Avenue	0.55	Reconstruct Existing	$1,555,260.00	STU			$544,740.00	$2,520,000.00
2015	City of Wyoming	Interurban Trail & Kentwood Trail Connector	Interurban Trail South of 50th Street to Kentwood Trail East	0.25	Construct a non-motorized shared use path and refuge island	$54,033.00	TAU			$18,767.00	$80,080.00
2014	Hope Network	Small cutaway bus	Rural Area		Small cutaway bus	$54,400.00	ST	$13,600.00	CTF		$68,000.00
2014	Hope Network, Inc.	Small Bus W/Lift	Areawide		3 Buses W/Lift Expansion	$144,000.00	5310	$36,000.00	CTF		$180,000.00
2014	Hope Network, Inc.	Small Bus W/Lift	Areawide		2 Small Buses W/Lift Replacement	$100,800.00	5310	$25,200.00	CTF		$126,000.00
2014	Hope Network, Inc.	Equipment Software	Areawide		Equipment Software	$60,000.00	5310	$15,000.00	CTF		$75,000.00

Fiscal Year	Responsible Agency	Project Name	Limits	Length	Project Description	Federal Cost ($1000s)	Federal Fund Source	State Cost ($1000s)	State Fund Source	Local Cost ($1000s)	Total Project Cost ($1000s)
2014	GVMC	Areawide	Areawide		Clean Air Action Program: Promote activities related to the public awareness on days when Ozone and PM2.5 are expected to be elevated during the Ozone Action season. The effort will expand the program activities for PM2.5 to all year long.	$72,000.00	CM			$8,000.00	$80,000.00
2014	Hope Network, Inc.	Computer Equipment	Areawide		Computer Equipment	$8,000.00	5310	$2,000.00	CTF		$10,000.00
2014	Hope Network, Inc.	Small Bus W/O Lift	Areawide		1 Small Bus W/O Lift	$46,400.00	5310	$11,600.00	CTF		$58,000.00
2014	Hope Network, Inc.	One (1) 26 ft bus w/lift replacement MI-16-X002	Areawide		One (1) 26 ft bus w/lift replacement MI-16-X002	$77,376.00	5310	$19,344.00	CTF		$96,720.00
2014	Hope Network, Inc.	Up to three (3) <30 ft replacement buses w/lift	Areawide		Up to three (3) <30 ft replacement buses w/lift	$125,213.00	5310	$31,303.00	CTF		$156,516.00
2014	Hope Network, Inc.	Up to two (2) <30 ft replacement buses w/lifts	Areawide		Up to two (2) <30 ft replacement buses w/lifts	$61,057.00	5310	$15,264.00	CTF		$76,321.00
2014	Hope Network, Inc.	Three (3) <30 ft replacement buses w/lifts	Areawide		Three (3) <30 ft replacement buses w/lifts	$246,262.00	5310	$61,565.00	CTF		$307,827.00
2014	ITP	Park and Ride Lot	5990 S. Division Avenue		Park and Ride Lot	$120,000.00	5307	$30,000.00	CTF		$150,000.00
2014	ITP	Replacement VanPool Vans (1)	Areawide		1 Replacement VanPool Vans	$30,400.00	5307	$7,600.00	CTF		$38,000.00
2014	ITP	Division Avenue Bus Rapid Transit project	Transit Terminal to 60th Street	10.00	BRT	$4,468,982.00	5309	$1,117,245.00	CTF		$5,586,227.00
2014	ITP	Park and Ride Lot	Lake Michigan Drive at Maynard Avenue		Park and Ride Lot	$287,868.00	5307	$71,967.00	CTF		$359,835.00
2014	ITP	Replacement 40' Buses (5)	Regionwide		Replacement 40' Buses	$3,293,506.00	5307	$823,377.00	CTF		$4,116,883.00
2014	ITP	Associated Capital Maintenance Items	Regionwide		Associated Capital Maintenance Items	$680,000.00	5307	$170,000.00	CTF		$850,000.00
2014	ITP	Preventive Maintenance	Regionwide		Preventive Maintenance	$1,040,000.00	5307	$260,000.00	CTF		$1,300,000.00
2014	ITP	Bus Tire Lease	Regionwide		Bus Tire Lease	$320,000.00	5307	$80,000.00	CTF		$400,000.00
2014	ITP	Shop Equipment	Regionwide		Shop Equipment	$80,000.00	5307	$20,000.00	CTF		$100,000.00
2014	ITP	Facility Equipment	Regionwide		Facility Equipment	$176,000.00	5307	$44,000.00	CTF		$220,000.00
2014	ITP	Storage/Shelving Units	Regionwide		Storage/Shelving Units	$12,000.00	5307	$3,000.00	CTF		$15,000.00
2014	ITP	Office Furniture/Equipment	Regionwide		Office Furniture/Equipment	$32,000.00	5307	$8,000.00	CTF		$40,000.00
2014	ITP	Computer Hardware	Regionwide		Computer Hardware	$48,720.00	5307	$12,180.00	CTF		$60,900.00
2014	ITP	Computer Software	Regionwide		Computer Software	$77,179.00	5307	$19,295.00	CTF		$96,474.00

Fiscal Year	Responsible Agency	Project Name	Limits	Length	Project Description	Federal Cost ($1000s)	Federal Fund Source	State Cost ($1000s)	State Fund Source	Local Cost ($1000s)	Total Project Cost ($1000s)
2014	ITP	Service Vehicles	Regionwide		Service Vehicles	$58,800.00	5307	$14,700.00	CTF		$73,500.00
2014	ITP	Mics. Support Equipment	Regionwide		Mics. Support Equipment	$36,960.00	5307	$9,240.00	CTF		$46,200.00
2014	ITP	Surveillance/Security Equipment	Regionwide		Surveillance/Security Equipment	$85,802.00	5307	$21,450.00	CTF		$107,252.00
2014	ITP	Rehab Adm/Maint Facility	Regionwide		Rehab Adm/Maint Facility	$120,000.00	5307	$30,000.00	CTF		$150,000.00
2014	ITP	Passenger Shelters	Regionwide		Passenger Shelters	$120,000.00	5307	$30,000.00	CTF		$150,000.00
2014	ITP	Intelligent Transportation System	Regionwide		Intelligent Transportation System	$1,411,976.00	5307	$352,994.00	CTF		$1,764,970.00
2014	ITP	Mics. Contingencies	Regionwide		Mics. Contingencies	$40,000.00	5307	$10,000.00	CTF		$50,000.00
2014	ITP	Capital Costs of Contracting	Regionwide		Capital Costs of Contracting	$592,000.00	5307	$148,000.00	CTF		$740,000.00
2014	ITP	Bus Stop Signs	Regionwide		Bus Stop Signs	$8,000.00	5307	$2,000.00	CTF		$10,000.00
2014	ITP	Information Displays	Regionwide		Information Displays	$8,000.00	5307	$2,000.00	CTF		$10,000.00
2014	ITP	Planning Funds	Regionwide		Planning Funds	$314,720.00	5307	$78,680.00	CTF		$393,400.00
2014	ITP	Replacement Buses (3)	Regionwide		Replacement 40' Buses (3)	$956,819.00	5339	$239,205.00	CTF		$1,196,024.00
2014	ITP	Replacement Paratransit Bus (3)	Rural Area		1 Replacement Paratransit Bus	$156,000.00	ST	$39,000.00	CTF		$65,000.00
2014	ITP	Rideshare Program	Areawide		Rideshare Program	$124,000.00	CMG				$124,000.00
2014	ITP	Replacement VanPool Vans (4)	Areawide		Replace 4 VanPool Vans	$80,000.00	CM	$20,000.00	CTF		$100,000.00
2014	ITP	Free Fare on Clean Air Action Days	Areawide		Free bus rides on Clean Air Action Days	$40,000.00	CM	$10,000.00	CTF		$50,000.00
2014	ITP	Cutaway Conversion (4)	Areawide		4 Cutaway paratransit buses Converting from regular gas to propane.	$51,200.00	CM	$12,800.00	CTF		$64,000.00
2014	ITP	A&E	Regionwide		A&E	$40,000.00	5307	$10,000.00	CTF		$50,000.00
2014	ITP	Seniors With Disabilities	Regionwide		Seniors With Disabilities	$444,236.00	5310	$111,059.00	CTF		$555,295.00
2014	KCRC	Wolverine BLVD	At 10 Mile Road		Upgrade signal to box span, install countdown peds, ADA ramps and upgrade pavement markings	$90,400.00	STH			$22,600.00	$124,300.00
2014	KCRC	68th Street	Plaza Center Drive east to the Plaster Creek	0.60	Construct a center left-turn lane	$600,000.00	STH			$150,000.00	$825,000.00
2014	KCRC	Hudson Street	over Grand River		Preventive Maintenance	$350,400.00	BHT	$65,700.00	M	$21,900.00	$438,000.00
2014	KCRC	10 Mile Rd.	Courtland Dr. to Myers Lake Ave.	2.00	Resurface	$433,054.00	STU			$266,946.00	$840,000.00
2014	KCRC	4 Mile Rd.	Plainfield to Dean Lake	1.00	Resurface	$555,450.00	STU			$194,550.00	$900,000.00
2014	KCRC	10 Mile Rd.	Wolverine Blvd. to Courtland Drive	0.40	Resurface	$222,180.00	STU			$77,820.00	$1,143,000.00

Fiscal Year	Responsible Agency	Project Name	Limits	Length	Project Description	Federal Cost ($1000s)	Federal Fund Source	State Cost ($1000s)	State Fund Source	Local Cost ($1000s)	Total Project Cost ($1000s)
2014	KCRC	4 Mile Road	Walker Avenue to Old Orchard Avenue	1.91	Reconstruct and add center turn lane	$2,188,288.00	STU			$547,072.00	$3,282,432.00
2014	KCRC	Spaulding Avenue	Cascade Road		Southbound right turn lane from Spaulding to Cascade	$280,000.00	CM			$70,000.00	$420,000.00
2014	KCRC	Cascade Road	Pratt Lake Avenue to the County line	1.00	Resurface, bridge removal	$573,559.00	ST			$143,390.00	$860,339.00
2014	KCRC	Townsend Park to Village of Cannonsburg Shared use path	Ramsdell Drive to Cannonsburg Road	0.60	Construct a non-motorized shared use path	$245,469.00	TAU			$212,183.00	$503,417.00
2014	KCRC	Fred Meijer Pioneer Trail (3 Mile Road)	Walker Avenue to Alpine Avenue	1.63	Widen existing sidewalk	$124,353.00	TAU			$65,647.00	$209,000.00
2014	KCRC	3 Mile Road and East Beltline Trail	Leffingwell Avenue to M-44 (East Beltline) and south to Township Line	1.10	Construct a non-motorized shared use path	$440,760.00	TAU			$293,840.00	$808,060.00
2014	KCRC	Paul Henry Trail (East Paris Avenue)	68th Street to 60th Street	1.00	Construct a non-motorized shared use path	$250,900.00	TAU			$82,301.00	$366,521.00
2014	KCRC	Pine Island Drive Bridge	Over the Rogue River		Historic Bridge Preservation	$195,000.00	TAU			$80,000.00	$302,500.00
2014	KCRC	Musketawa Trail to White Pine Trail Connector Phase II	Alpine Avenue to North Park Street	1.87	Construct a 10' wide asphalt non-motorized trail	$320,000.00	HPP			$80,000.00	$440,000.00
2014	MDOT	I-196EB	Over 22nd Avenue		Deck Patch, Epoxy Overlay, Pin and Hanger, Paint			$438,290.00	M		$438,290.00
2014	MDOT	I-96	under M-50	0.00	Bridge Replacement	$5,490,000.00	IM	$610,000.00	M		$6,100,000.00
2014	MDOT	I-96	at M-50	0.11	Add center left turn lane on M-50 over I-96 (S06 of 41024) and extend deceleration lane on eastbound off-ramp.	$2,160,000.00	CM	$540,000.00	M		$2,250,000.00
2014	MDOT	M-11 (28th Street)	I-196 to I-96		Signal modernization & synchronization	$120,000.00	CMG				$120,000.00
2014	MDOT	I-96	at three locations in Kent County	0.00	PHASE II -GVMC Area Deployment	$4,070,998.00	NH	$902,732.00	M		$5,673,730.00
2014	MDOT	M-11	M-45 south to The Grand River	4.00	Mill, Det 8 Joint Repairs, HMA Resurface	$2,723,968.00	NH	$604,032.00	M		$8,607,000.00
2014	MDOT	US-131 SB	US-131 SB over Bridge Street	0.00	Deep ovrly, substr repr, z-pnt	$1,455,293.00	NH	$282,368.00	M	$40,339.00	$1,930,000.00
2014	MDOT	US-131	US-131 NB & SB over Grandville Ave.	0.07	Healer Sealer, deck patch, CSC, part. paint	$1,475,200.00	NH	$368,800.00	M		$1,844,080.00
2014	MDOT	MDOT WM TMC	Regionwide		Control Room Operations for the West Michigan TOC	$500,000.00	CMG				$500,000.00

Fiscal Year	Responsible Agency	Project Name	Limits	Length	Project Description	Federal Cost ($1000s)	Federal Fund Source	State Cost ($1000s)	State Fund Source	Local Cost ($1000s)	Total Project Cost ($1000s)
2014	MDOT	MDOT ITS	Regionwide		Device Operation and Maintenance	$650,000.00	CMG				$650,000.00
2014	MDOT	M-11 (28th Street)	Kalamazoo Avenue east to Breton Avenue	1.00	Mill and Resurface	$1,304,000.00	NH	$326,000.00	M		$1,000,000.00
2014	MDOT	M-44	Ramsdell Dr east to the East Kent Co Line	7.16	HMA Inlay	$5,120,000.00	ST	$1,280,000.00	M		$6,400,000.00
2014	MDOT	M-37 (Alpine Avenue)	3 Mile Road north to Alpenhorn Drive		Mill and Resurface	$2,000,000.00	ST	$500,000.00	M		$2,500,000.00
2014	MDOT	I-196	I-196 WB over Grand River, US-131, local streets	0.07	Replace bridge deck, widen and extend WB to SB ramp to US-131	$1,080,000.00	IM	$120,000.00	M		$1,200,000.00
2014	MDOT	US-131	76th St North to M-11	6.00	Replace Freeway Lighting	$681,600.00	NH	$170,400.00	M		$852,000.00
2014	MDOT	I-96	I-96 under Cascade Road		Bridge Replacement and related Diverging Diamond Interchange elements	$1,600,000.00	IM	$400,000.00	M		$2,000,000.00
2014	MDOT	M-21	Over the GRE/G&W RR		Railroad Oversight	$48,000.00	NH	$12,000.00	M		$60,000.00
2014	MDOT	M-11 (28th Street)	Indian Mounds Drive to Church Avenue		Reconstruction	$1,600,000.00	NH	$400,000.00	M		$2,000,000.00
2014	MDOT	M-11	Remembrance Rd to M-45	2.49	Mill, Det 8 Joints, HMA Resurfacing			$2,300,000.00	M		$8,607,000.00
2014	MDOT	I-96	I-96 Under Cascade Road		RT & LT lanes, N/M and related Diverging Diamond Interchange elements	$160,000.00	CM	$40,000.00	M		$200,000.00
2014	Village of Kent City	Ball Creek Road	Kent City northwest Village limit to Rusco Street	1.22	Resurface	$20,000.00	ST			$20,000.00	$48,000.00
2014	GVMC	GVMC	Planning Studies		Studies	$150,000.00	STU			$37,500.00	$187,500.00
2014	MDOT	Capital Prev. Maintenance (Bridge-Trunkline)	Regionwide		CPM - Trunkline Bridge	$4,400,000.00	BHT	$1,100,000.00	M		$5,500,000.00
2014	MDOT	Highway Safety Trunkline GPA	Regionwide		Traffic/Safety	$1,520,000.00	STH	$380,000.00	M		$1,900,000.00
2014	MDOT	Trunkline Rail X-ing	Regionwide		Railroad Safety	$8,000.00	STR	$2,000.00	M		$10,000.00
2014	MDOT	Trunkline Program Development/Scoping	Regionwide		Trunkline Project Development/Scoping	$320,000.00	STT	$80,000.00	M		$400,000.00
2014	MDOT	Pre-Construction Phases (Trunkline)	Regionwide		Trunkline Pre-Construction	$1,084,800.00	ST	$271,200.00	M		$1,356,000.00
2014	MDOT	Capital Prev. Maintenance (Road-Trunkline)	Regionwide		CPM - Trunkline Road	$4,800,000.00	ST	$1,200,000.00	M		$4,300,000.00
2014	MDOT	Emergency Relief Program	Areawide		Repair flood damage - various locations	$250,000.00	ER				$250,000.00
2014	Georgetown Seniors	1 vehicles	Areawide		Purchase 1 replacement van	$30,020.00	5310	$7,505.00	CTF		$37,525.00

Fiscal Year	Responsible Agency	Project Name	Limits	Length	Project Description	Federal Cost ($1000s)	Federal Fund Source	State Cost ($1000s)	State Fund Source	Local Cost ($1000s)	Total Project Cost ($1000s)
2014	Georgetown Seniors	Computer Replacement	Areawide		Computer equipment	$42,400.00	5310	$10,600.00	CTF		$53,000.00
2014	MDOT	I-196	32nd Ave to the Kent/Ottawa CL		Reconstruction	$2,070,000.00	IM	$230,000.00	M		$30,000,000.00
2014	OCRC	Bauer Road	24th Avenue to Cottonwood Drive	1.50	Resurface	$391,037.00	STU			$136,963.00	$633,600.00
2014	OCRC	24th Avenue sidepath	Quincy Street to Greenly Street	0.50	Construct a non-motorized sidepath	$72,000.00	TAU			$48,000.00	$132,000.00
2015	City of Grand Rapids	Leonard Street	Lafayette to Ashland	0.47	Reconstruct Existing	$557,929.00	STU			$206,357.00	$917,143.00
2015	City of Grand Rapids	Lafayette Avenue	Bradford to Leonard	0.47	Reconstruct Existing	$599,644.00	STU			$221,786.00	$985,716.00
2015	City of Grand Rapids	Pearl Street	Mt. Vernon Avenue to Front Avenue	0.11	Reconstruct Existing	$443,214.00	STU			$163,929.00	$728,572.00
2015	City of Grand Rapids	Bostwick Avenue	Lyon to Crescent	0.06	Reconstruct Existing	$130,357.00	STU			$48,214.00	$214,285.00
2015	City of Grand Rapids	Fulton Street	Wallinwood Avenue to Sunnybrook Avenue	0.38	Rotomill/resurface	$260,714.00	STU			$96,429.00	$428,572.00
2015	City of Grand Rapids	Kalamazoo Avenue	Burton Street to Fuller Avenue	0.48	Rotomill/rubblize/resurface	$243,333.00	STU			$90,000.00	$400,000.00
2015	City of Grand Rapids	Fuller Avenue	Leonard Street to Knapp Street	1.00	Rotomill/resurface	$625,714.00	STU			$231,429.00	$1,028,572.00
2015	City of Grand Rapids	State Street	Jefferson to Lafayette	0.14	Reconstruct Existing	$349,356.00	STU			$129,214.00	$574,284.00
2015	City of Grand Rapids	ITS Signal Communications	MPO Area		ITS Traffic signal communications and synchronization Phase III (transfer to IP and GPS clocks at up to 60 locations)	$160,000.00	CM			$40,000.00	$240,000.00
2015	City of Grand Rapids	Wireless Radio	Cedar Springs/17 Mile Road		Point to Point wireless radio, fiber optic and wireless traffic signal interconnect. Link to MSP network site. Extends the existing system's network on US-131 to Northland Drive, Northland Drive to Pine Street.	$280,000.00	CM			$70,000.00	$420,000.00
2015	City of Grand Rapids	Signal Optimization	MPO Area		Signal Optimization at up to 120 locations on Federal Aid Roads, Phase 10	$240,000.00	CM			$60,000.00	$360,000.00
2015	City of Grand Rapids	College Avenue	Michigan Street		Design and implementation of improvements through geometric alteration to include left turns at Michigan and College intersection	$441,731.00	CM			$110,433.00	$662,597.00

Fiscal Year	Responsible Agency	Project Name	Limits	Length	Project Description	Federal Cost ($1000s)	Federal Fund Source	State Cost ($1000s)	State Fund Source	Local Cost ($1000s)	Total Project Cost ($1000s)
2015	City of Grand Rapids	ITS Operations	Areawide		Regional Signal System TMS Operations	$392,280.00	CM			$98,070.00	$490,350.00
2015	City of Grandville	Prairie/Division	Wilson Avenue to Chicago Drive	0.13	Resurface	$131,400.00	STU			$48,600.00	$216,000.00
2015	City of Walker	Wilson Avenue (M-11)	Remembrance Road		Construct a roundabout	$400,000.00	CM			$100,000.00	$600,000.00
2015	City of Walker	M-45	.25 Miles E. of Kinney Ave. along the Fred Meijer Standale Trail		Construct a tunnel under M-45	$1,120,821.00	TAU			$479,179.00	$1,970,820.00
2015	City of Wyoming	Roger B. Chaffee	44th Street to 32nd Street	1.56	Resurface					$1,200,000.00	$1,440,000.00
2015	Hope Network	Small cutaway bus	Rural Area		Small cutaway bus	$54,400.00	ST	$13,600.00	CTF		$68,000.00
2015	ITP	Paratransit Vehicle Replacement (6)	Areawide		6 Paratransit Vehicle Replacements	$432,000.00	5307	$108,000.00	CTF		$540,000.00
2015	ITP	Replacement 40' Bus (3)	Areawide		3 Replacement 40' Low Floor Buses	$969,790.00	5339	$242,448.00	CTF		$1,212,238.00
2015	ITP	Replacement 40' Buses (5)	Regionwide		Replacement 40' Buses (5)	$2,446,318.00	5307	$611,579.00	CTF		$3,057,897.00
2015	ITP	Associated Capital Maintenance Items	Regionwide		Associated Capital Maintenance Items	$700,400.00	5307	$175,100.00	CTF		$875,500.00
2015	ITP	Bus Tire Lease	Regionwide		Bus Tire Lease	$240,000.00	5307	$60,000.00	CTF		$300,000.00
2015	ITP	Office Furniture/Equipment	Regionwide		Office Furniture/Equipment	$32,960.00	5307	$8,240.00	CTF		$41,200.00
2015	ITP	Shop Equipment	Regionwide		Shop Equipment	$82,400.00	5307	$20,600.00	CTF		$103,000.00
2015	ITP	Storage/Shelving Units	Regionwide		Storage/Shelving Units	$12,360.00	5307	$3,090.00	CTF		$15,450.00
2015	ITP	Computer Software	Regionwide		Computer Software	$33,600.00	5307	$8,400.00	CTF		$42,000.00
2015	ITP	Service Vehicles (2)	Regionwide		Service Vehicles	$60,564.00	5307	$15,141.00	CTF		$75,705.00
2015	ITP	Misc. Support Equipment	Regionwide		Misc. Support Equipment	$38,069.00	5307	$9,517.00	CTF		$47,586.00
2015	ITP	Preventive Maintenance	Regionwide		Preventive Maintenance	$1,071,200.00	5307	$267,800.00	CTF		$1,339,000.00
2015	ITP	Capital Costs of Contracting	Regionwide		Capital Costs of Contracting	$609,760.00	5307	$152,440.00	CTF		$762,200.00
2015	ITP	Misc. Contingencies	Regionwide		Misc. Contingencies	$41,200.00	5307	$10,300.00	CTF		$51,500.00
2015	ITP	Passenger Shelters/Bench	Regionwide		Passenger Shelters/Bench	$160,000.00	5307	$40,000.00	CTF		$200,000.00
2015	ITP	Information Displays	Regionwide		Information Displays	$8,240.00	5307	$2,060.00	CTF		$10,300.00
2015	ITP	Planning Funds	Regionwide		Planning Funds	$316,760.00	5307	$79,190.00	CTF		$395,950.00
2015	ITP	Replacement Buses (2)	Areawide		Replace 2 linehaul 40' low floor Buses	$640,000.00	CM	$160,000.00	CTF		$800,000.00
2015	ITP	Replacement VanPool Vans (6)	Areawide		6 Replacement VanPool Vans	$100,000.00	CM	$25,000.00	CTF		$125,000.00
2015	ITP	Surveillance/Security Equipment	Regionwide		Surveillance/Security Equipment	$87,518.00	5307	$21,879.00	CTF		$109,397.00
2015	ITP	A&E	Regionwide		A&E	$80,000.00	5307	$20,000.00	CTF		$100,000.00
2015	ITP	Facility Equipment	Regionwide		Facility Equipment	$160,000.00	5307	$40,000.00	CTF		$200,000.00

Fiscal Year	Responsible Agency	Project Name	Limits	Length	Project Description	Federal Cost ($1000s)	Federal Fund Source	State Cost ($1000s)	State Fund Source	Local Cost ($1000s)	Total Project Cost ($1000s)
2015	ITP	Computer Hardware	Regionwide		Computer Hardware	$48,720.00	5307	$12,180.00	CTF		$60,900.00
2015	ITP	Intelligent Transportation System	Regionwide		Intelligent Transportation System	$1,346,090.00	5307	$336,522.00	CTF		$1,682,612.00
2015	ITP	Rehab Adm/Maint Facility	Regionwide		Rehab Adm/Maint Facility	$640,000.00	5307	$160,000.00	CTF		$800,000.00
2015	ITP	Bus Stop Signs	Regionwide		Bus Stop Signs	$8,000.00	5307	$2,000.00	CTF		$10,000.00
2015	KCRC	Division Avenue	108th to 100th	1.00	Reconstruct Existing	$759,054.00	ST			$240,946.00	$1,200,000.00
2015	KCRC	4 Mile Road	Fruitridge to Walker	1.50	Resurface	$876,000.00	STU			$324,000.00	$1,440,000.00
2015	KCRC	36th St.	Patterson to Kraft	1.00	Resurface	$803,000.00	STU			$297,000.00	$1,320,000.00
2015	KCRC	Cascade Rd.	East Paris to Forest Hill	0.80	Resurface	$438,000.00	STU			$162,000.00	$720,000.00
2015	KCRC	Wolverine Blvd.	Belding to 10 mile	4.30	Resurface	$1,022,000.00	NH			$378,000.00	$1,680,000.00
2015	KCRC	108th Street	Over Thornapple River	0.00	Preventive Maintenance	$768,000.00	BHO	$144,000.00	M	$48,000.00	$960,000.00
2015	KCRC	52nd St.	Patterson to Kraft	0.93	Reconstruct to 3 lanes	$800,000.00	EDCF			$200,000.00	$1,100,000.00
2015	Kentwood	Division Avenue	54th Street to 60th Street	0.75	Reconstruct and BLVD.	$1,387,000.00	STU			$513,000.00	$2,090,000.00
2015	MDOT	M-21	over the GTW Railroad	0.09	Superstructure Replacement	$2,056,073.00	ST	$455,927.00	M		$2,707,000.00
2015	MDOT	I-196	I-196 EB over M-45 WB ramp		Shallow ovrly, beam rprs	$1,085,400.00	IM	$105,524.00	M	$15,076.00	$1,360,700.00
2015	MDOT	I-96	I-96 under Cascade Road		Deck replc, substr repr, widen	$7,254,400.00	IM	$1,813,600.00	M		$9,068,000.00
2015	MDOT	I-196 EB	I-196 EB over M-45		Shallow ovrly, substr repr	$1,005,953.00	IM	$97,800.00	M	$13,972.00	$1,713,725.00
2015	MDOT	I-196	I-196 WB over Grand River, US-131, local streets	0.07	Deep ovly, part paint, steel repr, sub repr	$6,000,912.00	IM	$583,423.00	M	$83,345.00	$7,247,478.00
2015	MDOT	US-131	10 Mile Road north to M-46 (17 Mile Road)		Temporary cross-overs for reconstruction project in 2017	$1,392,000.00	NH	$348,000.00	M		$1,740,000.00
2015	MDOT	I-96	Cascade Road		Left turn lane	$2,505,600.00	CM	$626,400.00	M		$3,132,000.00
2015	MDOT	US-131	M-57		Extend Right Turn Lane On Northbound Off-Ramp-PE	$60,000.00	CM	$15,000.00	M		$75,000.00
2015	MDOT	MDOT ITS	Regionwide		Device Operation and Maintenance	$972,000.00	CM	$243,000.00	M		$1,215,000.00
2015	MDOT	M-37 NB	Patterson Ave. to 52nd St.		Commercial Vehicle Enforcement pad	$92,000.00	ST	$23,000.00	M		$115,000.00
2015	MDOT	M-37 SB	7 Mile Rd. to 8 Mile Rd.		Commercial Vehicle Enforcement pad	$92,000.00	ST	$23,000.00	M		$115,000.00
2015	MDOT	M-21	Valley Vista Dr. to E. Kent County Line		Mill and Resurface	$1,084,000.00	ST	$271,000.00	M		$1,355,000.00
2015	GVMC	Planning Studies	Areawide		Studies	$150,000.00	STU			$37,500.00	$187,500.00
2015	ITP	Laker Line Project Development	Regionwide		Transit Capital	$2,019,870	5307	$504,968	M		$2,524,838

Fiscal Year	Responsible Agency	Project Name	Limits	Length	Project Description	Federal Cost ($1000s)	Federal Fund Source	State Cost ($1000s)	State Fund Source	Local Cost ($1000s)	Total Project Cost ($1000s)
2015	GVMC	Areawide	Areawide		Clean Air Action Program: Promote activities related to the public awareness on days when Ozone and PM2.5 are expected to be elevated during the Ozone Action season. The effort will expand the program activities for PM2.5 to all year long.	$80,000.00	CM			$20,000.00	$100,000.00
2015	ITP	Rideshare Program	Areawide		Rideshare Program	$130,000.00	CMG				$130,000.00
2015	ITP	Free Fare on Clean Air Action Days	Areawide		Free bus rides on Clean Air Action Days	$80,000.00	CM	$20,000.00	CTF		$100,000.00
2015	KCRC	Capital Preventive Maintenance	Areawide		GPA	$720,000.00	STU			$180,000.00	$900,000.00
2015	MDOT	Capital Prev. Maintenance (Bridge-Trunkline)	Regionwide		Trunkline Bridge CPM	$1,440,000.00	BHT	$360,000.00	M		$1,800,000.00
2015	MDOT	Trunkline Railroad/Safety	Regionwide		Trunkline Railroad/Safety	$104,000.00	STR	$26,000.00	M		$130,000.00
2015	MDOT	Capital Prev. Maintenance (Road-Trunkline)	Regionwide		Trunkline Road CPM	$6,000,000.00	ST	$1,500,000.00	M		$7,500,000.00
2015	MDOT	Pre-Construction Phases (Trunkline)	Regionwide		Trunkline Pre-Const.	$960,000.00	ST	$240,000.00	M		$1,200,000.00
2015	MDOT	Trunkline Program Development/Scoping	Regionwide		Trunkline Scoping	$320,000.00	STT	$80,000.00	M		$400,000.00
2015	MDOT	Highway Safety Trunkline GPA	Regionwide		Trunkline Traffic/Safety	$960,000.00	STH	$240,000.00	M		$1,200,000.00
2015	City of Hudsonville	Highland Drive/New Holland Street	Creekview Drive to 40th Avenue	0.51	Resurface	$207,320.00	STU			$76,680.00	$340,800.00
2015	City of Hudsonville	Oak Street	Over Buttermilk Creek		Bridge Replacement	$461,000.00	BRO			$115,250.00	$576,250.00
2015	MDOT	M-11	Hayes St to Wilson Ave	2.21	Mill, Det 8 Repairs, HMA Resurfacing	$2,069,168.00	NH	$458,832.00	M		$8,607,000.00
2015	OCRC	Port Sheldon Street	40th Avenue to Chicago Drive	2.52	Resurface	$876,000.00	STU			$324,000.00	$1,440,000.00
2016	City of East Grand Rapids	Lake Drive	Bagley Avenue to Conlon Drive	0.68	Reconstruct/Resurface	$371,888.00	STU			$794,914.00	$1,320,000.00
2016	City of East Grand Rapids	Lake Drive	At Breton Road		Proper alignment of intersection approaches to improve operations including turn lane improvements and sidewalk modifications.	$288,000.00	CM			$72,000.00	$432,000.00
2016	City of Grand Rapids	Kalamazoo Avenue	Fuller Avenue to Hall Street	0.59	Rotomill/rubblize/resurface	$267,857.00	STU			$89,286.00	$428,572.00
2016	City of Grand Rapids	Alpine Avenue	Leonard Street to Richmond Street	0.50	Rotomill/resurface	$289,286.00	STU			$96,429.00	$462,857.00

Fiscal Year	Responsible Agency	Project Name	Limits	Length	Project Description	Federal Cost ($1000s)	Federal Fund Source	State Cost ($1000s)	State Fund Source	Local Cost ($1000s)	Total Project Cost ($1000s)
2016	City of Grand Rapids	Fulton Street	Fuller Avenue to Benjamin Avenue	0.11	Rotomill/resurface	$58,928.00	STU			$19,643.00	$94,285.00
2016	City of Grand Rapids	Leonard Street	Plainfield Avenue to Lafayette Avenue	0.27	Rotomill/resurface	$133,928.00	STU			$44,643.00	$214,285.00
2016	City of Grand Rapids	Kalamazoo Avenue	42nd Street to 36th Street	0.73	Rotomill/resurface	$535,715.00	STU			$178,572.00	$857,143.00
2016	City of Grand Rapids	Michigan Street	Diamond Avenue to Fuller Avenue	0.23	Rotomill/resurface	$123,215.00	STU			$41,072.00	$197,143.00
2016	City of Grand Rapids	Leonard Street	Alpine Avenue to Turner Avenue	0.53	Rotomill/resurface	$332,143.00	NH			$110,715.00	$531,428.00
2016	City of Grand Rapids	Loops Cameras	Areawide		Replacement and installation of vehicle detection loops and cameras at up to 60 locations.	$200,000.00	CM			$50,000.00	$300,000.00
2016	City of Grand Rapids	Fiber Communications	Areawide		Extend the existing Signal's System fiber network along Burton St. west of Division Ave. to connect up to 8 additional signalized locations and various ITS.	$240,000.00	CM			$60,000.00	$360,000.00
2016	City of Grand Rapids	Signal Optimization	Areawide		Signal Optimization at up to 120 locations on Federal Aid Roads, Phase 11	$240,000.00	CM			$60,000.00	$360,000.00
2016	City of Grand Rapids	ITS Operations	Areawide		Regional Signal System TMS Operations	$411,894.00	CM			$102,974.00	$514,868.00
2016	City of Grandville	Wilson Avenue	Chicago Drive to Rivertown PKWY	1.73	Resurface	$746,250.00	STU			$248,750.00	$1,194,000.00
2016	City of Walker	Walker Avenue	Three Mile Road to Waldorf Street	0.52	Resurface	$243,750.00	STU			$81,250.00	$390,000.00
2016	City of Wyoming	Clyde Park Avenue	28th Street to Burton Street	1.00	Resurface	$450,000.00	STU			$150,000.00	$720,000.00
2016	City of Wyoming	Clyde Park Avenue	54th Street to 60th Street	0.75	Resurface	$337,500.00	STU			$112,500.00	$540,000.00
2016	City of Wyoming	Roger B. Chaffee	44th Street to 32nd Street	1.57	Resurface	$900,000.00	STU				$900,000.00
2016	ITP	Replacement Buses (2)	Areawide		Replace 2 linehaul 40' low floor Buses	$600,000.00	CM	$150,000.00	CTF		$800,000.00
2016	ITP	Replacement Bus	Areawide		Replace 1 Linehaul 40' low floor bus	$346,731.00	CM	$86,683.00	CTF		$433,414.00
2016	ITP	Replacement VanPool Vans (5)	Areawide		Replace 5 VanPool Vans	$100,000.00	CM	$25,000.00	CTF		$125,000.00
2016	ITP	Replacement 40' Buses (8)	Regionwide		Replacement 40' Buses (8)	$3,936,000.00	5307	$984,000.00	CTF		$4,920,000.00
2016	ITP	Associated Capital Maintenance Items	Regionwide		Associated Capital Maintenance Items	$631,490.00	5307	$157,872.00	CTF		$789,362.00
2016	ITP	Bus Tire Lease	Regionwide		Bus Tire Lease	$160,000.00	5307	$40,000.00	CTF		$200,000.00

Fiscal Year	Responsible Agency	Project Name	Limits	Length	Project Description	Federal Cost ($1000s)	Federal Fund Source	State Cost ($1000s)	State Fund Source	Local Cost ($1000s)	Total Project Cost ($1000s)
2016	ITP	Surveillance/Security Equipment	Regionwide		Surveillance/Security Equipment	$63,578.00	5307	$15,894.00	CTF		$79,472.00
2016	ITP	Office Furniture/Equipment	Regionwide		Office Furniture/Equipment	$32,000.00	5307	$8,000.00	CTF		$40,000.00
2016	ITP	A&E	Regionwide		A&E	$80,000.00	5307	$20,000.00	CTF		$100,000.00
2016	ITP	Shop Equipment	Regionwide		Shop Equipment	$160,000.00	5307	$40,000.00	CTF		$200,000.00
2016	ITP	Facility Equipment	Regionwide		Facility Equipment	$160,000.00	5307	$40,000.00	CTF		$200,000.00
2016	ITP	Storage/Shelving Units	Regionwide		Storage/Shelving Units	$16,000.00	5307	$4,000.00	CTF		$20,000.00
2016	ITP	Computer Hardware	Regionwide		Computer Hardware	$37,120.00	5307	$9,280.00	CTF		$46,400.00
2016	ITP	Computer Software	Regionwide		Computer Software	$22,355.00	5307	$5,589.00	CTF		$27,944.00
2016	ITP	Intelligent Transportation System	Regionwide		Intelligent Transportation System	$910,922.00	5307	$227,731.00	CTF		$1,138,653.00
2016	ITP	Service Vehicles	Regionwide		Service Vehicles	$80,000.00	5307	$20,000.00	CTF		$100,000.00
2016	ITP	Misc. Support Equipment	Regionwide		Misc. Support Equipment	$40,000.00	5307	$10,000.00	CTF		$50,000.00
2016	ITP	ADA Vehicle Equipment	Regionwide		ADA Vehicle Equipment	$80,000.00	5307	$20,000.00	CTF		$100,000.00
2016	ITP	Rehab Adm/Maint Facility	Regionwide		Rehab Adm/Maint Facility	$400,000.00	5307	$100,000.00	CTF		$500,000.00
2016	ITP	Preventive Maintenance	Regionwide		Preventive Maintenance	$800,000.00	5307	$200,000.00	CTF		$1,000,000.00
2016	ITP	Capital Costs of Contracting	Regionwide		Capital Costs of Contracting	$544,000.00	5307	$136,000.00	CTF		$680,000.00
2016	ITP	Misc. Contingencies	Regionwide		Misc. Contingencies	$40,000.00	5307	$10,000.00	CTF		$50,000.00
2016	ITP	Project Administration	Regionwide		Project Administration	$64,000.00	5307	$16,000.00	CTF		$80,000.00
2016	ITP	Passenger Shelters/Bench	Regionwide		Passenger Shelters/Bench	$240,000.00	5307	$60,000.00	CTF		$300,000.00
2016	ITP	Bus Stop Signs	Regionwide		Bus Stop Signs	$8,000.00	5307	$2,000.00	CTF		$10,000.00
2016	ITP	Information Displays	Regionwide		Information Displays	$8,000.00	5307	$2,000.00	CTF		$10,000.00
2016	ITP	Planning Funds	Regionwide		Planning Funds	$436,800.00	5307	$109,200.00	CTF		$546,000.00
2016	KCRC	10 Mile Road	M-37 to Alpine Ave.	0.80	Resurface	$375,000.00	STU			$125,000.00	$600,000.00
2016	KCRC	Cascade Road	Hall St. to Burton St.	2.20	Resurface	$1,312,501.00	STU			$437,501.00	$2,100,001.00
2016	KCRC	Division Avenue	76th St. to 84th St.	0.97	Resurface	$562,500.00	NH			$187,500.00	$900,000.00
2016	KCRC	Post Dr.	Pine Island Dr. to Samrick Ave.	0.43	Reconstruct / Widen to 3 lanes	$800,000.00	EDCF			$200,000.00	$1,100,000.00
2016	MDOT	I-96	I-96 under Cheney Avenue		Deck replc, P/H, substr rpr	$1,396,800.00	IM	$135,799.00	M	$19,401.00	$1,749,200.00
2016	MDOT	US-131	Leonard Street to Ann Street		Southbound Weave/Merge Lane-Const.	$5,672,000.00	CM	$1,418,000.00	M		$7,090,000.00
2016	MDOT	MDOT ITS	Regionwide		Device Operation and Maintenance	$972,000.00	CM	$243,000.00	M		$650,000.00
2016	GVMC	Planning Studies	Areawide		Studies	$150,000.00	STU			$37,500.00	$187,500.00
2016	ITP	Laker Line Project Development	Regionwide		Transit Capital	$1,440,000	5307	$360,000	M		$1,800,000

Fiscal Year	Responsible Agency	Project Name	Limits	Length	Project Description	Federal Cost ($1000s)	Federal Fund Source	State Cost ($1000s)	State Fund Source	Local Cost ($1000s)	Total Project Cost ($1000s)
2016	GVMC	Areawide	Areawide		Clean Air Action Program: Promote activities related to the public awareness on days when Ozone and PM2.5 are expected to be elevated during the Ozone Action season. The effort will expand the program activities for PM2.5 to all year long.	$80,000.00	CM			$20,000.00	$100,000.00
2016	ITP	Rideshare Program	Areawide		Rideshare Program	$137,000.00	CM				$137,000.00
2016	ITP	Free Fare on Clean Air Action Days	Areawide		Free bus rides on Clean Air Action Days	$80,000.00	CM	$20,000.00	CTF		$100,000.00
2016	KCRC	Capital Preventive Maintenance	Areawide		GPA	$720,000.00	STU			$180,000.00	$900,000.00
2016	City of Hudsonville	36th Avenue	Oak Street to Chicago Drive	0.45	Resurface	$232,500.00	STU			$77,500.00	$372,000.00
2016	MDOT	Countywide	Grand River Watershed	0.01	Wetland Mitigation Bank Site	$521,134.00	ST	$115,560.00	M		$1,476,694.00
2016	MDOT	I-196	at 32nd Avenue		Crack Sealing	$2,456.00	ST	$544.00	M		$3,000.00
2016	OCRC	48th Avenue	M-45 to Pierce Street		10' wide Non-Motorized Facility on the west side of the roadway	$240,000.00	CM			$60,000.00	$360,000.00
2016	OCRC	48th Avenue	M-45 to Pierce Street	1.00	Reconstruct to 4 lane Blvd	$1,875,000.00	STU			$662,500.00	$2,750,000.00
2017	City of Grand Rapids	IP Data Ring	Areawide		Traffic Responsive connected vehicle	$200,000.00	CM			$50,000.00	$250,000.00
2017	City of Grand Rapids	Wealthy Street	US-131 to Division Avenue	0.18	Reconstruct Existing	$957,040.00	STU			$442,960.00	$1,680,000.00
2017	City of Grand Rapids	Leonard Street	Fuller Avenue to Ball Avenue	0.48	Reconstruct Existing	$331,058.00	STU			$153,228.00	$581,143.00
2017	City of Grand Rapids	Kalamazoo Avenue	36th Street to Forrester Avenue	0.72	Rotomill/resurface	$327,151.00	STU			$151,420.00	$574,285.00
2017	City of Grand Rapids	Burton Street	Breton Avenue to East Beltline	1.23	Rotomill/resurface	$585,943.00	STU			$271,200.00	$1,028,572.00
2017	City of Grand Rapids	Fulton Street	Lafayette Avenue to College Avenue	0.25	Rotomill/resurface	$122,071.00	STU			$56,500.00	$214,285.00
2017	City of Grand Rapids	Leonard Street	Hillburn Avenue to Country Club Avenue	0.15	Rotomill/resurface	$107,423.00	STU			$49,720.00	$188,572.00
2017	City of Grand Rapids	Alpine Avenue	Richmond Street to Nason Street	1.00	Rotomill/resurface	$219,729.00	STU			$101,700.00	$385,715.00
2017	City of Grand Rapids	Leonard Street	Ashland Street to Fuller Avenue	0.66	Reconstruct Existing	$596,786.00	NH			$198,929.00	$954,857.00
2017	City of Grand Rapids	Leonard Street	Walker Avenue to Alpine Avenue	0.82	Rotomill/resurface	$460,779.00	NH			$182,078.00	$771,429.00

Fiscal Year	Responsible Agency	Project Name	Limits	Length	Project Description	Federal Cost ($1000s)	Federal Fund Source	State Cost ($1000s)	State Fund Source	Local Cost ($1000s)	Total Project Cost ($1000s)
2017	City of Grand Rapids	Fiber Communications	Areawide		Extend the existing Signal's System fiber network along Burton St. east of Division Ave. to connecting up to 12 additional signalized locations and various ITS.	$240,000.00	CM			$60,000.00	$360,000.00
2017	City of Grand Rapids	Signal Optimization	Areawide		Signal Optimization at up to 120 locations on Federal Aid roads, Phase 12	$240,000.00	CM			$60,000.00	$360,000.00
2017	City of Grand Rapids	College Avenue	Michigan Street		Design and implementation of improvements through geometric alteration to include left turns at Michigan and College intersection	$288,731.00	CM			$72,183.00	$433,097.00
2017	City of Grand Rapids	ITS Operations	Areawide		Regional Signal System TMS Operations	$432,489.00	CM			$108,122.00	$540,611.00
2017	City of Kentwood	East Paris Avenue	Burton Street to NCL	0.75	Rotomill/resurface	$957,040.00	STU			$442,960.00	$1,680,000.00
2017	City of Kentwood	44th Street	Shaffer to East Beltline	1.25	Rotomill/resurface	$957,040.00	STU			$442,960.00	$1,680,000.00
2017	City of Kentwood	East Paris Avenue	M-11		Right Turn lane on northbound East Paris to eastbound M-ll	$64,000.00	CM			$16,000.00	$96,000.00
2017	City of Walker	Turner Avenue	West River Drive to US-131 SB Ramps	0.65	Resurface	$546,880.00	STU			$253,120.00	$960,000.00
2017	ITP	Replacement Buses (2)	Areawide		Replace 2 linehaul 40' low floor Buses	$656,000.00	CM	$164,000.00	CTF		$820,000.00
2017	ITP	Replacement VanPool Vans (4)	Areawide		Replace 4 VanPool Vans	$80,000.00	CM	$20,000.00	CTF		$100,000.00
2017	ITP	Paratransit Vehicle Replacement (40)	Regionwide		Paratransit Vehicle Replacement (40)	$2,560,000.00	5307	$640,000.00	CTF		$3,200,000.00
2017	ITP	Replacement 40' Buses (8)	Regionwide		Replacement 40' Buses (8)	$3,240,000.00	5307	$810,000.00	CTF		$4,050,000.00
2017	ITP	Associated Capital Maintenance Items	Regionwide		Associated Capital Maintenance Items	$83,490.00	5307	$20,872.00	CTF		$104,362.00
2017	ITP	Bus Tire Lease	Regionwide		Bus Tire Lease	$160,000.00	5307	$40,000.00	CTF		$200,000.00
2017	ITP	Surveillance/Security Equipment	Regionwide		Surveillance/Security Equipment	$63,578.00	5307	$15,894.00	CTF		$79,472.00
2017	ITP	Office Furniture/Equipment	Regionwide		Office Furniture/Equipment	$32,000.00	5307	$8,000.00	CTF		$40,000.00
2017	ITP	A&E	Regionwide		A&E	$40,000.00	5307	$10,000.00	CTF		$50,000.00
2017	ITP	Shop Equipment	Regionwide		Shop Equipment	$800.00	5307	$200.00	CTF		$1,000.00
2017	ITP	Storage/Shelving Units	Regionwide		Storage/Shelving Units	$16,000.00	5307	$4,000.00	CTF		$20,000.00
2017	ITP	Computer Hardware	Regionwide		Computer Hardware	$37,120.00	5307	$9,280.00	CTF		$46,400.00

Fiscal Year	Responsible Agency	Project Name	Limits	Length	Project Description	Federal Cost ($1000s)	Federal Fund Source	State Cost ($1000s)	State Fund Source	Local Cost ($1000s)	Total Project Cost ($1000s)
2017	ITP	Computer Software	Regionwide		Computer Software	$22,355.00	5307	$5,589.00	CTF		$27,944.00
2017	ITP	Intelligent Transportation System	Regionwide		Intelligent Transportation System	$800.00	5307	$200.00	CTF		$1,000.00
2017	ITP	Service Vehicles (2)	Regionwide		Service Vehicles (2)	$48,000.00	5307	$12,000.00	CTF		$60,000.00
2017	ITP	Misc. Support Equipment	Regionwide		Misc. Support Equipment	$40,000.00	5307	$10,000.00	CTF		$50,000.00
2017	ITP	Rehab Adm/Maint Facility	Regionwide		Rehab Adm/Maint Facility	$725,322.00	5307	$181,331.00	CTF		$906,653.00
2017	ITP	Preventive Maintenance	Regionwide		Preventive Maintenance	$800,000.00	5307	$200,000.00	CTF		$1,000,000.00
2017	ITP	Capital Costs of Contracting	Regionwide		Capital Costs of Contracting	$544,000.00	5307	$136,000.00	CTF		$680,000.00
2017	ITP	Misc. Contingencies	Regionwide		Misc. Contingencies	$40,000.00	5307	$10,000.00	CTF		$50,000.00
2017	ITP	Project Administration	Regionwide		Project Administration	$64,000.00	5307	$16,000.00	CTF		$80,000.00
2017	ITP	Passenger Shelters/Bench	Regionwide		Passenger Shelters/Bench	$80,000.00	5307	$20,000.00	CTF		$100,000.00
2017	ITP	Bus Stop Signs	Regionwide		Bus Stop Signs	$8,000.00	5307	$2,000.00	CTF		$10,000.00
2017	ITP	Information Displays	Regionwide		Information Displays	$8,000.00	5307	$2,000.00	CTF		$10,000.00
2017	ITP	Planning Funds	Regionwide		Planning Funds	$436,800.00	5307	$109,200.00	CTF		$546,000.00
2017	KCRC	Belmont Avenue	South Of 10 Mile Road		Relocation of Belmont Avenue & Signal elimination	$450,058.00	STU			$199,942.00	$747,500.00
2017	KCRC	Belmont Avenue	At 10 Mile Road		Signal Upgrade	$80,000.00	CM			$20,000.00	$110,000.00
2017	KCRC	Byron Center	84th to 76th	1.00	Resurface	$546,880.00	STU			$253,120.00	$960,000.00
2017	KCRC	Byron Center	76th to 68th	1.00	Resurface	$683,600.00	STU			$316,400.00	$1,200,000.00
2017	KCRC	Kalamazoo Avenue	76th St. to 84th St.	1.00	Reconstruct Existing	$1,025,400.00	STU			$474,600.00	$1,800,000.00
2017	KCRC	28th Street	Kraft Avenue		Add dual left turn lanes on eastbound 28th St. to nouthbound Kraft Ave. Add short lane (northbound Kraft) to receive dual lefts. Add right turn lane on southbound Kraft.	$400,000.00	CM			$100,000.00	$600,000.00
2017	KCRC	Lincoln Lake Avenue	7 Mile Road to Belding Road	0.80	Reconstruct Existing	$681,317.00	ST			$218,683.00	$1,080,000.00
2017	MDOT	US-131	Kent South County Line to 76th Street	4.05	Reconstruction	$16,294,698.00	NH	$3,613,302.00	M		$22,181,620.00
2017	MDOT	M-44	Wolverine Blvd east to Blakely Dr	1.04	Reconstruct	$1,941,482.00	ST	$430,518.00	M		$9,405,000.00
2017	MDOT	M-44	Leonard Street		Extend Dual Left Turn Lanes	$106,400.00	CM	$26,600.00	M		$133,000.00
2017	MDOT	MDOT ITS	Regionwide		Device Operation and Maintenance	$1,000,000.00	CM	$250,000.00	M		$1,250,000.00
2017	Village of Sand Lake	Lake Street	5th Street to Northland Drive	0.14	Reconstruct Existing	$165,000.00	ST			$204,000.00	$442,800.00
2017	Wyoming	56th St.	Byron Center Ave. to Ivanrest Ave.	1.00	Reconstruct 2 to 3 lanes & bike lanes	$1,500,000.00	EDCF			$500,000.00	$2,200,000.00

Fiscal Year	Responsible Agency	Project Name	Limits	Length	Project Description	Federal Cost ($1000s)	Federal Fund Source	State Cost ($1000s)	State Fund Source	Local Cost ($1000s)	Total Project Cost ($1000s)
2017	GVMC	Planning Studies	Areawide		Studies	$150,000.00	STU			$37,500.00	$187,500.00
2017	GVMC	Areawide	Areawide		Clean Air Action Program: Promote activities related to the public awareness on days when Ozone and PM2.	$80,000.00	CM			$20,000.00	$100,000.00
2017	ITP	Rideshare Program	Areawide		Rideshare Program	$143,000.00	CMG				$143,000.00
2017	ITP	Free Fare on Clean Air Action Days	Areawide		Free bus rides on Clean Air Action Days	$80,000.00	CM	$20,000.00	CTF		$100,000.00
2017	KCRC	Capital Preventive Maintenance	Areawide		GPA	$720,000.00	STU			$180,000.00	$900,000.00
2017	OCRC	68th Avenue	Fillmore Street to M-45	2.00	Resurface + shoulder	$200,000.00	STU			$550,000.00	$825,000.00
2017	OCRC	28th Avenue	Baldwin Street to Bauer Road	1.00	Resurface	$273,440.00	STU			$126,560.00	$480,000.00
2014-2017 Totals						$217,927,579		$38,221,165.00		$23,148,605.00	$279,297,349.00

2018 – 2020 GVMC Metropolitan Transportation Plan Projects List

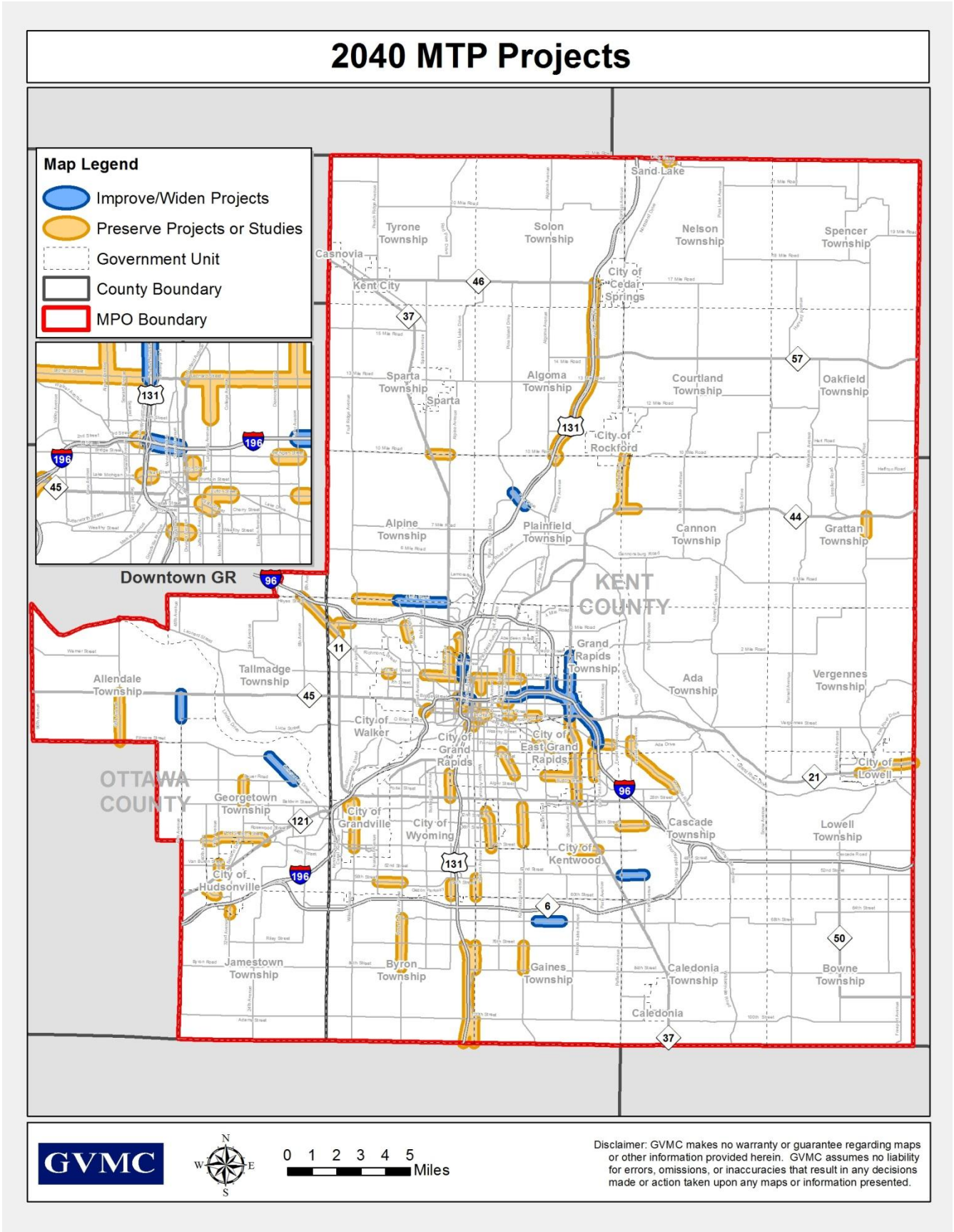
Fiscal Year	Responsible Agency	Project Name	Limits	Length	Project Description	Federal Cost ($1000s)	Federal Fund	State Cost	State Fund Source	Local Cost	Total Project Cost
2018-2020	OCRC	Cottonwood Drive	Bauer to Fillmore		Widen 2 - 4 lanes	$3,200,000	STP-U			$800,000	$4,000,000
2018-2020	Various	Pavement Preservation	TBD		Various pavement condition Improvements	$25,160,000	STP-U			$6,290,000	$31,450,000
2018-2020	Various	Congestion Mitigation	TBD		Congestion relief/Air Quality Improvements	$7,650,000	CMAQ			$1,912,500	$9,562,500
2018-2020	Various	Transportation Alternatives Program	TBD		Non-motorized and other alernative projects	$2,130,000	TAP			$532,500	$2,662,500
2018-2020	Various	Safety Enhancements	TBD		Safety Related Improvements	$3,240,000	HSIP			$810,000	$4,050,000
2018-2020	Various	Pavement Preservation - NHS	TBD		Pavement Imrprovements on NHS	$2,550,000	NHPP			$637,500	$3,187,500
2018-2020	Various	Bridge Maintenance Program	TBD		Bridge Improvements	$5,050,000	BRIDGE			$1,262,500	$6,312,500
2018-2020	Various	Rural Transportation Program	TBD		Rural Transportation Improvements	$2,580,000	STPR			$645,000	$3,225,000
2018-2020	Various	Transportation Economic Development	TBD		Transportation Economic Development Projects	$2,970,000	EDF-C &D			$742,500	$3,712,500
2018-2020	Various	Operations and Maintenance	General		Operating and Maintaining federal aid roads	$60,430,000	O&M			$15,107,500	$75,537,500
2018-2020	ITP	Transit - Capital	Systemwide		Capital improvement Projects	$28,200,000	5307	$2,820,000	CTF	$2,820,000	$31,020,000
2018-2020	Various	Transit - Seniors/Disabled	Systemwide		Projects to assist the disabled and seniors	$1,410,000	5310	$141,000	CTF	$141,000	$1,551,000
2018-2020	ITP	Transit - Facilities	Systemwide		Bus Replacement	$3,200,000	5339	$320,000	CTF	$320,000	$3,520,000
2018-2020	ITP	Transit Operating	Systemwide		System Operations	$37,840,000	CTF	$3,784,000	CTF	$3,784,000	$41,624,000
2018-2020	MDOT	System Preservation	Various Trunklines		Preserve trunkline system in the region	$112,030,000	STP,NHS	$28,007,500.00	MTF	$0	$112,030,000
Total						$297,640,000		$35,072,500		$35,805,000	$333,445,000

2021 – 2030 GVMC Metropolitan Transportation Plan Projects List

Fiscal Year	Responsible Agency	Project Name	Limits	Length	Project Description	Federal Cost	Federal Fund Source	State Cost	State Fund Source	Local Cost	Total Project Cost
2021-2030	MDOT	I-196/WB Bridge over the Grand River	Near Ottawa Ave		Widen Bridge & Extend WB to SB Off Ramp	$16,000,000	IE	$4,000,000	MTF		$20,000,000
2021-2030	MDOT	I-196	Fuller to I-96 Junction		Additional lane in each direction per EA	$56,000,000	IE	$14,000,000	MTF		$70,000,000
2021-2030	MDOT	I-96	Leonard to Cascade		Add Lanes/ new ramps/ C's & D's per EA	$320,000,000	IE	$80,000,000	MTF		$400,000,000
2021-2030	MDOT	M-44/M-37 (East Beltline)	M-21 to Knapp		Additional through and turning lanes	$40,000,000	IE	$10,000,000	MTF		$50,000,000
2021-2030	MDOT	I-196	@ Ottawa Avenue		New NB Access to NB Division (US-131 BR)	$16,000,000	IE	$4,000,000	MTF		$20,000,000
2021-2030	Various	Pavement Preservation	TBD		Various pavement condition Improvements	$109,630,000	STP-U			$27,407,500	$109,630,000
2021-2030	Various	Congestion Mitigation	TBD		Congestion relief/Air Quality Improvements	$25,520,000	CMAQ			$6,380,000	$25,520,000
2021-2030	Various	Transportation Alternatives Program	TBD		Non-motorized and other alernative projects	$8,290,000	TAP			$2,072,500	$8,290,000
2021-2030	Various	Safety Enhancements	TBD		Safety Related Improvements	$12,650,000	HSIP			$3,162,500	$12,650,000
2021-2030	Various	Pavement Preservation - NHS	TBD		Pavement Imrprovements on NHS	$9,790,000	NHPP			$2,447,500	$9,790,000
2021-2030	Various	Bridge Maintenance Program	TBD		Bridge Improvements	$19,600,000	BRIDGE			$4,900,000	$19,600,000
2021-2030	Various	Rural Transportation Program	TBD		Rural Transportation Improvements	$9,890,000	STPR			$2,472,500	$9,890,000
2021-2030	Various	Transportation Economic Development	TBD		Transportation Economic Development Projects	$9,980,000	EDF-C &D			$2,495,000	$9,980,000
2021-2030	Various	Operations and Maintenance	General		Operating and Maintaining federal aid roads	$231,850,000	O&M			$57,962,500	$231,850,000
2021-2030	ITP	Transit - Capital	Systemwide		Capital improvement Projects	$118,700,000	5307			$29,675,000	$148,375,000
2021-2030	Various	Transit - Seniors/Disabled	Systemwide		Projects to assist the disabled and seniors	$5,940,000	5310			$1,485,000	$7,425,000
2021-2030	ITP	Transit - Facilities	Systemwide		Bus Replacement	$13,450,000	5339			$3,362,500	$16,812,500
2021-2030	ITP	Transit Operating	Systemwide		System Operations	$129,050,000	CTF			$32,262,500	$161,312,500
2021-2030	MDOT	System Preservation	Various Trunklines		Preserve trunkline system in the region	$501,240,000	STP,NHS			$125,310,000	$626,550,000
Total						$1,653,580,000		$112,000,000		$301,395,000	$1,957,675,000

2031 – 2040 GVMC Metropolitan Transportation Plan Projects List

Fiscal Year	Responsible Agency	Project Name	Limits	Length	Project Description	Federal Cost	Federal Fund Source	State Cost	State Fund Source	Local Cost	Total Project Cost
2031-2040	Various	Pavement Preservation	TBD		Various pavement condition Improvements	$138,830,000	STP-U			$34,707,500	$173,537,500
2031-2040	Various	Congestion Mitigation	TBD		Congestion relief/Air Quality Improvements	$25,520,000	CMAQ			$6,380,000	$31,900,000
2031-2040	Various	Transportation Alternatives Program	TBD		Non-motorized and other alernative projects	$10,490,000	TAP			$2,622,500	$13,112,500
2031-2040	Various	Safety Enhancements	TBD		Safety Related Improvements	$16,010,000	HSIP			$4,002,500	$20,012,500
2031-2040	Various	Pavement Preservation - NHS	TBD		Pavement Imrprovements on NHS	$13,190,000	NHPP			$3,297,500	$16,487,500
2031-2040	Various	Bridge Maintenance Program	TBD		Bridge Improvements	$24,640,000	BRIDGE			$6,160,000	$30,800,000
2031-2040	Various	Rural Transportation Program	TBD		Rural Transportation Improvements	$12,520,000	STPR			$3,130,000	$15,650,000
2031-2040	Various	Transportation Economic Development	TBD		Transportation Economic Development Projects	$9,980,000	EDF-C &D			$2,495,000	$12,475,000
2031-2040	Various	Operations and Maintenance	General		Operating and Maintaining federal aid roads	$257,000,000	O&M			$64,250,000	$321,250,000
2031-2040	ITP	Transit - Capital	Systemwide		Capital improvement Projects	$170,400,000	5307			$42,600,000	$213,000,000
2031-2040	Various	Transit - Seniors/Disabled	Systemwide		Projects to assist the disabled and seniors	$8,530,000	5310			$2,132,500	$10,662,500
2031-2040	ITP	Transit - Facilities	Systemwide		Bus Replacement	$19,300,000	5339			$4,825,000	$24,125,000
2031-2040	ITP	Transit Operating	Systemwide		System Operations	$133,900,000	CTF			$33,475,000	$167,375,000
2031-2040	MDOT	System Preservation	Various Trunklines		Preserve trunkline system in the region	$635,330,000	STP,NHS	$158,832,500	MTF		$794,162,500
Total						$1,475,640,000		$158,832,500		$210,077,500	$1,844,550,000



Map 17 – 2040 MTP Project Map

Illustrative Project List

An identifiable component of this plan is the list of major projects that will be undertaken over the next twenty five plus years (MTP Project List in Chapter 18). The selection of transportation projects is based on technical analyses performed by GVMC Transportation staff, the agency staff owning the facility, and careful deliberation of the members of the GVMC Transportation Committees. The level of funding for each program and range of years is determined by comprehensive financial analysis from data submitted by local, county, and regional transportation agencies and the Michigan Department of Transportation (MDOT). Infrastructure projects, while designed to improve areas where improvements are made, have a regional impact as well. The objective is for the cumulative effect of the projects identified in this Plan to result in a more efficient and effective regional transportation system for the people of the Grand Rapids area.`

Chapter 16 in the MTP includes major projects that have identified transportation deficiencies, are financially constrained and expected to be constructed within the funding available over the life of the plan. Many have been through the National Environmental Policy Act (NEPA) environmental clearance process and have a federally approved Environmental Impact Statement (EIS) or environmental Assessment (EA).

Those projects which are identified as deficiencies, but do not have dedicated funding, are contained in the Illustrative Projects list below. Local pavement condition improvements that have been identified and are without a dedicated funding source, Identified capacity needs without appropriate funds, MDOT projects that have not gone through the NEPA process, ITP/The Rapid projects that are considered "financially unconstrained" because funding is not yet secured, as well as Non-Motorized projects which do not have identified funding, are all examples of the types of projects that comprise the Illustrative Project List.

The Illustrative Projects have "conceptual improvements" indicated and estimated costs identified, when available, for each segment. These conceptual improvements will not become committed projects until further study is completed, including moving through the MPO transportation planning process, funding is committed, and, as required, progressing through federal NEPA process. In many cases, the Illustrative projects will require further study of feasible alternatives.

Local System Illustrative Vision

Throughout the development of this MTP efforts were made to establish a basic vision of what we collectively would like our transportation system to be. Issues related to the condition of the pavement, to the reliability of travel times, to the convenience of the local transit system, to the availability of alternate means of transportation, and the efficiency of moving freight throughout the system were all analyzed. The results of this analysis concluded that in order to greatly improve pavement condition from 64% good/fair up to 80% an additional $665 million in dedicated funding would be necessary through the year 2040. To reduce the percent of congested non-trunkline roadways by 80% an additional $30 million would be needed. To realize a completed non-motorized network, an additional $25 million would be required. To fully implement the ITP Master Plan an additional $206 million would be needed. To fully implement the needs identified in the GVMC Safety Plan an additional $37 million is necessary. All tolled the illustrative list for local federal aid in the region totals $963 million over and above the needs listed for area trunklines. GVMC and its member communities are dedicated to focusing future planning efforts in an effort to develop a strong vision of the future conditions of the transportation system in the region. The chart on the follow page depicts these needs.

Element	Identified Need	Dedicated Funding	Illustrative Balance
Congestion Mitigation	$70,805,000.00	$40,460,000.00	-$30,345,000.00
Non-Motorized	$56,704,125.00	$31,532,500.00	-$25,171,625.00
Pavement Condition	$1,170,000,000.00	$505,000,000.00	-$665,000,000.00
Safety	$54,840,000.00	$18,075,000.00	-$36,765,000.00
Transit	$1,114,000,000.00	$908,000,000.00	-$206,000,000.00
TOTAL	$2,466,349,125.00	$1,503,067,500.00	-$963,281,625.00

ILLUSTRATIVE PROJECT LIST

Roadway	From Location	To Location	Conceptual Alternative
M-11 (Wilson Ave)	I-196	Remembrance Rd	Operational Improvements/Widen to 5 Lanes/Pending Further Study
US-131	I-96	10 Mile Rd	Add additional thru lanes in both directions/expanded ITS/Pending further study
I-96	Walker Ave	Plainfield Ave	Add weave/merge lanes/operational improvements/expanded ITS/Pending further study
US-131	Wealthy St	28th St	Add weave/merge lanes/operational improvements/expanded ITS/Pending further study results
I-196	US-131	M-11	Widen to 6 lanes or add weave/merge lanes, expanded ITS
I-96	Cascade Rd	M-11 (28th St)	Add collector/distributor or weave lanes
I-96	M-11 (28th St)	M-6 Interchange	Monitor traffic operations, M-6 traffic, and airport access
I-96	M-44C (Plainfield Ave)	Leonard St	Continue to monitor traffic operation, ITS
US-131	South County Line	76th St	Continue to monitor traffic operations, expanded ITS/Pending further study results
US-131	36th St	28th St	Monitor traffic operations, continue ITS expansion/Pending further study results
US-131	I-96 Interchange	Leonard St	Monitor traffic operations, continue ITS expansion/Pending further study results
US-131	10 Mile Rd	14 Mile Rd	Monitor traffic operations, continue ITS expansion/Pending further study results
M-11 (28th St)	Buchanan Ave	Division Ave	Operational improvements and access management
M-11 (28th St)	Clyde Park Ave	Buchanan Ave	Operational improvements and access management
M-11 (28th St)	Radcliffe Ave.	Lake Eastbrook Ave	Operational improvements and access management
M-21 (Fulton St)	Pettis Ave	Alden Nash Ave	Corridor study/operational improvements/Pending further study results
M-37 (Alpine Ave)	South of 6 Mile	I-96	Corridor study/operational improvements, and access management/Pending Northern Kent County Access Study
M-37 (Broadmoor Ave)	92nd Ave	County Line	Monitor traffic operations, increased TSM, possible ITS/Pending further study results
M-37 (Broadmoor Ave)	North of 76th St	92nd Ave	Monitor traffic operations, corridor study/operational improvements, and access management/Pending further study results
M-37 (East Beltline)	28th St	North of Lake Eastbrook	Monitor traffic operations, increased TSM, possible ITS/Pending further study
M-37 (East Beltline)	North of Lake Eastbrook	M-21 (Fulton St)	Monitor traffic operations, increased TSM, possible ITS/Pending further study
M-44 (Belding Rd)	Wolverine Blvd	Myers Lake Ave	Monitor traffic operations, increased TSM, possible ITS/Pending further study results
M-44 (Northland)	Plainfield Ave	West River Drive	Monitor traffic operations/operational improvements, increased TSM, ITS

Other Unfunded Projects/Studies

1. Regional Rail Freight Study
2. East Beltline Transit feasibility Study
3. North Kent County Freight Access Study
4. Development of Mode Choice Travel Demand Model
5. Development of Land Use Model

Air Quality Conformity Analysis

On May 12, 2012, the United States Environmental Protection Agency (EPA) partially revoked the 1997 8-hour 0.080 parts per million (ppm) Ozone standard. Only the regulations related to regional transportation conformity were revoked, all other requirements are still in effect.

Also on May 12, 2012, the EPA issued designations for the new 2008 8-hour 0.075 ppm Ozone standard. GVMC was designated attainment under the 2008 standard.

On July 20, 2013, the United States Environmental Protection Agency (EPA) partially revoked the 1997 8-hour 0.080 parts per million (ppm) Ozone standard. Only the regulations related to regional transportation conformity were revoked, all other requirements were still in effect.

Also on July 20, 2013, the EPA designations for the new 2008 8-hour 0.075 ppm ozone standard took effect. The GVMC area was designated attainment under the 2008 standard.

Thus, effective July 20, 2013, as a result of both the partial revocation of the 0.080 Ozone standard and the designation of attainment for the 0.075 Ozone standard, the GVMC maintenance/attainment area is no longer required to demonstrate transportation conformity of Long Range Plans (LRP) or Transportation Improvement Program (TIP). However, other requirements of a maintenance area are still in place, for example LRP's must be prepared every four years.

On November 25, 2014, EPA proposed lowering the Ozone standard but until a standard is set, approximately October 2015, and final designations are made, in roughly late 2017, or the 1997 0.080 standard is completely revoked, GVMC will continue to follow regulations and the intent of the Ozone State Implementation Plan (SIP).

On April 6, 2015 the EPA revoked completely the 1997 ozone standard, so all requirements related to this standard were removed. GVMC is in attainment for existing ozone standards, thus, there are no requirements for an air quality conformity finding. However, GVMC will continue to be responsive to the connection between air quality and transportation.

Chapter 19: Plan Evaluation and Analysis

Effectiveness of the MTP

It is important to evaluate whether implementation of the MTP will bring our area closer to the area goals and objectives outlined in Chapter 3. To evaluate the MTP, measures of effectiveness were used, both quantitative and qualitative. Listed below are the MTP Goals and a discussion of how well the MTP fulfills each of them.

MTP Goals	Discussion of Effectiveness
Goal 1: Accessibility, Mobility, Intermodalism, and Efficiency Provide access to employment, housing, services, and recreation for people regardless of physical limitations or economic status. Design a transportation system that allows the efficient movement of motor vehicles, buses, pedestrians, bicyclists, buses, trains, and air and freight carriers through the area. Enhance the integration and connectivity of the transportation system, across and between modes. Make the best use of existing transportation facilities by integrating systems, improving traffic operations and safety and providing accurate real-time information, to increase system-wide efficiency.	GVMC strives to alleviate all identified current and future congestion in the region and works with local jurisdictions to find a balance between congested conditions and the implications (financial, social, and environmental costs) of addressing them. A total of 28.26 miles of the local federal-aid system were identified as capacity deficient using the GVMC capacity analysis process. Of those miles, only 1.27 miles have been selected for widening more than the addition of a center turn lane. This represents less than half-of-one-percent of the local federal-aid roadways in the MPO. Widening projects are regionally coordinated to reduce duplication and increase efficiency. The implementation of the proposed projects increases continuous service and needed capacity. The non-motorized element and achievements, as well as potential future transit expansions such as the BRT along Division Ave., together lay a foundation for improvements to the transportation system for those who cannot or chose not to use private automobiles.
Goal 2: System Preservation Assure the preservation and maintenance of existing facilities and work to educate decision-makers about the need for adequate transportation funding.	The MTP identifies $549,280,000 in local and MDOT funds over the life of the plan that will be used to operate and maintain the transportation system. Additionally, $1,248,600,000 is identified in total dedicated preservation projects in the Project List.
Goal 3: Safety, Security, and Reliability Improve the safety and reliability of the transportation system for motorized and non-motorized users. Improve security measures to protect the region from natural and human threats.	The Strategic Safety Planning Process technical document incorporated into the MTP contains the results of the analysis completed for intersections, corridors, senior safety, pedestrian/bicycle safety, and car/deer crashes. It outlines projects and programs that would improve the safety of the transportation system. GVMC improves system security by coordinating planning activities with local law enforcement/security agencies.
Goal 4: Land Use and Transportation Strengthen the link between transportation and land use policies to encourage people and businesses to live and work in a manner that reduces dependence on single occupancy vehicles.	Projects contained in the MTP will have impacts on land use adjacent to them. Local jurisdictions were consulted during the development of SE data used in the Transportation Model that projected capacity deficiencies which were later selected as projects for the MTP. Therefore, local land use plans better informed the data used to develop transportation projects.
Goal 5: Public Participation, Intergovernmental Cooperation, Equity, and Fiscal Responsibility Provide information to the public to allow active participation in the transportation decision-making process. Equitably fund transportation based on need and benefit. Coordinate and design transportation improvements for all modes to assure the expenditure of resources in the most cost-effective	The MTP was developed in cooperation with all the GVMC local jurisdictions, local road agencies, ITP/The Rapid, the Michigan Department of Transportation, private sector partners, and the general public. The MTP followed the adopted Public Participation Plan to actively engage the general public in the decision-making process and worked through a series of modal subcommittees in addition to the regular transportation committees to identify transportation needs for the effective expenditure of resources. The MTP was developed in consultation with other environmental and interested agencies to ensure consistency between planning

manner. Implement transportation improvements that foster economic development and vitality, and link centers of employment, education, medical facilities, and neighborhoods.	documents. The MTP also contains several projects that are adjacent to commercial areas and/or will facilitate traffic circulation and access to major employment centers.
Goal 6: Environmental Quality, Livability, and Sustainability Improve air quality, water quality, reduce vehicular emissions and minimize impacts to the natural environment, social well-being, and cultural heritage. Reduce the demand for single-occupant motor vehicle travel, and conserve energy.	Historically the projects in the MTP were subjected to an Air Quality Conformity Analysis to assure that the emissions generated from MTP projects are within the emission budgets which mandate lower emissions for VOC and NOx as established by the U.S. EPA, MDNRE, and contained in the State Implementation Plan. The MTP also contains an Environmental Mitigation analysis to suggest system level mitigation techniques for transportation projects.

Demonstration of Fiscal Constraint

Projects programmed in the TIP/MTP are known as commitments. As mentioned previously, commitments cannot exceed funds reasonably expected to be available. Projects must also be programmed in year of expenditure dollars, meaning that they must be adjusted for inflation to reflect the estimated purchasing power of a dollar in the year the project is expected to be built. The MTPA/Financial Work Group has decided on an annual inflation rate of 4% for projects over the MTP period. This means that a project costing $100,000 in FY 2014 is expected to cost $104,000 in FY 2015, $108,160 in FY 2016, and $112,486 in FY 2017 and so on. Since the amount of federal funds available is only expected to increase by 2% from 2014 through 2017 and then no growth for 2018 & 2019 then a 2.39% per year thereafter, and state funds by only 0.4% per year over the four-year TIP period and 2.16% thereafter, this means that less work can be done each year with available funding.

Figure 32 is known as a fiscal constraint demonstration. The demonstration is provided to the Michigan Department of Transportation, the Federal Highway Administration, and the Federal Transit Administration in order to show that the cost of planned projects does not exceed the amount of funding reasonably expected to be available over the 26 year MTP period. This is a summary. To see a detailed list of projects, please refer to Chapter 18.

Figure 32 - Summary Fiscal Constraint Demonstration for the FY 2014 through FY 2040 MTP Period

Table Number/Fund Source	Funding Amount Available	Amount Programmed	Net Balance
Table 1 – Federal Revenue	$553,790,000	$553,790,000	$0.00
Table 2 – MTF	$2,160,200,000	$2,160,200,000	$0.00
Table 3 – TEDF Category C & D	$26,680,000	$26,680,000	$0.00
Table 4 – Preservation Revenue	$1,416,380,000	$1,416,380,000	$0.00
Table 5 – O & M Funding	$656,100,000	$656,100,000	$0.00
Total	$ 4,813,150,000.00	$ 4,813,150,000.00**	$ 0.00

*Net Balance = Available funding less cost of programmed projects. A positive net balance means that available funding exceeds programmed project cost, a negative balance means that programmed project costs exceed available funding, and a zero net balance indicates that programmed project costs equal available funding.

Table 11 shows the summary financial constraint demonstration for transit. The demonstration is provided to the Michigan Department of Transportation, Federal Highway Administration, and Federal Transit Administration in order to show that the cost of planned projects does not exceed the amount of funding reasonably expected to be available over the FY 2014 - 2040 MTP period.

Table 11 - Transit Financial Constraint Demonstration

Table Number/Fund Source	Funding Amount Available	Table 10 - Capital & Operations	Net Balance
Table 7 – FTA Revenue	$410,300,000	$410,300,000	$0.00
Table 8 – State Revenue	$433,200,000	$433,200,000	$0.00
Table 9 – Local Revenue	$1,697,200.000	$1,697,200.000	$0.00
Total	$2,540,700,000	$2,540,700,000	$0.00

Environmental Justice Analysis

GVMC serves as the primary forum where MDOT, ITP/The Rapid, local jurisdictions, and the general public develop our area's transportation plans and programs. In this capacity, GVMC recognizes the diversity of Kent and Eastern Ottawa County citizens and communities and their transportation needs and works diligently to ensure that all people have access to the transportation planning process, especially those that have traditionally been under-represented. GVMC adheres to publicly approved guidelines of the Public Participation Plan through which all citizens, regardless of race, color, gender, age, physical ability, or national origin are guaranteed full opportunity to participate in programs, plans and processes, including the development of the 2040 MTP.

What is Environmental Justice (EJ)?

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 (U.S. DOT), 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:

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.
To ensure the full and fair participation by all potentially affected communities. 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. DOT issued an Order that summarized and expanded on environmental justice requirements. The U.S. DOT Order applies to all transportation planning policy decisions and activities undertaken, funded, or approved by the Federal Highway Administration (FHWA), Federal Transit Administration (FTA), and Metropolitan Planning Organizations (MPO) among other U.S. DOT components. Also, the U.S. DOT Order specifically identifies five population groups in its emphasis on environmental justice requirements.

Environmental Justice and Transportation Planning

GVMC conducted an environmental justice analysis for the proposed projects in the 2040 MTP. The analysis undertaken by GVMC supports principles and requirements of Title VI of the Civil Rights Act of 1964, the

Executive Order 12898 (E.O.), and the 1997 U.S. Department of Transportation's Order to address environmental justice. In order to address the three environmental justice principles, the following summary approach was taken by staff according to guidelines developed by the U.S. DOT, FHWA, and FTA:

Step 1: Delineation and mapping of Minority Areas
Step 2: Delineation and mapping of Low Income Areas
Step 3: Analysis of Impacts on Minority Areas
Step 4: Analysis of Impacts on Low Income Areas

GVMC Environmental Justice Analysis Methodology

Census (2010) data and American Community Survey (ACS) 5-Year estimates (2007-2011) were analyzed utilizing Geographic Information Systems software to determine the makeup and concentration of minority groups at the Census Block Group level for race and at the Census Tract level for low-income. Environmental Justice Areas were designated based on the population of the targeted population group as it compares to the overall population of the entire metropolitan area. In the case of race minorities, if any census block group exceeded the average population percentage for that minority group throughout the region as a whole, that block was flagged. For low-income identification, the same methodology was used as for the population groups, but census tracts geographies from the ACS data were used to determine the above average percentage areas. The indicator used for income from ACS estimates was poverty status. In the ACS estimates, the population for whom poverty status is determined is broken up into four age groups. The age group that most applies for our EJ income analysis, is that of those aged from 18 to 64 years since that is most generally, the working class. The tabular data within the data sets are presented as percentages of individuals per census tract that are at, or below, the poverty level. From this, averages at or above were flagged as EJ Areas for low-income. Together these defined areas were aggregated together to create a comprehensive geographic coverage constituting the "Environmental Justice" areas within the MPO.

Analysis of Impacts

With the minority and low-income areas delineated (EJ areas), an analysis of impacts could be completed. The analysis of potential impacts centers on three criteria:

1) Disproportionately high and adverse human health and environmental impacts to minority areas
2) Minimizing/blocking access of minority areas to the transportation system
3) Neglect of the transportation system in minority areas

Using the delineated Environmental Justice Areas, GVMC was able to geographically overlay the 2040 MTP projects on the EJ areas to determine what projects could have potential impacts based on our three defined criteria. The project was considered and flagged if it geographically intersected the EJ Areas.

Identified Population Groups	Total MPO Population	Kent County Threshold %	Ottawa County Threshold %
Black/African American	59,593	9.73%	1.47%
Hispanic	61,409	9.70%	8.63%
Asian	15,191	2.33%	2.55%
American Indian & Alaskan Native	3,356	0.51%	0.43%
Native Hawaiian or Other Pacific Islander	264	0.00%	0.00%
Low Income	90,705	14.30%	8.70%

Figure 33 – Environmental Justice Threshold Percentages

The Map on Page 152 depicts all of the Environmental Justice areas as a whole. Staff believes that once an area is determined to be an EJ area, there is no purpose in singling out or showing individual EJ areas for EJ Analysis. All EJ areas are treated equally and depicted as such.

Step 1 – Delineation and mapping of Minority Areas

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, GVMC used the following categories for race:

- Black/African American
- Hispanic
- Asian
- American Indian and Alaskan Native
- Native Hawaiian or Other Pacific Islander

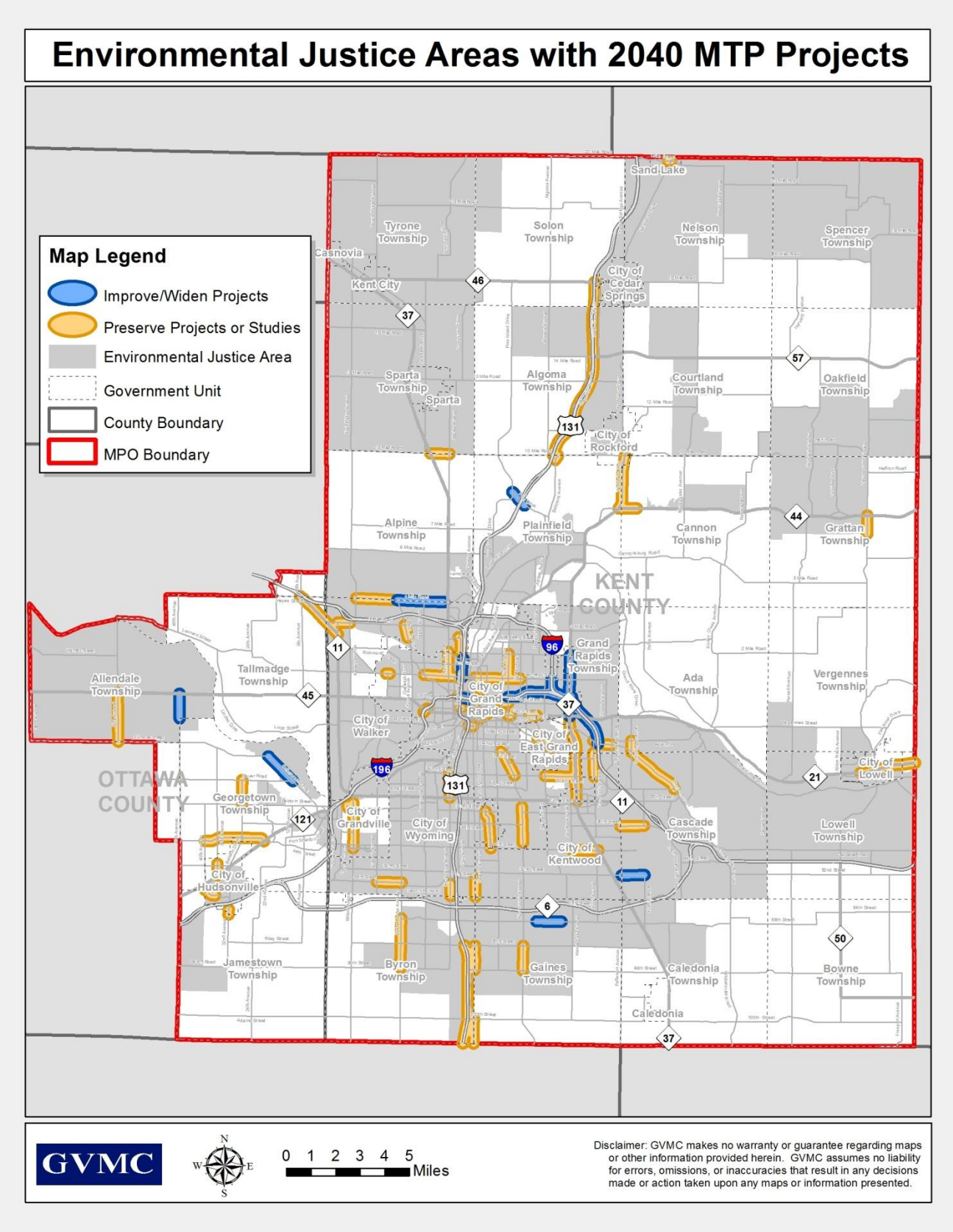
In order to determine the effects of any Federal-aid transportation project, it was necessary to identify areas within the MPO in which the levels of identified population groups meet or surpass the average levels for the area.

Using the latest U.S. Census data available (2010) and utilizing Geographic Information Systems software, GVMC determined "Threshold Percentages" for each of the minority population groups based on the average level of each minority group in the region (see Figure 33). Threshold percentages were derived from summary data on file from the U.S. Census for both Kent and Ottawa Counties. Maps of those areas where identified minority populations are concentrated were developed based on Census Block Group level data. These areas of concentration in which the percentage of identified persons exceeds the Threshold Percentages of each unique minority group were determined to be EJ Areas.

Step 2 – Delineation and mapping of Low Income Areas

The Federal Office of Management and Budget's (OMB) 1997 Policy Directive 15 defines low-income as "a person whose household income… is at or below the U.S. Department of Health Services poverty guidelines." In order to determine the effects of any Federal-aid transportation project, it was necessary to identify areas within the MPO in which the levels of identified population groups meet or surpass the average levels for the area.

Using the latest U.S. Census data available and utilizing Geographic Information Systems software, GVMC determined the percentage of those individuals at or below poverty level. The total individuals in each block group were divided by the total population of each block group to get a percentage at or below poverty for each block group. Using figures derived from the U.S. Census summary files, a "Threshold Percentage" was identified for the low income population group based on the average poverty level for the region (see Figure 33). The Threshold percentage was derived from summary data on file from the U.S. Census for both Kent and Ottawa Counties. A map of those areas where income is at or below poverty was developed based on Census Block Group level data. The areas in which the percentage of identified persons exceeds the low income Threshold Percentage were determined to be EJ Areas.



Map 18 – Environmental Justice Map

Step 3 – Analysis of Impacts on Minority Areas

Once the areas in which the percentage of identified persons exceeds the Threshold Percentages for each minority group were identified, the projects contained in the MTP were analyzed in relation to each minority group. Analysis of potential project impacts on the minority groups is focused on three criteria:

Disproportionately high and adverse human health and environmental impacts to minority areas
There are 104 projects listed in the MTP document that had spatial reference characteristics and were used for EJ analysis. Of the 104 projects, 92 projects, or 87% of MTP projects, are in Environmental Justice areas. These projects included all project categories; however the majority of the projects fall into three categories: roadway resurfacing, roadway reconstruction, and roadway improve/expand widening projects. Some of the improve/expand widening projects are in residential areas within EJ boundaries. These projects are anticipated to have minimal (if any) impacts in terms of noise, right-of-way takings, or pollution. Therefore it was determined that there are no disproportionately high or adverse human health impacts.

Minimizing/blocking access of minority areas to the transportation system
Minimizing access can be characterized as the permanent closing of streets or interchanges in order to accomplish the projects contained in the MTP. While temporary closures will be necessary as part of the construction process for many projects, no permanent closures are intended as a result of implementing the proposed projects. Therefore, it has been determined that there is minimal blockage of access to the transportation system or loss of mobility as a result of implementing the MTP projects.

Neglect of the transportation system in minority areas or otherwise reduce or delay the receipt of benefits to those areas
The GVMC MPO area is approximately 1,015.68 square miles. The Environmental Justice areas mapped are approximately 495.91 square miles, or 49 % of the entire GVMC MPO area. The environmental Justice analysis found that 87 % of the MTP projects (92 out of the total 104 projects) are located within the Environmental Justice Areas and 13% of the projects fall outside Environmental Justice Areas. Of the 92 projects that were located within the Environmental Justice Areas, 24% were road resurfacing, 45% were road reconstruction projects, 26% were improve/expand widening projects, and the rest were miscellaneous capacity, non-motorized, intersection, bridge, and yet to be determined projects (from the illustrative list) that varied in scope of work.

Access to public transit by residents in Environmental Justice areas was also analyzed. The public transit (ITP-The Rapids) Service area, which primarily comprises the Cities of Grand Rapids, Walker, Kentwood, Wyoming, Grandville and East Grand Rapids, covers 28% of the MPO EJ Areas. If we were to include together the fixed route area, the Go Bus Demand Response areas, and the Paratransit Service agreements, this coverage would total 45% within the MPO EJ Areas. None of the projects contained in the MTP Restrict access to residents to public transit services (fixed route or demand response). Thus, it has been determined that there is no neglect, reduction, or delay in the receipt of transportation benefits by those residing in EJ areas.

Using the delineated Environmental Justice Areas for each minority group, GVMC was able to geographically overlay the 2040 MTP projects to identify those projects in EJ Areas by minority group. A project was considered to be within an EJ Area if 50 percent or more of the project length or service area was within the EJ boundaries and if a project was on the boundary of the EJ area. These projects were then assessed using the three criteria above.

Minimizing/blocking access of minority areas to the transportation system

Minimizing access can be characterized as the permanent closing of streets or interchanges in order to accomplish the projects contained in the MTP. While temporary closures will be necessary as part of the construction process for many projects, no permanent closures are intended as a result of implementing the proposed projects. Therefore, it has been determined that there is no blockage of access to the transportation system or loss of mobility as a result of implementing the MTP projects.

Projects which are an expansion of the transportation system (widening) may have potential adverse impacts to the community through the displacement or relocation of individuals, economic hardship and/or a lack of sense of community. On average the percentage of widening projects located in EJ areas is highly comparable to the percentage of widening projects throughout the MPO area. The same conclusion may be made for preservation projects which are anticipated to have minor impacts on the community and will not result in the displacement of residents. In addition, both widening and preservation projects will improve travel time and access for the residents and provide a measure of congestion relief.

Neglect of the transportation system in minority areas or otherwise reduce or delay the receipt of benefits to those areas

The GVMC MPO area is approximately 1,015.17 square miles. The Environmental Justice areas for the five minority groups and low income, taken together, account for approximately 571.11 square miles, or 57 percent of the entire GVMC MPO area.

Furthermore, for purposes of this analysis, staff makes the assumption that the improvement of the condition of the transportation system through preservation projects, transit projects, non-motorized projects, safety projects (etc), is improving the overall well-being of the community.

Access to public transit by residents in Environmental Justice areas was also analyzed. Using 2010 Census information, it was concluded that transit or paratransit service is geographically accessible to approximately 484,300 people in the MPO (such as the contractual agreements that the Rapid maintains with five townships). The public transit (ITP-The Rapid) service area, which comprises the Cities of Grand Rapids, Walker, Kentwood, Wyoming, Grandville and East Grand Rapids as well as contractual agreements for routes to Allendale GVSU campus, and paratransit service agreements in Ada, Alpine, Byron, Cascade, and Gaines townships, covers approximately 32 percent of the MPO. About 31 percent of the MPO EJ areas are within the Rapid service areas. None of the projects contained in the MTP restrict access of residents to public transit services (fixed route or demand response). Thus, it has been determined that there is no neglect, reduction, or delay in the receipt of transportation benefits by those residing in minority EJ areas.

Step 4 – Analysis of Impacts on Low Income Areas

Once the areas in which the percentage of identified persons exceeds the Threshold Percentages for people at or below poverty was identified, the projects contained in the LRTP were analyzed in relation to those low-income areas. Analysis of potential project impacts on the minority groups is focused on three criteria:

Disproportionately high and adverse human health and environmental impacts to low income areas
Minimizing/blocking access of low income areas to the transportation system
Neglect of the transportation system in low income areas or a reduction or delay in the receipt of benefits to those areas

Using the delineated Environmental Justice Areas identified as at or below poverty, GVMC was able to geographically overlay the 2040 MTP projects to identify those projects in low income EJ Areas. A project was considered to be within a low income EJ Area if 50 percent or more of the project length or service area was within the Low Income EJ boundaries and/or if a project was on the boundary of the low income EJ area. These projects were then assessed using the three criteria above.

Disproportionately high and adverse human health and environmental impacts to low income areas

Of the 131 widening and preservation projects contained in the MTP Project List, 66 or 50 percent are in low income EJ areas. Approximately 46 percent of the projects in low income EJ areas are widening and 54 percent are preservation type projects. These percentages are consisted across all the EJ groups analyzed, as well as the MPO at large. The widening projects are anticipated to have minimal impact in terms of noise, right-of-way takings, or pollution. Some widening projects are in predominately commercial areas. Impacts related to the I-96 project are documented in the Environmental Assessment developed for the project. Environmental impacts on all projects will be mitigated according to federal and state laws. Therefore, it has been determined that there are no disproportionately high and adverse human health effects.

Minimizing/blocking access of low income areas to the transportation system

Minimizing access can be characterized as the permanent closing of streets or interchanges in order to accomplish the projects contained in the LRTP. While temporary closures will be necessary as part of the construction process for many projects, no permanent closures are intended as a result of implementing the proposed projects. Therefore, it has been determined that there is no blockage of access to the transportation system or loss of mobility as a result of implementing the LRTP projects.

Neglect of the transportation system in low income areas or otherwise reduce or delay the receipt of benefits to those areas

The GVMC MPO area is approximately 1,015.17 square miles. The low income Environmental Justice areas mapped are approximately 237.37 square miles, or 23 percent of the entire GVMC MPO area. The low income Environmental Justice analysis found that 50 percent of the MTP projects (66 of 131 total projects) are located within low income Environmental Justice Areas and 48 percent of the projects fall outside the low income Environmental Justice Areas (62 projects).

Furthermore, for purposes of this analysis, staff makes the assumption that the improvement of the condition of the transportation system through preservation projects, transit projects, non-motorized projects, safety projects (etc), is improving the overall well-being of the community.

Access to public transit by residents in Environmental Justice areas was also analyzed. Using 2000 Census information, it was concluded that transit or paratranist service is geographically accessible to approximately 452,500 people in the MPO (such as the contractual agreements that the Rapid maintains with five townships). The public transit (ITP-The Rapid) service area, which comprises the cities of Grand Rapids, Walker, Kentwood, Wyoming, Grandville and East Grand Rapids as well as contractual agreements for routes to Allendale GVSU campus, and paratransit service agreements in Ada, Alpine, Byron, Cascade, and Gaines townships, covers approximately 32 percent of the MPO. About 31 percent of the MPO EJ areas are within the Rapid service areas. None of the projects contained in the LRTP restrict access of residents to public transit services (fixed route or demand response). Thus, it has been determined that there is no neglect, reduction, or delay in the receipt of transportation benefits by those residing in low income EJ areas.

Accessibility Analysis

As part of the Environmental Justice Analysis, staff examined the level of accessibility to transportation within the MPO area as a result of the projects in the MTP. It has been concluded that accessibility would not be reduced by the 2040 MTP projects. While temporary closures are necessary as part of the construction process for many projects, no permanent closures are intended as a result of implementing the proposed projects. There is no blockage of access to the transportation system or loss of mobility as a result of implementing the LRTP projects beyond what is typical during construction. In addition, both the widening and preservation projects will improve travel time and access for the residents and provide a measure of congestion relief.

Environmental Justice Notification

In addition to the regular Public Participation process, GVMC also distributed an Environmental Justice based mailing. Since most of the MTP projects were included in the 2014-2017 TIP programming document the majority of mailings had already been submitted to local residents informing them of a possible future project. There were 16 additional projects however identified in Environmental Justice areas where mailing notifications were still required. Staff was able to perform analysis to extract parcel address information for the parcels that physically intersected the Environmental Justice areas adjacent to these 16 projects. Geographic Information software was used to do this in coordination with land parcel data sets provided from Kent and Ottawa counties. A letter was mailed to these flagged parcels explaining that there was a proposed improvement and of the December 17th public meeting. It also provided information about how and where to access more information. In summary, 570 Environmental Justice letters were mailed Friday December 5th, 2014 for the purpose of informing those that might be considered underserved communities.

Conclusion

The analyses of impacts on residents in Environmental Justice areas, as a result of implementing the projects contained in this MTP resulted in the following findings:

- No disproportionately high and adverse human health impacts
- No blockage/minimization of access to the transportation system or loss of mobility
- No neglect, reduction, or delay in the receipt of transportation benefits or restriction of public access to public transit services

Within the 2040 MTP, nearly 70% of the projects within Environmental Justice areas were road resurfacing/reconstruction, and the MPO is investing the majority (87%) of our federal transportation dollars in projects in areas with higher than average numbers of minorities or people of low income status. This means that the benefits of increased federal investment in the road infrastructure are directed towards residents that are typically underserved, people of minority status, and those with low income levels. GVMC strives to reach out especially to those citizens in EJ areas adjacent to MTP projects through direct mailings to assure a high level of engagement for minority and low-income groups.

These findings demonstrate that implementing the projects contained in this MTP do not result in violations of Executive Order 12898 and the principles of environmental justice.

Environmentally Sensitive Resource Mitigation Analysis

Transportation infrastructure and its users, by their very nature, impact the physical landscape, including the natural environment. With this in mind it is important to take this impact into consideration when planning, designing, constructing, and maintaining a transportation system. The goal being to balance transportation needs with environmental projection, and constructing and maintaining a system that minimizes negative impacts where impacts cannot be avoided.

Federal transportation legislation dictates a series of requirements for transportation plans. The current federal legislation, MAP-21, lists a requirement for the "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."

The GVMC has developed a three-step process for addressing the technical aspects of the federal legislation:

- Defining and creating an inventory of environmentally sensitive resources
- Identifying and assessing likely impacts on these areas from transportation projects
- Addressing possible mitigation at the system-wide level

Essentially, the purpose of this process is to identify possible impacts on environmentally sensitive resources, list useful guidelines for mitigating these impacts, and provide all of this information to implementation agencies and officials for use in transportation decision-making. This analysis was performed at a regional level only and is not intended to provide detailed design alternatives or impacts at the project level. However, it is anticipated that the data collected will be useful in those project-level activities.

Environmentally Sensitive Resources

Seven environmentally sensitive resources were defined by the GVMC for the purpose of this study. It is important to note that not all resources have been included in this analysis. Only those resources that had data readily available in digital format for Geographic Information System mapping, and those resources where the data were reasonably up-to-date were included. Environmentally sensitive resources not included in this analysis may deserve attention at the project level; however, for the purposes of this system-wide report, fewer environmentally sensitive resources were analyzed. The resources analyzed included:

- Water features – lakes, ponds, rivers and streams
- Wetlands
- Flood zones
- Woodlands
- Parks and recreation areas
- Cemeteries
- Historic sites

Methodology

Once the environmentally sensitive resources were defined and identified, the GVMC analyzed the likelihood of possible impacts from planned 2040 Projects. The 2040 projects were mapped and buffered to display an area around each project that could possibly be affected. The size of the buffer used varied by project type and environmental resource, specifically:

Water features – lakes, ponds, rivers and streams: 1/4 mile buffer (1,320 feet)
Wetlands: 1/4 mile buffer (1,320 feet)
Flood zones: 1/4 mile buffer (1,320 feet)
Woodlands: 1/4 mile buffer (1,320 feet)
Parks and recreation areas: 250 feet
Cemeteries: 250 feet
Historic sites: 250 feet

The next step taken was the intersection of the project buffers with each environmentally sensitive resource. Where a project buffer and environmentally sensitive resource were found to intersect, an impact was considered possible; however, it is important to understand that no additional analysis of possible impacts was performed for the purposes of this report. It is possible that although an environmentally sensitive resource intersects with a buffer, no impact could be present; it is also possible that environmentally sensitive resources beyond the mapped buffer could be impacted by a project. This assessment simply draws attention to possible areas of concern that should be further examined at the project level.

Maps for each of the seven environmentally sensitive resources were produced to display at a system-wide level those projects with potential impact. All seven maps may be found in Appendix G1-G7.

Guidelines for Mitigating 2040 Project Impacts

In general, the purpose of this report is to draw attention to those projects that could potentially impact environmentally sensitive resources, as well as to provide guidelines for consideration with respect to transportation projects. Overall guidelines are provided for consideration for all types of projects regardless of the resource impacted. These guidelines are introduced for reference purposes only. The GVMC has no authority to require implementation of the guidelines listed. However, they represent best management practices and should only serve to enhance the quality of the transportation planning process. The implementation of these guidelines may also assist in a jurisdiction's compliance with other regulatory mandates and for this reason should be implemented where appropriate.

Overall Guidelines

Regardless of the type of project or resource that may be impacted, these guidelines deserve consideration during the planning, design, construction, and maintenance of transportation projects. Implementation of

these guidelines will help to ensure good planning practice that is in accord with overall environmental protection objectives.

Planning and Design Guidelines

- Utilize Context Sensitive Solution (CSS) principles as early as possible in project development and throughout the planning process. CSS is a process that considers the entire context within which a transportation project takes place, including financial limitations and safety issues. This method involves all stakeholders in a collaborative and interdisciplinary approach to developing transportation projects.
- Identify the area of potential impact related to each transportation project, including the immediate project area as well as other related project development areas.
- Perform an inventory to determine if any environmentally sensitive resources could be impacted by the project per the National Environmental Policy Act (NEPA) of 1969.
- Investigate as to whether a County Hazard Mitigation Plan exists, and if the plan speaks to the impacted resources in question. (A County Hazard Mitigation Plan is a required for a county to be eligible to receive federal Hazard Mitigation Grant funds in order to protect communities from a variety of hazards, including those to the natural environment.
- Coordinate design and construction with local plans, such as watershed management plans, community recreation plans, preservation plans, cemetery preservation plans, local community master plans and non-motorized plans.
- Organize and conduct a meeting with local community officials, contractors/subcontractors, and relevant stakeholders prior to construction to discuss environmental protection issues, form goals, and communicate any special requirements for the project.
- Avoid impacts, as possible, to environmental resources by limiting project magnitude or redesigning the project.
- Where impacts are unavoidable, mitigate them to the extent possible as required through local, state, and federal regulations and laws.
- Incorporate storm water management into the site design.
- Reduce the use of culverts where possible.

Construction and Maintenance Guidelines

- Include all special requirements that address environmentally sensitive resources into plans and estimates used by contractors and subcontractors. Bring attention to the types of activities prohibited in environmentally sensitive areas.
- Minimize construction and staging areas and clearly mark boundaries.
    - Install flagging or fencing around sensitive areas to prevent intrusion
- Utilize the least intrusive construction techniques and materials.
- Whenever possible keep construction activities away from wildlife crossings and corridors.
- Order and organize construction activities to reduce land disturbances.
- Conscientious consideration of the unearthing of archeological remains when using heavy equipment.
- Avoid equipment maintenance, fueling, and leaks, as well as the spraying down of equipment near sensitive areas.
- Incorporate Integrated Pest Management techniques if pesticides are used during maintenance.
- Conduct on-site monitoring during and immediately after construction to ensure environmental resources are protected as planned.
- Avoid disturbing the site as much as possible including:
    - Protecting established vegetation and habitat
        - If vegetation is damaged or removed during construction, replace with native species as soon as possible.
        - Protect the tree and drip zone during construction (where the majority of the tree's root system is located.)
    - Implementing sediment and erosion control techniques
        - Minimize extent and duration of exposed bare ground.
        - Establish vegetation immediately after grading is complete.
        - Prevent tracking of sediment onto paved surfaces.
        - Do not stockpile materials in sensitive areas.

- Protecting water quality
  - Prevent direct runoff of water containing sediments.
  - Sweep streets to reduce sediment entering the storm drainage system.
  - Block/control storm drains to prevent construction debris from polluting waterways.
  - Implement salt management techniques.
- Protecting cultural/historic resources
  - Prevent the disturbance of soil/material near cultural resources.
- Minimizing noise and vibrations

- Providing for solid waste disposal
  - Properly handle, store, and dispose of hazardous materials and use the least hazardous materials when possible.
  - Implement spill control and clean up and dry clean up methods as appropriate, never letting a spill enter the storm drainage system or waterways.

Environmental Mitigation Consultation

With the resources that could potentially be impacted identified and mapped, the next step was notification of those organizations considered to be concerned with the potential environmental impacts of MTP projects. Using the Interested Citizens/Agencies List as a starting point, staff refined this list to those organizations and agencies targeted for environmental mitigation outreach (ex. natural resource agencies, environmental protection agencies, and conservation agencies).

The Environmental Mitigation Organizations were sent the following materials:

- a letter explaining the environmental mitigation process, the MTP planning process, and information about the role of the Grand Valley Metropolitan Council
- a listing of the DRAFT 2040 MTP Project list
- a listing of the DRAFT 2040 MTP Projects with possible impacts along with which resource they could impact
- directions on how to provide input on the planning process, how to submit comments on the MTP Project List, and how to contact GVMC staff

Environmental Mitigation mailing materials and comments, may be found in Appendix A and Appendix H.

Conclusion

As stated previously, the purpose of this process is to identify possible impacts on environmentally sensitive resources, list useful guidelines for mitigating these impacts, and provide all of this information to implementation agencies and officials for use in transportation decision-making. The comments received from the implementation agencies and officials have been included in and forwarded to the implementing agencies. The Grand Valley Metropolitan Council will continue to use the environmental mitigation methodology to communicate with the appropriate local, state, and federal agencies to minimize the impact that transportation improvements have on the environment.

Appendix A: Public Participation Process

Public Outreach Strategy and Tools Used
Per GVMC's Public Participation Plan (PPP), we reached out to the public at four different milestone points during the development of the MTP, which included:

1. The kickoff to the MTP's development
2. Pre-Programming collaboration
3. Draft MTP, environmental justice, and air quality results (if applicable) completed and available for public comment
4. Adoption of draft document

Kickoff to MTP Development

We invited the public to attend one of two open houses scheduled on Monday, February 24, 2014 at either 9:00 am or 5:30 pm to discuss the development process for the Metropolitan Transportation Plan (MTP) and to hear the public's input about future transportation needs and priorities in the MPO region. We advertised the open houses in the following ways:

- Sending an informational postcard to the Interested Citizen/Agency List on February 13, 2014
- Placing ads in three local newspapers: El Vocero Hispano and The Grand Rapids Times on February 14, and The Advance (all 7 editions) on February 15, 2014
- Posting a notice on GVMC's website
- Submitting a press release to GVMC's media contact list on February 13, 2014

At this point, we also developed and circulated an online survey to gain feedback from the public about transportation needs and priorities. Approximately 335 surveys were completed, and just under half of the respondents asked to be added to GVMC's Interested Citizen/Agency List.

Four members of the public attended the morning open house, while three individuals attended the evening meeting. During the open house, GVMC showed a PowerPoint on the development of the MTP.

Pre-Programming Collaboration

Once modal needs were developed, GVMC Staff invited the public to review and comment on identified modal needs. GVMC advertised this opportunity in the following ways:

- Posting a notice on GVMC's website
- Sending an informational postcard to the Interested Citizen/Agency List on September 3, 2014
- Submitting a press release to GVMC's media contact list on August 29, 2014.

Written comments were accepted through September 29th.

Draft MTP, environmental justice, and air quality results (if applicable) completed and available for comment

Once the draft MTP document, environmental justice, were complete, we brought the document to the public for comment. A public meeting was also held on December 17th, 2014 to discuss these items. We notified the public of the meeting and the comment period in the following ways:

- Posting a notice on the website
- Sending a postcard to the Interested Citizen/Agency List and the Environmental Justice list on December 5, 2014
- Placing ads in three local papers: El Vocero and The Grand Rapids Times on December 5, 2014 and The Advance on December 7, 2014
- Submitting a press release to GVMC's media contact list on December 8, 2014
- Posted on the GVMC Facebook page.

We ensured that the draft was accessible to the public by placing a copy on gvmc.org and by distributing a hard copy of the plan to every library and jurisdiction within the MPO area. We asked the public to provide comments on the document by December 23rd. Five members of the public attended the December 17 public meeting, including a staff member of a local TV station, WZZM13, who interviewed GVMC's Director of Transportation Planning, Abed Itani. The segment was featured on the news that evening.

Adoption of Draft Document

Typically the final document is presented to the Technical and Policy Committees and GVMC board for approval. Public comment opportunities are available at all three committee meetings. The public is notified that the MTP was being approved by an announcement on the GVMC website and the GVMC Facebook page.

Members of the Public Reached
The Advance newspaper circulation: 204,743 homes
El Vocero circulation: ranges from 10,000 – 15,000
The Grand Rapids Times circulation: 6,500

Current Members of the Interested Citizen/Agency List: 738

Number of libraries within the MPO area: 33

Number of jurisdictions (cities, agencies, townships, etc.) within the MPO area: 46

1. Interested Citizens and Organizations List

Organization	City	St.
4-C Regional Child Care	Grand Rapids	MI
A Better Grand Rapids Limousine Svc.	Grand Rapids	MI
A Prestige Service	Grand Rapids	MI
AAA of Michigan	Grand Rapids	MI
AARP Foundation	Grand Rapids	MI
ACCESS	Grand Rapids	MI
ACSET Council	Grand Rapids	MI
ACSET-Latin American Services	Grand Rapids	MI
ACSET-Latin American Services Progam	Grand Rapids	MI
ACSET-West Side Complex	Grand Rapids	MI
Advance Newspapers	Jenison	MI
Aero Med-Air Medical Transport	Grand Rapids	MI
Air Ambulance by Life EMS	Grand Rapids	MI
Alger Heights Neighborhood Assn.	Grand Rapids	MI
Algoma Township	Rockford	MI
Allendale Lifelong Learners	Allendale	MI
Allendale Township DDA	Allendale	MI
AMB-U-CAB by G.R. Veterans	Grand Rapids	MI
Ambucab Neighbors International Transport	Grand Rapids	MI
Ambulance Service By American	Grand Rapids	MI
American Cancer Society	Grand Rapids	MI
American Civil Liberties Union	Grand Rapids	MI
American Red Cross	Grand Rapids	MI
American Red Cross	Muskegon	MI
American Red Cross of Greater Grand Rapids	Grand Rapids	MI
Amtrak	Chicago	IL
Amtrak	Chicago	IL
Amway Corporation	Ada	MI
Amway Hotel	Grand Rapids	MI
Annis Water Resources Institute	Muskegon	MI
Aquinas College	Grand Rapids	MI
Area Agency on Aging	Grand Rapids	MI
Area Agency on Aging of Western Michigan	Grand Rapids	MI
Area Agency on Aging of Western Michigan	Grand Rapids	MI
Area Community Service Employment and Training Council	Grand Rapids	MI
Arts Council of Greater Grand Rapids	Grand Rapids	MI
Association for the Blind & Visually Impaired	Grand Rapids	MI
Association for the Blind & Visually Impaired	Grand Rapids	MI
Association for the Blind & Visually Impaired	Grand Rapids	MI
Baxter Community Center	Grand Rapids	MI
Baxter Neighborhood Association	Grand Rapids	MI
Bethany Christian Services	Grand Rapids	MI
Big Brothers Big Sisters	Grand Rapids	MI
Black Hills Citizens for a Better Community	Grand Rapids	MI
Black Hills Citizens Group	Grand Rapids	MI
Blandford Nature Center	Grand Rapids	MI
Bowne Township	Alto	MI
Brann's Sizzlin Steaks and Sports Grille	Wyoming	MI
Byron Township DDA	Byron Center	MI

Organization	City	St.
Byron Twp. Senior Program	Byron Center	MI
Calder City Taxi	Grand Rapids	MI
Caledonia Charter Township	Caledonia	MI
Calvary Church	Grand Rapids	MI
Calvin College	Grand Rapids	MI
Cannon Township	Rockford	MI
Cascade Charter Township	Grand Rapids	MI
Cascade Charter Township DDA	Grand Rapids	MI
Catholic Social Services	Grand Rapids	MI
Cedar Rock Community Action Agency	Rockford	MI
Cedar Springs DDA	Cedar Springs	MI
Cherry Hill Historic District	Grand Rapids	MI
City of Cedar Springs	Cedar Springs	MI
City of East Grand Rapids	East Grand Rapids	MI
City of Grand Rapids	Grand Rapids	MI
City of Grand Rapids	Grand Rapids	MI
City of Grand Rapids	Grand Rapids	MI
City of Grand Rapids DDA	Grand Rapids	MI
City of Grand Rapids Economic Development	Grand Rapids	MI
City of Grandville	Grandville	MI
City of Grandville DDA	Grandville	MI
City of Hudsonville DDA	Hudsonville	MI
City of Kentwood	Kentwood	MI
City of Lowell	Lowell	MI
City of Rockford	Rockford	MI
City of Rockford DDA	Rockford	MI
City of Walker	Walker	MI
City of Wyoming DDA	Wyoming	MI
Columbian Distribution	Grand Rapids	MI
Columbian Logistics	Grand Rapids	MI
Commission for the Blind	Grand Rapids	MI
Comstock Park DDA	Comstock Park	MI
Concerned Citizens for Improved Transportation	Wyoming	MI
Conrail	Grand Rapids	MI
Con-Way Central Express Inc.	Grand Rapids	MI
Coopersville and Marne Railway	Coopersville	MI
Cornerstone & Baptist Seminary	Grand Rapids	MI
Corporate Angel Network	White Plains	NY
Courtland Township	Rockford	MI
Creston Neighborhood Association	Grand Rapids	MI
Crystal Flash	Grand Rapids	MI
CSX Railroad	Jacksonville	FL
CSX Transportation	Grand Rapids	MI
Cutlerville-Gaines Chamber of Commerce	Grand Rapids	MI
Davenport University	Grand Rapids	MI
Disability Advocates	Grand Rapids	MI
Disability Advocates of Kent County	Grand Rapids	MI
Disability Advocates of Kent County	Grand Rapids	MI
Dwelling Place	Grand Rapids	MI
Dwelling Place of Grand Rapids	Grand Rapids	MI
East Hills Council of Neighbors	Grand Rapids	MI

Organization	City	St.
East Hills Neighborhood Association	Grand Rapids	MI
Easter Seals Michigan	Grand Rapids	MI
Eastown Neighborhood Assn.	East Grand Rapids	MI
Environmental Protection Agency - Region 5	Chicago	IL
EPA, Office of Federal Activities, NEPA	Washington	DC
Fair Housing Center of West Michigan	Grand Rapids	MI
Faith in Motion	Grand Rapids	MI
Family Outreach Program	Grand Rapids	MI
February Fourteen Inc.	Grand Rapids	MI
Federal Aviation Administration - Great Lakes Region	Romulus	MI
Federal Highway Administration, MI Division	Lansing	MI
Fish and Wildlife Service	East Lansing	MI
Fish-For-My-People	Grand Rapids	MI
Foremost Insurance	Caledonia	MI
Forest Hills Senior Center	Grand Rapids	MI
Fredricks Design, Inc.	Grand Haven	MI
Friends of the White Pine Trail	Belmont	MI
Friends of the White Pine Trail	Belmont	MI
Friends of the White Pine Trail	Belmont	MI
Friends of Transit	Grand Rapids	MI
Fulton Heights Neighborhood Association	Grand Rapids	MI
G.R. Ford International Airport	Grand Rapids	MI
Gaines Charter Township	Caledonia	MI
Gainey Transportation Services	Grand Rapids	MI
Garfield Park Neighborhood Assn.	E. Grand Rapids	MI
Garfield Park Neighborhoods Association	Grand Rapids	MI
Genesis Non-Profit Housing Corporation	Grand Rapids	MI
Georgetown Seniors	Jenison	MI
Gerontology Network Service	Grand Rapids	MI
Goodwill Industries	Grandville	MI
Gra-Bell Truck Line Inc.	Holland	MI
Grand Action	Grand Rapids	MI
Grand Elk Railroad	Kalamazoo	MI
Grand Health Partners	Grand Rapids	MI
Grand Rapids Air Pollution Control	Grand Rapids	MI
Grand Rapids Area Center for Ecumenism	Grand Rapids	MI
Grand Rapids Area Chamber of Commerce	Grand Rapids	MI
Grand Rapids Area Chamber of Commerce	Grand Rapids	MI
Grand Rapids Area Chamber of Commerce	Grand Rapids	MI
Grand Rapids Area Coalition to End Homelessness	Grand Rapids	MI
Grand Rapids Audubon Club	Grand Rapids	MI
Grand Rapids Business Journal	Grand Rapids	MI
Grand Rapids Community College	Grand Rapids	MI
Grand Rapids Community College	Grand Rapids	MI
Grand Rapids Community College	Grand Rapids	MI
Grand Rapids Community Foundation	Grand Rapids	MI
Grand Rapids Convention and Visitors Bureau	Grand Rapids	MI
Grand Rapids Downtown Development Authority	Grand Rapids	MI
Grand Rapids Downtown Development Authority	Grand Rapids	MI
Grand Rapids Eastern Railroad	Vassar	MI
Grand Rapids Press	Grand Rapids	MI

Organization	City	St.
Grand Rapids Public Schools	Grand Rapids	MI
Grand Rapids Public Schools	Grand Rapids	MI
Grand Rapids Times	Grand Rapids	MI
Grand Rapids Towing	Grand Rapids	MI
Grand Rapids Urban League	Grand Rapids	MI
Grand Rapids Visitors & Convention Bureau	Grand Raids	MI
Grand Rapids Youth Commonwealth	Grand Rapids	MI
Grand Valley State University	Grand Rapids	MI
Grand Valley State University	Muskegon	MI
Grand Valley State University	Allendale	MI
Grand Valley State University	Allendale	MI
Grassmid Transport	Zeeland	MI
Grattan Township	Belding	MI
Greater Grand Rapids Bicycling Coalition	Grand Rapids	MI
Greyhound Bus Lines	Grand Rapids	MI
Greyhound Lines, Inc.	Detroit	MI
GRFIA	Grand Rapids	MI
GROW	Grand Rapids	MI
Guiding Light Mission	Grand Rapids	MI
Habitat for Humanity of Kent County	Grand Rapids	MI
Hampton Meadows	Kentwood	MI
HCSS Home Care Services Staffing, Inc.	Grand Rapids	MI
Health Care Associates	Grandville	MI
Health Care Associates of G.R.	Grandville	MI
Heart of West Michigan United Way	Grand Rapids	MI
Heartside Ministry	Grand Rapids	MI
Heartside/Downtown Neighborhood Association	Grand Rapids	MI
Heritage Hill Association	Grand Rapids	MI
Highland Park Association	Grand Rapids	MI
Hispanic Center of West Michigan	Grand Rapids	MI
Hispanic Center of Western Michigan	Grand Rapids	MI
Historic Preservation	Grand Rapids	MI
Hope Network	Wyoming	MI
Hope Network	Grand Rapids	MI
Hope Network	Grand Rapids	MI
Hope Network	Grand Rapids	MI
Hope Network	Grand Rapids	MI
Hope Network	Grand Rapids	MI
Hope Network	Grand Rapids	MI
Hope Network	Grand Rapids	MI
Hope Network	Grand Rapids	MI
Hospice of Michigan	Ada	MI
Hospital & Rehabilitation Center	Grand Rapids	MI
Indian Trails Motorcoach	Grand Rapids	MI
Indian Trails Motorcoach	Owosso	MI
Inner City Christian Federation	Grand Rapids	MI
ITP - The Rapid	Grand Rapids	MI
ITP - The Rapid	Grand Rapids	MI
ITP - The Rapid	Grand Rapids	MI
ITP - The Rapid	Grand Rapids	MI

Organization	City	St.
ITP - The Rapid	Grand Rapids	MI
ITT Technical Institute	Wyoming	MI
Izaak Walton League - Dwight Lydell Chapter	Belmont	MI
Jamestown Township	Jamestown	MI
John Ball Park Community Association	Grand Rapids	MI
John Ball Zoo	Grand Rapids	MI
Kendall College of Art/Design	Grand Rapids	MI
Kent Community Hospital	Grand Rapids	MI
Kent Conservation District	Grand Rapids	MI
Kent County	Grand Rapids	MI
Kent County	Grand Rapids	MI
Kent County Commissioner	Grand Rapids	MI
Kent County Community Development & Housing Commission	Grand Rapids	MI
Kent County Community Development Dept.	Grand Rapids	MI
Kent County Department of Human Services	Grand Rapids	MI
Kent County Dept. of Public Works	Grand Rapids	MI
Kent County Drain Commission	Grand Rapids	MI
Kent County Farm Service Agency	Grand Rapids	MI
Kent County Health Department	Grand Rapids	MI
Kent County Health Department	Grand Rapids	MI
Kent County Home Repair Services	Grand Rapids	MI
Kent County Parks Department	Grand Rapids	MI
Kent County Road Commission	Grand Rapids	MI
Kent County Social Services	Grand Rapids	MI
Kent Intermediate School District	Grand Rapids	MI
Kent Intermediate School District	Grand Rapids	MI
Kent Intermediate School District	Grand Rapids	MI
Kent Michigan State University Extension	Grand Rapids	MI
Kentwood Estates	Kentwood	MI
Kentwood Pines N.A.	Kentwood	MI
Land Conservancy of West Michigan	Grand Rapids	MI
Land Conservancy of West Michigan	Grand Rapids	MI
Leisure South Condominiums	Kentwood	MI
Lesbian & Gay Community Network	Grand Rapids	MI
LGROW	E. Grand Rapids	MI
Life EMS	Grand Rapids	MI
Little River Band of Ottawa Indians	Manistee	MI
Lowell Charter Township	Lowell	MI
Mackinac Chapter-Sierra Club	Lansing	MI
MARP	Grandville	MI
Marquette Rail Corporation	Ludington	MI
Mary Free Bed Hospital & Rehabilitation Center	Grand Rapids	MI
Masselink Brothers, Inc.	Grand Rapids	MI
Match-E-Be-Nash-She-Wish Band of Potawatomi Indians	Dorr	MI
MC Smith & Associates	Grand Rapids	MI
MDOT-Passenger Trans. Division	Lansing	MI
Meadowlawn Neighborhood Assn.	Kentwood	MI
Meijer, Inc.	Grand Rapids	MI
Mercy Ambulance Service	Grand Rapids	MI
Metro Cab	Kentwood	MI

Organization	City	St.
Metropolitan Hospital	Wyoming	MI
MI Housing Development Authority	Lansing	MI
MI Assn. For the Blind & Visually Impaired	Grand Rapids	MI
MI Black Expo	Grand Rapids	MI
MI Department of Transportation	Lansing	MI
MI Dept. of Transportation	Lansing	MI
MI Dept. of Transportation	Grand Rapids	MI
MI Dept. of Transportation	Grand Rapids	MI
MI United Conservation Club	Grand Rapids	MI
Michigan Association of Railroad Passengers	Holland	MI
Michigan Concrete Paving Association	Grand Rapids	MI
Michigan Department of Natural Resources and Environment	Grand Rapids	MI
Michigan Dept. of Agriculture	Lansing	MI
Michigan Dept. of Community Health	Lansing	MI
Michigan Dept. of Natural Resources	Lansing	MI
Michigan Economic Development Corporation	Lansing	MI
Michigan Historical Center	Lansing	MI
Michigan Land Use Institute	Traverse City	MI
Michigan Natural Storage	Grand Rapids	MI
Michigan Oaks Neighborhood Assn.	Grand Rapids	MI
Michigan Rail and Storage	Comstock Park	MI
Mid-Michigan Railroad Co.	Vassar	MI
Midtown Neighborhood Association	Grand Rapids	MI
Millbrook Neighborhood Assn.	Grand Rapids	MI
NAACP	Grand Rapids	MI
Nationwide Transportation Services	Grand Rapids	MI
Native American Community Services	Grand Rapids	MI
Neighborhood Associations Overview Map Information	Grand Rapids	MI
Neighbors of Belknap Lookout	Grand Rapids	MI
Nelson Township	Sand Lake	MI
Norfolk Southern Corporation	Grand Rapids	MI
North County Trails-West Chapter	Grand Rapids	MI
North End Neighborhood Assn.	Grand Rapids	MI
Nottawaseppi Huron Band of Potawatomi	Fulton	MI
Oakdale Neighbors Information	Grand Rapids	MI
Oakfield Township	Rockford	MI
Old Farm Estates Neighborhood Assn.	Kentwood	MI
Ottawa County	Grand Haven	MI
Ottawa County Commissioner	Allendale	MI
Ottawa County Drain Commission	West Olive	MI
Ottawa County Farm Bureau	Allendale	MI
Ottawa County Michigan Works!	Holland	MI
Ottawa County Michigan Works!/Community Action Agency	Holland	MI
Ottawa County Parks & Recreation	West Olive	MI
Ottawa County Road Commission	Grand Haven	MI
Ottawa Hills Neighborhood Assn.	Grand Rapids	MI
Parker Motor Freight	Jackson	MI
Paws for a Cause	Moline	MI
Pettis Farms	Wauchula	FL
Pine Rest Christian Hospital	Grand Rapids	MI

Organization	City	St.
Pioneer Resources	Muskegon	MI
Pondera Advisors LLC	Grand Rapids	MI
Princeton Estates	Kentwood	MI
Project Rehab	E. Grand Rapids	MI
Rainbow Enterprises	Hastings	MI
Ready Ride Transportation, Inc.	Wyoming	MI
Rental Property Owners Assn.	Grand Rapids	MI
Retired & Senior Volunteer Program	Grand Rapids	MI
Ridgemoor Neighborhood Association	Grand Rapids	MI
Riverview Aviation	Jenison	MI
Roadway Express	Wyoming	MI
Robinson Cartage Co.	Wyoming	MI
Rockford Area Chamber of Commerce	Rockford	MI
Roosevelt Park Neighborhood Assn.	Grand Rapids	MI
S.J. Wisinski & Co.	Grand Rapids	MI
Saint Mary's Hospital	Grand Rapids	MI
Salvation Army	Grand Rapids	MI
Second Story Properties	Grand Rapids	MI
Senior Neighbors	Grand Rapids	MI
Senior Neighbors	Lowell	MI
Senior Neighbors	Grand Rapids	MI
Solon Township	Cedar Springs	MI
South East Community Association	Grand Rapids	MI
South Hill Neighborhood Association	Grand Rapids	MI
South West Area Neighbors	Grand Rapids	MI
Spare Tire Bike Shop	Grand Rapids	MI
Sparta Township	Sparta	MI
Spectrum Health	Grand Rapids	MI
Spectrum Health--PANC	Grand Rapids	MI
Spencer Township	Gowen	MI
Sprinter Services, Inc.	Grandville	MI
St. Mary's Health Services	Grand Rapids	MI
Standale DDA	Walker	MI
State Historic Preservation Office	Lansing	MI
Steelcase, Inc.	Grand Rapids	MI
Sunshine Transportation	Grand Rapids	MI
Sunshine Transportation	Grand Rapids	MI
Take Pride! Community	Grand Rapids	MI
Tallmadge Township	Grand Rapids	MI
The ARC Kent County	Grand Rapids	MI
The Rapid	Grand Rapids	MI
The Rapid Wheelmen	Grand Rapids	MI
The Right Place, Inc.	Grand Rapids	MI
The TLC Group, Inc.	Holland	MI
Thornapple Trail Assn.	Middleville	MI
Touchstone Innovare	Grand Rapids	MI
Tower Pinkster	Grand Rapids	MI
Tower Pinkster	Grand Rapids	MI
Towne Air Freight Inc.	Grand Rapids	MI
Tyrone Township	Kent City	MI
U.S. Army Corps of Engineering, Detroit District	Detroit	MI

Organization	City	St.
U.S. Dept. of Agriculture - Natural Resource of Conservation Service	East Lansing	MI
U.S. Dept. of Commerce - National Oceanic & Atmospheric Administration	Washington	DC
U.S. Dept. of Housing & Urban Development	Detroit	MI
U.S. Dept. of Housing & Urban Development, Detroit Office	Detroit	MI
Unique Concepts and Design Inc.	Grand Rapids	MI
United Growth for Kent County	Grand Rapids	MI
United Methodist Community House	Grand Rapids	MI
United Methodist Community House	Grand Rapids	MI
United Parcel Service	Wyoming	MI
USDA-Michigan State Office	East Lansing	MI
USGS - Lansing District Office	Lansing	MI
Van's Delivery Service, Inc.	Walker	MI
Vans Logistics Service	Grand Rapids	MI
Vergennes Township	Lowell	MI
Veterans and Yellow Cab Co.	Grand Rapids	MI
Village Bike Shop	Cascade	MI
Village of Casnovia	Casnovia	MI
Village of Kent City	Kent City	MI
Village of Sand Lake	Sand Lake	MI
Village of Sparta DDA	Sparta	MI
Walnut Hills Condo #2 Association	Kentwood	MI
Warner, Norcross & Judd, LLP	Grand Rapids	MI
WCUZ Radio News	Grand Rapids	MI
West Grand Neighborhood Association	Grand Rapids	MI
West MI Environmental Action Council	Grand Rapids	MI
West MI Environmental Action Council	E. Grand Rapids	MI
West Michigan Environmental Action Council	Grand Rapids	MI
West Michigan Hispanic Chamber of Commerce	Grand Rapids	MI
West Michigan Mountain Biking Association	Grand Rapids	MI
West Michigan Regional Planning Commission	Grand Rapids	MI
West Michigan Strategic Alliance	Grand Rapids	MI
West Michigan Trails & Greenways Coalition	Comstock Park	MI
West Side Connection	Grand Rapids	MI
Western Michigan University - Grand Rapids	Grand Rapids	MI
WGRD AM/FM News Department	Grand Rapids	MI
WGVU AM/FM News Department	Grand Rapids	MI
Windmill Pointe	Kentwood	MI
Wings of Mercy	Holland	MI
WOOD Radio News	Grand Rapids	MI
WOOD TV 8	Grand Rapids	MI
WWMT Channel 3 (CBS)	Kalamazoo	MI
WXMI Channel 17 (FOX)	Grand Rapids	MI
Wyoming - Kentwood Chamber Of Commerce	Wyoming	MI
Wyoming City Attorney's Office	Wyoming	MI
Wyoming Senior Center	Wyoming	MI
Wyoming Senior Citizens	Wyoming	MI
WZZM TV 13	Grand Rapids	MI
YMCA/YWCA	Grand Rapids	MI

2. Examples of Articles of Publication

STATE OF MICHIGAN)
County of Kent
and County of Ottawa

ss Camryn Taylor

Being duly sworn deposes and say he/she is Principal Clerk of

Advance Newspapers
Northwest Advance

a newspaper published and circulated in the County of Kent and otherwise qualified according to Supreme Court Rule; and that the annexed notice, taken from said paper, has been duly published in said paper on the following day(days)

February 15 A.D. 20 14

Sworn to and subscribed before me this 19 day of February 2014

JANICE M. RINGLER
Notary Public, State of Michigan
County of Kent
My Commission Expires: 10/03/2014
Acting in the County of Kent

GVMC

We'd Like Your Input!

The Grand Valley Metro Council (GVMC) is beginning the development of the 2040 Metropolitan Transportation Plan (MTP) and would like your input about future transportation needs and priorities in our region. GVMC will be hosting two Open Houses to discuss the process that will be used for development of the MTP on **Monday, February 24 at 9:00 a.m. and at 5:30 p.m.** For more information on the MTP Open Houses and other transportation issues, please visit the GVMC website at **www.gvmc.org**.

If you are unable to attend the Open House and would like to participate, written comments will be accepted throughout the development of the MTP. Send written comments to the Grand Valley Metro Council, 678 Front Avenue, Suite 200, Grand Rapids, MI 49504 or email Jim Snell at snellj@gvmc.org or call (616) 776-7610.

Can't make it to the Open House?
Take our online survey!
www.gvmc.org

Individuals with disabilities requiring auxiliary aids for services should contact GVMC no later than Wednesday, February 19.

0004782534-01

Realizan Kermes para ayudar a familia de las cuatro mujeres fallecidas en accidente

Fotos: Haydee Saladin/EVH

Por Michelle Jokisch

GRAND RAPIDS, MICHIGAN (EVH). El pasado domingo 9 de febrero, el grupo de voluntarios de Grand Rapids llamado "Mano Amiga" organizó un kermes para recaudar donaciones para la familias de las cuatro mujeres que murieron por en el accidente el pasado 31 de enero. Las fallecidas son Erika Ceja, de 33 años de edad, Angélica Magaña Ceja de 45, Teresa Alvares de 35 y Jessica Magaña de 21.

Según una de las miembros del grupo "Mano Amiga", cerca de quinientas personas participaron en el desayuno que se llevo acabo en la Casa de la Cobija, negocio hispano localizado en la 2355 de la avenida Division.

La comida del evento fue donada por los restaurantes hispanos del área. Gracias a los negocios, se pudo proporcionar una variedad de alimentos incluyendo menudo, pozole, tamales, huevos, rancheros, jamón, aguas frescas, elotes, tacos, tortillas, guisados, fajitas y malteadas, entre otros.

También se presentó, "La Güera", una de los locutores de la radio La Poderosa de Grand Rapids, quien estuvo subastando y animando a la familia de las mujeres y a los invitados.

Además, durante el evento, el Padre Quintana de la Iglesia San Francisco Javier, realizó ceremonias de bodas para las parejas presentes que querían casarse y el dinero recaudado por cada boda se donó también a la familia.

Se logró recaudar más de $12,000, dinero que fue entregado a la familia al terminar el evento.

Según Cristabel Ceja, el dinero será repartido entre los siete hijos de las difuntas. Ceja nos contó que en el desayuno, estuvieron los esposos de las fallecidas, la madre de Jessica Magaña, Leticia Ceja, y los hijos de las mismas.

"Desde el accidente, hemos visto la amabilidad y bondad de la comunidad hispana en el oeste de Michigan. Ellos no sólo nos han ayudado con donaciones, sino también nos han buscado y llamado durante estos últimos dias tan difíciles" dijo Cristabel Ceja.

La tragedia ha logrado evidenciar la fuerza de la comunidad hispana. Aunque muchas de las personas que han querido ayudar no conocían personalmente a la familia, igual ofrecieron donaciones y comida para apoyarlos.

"Quisiéramos agradecer a las miembros del grupo "Mano Amiga", que sin conocernos, nos ofrecieron tanta ayuda. También a los restaurantes del área que donaron la comida. A la "La Güera", de La Poderosa, que estuvo animando a los invitados en el evento, al Padre Quintana por haber estado presente y a todas las iglesias por sus donaciones y llamadas. También a El Vocero Hispano, por haber publicado la historia y por asegurarse que todos los lectores tengan la oportunidad de conocer del Kermes", afirmó Cristabel.

El evento sirvió como un momento de descanso y alegría para la familia, que durante las últimas semanas, se han tenido que despedir de las cuatro madres.

"El pasado domingo, los siete hijos de las cuatro mujeres pudieron disfrutar y celebrar la vida de sus madres." dijo Cristabel.

Las donaciones continuarán siendo recaudadas en el local La Casa de La Cobija y cualquier donación monetaria podrá ser depositada en la cuenta bancaria numero 4933 del banco 5/3, a nombre de Cristabel Ceja. "Solo se está aceptando donaciones en La Casa de La Cobija y en la cuenta bancaria" dijo Cristabel. Para cualquier pregunta llamar a Cristabel Ceja, al número telefónico (231)-206-7509.

Anuncian reunión en español para hablar sobre el próximo jefe de policía

Por Michelle Jokisch

GRAND RAPIDS, MICHIGAN (EVH). El departamento de policía de la ciudad de Grand Rapids, convocó a la comunidad hispana a asistir a las reuniones comunitarias donde se hablará sobre las calificaciones que debe tener el que aspire a nuevo jefe de la institución.

Después de más de treinta años cómo agente y seis cómo jefe de policía, Belk anunció su retiro a principios de enero de este año. Desde entonces el GRPD ha querido incluir a la comunidad en selección de un nuevo jefe por medio de reuniones públicas y una encuesta electrónica.

La reunión se realizará en la escuela primaria Cesar E. Chávez localizada en la 1205 de la avenida Grandville el 27 de Febrero de 6:00pm a 7:30pm.

Y será transmitida en ingles y en español por medio de interpretes para aquellos que prefieren comunicarse en el idioma español.

La encuesta electrónica se puede encontrar en el sitio web http://grcity.us/administrative-services/customer-service/sureveygr/Pages/Police-Chief-Survey.aspx

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GVMC

APÓRTENOS!!!

El Comité de Grand Valley Metro (The Grand Valley Metro Council) lo quiere invitar a tomar parte del desarrollo del plan metropolitano de transportación para el año 2040 (2040 Metropolitan Transportation Plan MTP). Queremos que sea parte de las innovaciones de transportación para la ciudad.

GVMC organizara dos reuniones abiertas a la comunidad para discutir el proceso que será utilizado en el desarrollo del plan.

Las reuniones se llevaran acabo el día lunes, 24 de febrero a las 9:00am y las 5:30pm. Para más información acerca de las reuniones o otras cuestiones de transportación por favor visite el sitio electrónico www.gvmc.org

Si usted no podrá asistir a las reuniones pero desea participar, también estaremos aceptando comentarios escritos durante el desarrollo del plan MTP.

Mande sus comentarios a la siguiente dirección: Grand Valley Metro Council, 678 Front Avenue, Suite 200, Grand Rapids, MI 49504, al correo electrónico de Jim Snell snellj@gvmc.org o llamando al número telefónico (616) 776-7610.

No puede llegar a las reuniones? Tome nuestra encuesta electrónica! www.gvmc.org

Aquellas personas con discapacidades que requerirán servicios de ayuda especial por favor de contactar a GVMC a no mas tardar del miércoles, 19 de febrero.

3. Kick-off Stakeholder Meetings Mailing Materials – (Examples)

GVMC

We'd like your input!!

The Grand Valley Metro Council (GVMC) is beginning the development of the 2040 Metropolitan Transportation Plan (MTP) and would like your input about future transportation needs and priorities in our region. GVMC will be hosting two Open Houses to discuss the process that will be used for the development of the MTP on Monday, February 24 at 9:00 a.m. and at 5:30 p.m. For more information on the MTP Open Houses and other transportation issues, please visit the GVMC website at www.gvmc.org.

If you are unable to attend the Open House and would like to participate, written comments will be accepted throughout the development of the MTP. Send written comments to the Grand Valley Metro Council, 678 Front Avenue, Suite 200, Grand Rapids, MI 49504 or email Jim Snell at snellj@gvmc.org or call (616) 776-7610.

Can't make it to the Open House?
Take our online survey!
www.gvmc.org

Individuals with disabilities requiring auxiliary aids for services should contact GVMC no later than Wednesday, February 19.

GVMC is the Metropolitan Planning Organization for Kent and Eastern Ottawa Counties www.gvmc.org

4. Public Comments

The following are comments received through various means for the purpose of developing a comprehensive Metropolitan Transportation Plan (MTP). Names and addresses have been removed to assure privacy. The volume of comments received during the development of the plan exceeded previous plans. A formal review of the public involvement process used for this MTP will be undertaken during the renewal of the GVMC Public Participation Plan in 2017. Comments are noted as they were received. To maintain the character with which they were written, no editing has been done.

"What I would like to see is for The Rapid to go county (or beyond) wide. I would also like to see improved service with more frequencies, especially on the weekends, along with longer hours on Sundays. I would like to see more BRT routes. Routes 9,2,4,6 and others could use the improved services that express BRT lines provide, as it has done already with the Silver Line. I would also like to see sidewalks installed along 28th Street east of Kalamazoo Avenue." – Grand Rapids Resident

"Greetings! I am e mailing in response to your request for input for a long range transportation plan. I am a resident of the western part of Kentwood, near 52nd and Eastern. I work out near Patterson and 52nd. I have often wondered why the Rapid does not offer a cross-town bus that runs along 52nd Street. There are several large corporations with factories along and near the 52nd street area. These include Steelcase, Lacks Industries, Kerry Corp., 5 Star Brands, Recycling Concepts, and, soon, a new Kellogg's plant. My point is that many of the employees in these factories are making low wages, and purely because of their economic status, many don't own cars. I really think that the Rapid would be pleasantly surprised at the number of people that would take a bus to work in this area. A suggestion would be to ask Meijer, Inc. for a small area of their parking lot at Clyde Park and 52nd to be used as a park and ride lot. Even workers who may commute from long distances may use the park and ride as well as the Rapid to avoid Wintertime driving and a potential of fuel savings. I would also suggest that the county consider widening 52nd street from Patterson, East to Kraft. Many freight companies have re located to this area to be close to the cargo area of the airport. The result is a huge increase in semi-truck traffic along 52nd street during most of

the business day, which makes pulling out onto 52nd risky. These are merely some suggestions that I am making based on my daily commute along 52nd street which I have made for the last 20 years.. Thank you for the opportunity to give my opinion." – Kentwood Resident

"In response to the post card I received in the mail here are a few things that I wonder about. The Rapid seems to pander to entities that are willing to spend money on it and forget about larger issues. We have the most significant tourist attraction in the state 700 thousand visitors annually and the Rapid doesn't go there. It doesn't go to the baseball park either. The Rapid accepts Federal dollars. I would think that would mean that it must also serve the community at large. More than just a Go Bus. Bus Rapid Transit failed at ballot box. Why were they not able to take no for an answer? What is it about "no" that they don't understand. They wanted to do this in the worst way and nothing was going to get in the way. Why is the new Rapid managed Amtrak station seemingly way over budget? I would have thought that it should be open by now. I believe it started at around 3 million now it's up to 5 million. Given the fact that they intend to use the existing Rapid Central station I don't understand why so much money is involved. Particularly since it's only going to be used once a day. The original station cost 100 thousand. The Pere Marquette takes four hours or more to do a trip that I can usually drive in three. This has been going on for 25 years. I think we deserve something better by now. They take 30 minutes to go the last 8 miles. That problem can be fixed but no one seems interested. Thank You for reading my letter." - Jenison Resident

"The GVMC FB seems out of date. I received a post card about the Draft 2040 Transportation Plan call for public comment…. Seems like you should be publicizing this heavily on FB and on your website.

"Don't need 6 lanes on E. Beltline. Look at alternatives. Public perception is changing. Public desires are changing. Please don't hold public meetings during Christmas Season. I was the only person attending & missed a Christmas event." - Undisclosed Location

"I was planning on attending the open house today but now find I will no be able to. I would like to voice my comment on future transportation needs. Specifically the M6 needs to have a WEST bound exit @ Division Avenue in Cutlerville. It does not need to have an EAST bound exit, so that will keep the cost down to build it. Currently there is an exit at Kalamazoo Avenue for Cutlerville. This design makes for congestion & confusion for people trying to navigate to Cutlerville. MDOT did not provide for a West bound exit at 68th Street SW when M-6 was built. An exit at Division will help to alleviate the congestion & confustion at the Kalmazoo Ave exit. Currently Senator Jansen has this proposal voiced at the transportation committee. I am asking that the Grand Valley Metro Council to also support & promote this. Please advise on your thoughts. Thank you." - Cutlerville Resident

"I have heard that timing the traffic signals is in the works but haven't seen it put to use. (E. Belt, Alpine, 28th st, chicago dr between zeeland & holland) are terrible for stop and go."

"When is someone going to step up and make changes to Alpine? round-a-bouts, Blvd, just do something. I saw that round-a-bout interchange off of I-75, I think that would be great to implement too West Mich. interchanges."

"I think people are willing to pay for roads as long as we know that the money is being spent properly. Right now there are all these different road programs and federal funding matching, etc... It is confusing like most gov't operations are, and I think if that is cleaned up and made simpler to understand where the money goes and how it is spent the people will pay."

"Get those ridiculous median cable barriers out of Michigan, they are dangerous, ugly, and since we don't have money to fix them when they are smashed it makes them even more dangerous. Thanks."

"Please consider expanding the rail service options in and out of Grand Rapids (eg. GR to Lansing > Detroit). I do not think the speed limit should have been increased to 70mph on US131 from 28th St through downtown. It just isn't safe, especially at short on/off ramps like Wealthy St."

"Increase the gasoline tax to fully-fund all transportation costs. No more using sales tax or property tax. With The warming of last two days, potholes very bad in some streets, but not most. Need real testing and standards for asphalt, and repaving contracts with long-term (20 year?) warranties from the contractor. No public transport to low-density residential areas, that will never work. Thus need to discourage low-density residential. Such as with a serious gasoline or carbon tax. The bikepath system is great within certain areas. But these areas often (1) do not connect to other such

areas, or (2) do not connect residential areas to business/retail areas, or (3) do not connect to long-distance routes (e.g., White Pine Trail). For example, in Kentwood, and townships Grand Rapids, Cascade and Ada, we need bike/pedestrian crossings of (a) I-96 at/between Cascade Rd SE and Fulton St SE, (b) I-96 at/between Burton St SE and Forest Hills Ave SE, and (c) I-96 at/between Thornapple River Dr SE and Kraft Ave SE. E. With the North Country Trail NCT being rerouted to come through Kent County, there may be an opportunity for something. Donâ€™t know what, but there should be something."

"Using the priorities (with deadlines for completion) GVMC should take the lead in ongoing, proactive achievement of the work identified through this process. Leadership should include partnering with the community's advocacy organizations to get the work done, putting pressure on area political leaders at all levels - federal, state and local - to commit to actively working to support the plan and, especially, keeping transportation development issues, identified in the plan, at the front of community conversation until identified priorities are achieved."

*"Worst congestion areas: *Cascade Road/East Paris/I-96 (poor interchage design) *Inadequate capacity on I-96 between 28th St and I-196 (need to analyze a possible interchange at Forest Hill Rd) *Major safety concerns at I-196/I-96 and East Beltline (traffic from I-96 to East Beltline has to make an unsafe maneuver) *Need to look at I-196 and US-131 interchange (aging bridges and changing traffic does not have space to merge) *Lake Michigan Dr and EB I-196 has an unsafe merge lane *Study the need for capacity improvements to the West of GR and suburbs *Implement commuter rail for GR or Express Bus Service to aid in congestion mitigation. *Study possible relief routes for US-131 in Downtown Grand Rapids."*

"Consider partnering with Davenport University's free shuttle bus service. Once the Silver Line is up and running in August, have a way for the university's shuttle bus to connect at 60th and Division. Compared to GVSU, Davenport's students and staff feel left out in a cornfield. It's sad".

"With the development along Gezon Parkway, addition of a Walmart Superstore, why doesn't the Rapid add a crosstown bus route from Gezon Parkway across to Patterson Ave> Many factories and businesses along 54th/52nd could benefit from this addition."

"Michigan/Fuller"

"Some intersections such as Monroe and Pearl could use an identified turn lane and not just two lanes. Some bigger 4-way stops could be replaced with a sensor stop light as they get a lot of traffice at certain times. Bus routes on major roads during congestion could have stops further away from main arteries."

"Amtrak service to either Detroit or to Kalamazoo to connect with the higher speed Wolverine Service trains may be an interesting concept to develop. A third lane on US131 north of West River to 10 Mile might be a good idea in the near future too. Improvements to the US131 overpasses south of GR, like at 100th Street for example would be a good thing to look at."

"Our State elected officials need to "nix" the homestead tax proposal that would put $75 dollars a year in some citizens poskets and spen the money on road repair. $75/year works out to approx $1.25/week. Who needs this?"

"Consider...more walking paths for pedestrians and get rid of all the potholes in the road."

"More sidewalks"

"Consider the number of vehicles on the roads when deciding to remove a lane of traffic each way for bike lanes. The creation of bike lanes at the reduction of traffic lanes creates congestion. The bike lanes are not used. The bike colalition has a loud lobby. Road safety is good without round abouts. They take more space than the current roads and create confusion for young and old drivers that have not experienced them. Not every person wants to ride a bus or train to work every day. This is Grand Rapids Michigan, not Chicago or New York. Part of the charm of a City our size is the ability to have alternative forms of transportation without being forced to use them. I've often said, I will ride the bus to work when Peter Varga does. I find it very interesting that the Silver Line is being constructed with no forethought about for people who live a few miles away to park BY the bus stops to ride the Silver Line. Thought as to this should have been done during the planning stages of the Silver Line...well before the voters were asked either time to fund it."

"Traffic technology is an area I think the city of Grand Rapids especially can improve. The flow of traffic on a lot of major roads doesn't make a lot of sense, as it's almost impossible to make consecutive green lights driving the speed limit. This increases fuel consumption and wear on the roads."

"Major roads need to be MUCH more pedestrian friendly. The bus system needs much improvement for weekend service. Passenger train service (Amtrak) is non-existent other than going to Chicago - Disgusting service for the Grand Rapids Area. Even with regional bus services we can't get to Flint. It is totally disgusting that Amtrak does not have service to Lansing and Detroit."

"Improving buses/light rail systems leading into, and around, downtown, would also help solve the parking issues often faced. While many citizens of, and visitors to, Grand Rapids, can afford to drive cars, pay for parking, etc., we cannot forget about those who cannot afford to, or choose not to drive an automobile. Improving the RAPID & DASH routes would encourage me to actually use them. While the RAPID can take me across town, it is extremely time consuming & a waste of my money to take it relatively short distances. With the snow melting, it is already being revealed that many roads seem to be more potholes than they are asphalt."

"Make Diamond a thru also"

"Highest priority is to coordinate land use and transportation. M6 spurred a whole bunch of transit unfriendly development, instead of developing closer in transit accessible areas of kentwood, transit unfriendly got built in byron/gaines. Bicycle access is okay where provisions have been made for it, but where it ends you can really be out of luck, I ride to work from cascade to kentwood, and cascade is okay, except for crossing i 96 on kraft, but kentwood is terrible, risk your life with 55+ traffic on patterson or ride on gravel covered sidewalks."

"I and most residents are DESPERATE for road repair. I will pay extra taxes, I just need a road that isn't dangerous. Eastern, Michigan, Fuller, they all have MASSIVE pot holes, sink holes and ravine type corrosion that makes driving difficult. I would also like busses to run past 6 on Sunday!"

"I would love to see a light rail system and a wider area of coverage for The Rapid in areas such as the townships of GR, Plainfield, Byron, Cascade, Ada, Gaines and Georgetown."

"I think there should be strong consideration to NOT add as many bicycle lanes. They have hindered traffic on busier roads, such as Plainfield."

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"Michigan State government needs to address funding / budget issue as soon as possible! Improving road conditions and access to public transportation should be the main priorities for funding"

"Fix the roads"

"For selfish reasons, being I use it, I would love to see the Monroe North Dash continue to be a bus route."

"The roads are extremely bad with potholes. I understand this is the environment we live in."

"I don't understand how the roads are so terrible. Do the road engineers not understand how the seasons work here? "

"Every winter the roads fall apart."

"Driving North through GR during rush hour is horrible. I would use a "subway" or tram, if there was one to downtown South to North".

"Fuller near MI Blood is riddled with potholes, making it hazardous to drive on & almost irresponsible if a driver wants to keep their car in working condition. It is a busy road and sudden lane switches to avoid the potholes is dangerous."

"There should be less emphasis placed on constructing new motor vehicle infrastructure. Continuing to improve non-motorized and public transportation should be a top priority, as it will reduce the number of cars on the roads, reducing wear and congestion. Maintenance of existing infrastructure should also be a higher priority - the money we're spending to build the US-231 bypass could have rebuilt a ton of existing roads. The addition of sidewalks does not automatically make a road suitable for pedestrians. For instance, 28th Street is, if anything, has become less safe now that the sidewalks are installed - it gives the false impression that the road was designed with pedestrians in mind. Public transit's main deficit is with perception - many people consider it to be transportation solely for poor people and hipsters. Enhanced service options, such as the Silver Line BRT, should help to change this perception. Autonomous (self-driving) vehicles appear to be just over the horizon. Any long-term plan should include a detailed study on how those vehicles will change vehicle use. For instance, parking near buildings will not be a requirement, as the vehicles could act as their own valet. Also, the vehicles should be able to safely travel closer together than human drivers, which should increase road capacity."

"Why don't you bring Amtrak right downtown by Grand Valley rather than just outside of downtown? Rail lines are already there."

"Way too many traffic signals, too much time spent standing still for minimal cross traffic. All interstates and major state roads in the GR metro area are at least one lane too narrow. It seems that road construction/improvement projects are not coordinated; too often the obvious detour(s) for one project are also under construction at the same time, making a bad traffic situation worse. Most local municipalities have done a good job of adjusting speed limits to the traffic flows, but some are still lagging, possibly in the interest of added traffic fine revenues."

"Grand Rapids should have an modern intermodal facility to move shipping containers from train to truck or truck to train. This would be a benefit to the whole community, in part, by reducing truck traffic except for local deliveries, and encouraging train traffic."

"Shuttle buses would be a help from lots to attractions, restaurant/retail centers downtown."

"131 is a death trap in the winter, seems that there are roll over and pile ups every other day, even on the dry days."

" Leonard and Beltline is a horrible intersection that essentially blocks traffic both ways on the Beltline. If possible, reduce the number of intersectons on major roads and use smarter/variable speed limits. 3.) Consider adding commuter light rail lines. Not just for the four blocks downtown as proposed, but from all 4 primary directions into Grand Rapids. It would be a huge cost, but it would also be a huge economic boon. It may even help the downtown economy if I know i can hope on a train and pay ($2) as opposed to dealing with parking and traffic downtown."

"S curve downtown and merge of I-96 East at the beltline during rush hour. speed limits should also be lowered in these high accident areas"

"Push M-dot to eliminate US 131 in downtown and I-196 from I-96 to Market Street or further west. Reduce road widths, provide more reasons for people to travel without a car."

"We need a better east/west bike cross town bike route on the south end of town. The roads in our area are terrible and need to be paved with a rubber/asphalt mixture so they hold up."

"You should consider an aggressive transit system that compliments a comprehensive biking system. It's a small enough place to really make a huge impact."

*"***PLEASE REQUIRE AN ANNUAL STATEWIDE VEHICLE INSPECTION***- Funds from inspections can be put towards the improvement of road conditions and traffic technology. It would also ensure that all vehicles on teh road are SAFE TO BE DRIVEN. The fact that most traffic lights run on timers is prehistoric and inefficient. The extremely poor road conditions (pot holes) both in the Winter and Spring are a large safety concern in my opinion. Many vehicles swerve to avoid poor conditions and put other drivers at risk. Thank you!"*

"The worst intersection is Lake Michigan Drive and Covell. It is an extremely busy, dangerous, and confusing especially for people who don't know how to use it. The most important thing to address is the condition of the roads and fix the potholes. We don't need any more bike trails!"

" Michigan drive entrance ramp onto I-196 2. add lanes from the above east"

"Research into new/longer lasting road pavement"

"I would like to see an improvement in pedestrian safety on 28th St near the Woodland Mall area. This area always seems to be in the news for pedestrian/automobile accidents. I am guessing it has some of the highest pedestrian accident rates in GR. I also personally have biked in this area (E Beltline/28th) and it feels like I am putting my life in harms way. Sidewalks sometimes are inaccessible, sidewalks sometimes have curbs near driveway crossings and biking on the road is simply risky. I would also be willing to pay a gas tax. Another potential risky area for pedestrians is Alpine as it crosses over the I-96 (no sidewalks and no alternatives). Make 131 3 lanes from sand lake to Wayland. Make i96 3 lanes from Lowell to Muskegon. Make i196 3 lanes from E. Beltline to Holland."

"I would be in favor of additional taxes only to improve the quality of the existing roads. I have lived in both Indiana and Michigan, and the difference in road surface quality is sobering. The difference is evident immediately at the border, which indicates the different weather patterns are not the primary cause."

"A train to the lakeshore from Kent County would be nice. Use tax dollars to continue repairing roads. Toll Roads would be beneficial although I think it needs a constitutional change."

"Plainfield and knapp intersection needs improvement to road surface and lane structure. I'm not in favor of a gas tax, but would rather a local millage increase so tax dollars are used in the immediate location needed and can be lessened later if need be."

"Work to consider alternate ways to fund transportation such as weight, use and toll roads. Create a plans for transition to rail, bus, bike and pedestrian uses. "

Start by using present state fund balance for roads not university or schools

The traffic at rush hour on cascade, i96, area needs major help

"I choose to walk rather than take the bus or drive as often as I can, but run into the issue of no sidewalks in some of the busiest/heaviest traveled areas. For safety reasons, this will often cause me to drive, which puts another vehicle on already congested streets. Taking the bus is something I would like to do more often, but the schedules usually mean that it would take 3 or 4 times as long to get somewhere than driving would, so again, I will choose to drive. I have a situation right now where I can walk the 2 miles in about the same time that it takes to wait for the bus (running on a 1/2 hour schedule). The walking is great, but I would pay for the bus if they were running on a 15 minute schedule. I can afford to drive, I choose other means to travel to reduce congestion on the roadways and for lifestyle reasons (I'm a tree-hugger ;-D). As the cost of owning and operating a vehicle increases, giving residents better/safer alternatives to driving is a way to encourage growth in our communities and reduce the traffic on our roads. I moved to East Hills this past summer from a small town 20 minutes away for the explicit reason of being close enough to have public transit options. I'm not alone in considering these things when choosing where to live."

"Potholes are very bad. Recently paved roads are now "splitting" in center of each side of traffic (strange)"

"The Laker Line is really busy and should be a key focus for improvement. It will allow more students to live downtown"

"131 north of Ann St to Rockford MUST be done. Was scheduled before the S-curve emergency repair took away the funding. Traffic is backed-up/slow moving during both am and pm rush hour."

"The merge at east 196 and 96 with east beltline is a joke. Something needs to be done about that, the traffic is so bad during morning rush hour it takes an additional 10-15 min to get to my job which is normally a 10-15 min commute as a whole. The roads really need to be repaved. Especially Michigan, near the post office on monroe, prospect, college, the list goes on and on."
"The intersection at Lake Michigan dr. and Maynard Road NW is dangerous. Add a right turn lane in both directions on Lake Michigan and a light."

"GRR Airport - we need more runways, an actual concourse so we can have more carriers, more flights to increase business and tourism. Road Maintanence and Repair - folks this is Michigan - we know our roads get worn because of the weather. We cannot skimp on road maintenance and repair. FRAUD - I am tired of budget proposals and ballot initiatives that lead the voter to believe the money will go for 'roads' when in fact the leaders are lying and it is going for something else. Yes, I would be willing to sit on the committee."

"Scrap the bike trails... more often than not I see people riding on roadways while there's a bike/walking tail parallel to the road not 15 feet away. Make the cyclists pay a registration, license and use tax like motorists do if they want to use the roads. Fix the potholes!"

"I would be willing to pay more but I already did that once and they squandered the money!"

"Michigan St between College and the hospitals is in terrible condition. I walk to work from Union to the hospital and almost get hit by a car at least once per week.

Provide space on the Rapid, where there are typically ads, for local arts groups to present art, poetry..."

"Roads are in awful condition throughout the city. Bike paths on most city streets are a joke because they take away almost one lane for traffic, and cause congestion at intersections."

"The on and off ramps north of 28th street throught the S-curve are unsafe and create unnecessary traffic conditions due to poor design. Burton, Hall, Franklin, and Wealthy, both bridges and ramps, need to be replaced and redesigned. 28th street needs sidewalks from Cascade all the way through Wyoming and into Walker. The Grand Rapids side of 28th is incomplete and in terrible need of sidewalks West of Breton to Eastern. I've seen some interesting intersections in town but one of the strangest is the conglomeration of Lake Michigan Drive, Covell, and Bridge, redesign needed"
.
"I would be willing to pay more if the money went directly to roads, but I would NOT be willing to pay more if bus or rail are included. Too much money is spent there already. One exception to rail woud be if money was for a high speed train from GRR non stop to DTW."

"Pot holes throughout the city are my biggest concern, my commute includes wealthy st and market, and both have gotten significantly worse in the last 12 months."

"Please make us less car dependent. If we want to grow as a city we need to make it more available to function without a car."

"Refuse any federal grants. It's money we don't have. It will worsen the deficit. Why would we want the area to grow into a major metropolitan area?. People move here to get away from big cities."

"We need longer pedestrian lights at intersections and laws that protect pedestrians in crosswalks. The area could become a walking city like Boston."

"The fact that the bus stops at central station and doesn't travel up and down Leonaed is ridiculous. I'd ride the bus everyday if it just ran the length of Leonard. Fuller NE and Leonard NE roads are atrocious! The recent right arrows in the NE area seem uncalled for. At 4-6pm Turming right from Fuller to Leinard is nearly impossible because the right lane isn't marked as a turn lane. I often sit through 5-10 lights waiting to turn. Right turn lanes are silly! "

"No on 10 is not no to paying more, it is no to paying more per the means given in the question as options. No to gas tax and no to property tax".

"I think the roads in the area are narrow, out west where there are less people, they are planning ahead with much wider roads and there is little congestion. Mainly concerns with the expressways and east beltline, 44th st, 28th st, and Alpine should almost all be at least 3 through lanes in each direction for much of it. Also direct highway access to the airport via a tunnel under the small runway would be a great improvement there and knock off about 10 min to downtown. There is a tunnel under the runway at Holland airport and the one I am talking about is not used commercially so there can not be that big of a negative impact, not as much as the wasted fuel and added congestion to the thousands of cars daily that go around patterson/28th to I-96"

"Should consider installing cameras at innersection for all the red lights run here."

"I don't want to have to own a car. There are too many surface parking lots wasting space downtown. 131 should be removed from downtown."

"Help transit, it's the future"

"County Wide transportation in Kent County would be amazing!"

"We should get rid of "Michigan lefts" (a la E Beltline), but this is not the proper forum for that discussion..."

"We have the most popular tourist attraction in the state and the Rapid doesn't go there. The Rapid doesn't go to the ballpark either. Amtrak's on time record is pretty bad. It's OK to arrive late but it's not OK to leave late. Departing Grand Rapids they take 30 minutes to go the first 8 miles. That problem can be solved but it's been with us from day one over 20 years and nobody seems to care. They take 4 hours to do a trip I can drive in 3. Why do we need a million dollar train station All they need is a kiosk in Rapid Central Station."

"I would consider streetscape and walkability as high priority. It would be wonderful if Division Ave and Michigan Ave. were more bike friendly. I would consider getting rid of my car and taking the BRT when it is finished, but my urban experience would be more enjoyable if there were several routes of connecting light rails or busses. I would like to travel across the city without transferring at the central station."

"Increased capacity needed on US-131 from West River to 10 Mile, I-96 from E.Beltline to 28th. Continue implementing new left turn signals (four light with flashing yellow arrows)."

"131 and 96 interchange (bridge over Grand) has multiple accidents almost daily - widen and make this interchange safer so cars don't have to cross 3 lanes into the left lane to get to 131-South"

"With the downtown development, it's safe to assume there will be less parking spaces overtime. MUST invest in bus transit. All buses should run 7 days a week and the busy routs should have busses running every 15 minuets during the peak hours."

"I am happy to pay additional tax to improve our streets and roads. If we are getting a large amount of income from tourists we need to provide decent driving conditions for them or lose them to states that do so."

"Bus stops were inaccessible in the snow. I did not hear pleas for citizens to assist".

"While I realize there is a large cost attributed to it, Grand Rapids roads are simplybterrible this season. What realistic measures can be taken to improve our roads (especially in lower socioeconomic sectors) and prevent rapid deterioration?"

"Improve all current roads and bridges. Use the best road construction technologies to build cost-effective, quality roads. Widen (add lanes) to I-196 from Grandville to downtown G.R. Enhance snow plowing capacities for major storms and relentless winters."

"We moved here 6 yrs ago from the MOTOR CITY, the on/ off ramp thing on the xways is terrifying! We're use to crazy traffic but that enter/exit thing all within 200 ft is the worst. And WHO laid out the S-curve??This is our only complaint about GR. Otherwise,

we love it"

"The intersection of Fulton and Lafayette is very, very dangerous in the winter (especially going south down the hill on Lafayette). Also, the road pavement conditions on Michigan by the GVSU CHS building is terrible".
"Make bus transit more appealing to middle class commuters Look to Denver's bus service as a model"

"I-96 and I-196 at East Beltline Alpine Ave NE and I-96 East Paris and Cascade SE"

"The silver line needs to go east-west down 44th Rivertown to GR airport with multiple secure "DOT lots". It has to be ultra convenient to choose public over private transport before people abandon personal vehicls.".

"I would pay more either in gas tax or small local mileage if and only if it funded exclusively the conditions of the roads, not increased bus service, more bike lanes, sidewalks, etc. first and foremost we need to improve the conditions of the roads before we create new "features" (like bike paths)."

"Division and fulton"

"Uncleared sidewalks make Bus Stops and other destinations are difficult to reach during Winter months. This forces pedestrians to walk alongside much narrower streets. Walking beside the road is impossible to do safely at night."

"More air service is needed. Also, especially around East Town the bike paths are too excessive. I'm not against sharing the road, but isn't that why we have sidewalks? Let's improve road conditions before making sure bicyclists take over busy streets that have been narrowed to accommodate those bike lanes."

"Areas where I have lived in the past 10 years (East Beltline & 5 mile area) and currently Forest Hills Ave & Cascade, do not have a regular bus route. This is something that would interest me with the Rapid. Secondly, I regularly get into traffic tieups between 28th and the I-96/I-196 interchange (WB) during rush hours. Is there consideration of further widening of this stretch of highway (it seems the worst section is from the Cascade Rd onramp on to the split. The onramp was extended, but would have liked to see that extention go all the way to M-21 or all the way to the split."

"There is way to much focus on non core things - diverting already crowed road space to largely unused bike lanes, converting center turn lanes to boulevards, converting intersections to mi turnes or worse traffic circles. It seems the focus on maintaining quality roads has been lost and the current policy is a mish mash of various people's/organizations pet projects. With the funding problems we're constantly hearing about the focus should be on the basics".

"More lines in The Rapid system reaching to more of the metro area specifically further into Plainfield Township. Also the Intersection of Division and Wealthy in Downtown Grand Rapids and E. Fulton Ave at the intersections of Diamond and E. Fulton and Fuller and E. Fulton are horrible for traffic during peak hours and can take up to 6 to 10 minutes to get through. Also The E. Beltline Between US-196 and Burton should be expanded in my opinion to account for the amount of traffic that uses it especially during peak hours."

"Improve the traffic conditions road conditions and safer intersections along Alpine corridor from 5 mile road to Leonard."

"Our road conditions are ridiculous. It's amazing we can even get business's to come to w mi. Also the intersection at 36/Eastern. Heading east, there is no advance warning of 2 lanes converting to 1 immediately following the intersection. I've continuously witnessed cars & Semi's jockey and near collisions. Advance signage on road, overhead traffic lights & lane paint would be very helpful. There are always people walking in the road on 36th right there too. Especially due to bustop. Need to put sidewalks there. Huge accident waiting to happen. Lastly, get bike paths on Port Sheldon!! It would have been nice when they put a sidewalk/bike path on 40th ave between Port Sheldon & Baldwin to have finished the last 1/8 of mile too. What Bozo had that final say? Especially so close to a school? Would have been nice to have the kids be able to walk/bike to school or even just use and be safe. Seen many joggers almost hit in that narrow section."

Fix the roads!

"I worry about mich ave. and all the added congestion around the hospitals. Especially with it' s continued growth. It is terrible driving there when your not familiar with the area"

.

"As in any major urban city, a large percent of the population are pedestrians! This city lacks clear public methods of transportation! limited bus hours lack of clear (winter shoveled) sidewalk and bike paths. An antiquated train system once a day to chicago with few stops to local Michigan outlaying cities! So much carbon could be reduced by having hourly trains to area cities Holland Muskegon Grand Haven etc to reduce having to expand highways and road ways for more cars!!! "

"Light rail or an overall improvement and promotion of public transportation."

"Get some sort of mass transportation going between Holland and GR. The I-196 congestion could be greatly reduced--ideally with a train system, but at least start with busses somehow"

"Crosstown (e/w) busline that coordinates with in?outbound busses. a sidewalk along leonard between plainfield & monroe – northside or clears southside sidewalk"

"The Best Road Funding Plan put forth so far and is supported by MITA and CRAM and addresses the long term is the one that Eliminates the Gas Tax in exchange for a 2% inclease in the Whole Sale Tax that is indexed for Inflation. This Plan not only meets the immeadiate funding shortage now, but into the future as well, all without raising gas tax at the pump to consumers and the motoring public who are struggling to fill their tanks as it is."

"Consideration of a county-wide transit system in Kent County."

"The East Beltline and the 96 intersection gets so backed up during the rush hours. We need a way to accommodate heavy traffic though that area much better."

"You should reconsider the use of bike lane. The cyclists virtually NEVER use them. They drive in the middle of the road as if they are a car going 10-15 miles per hour down Fulton holding up traffic. The bike lanes in my opinion were the biggest waste of tax payer money because they are virtually never used. When I asked a biker about it he said they don't like using it because people open their car doors unexpectedly and they all prefer driving in the car lane."

"Consideration in making the Beltline wider, if possible?"

"Improve/fix the I-96/I-196/East Beltline interchange area."

"The majority of transportation in this area is by car, therefore the emphasis should be focused on road conditions. The bike paths are lightly used and are shrinking road lane widths. Priority has to be on roadway conditions. FIX THE ROADS!"

"You should consider adding lanes to 96 West between 28th Street and the Beltline. This is constantly clogged at commuting times. Also 96 East between Fuller and Beltline needs more lanes. Too congested."

"Consider improving the speed of Amtrak from Holland to Grand Rapids."

"On and off ramps at Wealthy and Franklin for 131 and at Lane on 196 need to be extended. The merge time is way too short and cause backups every day during rush hour. More traffic circles would be great. The intersection of Monroe and Coldbrook would be a good location."

"Cascade Rd, eastbound at 196 needs a cloverleaf to westbound 196 rather than a left turn onto the ramp to 196. 196 needs to be widened from 28th to the East Belt Line westbound. This area is the worst daily snarl in the region, and its dangerous in snowy weather"

"I want transit oriented development around light rail and street cars Also connect to the lakeshore through allendale and Detroit through lansing"

"Concrete/cement is a better material than blacktop for roads. It lasts far longer. When it gets too rough, it can take a layer of blacktop as a top coat and be smooth. 2. Construction of 131 during the day makes the Norht-South commute terrible. Can construction be done more at night than daytime hours, or at least NOT during hte morning and evening rushes?"

"Left hand turn lanes on major GR City roads have been a great improvement for both car and bike safety. Big thank you for East Fulton Turn Lane. Corner of Michigan and Fuller is horrible dangerous! And the potholes are making it worse. Bike lanes are a big help to both car and bike drivers. OUTLAW Cell phone USE!!!!!!!! Make a mandatory minimum night in jail for all violations along with a fine to cover the cost."

"The intersection of 96 and 196 causes lots of issues, especially when cars are cutting across two lanes of traffic during rush hour to get off at the East Beltline exit."

"Utilize the purchasing power and voice of GVSU students by making them more mobile via public transit, sidewalks, etc."

"Another concern I have is poorly designed highway entrances. Many have low visibility and very short ramps to get up to speed with little opportunity to safely merge into fast traffic."

"MDOT needs to provide more entrance facilities (traffic light) to provide entrance and egress onto M57 in northern Kent County. This is very high volume 'M' road. It becomes very challenging to enter this road in inclement weather."

"Aquire property and implement more round abouts. Aquire property and provide free neighborhood off street parking to free up traffic congestion especially in the winter. Use highway right of ways to build monorail transportation system from highly populated suburbs to city centers. Use Disney as the consultant as they are the best people transporters in the nation."

"Potholes are terrible, there are some roads I will not drive down."

"Our bicycle infrastructure really lags behind. We need safe bike commuting routes to places where there are existing numbers of bike commuters such as from Eastown to Calvin College. Some of our so-called bike routes do not seem safe."

"Stop dumping money into cobble stone streets and just fix the roads. Although there are bad potholes all over town the northwest side is atrocious. Some streets are on there way to becoming gravel roads."

"Remembrance from Leonard to Wilson should be 3 lanes +bike lanes + sidewalks, not only to improve transportation, but to put feet on the ground who will revitalize the old DW shopping center and create a more substantial Walker City Center. "Beer-30" is a redneck embarrassment. Better to try to lure a national franchise.

"Bike paths are OK, but narrowing major roads (like the Revision Division project) add to congestion and reduce safety for drivers and pedestrians. Experiments with traffic circles (I live just south of the circles on Wealthy) have shown that local drivers just don't get the concept -- those circles have been the site of many near-accidents over the last few years.

"196 to 96 merge at east beltline is horrible"

"Smaller roads in the downtown GR area tend to be ignored, which is a problem. They are in awful condition and impossible to pass through in the winter when people try to park on both sides."

"Get someone in charge who doesn't lie, cheat and steal from the taxpayer"

"The silver line is a big waste of money as the construction project's that went on last summer for a transportation that will not be available until late 2015,if it will even happen at that time. Not sure who needs a fast track down Division St. - when if you look at morning traffic downtown it is coming from the North - West and East -- not the South."

"There should be a coordinated effort and development of a vision between all counties on increasing bus, bike and walking opportunities as modes of transportation."

"Government is a train wreck. No unions in Government to protect under performing administrators. If GMVC was not so focused on it's own interest and return on private investment we would not be in this position. Traffic Management to the "grids" of all feeder roads, streets to the "main" traffic byways. Grand Rapids for example must use "Helen Keller" traffic Management solutions. In addition, the "Division "Express buses" will be a disaster with not widening the street. People deserve better use of budgeted monies for roads. Sales tax increase for all of MI by .50% or a half percent, solves the issue. Not property taxes. The Non-profits win again, they don't pay property tax? This is a Non-Profit town, to protect the special interest."

"No particular intersections or roads to complain about. More the construction of the roads. We need to improve our methods for a more robust road service and think long term rather keeping initial expense down."

"Number one priority is making the roads smooth and driveable. The second thing would be thinking of ways to make them better in the winter."

"Bike lanes and accessible sidewalks are vital, transit expansion with more BRT and higher speed rail with better connectivity throughout the state and beyond."

"I would be willing to pay more to improve the transportation system through a gas tax"

"Access to transit options for individuals with disabilities is terrible--RideLink doesn't work as it currently is set up."

"Buses should run in ALL of Kent County. We need buses in Caledonia to run all the way to at least downtown grand Rapids."

"Expand the bus routes- there are many cities interconnected with Grand Rapids such as grandville and jenison. It would be nice to see the bus routes extend further into jenison and other close cities"

"Connect I-96 to I-196 via 48th Ave with a new bridge across the Grand River and a new entrance and exit at 48th Ave and I-196. Regarding question #9, I would check all of the boxes if I could."

"Worst highway---"hell highway"between gr and Lansing . Should be three lanes in each direction."

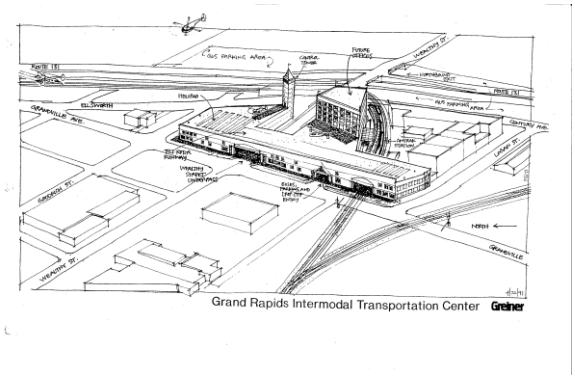
"To grow the metro area there must be a regional mass transit system that serves commuters to the urban hub for work, health care, shopping and entertainment. A strong functioning regional transportation system will offset needs for parking and roads with additional lanes."

"Townships have to find a way to contribute financially if they want to see improved public transportation for areas in the county outside The Rapid service area."

"Traffic congestion is a problem when road construction plans are not coordinated. e.g. closing Monroe and key highway systems affecting the northern region of Grand Rapids"

"A responsible Metropolitan Transportation Plan must emphasize an integrated intermodal transportation plan, including "complete streets" Networks" (2013). I do not own a car, and I am a regular bicycle commuter, so I am especially interested in bicycle-friendly streets."

"Consider reinvigorating the Grand Rapids Intermodal Transportation center circa 1991"



5. Citizen Survey

GVMC Citizen Transportation Survey

The Grand Valley Metropolitan Council (GVMC) is developing a Metropolitan Transportation Plan (MTP through the year 2040. The MTP is updated every four years and represents the 25-year vision for the transportation system in Kent and Eastern Ottawa Counties. All modes of transportation are examined, including the road network, public transit, pedestrian and bicycle facilities, rail, and air. The 2040 MTP is anticipated to be approved by GVMC in late 2014. For more information about GVMC and the 2040 MTP visit www.gvmc.org

This survey has been developed to engage you in a discussion about transportation-related improvements for Kent and Eastern Ottawa Counties. The survey will take about ten minutes to complete. If you need assistance, please call us at (616) 776-7610 or email Jim Snell, GVMC Transportation Planner, at snellj@gvmc.org.

Let us know your opinions about the future of transportation for the region!

1) **Transportation System**: How would you rank each of the following aspects of the transportation system in Kent and Eastern Ottawa Counties? Please rank on a scale of 1 to 5, with 1 being "Very Poor" and 5 being "Very Good"

	Very Poor	Poor	Neither poor or good	Good	Very Good
Traffic congestion	1	2	3	4	5
Roadway pavement condition	1	2	3	4	5
Safety of roads and intersections	1	2	3	4	5
Access to the transportation System	1	2	3	4	5
Availability and convenience of public transit service	1	2	3	4	5
Availability of passenger rail service (Amtrak)	1	2	3	4	5
Availability of Bikepaths and Sidewalks	1	2	3	4	5
Availability of air transportation service	1	2	3	4	5

2) Given limited funding, from the following list, check the 3 things you feel are most important to enhance transportation for the area:

- Coordinate transportation and land use decisions
- Use technology to reduce traffic congestion and delays
- Improve and add bicycle lanes and shared-use paths

- Increase frequency of passenger rail service and freight rail operation
- Improve and add sidewalks along major roads and transit routes
- Enhance transit (bus) service
- Improve the condition of roads
- Improve road and intersection safety
- Widen busy roads and interchanges

3) Would you be willing to pay more to improve the transportation system in the region either through a slight increase in the gas tax or a small local millage if the funds raised went directly to improving the transportation system in this area??

Yes
No

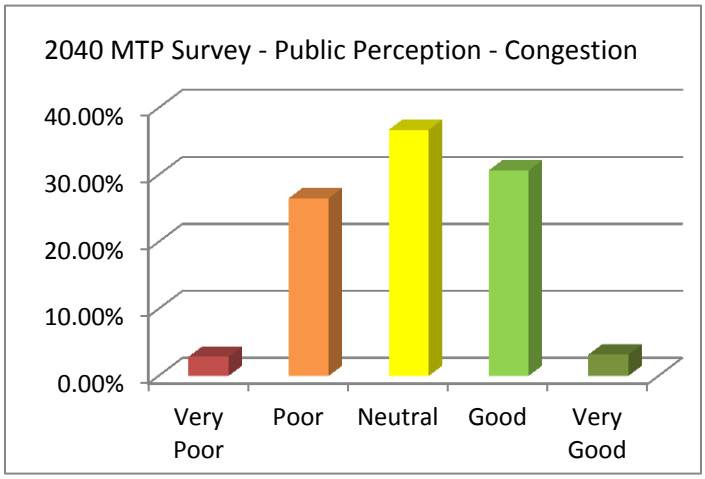
4) Comments: Are there other comments or concerns you think might help our efforts to develop a responsible Metropolitan Transportation Plan? (For example: The top three worst intersections are X, Y, and Z because… Or you should consider…)

If you would like more information about the Grand Valley Metropolitan Council (GVMC) or would like to be added to our contact list for transportation-related announcements and information, please provide us with your name, address, and email address. (Contact information will not be sold or shared with other organizations.)

6. Summary of Survey Results

In total 417 members of the general public completed an online survey for the 2040 MTP. This is a significant increase over previous plans. Each of the questions focused on areas of the transportation elements. Congestion, Condition, Safety, Non-Motorized, Air Transport, System Accessibility, Transit Availability, and passenger rail service. A question on increased taxes to support transportation improvements was also included. The results of each of these areas are shown below.

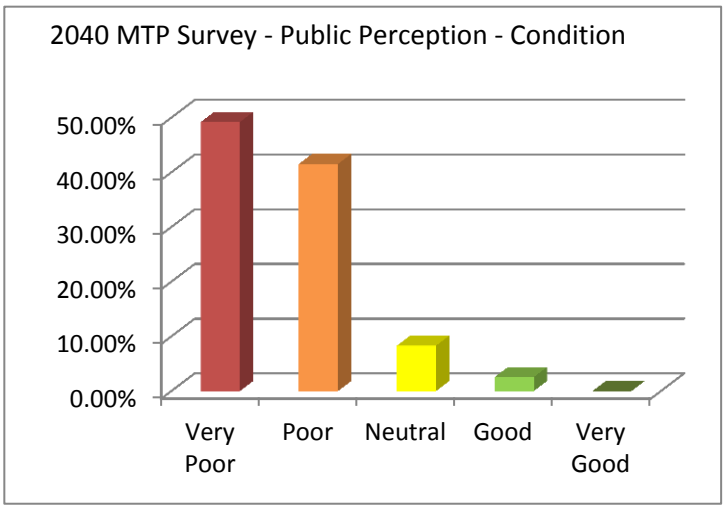
What is the general state of system congestion in the region?



Congestion Rating

Rating	Percentage
Very Poor	2.88%
Poor	26.52%
Neutral	36.74%
Good	30.67%
Very Good	3.19%

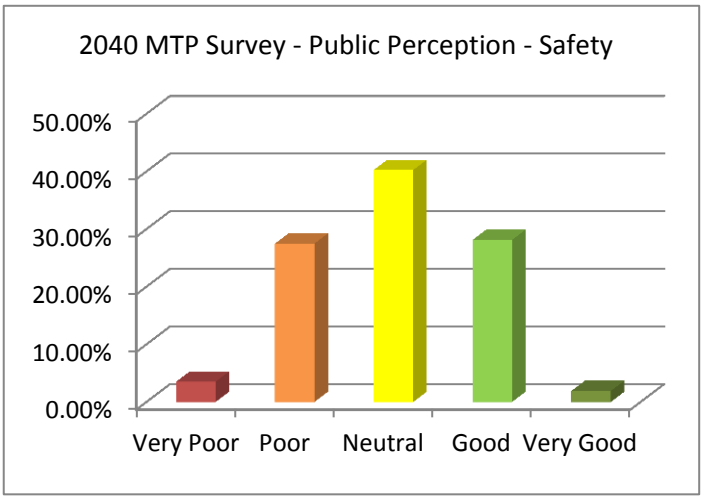
What is the general state of system condition in the region?



Condition Rating

Rating	Percentage
Very Poor	49.20%
Poor	41.53%
Neutral	8.31%
Good	2.56%
Very Good	0.00%

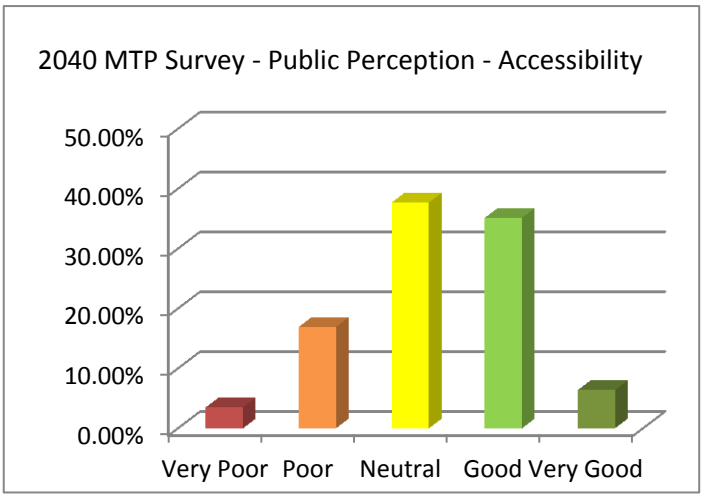
What is the general state of system safety in the region?



Safety Rating

Rating	Percentage
Very Poor	3.51%
Poor	27.48%
Neutral	40.26%
Good	28.12%
Very Good	1.92%

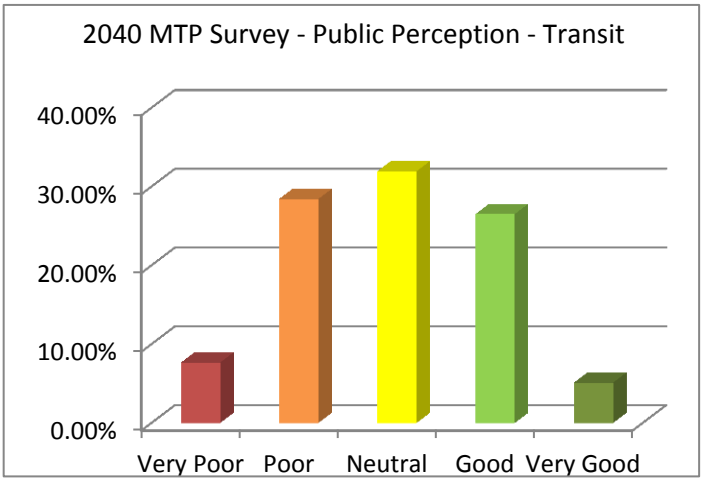
What is the general state of system accessibility in the region?



Accessibility Rating

Rating	Percentage
Very Poor	3.51%
Poor	16.93%
Neutral	37.70%
Good	35.14%
Very Good	6.39%

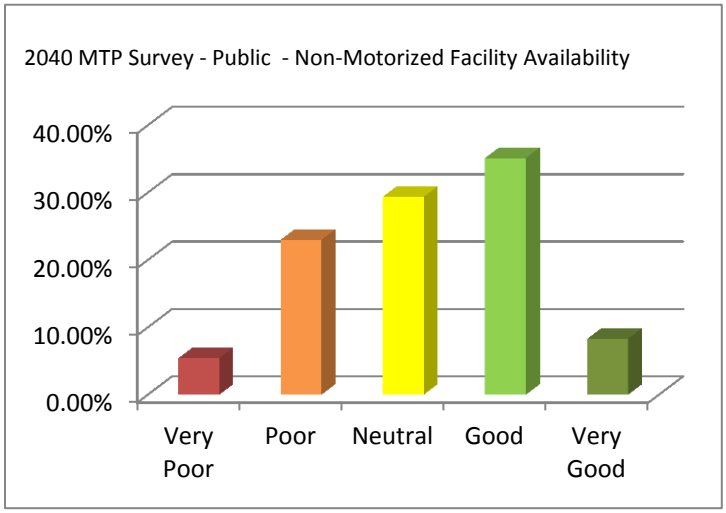
What is the general state of transit accessibility in the region?



Transit Accessibility Rating

Rating	Percentage
Very Poor	3.51%
Poor	16.93%
Neutral	37.70%
Good	35.14%
Very Good	6.39%

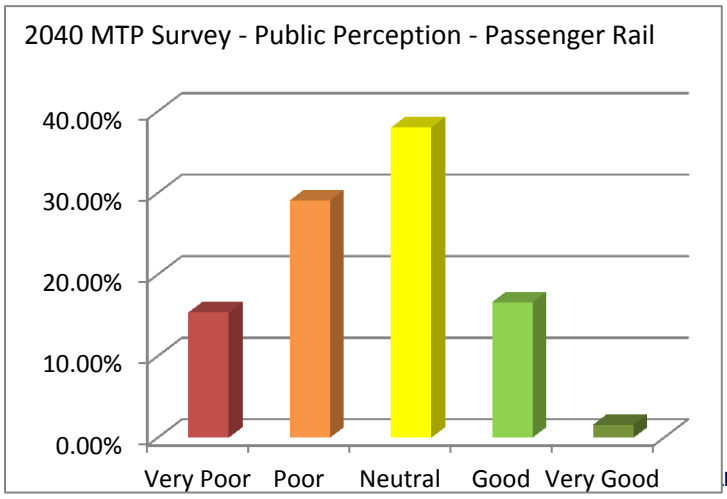
What is the general state of Non-Motorized Facility accessibility in the region?



Non-Motorized Facility Accessibility Rating

Rating	Percentage
Very Poor	5.43%
Poor	23.00%
Neutral	29.39%
Good	35.14%
Very Good	8.31%

What is the general state of Passenger Rail Service accessibility in the region?

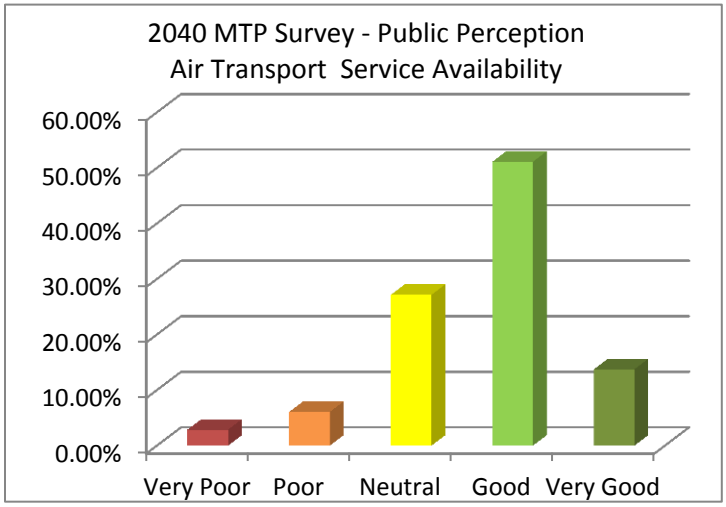


Passenger Rail Service Accessibility Rating

Rating	Percentage
Very Poor	15.34%
Poor	29.07%
Neutral	38.02%
Good	16.61%

Very Good	1.60%

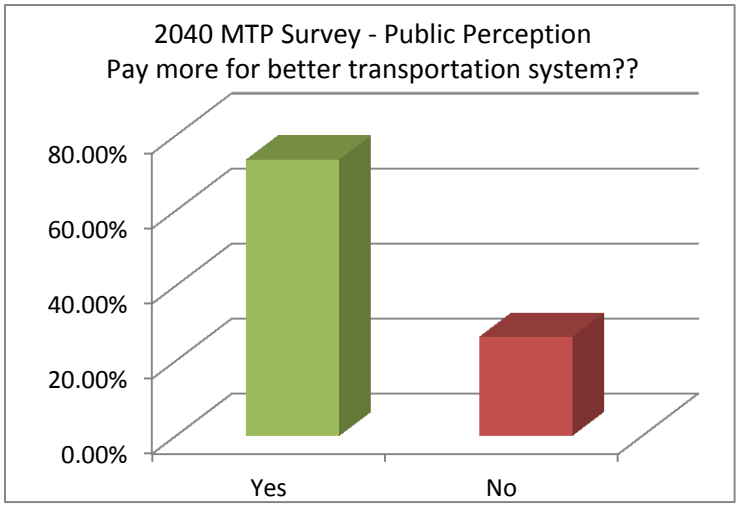
What is the general state of Air Transportation Service accessibility in the region?



Air Transport Service Accessibility Rating

Rating	Percentage
Very Poor	2.88%
Poor	6.07%
Neutral	27.16%
Good	51.12%
Very Good	13.74%

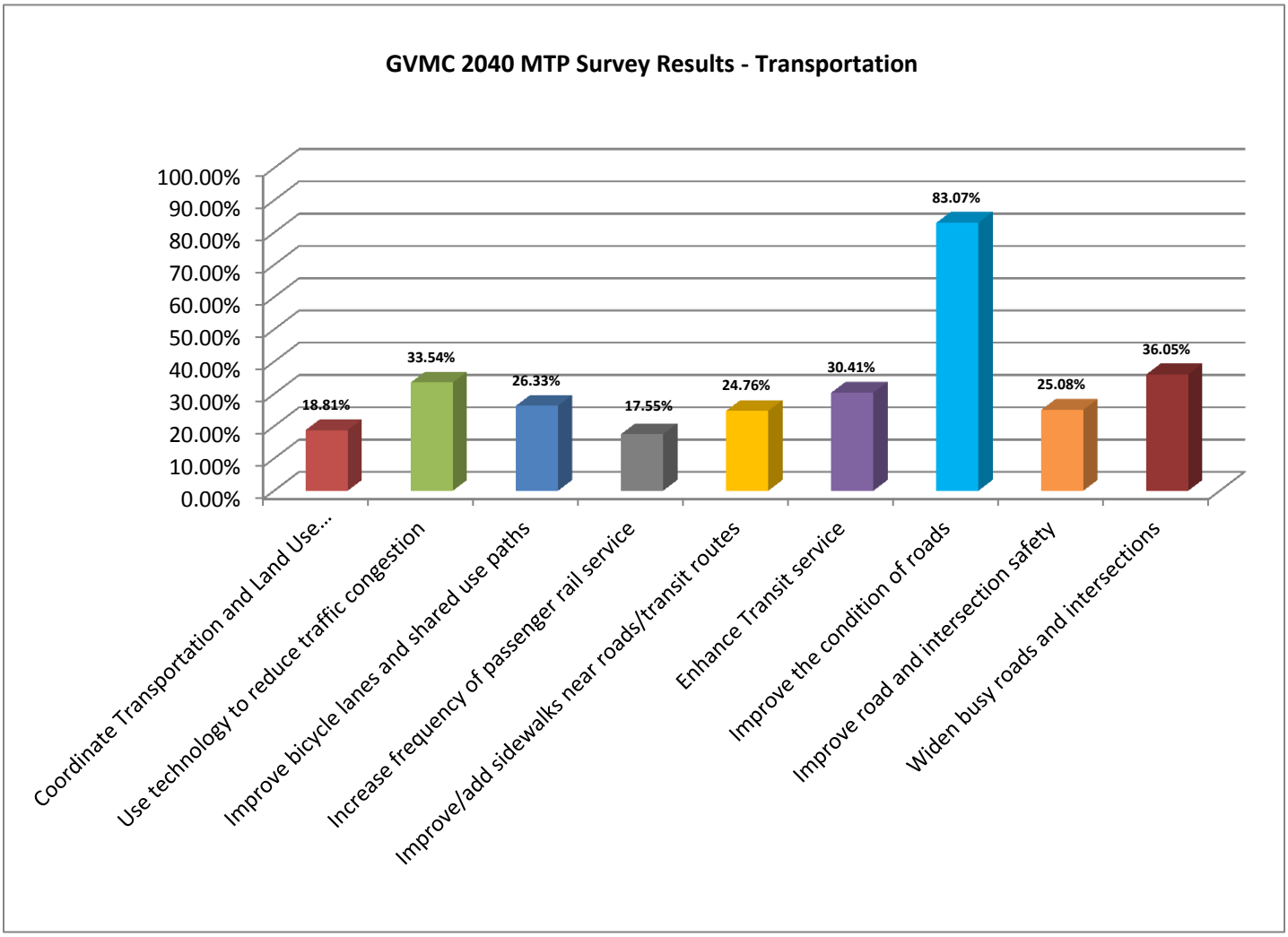
Would you be willing to pay more gas tax for an improved transportation system??



Willing to pay more for better transportation system??

Response	Percentage
Yes	73.60%
No	26.40%

Which of the following are important for transportation system improvement??



7. Consultation Mailing Materials and sample responses

GVMC

GRAND VALLEY METROPOLITAN COUNCIL

ALGOMA TOWNSHIP • ALLENDALE TOWNSHIP • ALPINE TOWNSHIP • BELDING • BYRON TOWNSHIP • CALEDONIA TOWNSHIP • CANNON TOWNSHIP •CASCADE TOWNSHIP • CEDAR SPRINGS • COOPERSVILLE • COURTLAND TOWNSHIP • EAST GRAND RAPIDS • GAINES TOWNSHIP • GEORGETOWN TOWNSHIP • GRAND RAPIDS • GRAND RAPIDS TOWNSHIP • GRANDVILLE • GREENVILLE • HASTINGS • HUDSONVILLE • IONIA • JAMESTOWN TOWNSHIP • KENT COUNTY • KENTWOOD • LOWELL • MIDDLEVILLE • OTTAWA COUNTY • PLAINFIELD TOWNSHIP • ROCKFORD • SPARTA • SPARTA TOWNSHIP • TALLMADGE TOWNSHIP • WALKER • WAYLAND • WYOMING

MEMORANDUM

DATE: November 20, 2014

TO: Consulted Organizations and Agencies

FROM: Jim Snell, Senior Transportation Planner

RE: **Request for Consultation on Draft 2040 Metropolitan Transportation Plan (MTP) Projects**

In the spirit of cooperation and collaboration, and acknowledging the critical role that a number of agencies play in achieving the goals of the transportation industry, the Grand Valley Metropolitan Council (GVMC) is consulting with Federal, State, Tribal, and local agencies responsible for land use management, natural resources, environmental protection, conservation, transportation/transit services, economic development, human services, historic preservation, and land use planning.

Consulted agencies are asked to review the Draft Metropolitan Transportation Plan (MTP) Project List and map (enclosed) and compare these materials to their own planning documents. The purpose of this consultation process is to meaningfully engage consulted agencies in a conversation to not only address the needs of transportation agencies, but to be supportive of resources and regulatory agencies' and planning organizations' goals and initiatives. This consultation process is not meant to replace other regulatory agencies' responsibilities under federal laws and regulations, and does not supersede any existing programmatic agreement, memorandum of understanding or other collaboration tools.

Projects in the MTP include road resurfacing/reconstruction and road widening projects. The enclosed list includes all projects that involve the construction of additional through lanes or capacity. Those projects not specifically listed that appear on the map are merely reconstruction or planned overlay projects that do not impede areas outside the existing right-of-way and appear for information only. While the MTP does list the implementation priorities for transportation projects in Kent and Eastern Ottawa County, the inclusion of a specific project does not guarantee construction.

Please respond on or before December 5, 2014: Your comments are an important part of the transportation planning process and will be incorporated into the document itself, and will also be included in the final MTP Appendix. Thank you in advance for your comments and participation. Comments may be directed to:

Mail: Grand Valley Metropolitan Council
Attn: Jim Snell
678 Front Ave, Suite 200
Grand Rapids, MI 49504
Email: snellj@gvmc.org
Phone: (616) 776-7610

678 FRONT AVENUE • SUITE 200 • GRAND RAPIDS, MICHIGAN 49504 • PH. 616 77-METRO (776-3876) • FAX 774-9292 • WWW.GVMC.ORG

ACCESS - The ability to enter or leave a residence, business, or parcel of land from a roadway by way of a connecting driveway. Alternatively it means the opportunity to reach a given point within a certain time frame, or without being impeded by physical, social, or economic barriers.

USDA

United States Department of Agriculture

Natural Resources Conservation Service

Michigan State Office

3001 Coolidge Road
Suite 250
East Lansing, MI
48823-6321

Telephone:
(517) 324-5270
Fax:
(866) 701-4363

www.nrcs.usda.gov

November 25, 2014

Mr. Jim Snell
Senior Transportation Planner
Grand Valley Metropolitan Council
678 Front Avenue, Suite 200
Grand Rapids, Michigan 49504

Dear Mr. Snell:

The Natural Resources Conservation Service (NRCS) under Part 523 of the Farmland Protection Policy Act has reviewed the proposed 2040 Metropolitan Transportation Plan Projects. This review was conducted with respect to the effect(s) that the proposal may have on prime and/or unique farmland. Subpart B of Part 523 of the Farmland Protection Policy Act states that 'Lands identified as "urbanized area" (UA) on the Census Bureau maps' are not covered by the act. Since the area of the proposed project extent is UA on the 2010 Census Bureau Reference Map for Grand Rapids, MI, we have concluded that this proposal will have no negative impact on prime and/or unique farmland.

Should the scope of the project change to where expansion will occur, please resubmit the proposal for our review.

Sincerely,

HARRY LEE
State Conservationist

cc:
Matthew Sushnel, District Conservationist, NRCS, Grand Rapids, MI
Eddie Glover, Area Conservationist, NRCS, Grand Rapids, MI

USDA is an equal opportunity provider and employer.

RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING

DAN WYANT
DIRECTOR

December 16, 2014

Mr. Jim Snell, Senior Transportation Planner
Grand Valley Metropolitan Council
678 Front Avenue
Suite 200
Grand Rapids, Michigan 49504

Dear Mr. Snell,

SUBJECT: Draft 2040 Metropolitan Transportation Plan
Various Projects

The Michigan Department of Environmental Quality (DEQ), Water Resources Division (WRD), has completed a preliminary review of the proposed general area and type of projects described in your November 20, 2014, memorandum.

Due to the lack of detail, we are only able to provide general comments. If the projects would involve work within a watercourse or drain, floodplains or wetlands, a permit may be required under the authority of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended; Part 301, Inland Lakes and Streams; Part 303, Wetlands Protection; and Part 31, Floodplain Regulatory Authority. Other permit requirements may be identified at a later date as the project's total impacts develop.

If a project impacts wetlands, it must be demonstrated that it is in the public interest, that the activity is primarily dependent on being located in the wetland, that a feasible and prudent alternative does not exist (including no-build), and the activity is otherwise lawful. If wetland losses are demonstrated as unavoidable through the project's design stage, all efforts should be made to minimize impacts to this resource, to the greatest extent practical. This can be accomplished by using guardrail or otherwise minimizing the roadway width and side slopes to the extent current safety standards will allow.

All regulated wetland losses between 0.01 and 0.10 per wetland complex, up to two acres total per project, may be compensated for at a minimum 1.0 to 1.0 ratio. Wetland losses above these figures require higher mitigation ratios. A mitigation site and a five year (minimum) monitoring schedule are required to be submitted at the time of application.

If it is determined that the drainage area of the structure is greater than two acres, then a hydraulic analysis is necessary to show the proposed project will not adversely affect the flood carrying capacity of the watercourse or adjacent properties compared to existing conditions.

Any non-harmful increase in flood stage not confined to the applicant's property may require one of the following:

1. A flood damage waiver from each affected property owner.

2. A flood damage certification verifying that the change in existing flow characteristics will not result in a harmful interference.

Any questions concerning the hydraulic computations or related floodplain issues should be directed to Mr. James Watling, PE, Environmental Engineer, at 517 284-5538, watlingj@michigan.gov; or DEQ, WRD, P.O. Box 30458, Lansing, Michigan 48909.

In general, if the proposed project includes any earth changing activities within 500 feet of a lake or stream, or disturbs one or more acres of land, then a local Soil Erosion and Sedimentation Control Permit is required. Also, if a construction site disturbs five or more acres, a Notice of Coverage, under the Permit-by-Rule for storm water discharges is required.

Environmental documents and/or plans submitted with the DEQ permit application should include a vicinity map, existing and proposed plan and profile sheet cross sections, dredge and fill quantities, proposed grade elevations, and a detailed soil erosion control plan. The document should also describe delineated wetland locations, types of wetlands involved, their resource values, and total wetland acreage on site, number of acres impacted, and a mitigation plan.

Thank you for the opportunity to review and provide preliminary comments on these projects. Should you have further questions or concerns, please feel free to contact me at 616-295-2787, vickersh@michigan.gov; or DEQ, Grand Rapids District Office, 350 Ottawa Avenue, Unit 10, Grand Rapids, Michigan 49503.

Sincerely,

Holly Vickers
Transportation and Flood Hazard Unit
Grand Rapids District Office

cc: Mr. Mike Worm, DEQ, WRD
Ms. Sara Schaefer, Michigan Department of Natural Resources
Mr. Jay Wesley, Michigan Department of Natural Resources
Ms. Amanda Whitsell, DEQ, WRD
Ms. Brandie Stefanski, DEQ, WRD
Mr. James Watling, DEQ, WRD

Appendix B: Definitions and Acronyms

ACCESS MANAGEMENT - Limiting the ability of traffic to enter, leave, or cross thoroughfares; regulating the spacing and design of driveways, medians, intersections, and traffic signals to promote the efficient flow of through traffic.

ACCESSIBILITY - The ability to reach destinations, activities, and services.

ADA: Americans with Disabilities Act - A set of guidelines passed in 1990 to assure a minimum level of accessibility to buildings and facilities for individuals with disabilities; Title III of the legislation deals with public accommodations.

ADT: Average Daily Traffic - The average number of vehicles passing a specific point on a roadway during 24 hour period.

ALLOCATION - An administrative distribution of funds among States which do not have statutory distribution formulas

APPORTIONMENT – A division or assignment of funds based on prescribed formulas in the law and consisting of divided authorized obligation authority for a specific program among the States.

ARTERIAL - A controlled access highway designed for through traffic (longer trips, higher volume and speed); arterials are typically on a continuous route and are often divided; the right-of-way is usually 120 feet.

BASE YEAR - The year which serves as a starting point of data used in a study.

BICYCLE LANE - Portion of the street designated by striping, signing, or pavement markings for preferential or exclusive use by bicyclists. Bike lanes are established with appropriate pavement markings and signing to delineate the right of way assigned to bicyclists and motorists, and to provide more predictable movements by each. Bike lanes are usually paired one-way facilities located on both sides of streets with moderate to heavy traffic volumes. Steeply sloped streets can have bike lanes on one side for climbing, while it may not be necessary to stripe lanes on the downhill side because bicycle speeds approach motor vehicles on these sections. The minimum width of a bike lane is 4 feet in most areas, or 5 feet when adjacent to on-street parking or if measured from the curb face. Bicycle lane design at intersections must be treated carefully to minimize conflicts between bicycle and auto movements.

BOULEVARD - A wide street, usually with a median or promenade, lined with trees.

BRT: Bus Rapid Transit - A transportation system that, through improvements to infrastructure, vehicles and scheduling, uses buses to provide a service that is of similar quality to light-rail systems.

BUFFER - Portion of the roadway between the curb or edge of the pavement and the sidewalk; used to separate pedestrians and vehicles. Buffers often include landscaping, trees, or utility poles.

BULBOUT - An extension of the sidewalk or curb line into the parking lane to reduce the effective street width. Also known as curb bulb-outs or neckdowns, curb extensions significantly improve pedestrian crossings by reducing the pedestrian crossing distance, visually and physically narrowing the roadway, improving the ability of pedestrians and motorists to see each other, and reducing the time that pedestrians are in the street. Curb extensions are only appropriate where there is an on-street parking lane. Curb extensions should not extend more than 6 feet from the curb, and must not extend into travel lanes, bicycle lanes or shoulders. The turning needs of larger vehicles, such as school buses, need to be considered in curb extension design.

CAAA: Clean Air Act of 1990 and Amendments - Federal legislation that sets standards for air quality levels.

CL: City Limits or County Line – City Limits or alternatively County Line, depending on what is the most logical project limit.

CMAQ: Congestion Mitigation and Air Quality Improvement Program - Program which directs funding to projects that contribute to meeting national air quality standards.

CO: Carbon Monoxide - A colorless, odorless, tasteless, gas that impedes the oxygenation of blood. CO is formed, in large part, by incomplete combustion of fuel.

COLLECTOR - A two- to four-lane roadway providing mobility and access. Collector streets can be found in residential neighborhoods, commercial and industrial areas, and central business districts. Collectors usually have minimal access control, and the right-of-way is typically 80 feet. Collectors are designed to move traffic from local roads to secondary arterials.

CONFORMITY - Compliance of any transportation plan with air quality control plans.

CONGESTION MANAGEMENT PROCESS (CMP) - One of six management systems originally required by ISTEA and subsequent transportation legislation. Future highway projects that significantly increase capacity for single occupant vehicles (SOV) should be part of a CMP or those projects may be ineligible for federal funding.

CONGESTION MITIGATION/AIR QUALITY (CMAQ) – A Categorical federal aid funding program created with the ISTEA. Directs funding to proects that contribute to meeting National air quality standards. CMAQ funds generally cannot be used for projects that result in the construction of new capacity available to SOV use.

CONTRACT AUTHORITY - Budget authority that permits obligations to be made in advance of appropriations.

CONTROLLED INTERSECTION - Intersection with a traffic light or other traffic control device.

CORRIDOR - Transportation pathway allowing movement between activity centers; a corridor may encompass single or multiple transportation routes and facilities, adjacent land uses, and the connecting street network.

CROSSWALK - Marked portion of the street designated for pedestrian crossing, either mid-block or at an intersection. The most common markings are double parallel lines, ladder, and zebra stripes.

CURB EXTENSION - An extension of the sidewalk or curb line into the parking lane to reduce the effective street width. Also known as curb bulb-outs or neckdowns, curb extensions significantly improve pedestrian crossings by reducing the pedestrian crossing distance, visually and physically narrowing the roadway, improving the ability of pedestrians and motorists to see each other, and reducing the time that pedestrians are in the street. Curb extensions are only appropriate where there is an on-street parking lane. Curb extensions should not extend more than 6 feet from the curb, and must not extend into travel lanes, bicycle lanes or shoulders. The turning needs of larger vehicles, such as school buses, need to be considered in curb extension design.

DEMAND RESPONSIVE - Transit services that can be variably routed and timed to meet the changing needs of the user on an as-needed basis.

DENSITY - The number of dwelling units, buildings, or persons per unit of land, usually per acre (expressed as du/ac).

EASEMENT - Contractual agreement allowing temporary or permanent access through and/or use of a property.

EMISSIONS BUDGET - The part of the State Implementation Plan that identifies allowable emissions levels, mandated by the National Ambient Air Quality Standards, for certain pollutants.

ENVIRONMENTAL IMPACT STATEMENT (EIS) - Reports which details any adverse economic, social, environmental effects of a proposed transportation project that the federal government funds.

ENVIRONMENTAL JUSTICE (EJ) - Refers to Executive Order 12898 which seeks to address disproportionately high and adverse human health or environmental effects in Federal programs or policies on minority and low income populations.

EPA: Environmental Protection Agency - Federal source agency of environmental and air quality regulations affecting transportation.

EXPENDITURES - Disbursement of funds for repayment of obligations occurred.

EXPRESSWAY - A divided highway, typically with a 150-200 foot right-of-way, with full or partial access control and interchanges at selected public roads. Expressways may also have at-grade intersections spaced at 1500-2000 foot intervals.

FHWA: Federal Highway Administration - Federal agency within the United States Department of Transportation that deals with roadway and highway issues.

FREEWAY - A divided highway for through traffic with full access control and interchanges at selected public roads.

FTA: Federal Transit Administration - Federal agency within the United States Department of Transportation that deals with transit issues.

FUNCTIONAL CLASSIFICATION - A system for classifying streets and highways based on the nature of service they are intended to provide.

FY: Fiscal Year - Year in which public and private agencies use for conducting business; it usually differs from the calendar year. Most State and Federal agencies use an October 1 through September 30 fiscal year.

GIS: Geographic Information System - Computer mapping capabilities used to provide information.

GRETS: Grand Rapids and Environs Transportation Study - Previous designation of the Grand Rapids Metropolitan Planning Organization (MPO).

GREENWAY - A protected open-space area following a natural or man-made linear feature; greenways are often used for recreation, transportation, conservation, and to link amenities.

GVMC: Grand Valley Metropolitan Council - Agency that serves as the Metropolitan Planning Organization (MPO) for the Grand Rapids area. The Council is made up of members, all local units of government, that want to work cooperatively on issues that have a multi-jurisdictional or regional scope. Those issues include transportation, the environment, economics, and those with social impact.

HIGHWAY PERFORMANCE MONITORING SYSTEM (HPMS) - A federal database of roadway characteristics and traffic information for pre-selected roadway segments throughout the entire MPO Study Area.

IAWG: Inter-Agency Work Group - Group consisting of Federal, State, and MPO staffs that meet periodically to discuss transportation project development and its relationship to air quality on both a short and long-range basis.

INFRASTRUCTURE - The built facilities required to serve a community's development and operational needs, e.g. roads, water, and sewer systems.

INTERMODAL - Refers to connections between modes of transportation.

INTERSECTION - The area where two or more roadways join or cross including the roadway and roadside facilities.

INTERSTATE SYSTEM - The system of highways that connects the principal metropolitan areas, cities, and industrial centers of the United States. The Interstate System also connects the U.S. to internationally significant routes in the Mexico and Canada.

ISTEA: Intermodal Surface Transportation Efficiency Act Of 1991 - Federal legislation that reconstructed funding for the transportation program and opened up the transportation planning process to the public. ISTEA was replaced by newer federal transportation legislation, SAFETEA-LU, in August, 2005.

ITE: Institute of Transportation Engineers - An international association of transportation professionals that supports transportation-related education, research, professional development, public awareness programs, and facilitates the exchange of professional information.

ITP: Interurban Transit Partnership - Agency responsible for providing public transportation and transit service in the Grand Rapids area, also known as The Rapid.

ITS: Intelligent Transportation System - Technologies that focus on monitoring, guiding, or operating motorized vehicles.

LAND USE - The way in which a parcel of land is used or occupied, i.e. the types of buildings or activities, and/or the purpose for which it is designed, arranged, intended, or maintained.

LOCAL STREET - Primary role is providing access to adjacent properties; local streets have low levels of mobility and serve residential, commercial, and industrial areas.

LOS: Level of Service - A qualitative rating system used to describe the adequacy of the road network at a specific intersection or street segment, based on factors including travel time, freedom to maneuver, driver comfort, and interruptions; LOS A is used to describe the best traffic conditions while LOS F denotes gridlock. LOS can also be used to describe transit and bicycle/pedestrian networks.
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MAP-21: Moving Ahead for Progress – (Current federal legislation) -MAP-21 creates a streamlined, performance-based, and multimodal program to address the many challenges facing the U.S. transportation system. These challenges include improving safety, maintaining infrastructure condition, reducing traffic congestion, improving efficiency of the system and freight movement, protecting the environment, and reducing delays in project delivery

MAJOR THOROUGHFARE - Major, multimodal streets in urban areas (arterials and collectors) which are designed to complement and support adjacent land uses.

MDNRE: Michigan Department of Natural Resources and Environment - State agency dedicated to environmental improvements and policies that impact public health and natural resources such as air quality, water quality, and waste management.

MDOT: Michigan Department of Transportation - State agency responsible for monitoring and improving the transportation system in Michigan.

MIRIS: Michigan Resource Information System - State level data base which contains information on a number of items including roads, land cover, and natural resources.

MIXED-USE ZONING - Zoning allowing several types of uses (e.g. residential, commercial, office, and/or retail) within a single building or development. The uses can be mixed vertically, with different uses stacked in a single building, or horizontally, with different uses adjacent to or near each other.

MOBILITY - Movement of people or goods within the transportation system.

MODE - Form of transportation, such as automobile, transit, bicycle, and walking.

MODEL - A mathematical and geometric projection of activity and interactions in the transportation system of an area.

MPO: Metropolitan Planning Organization - A federally required planning entity responsible for transportation planning and project selection in its region; every urbanized area with a population over 50,000 should have an MPO, designated by the governor. The Grand Valley Metropolitan Council (GVMC) is the MPO for the Grand Rapids area.

MSA: Metropolitan Statistical Area - U.S. Census determination which delineates the boundaries of the Metropolitan area.

MULTIMODAL - A system or corridor providing a range of transportation options including walking, bicycling, driving, and transit.

MUTCD: Manual on Uniform Traffic Control Devices - The MUTCD defines the standards used for the installation and maintenance of traffic control devices (signs, signals, and pavement markings) nationwide; the manual is published by the Federal Highway Administration.

NAAQS: National Ambient Air Quality Standards - Standards set forth through the Clean Air Act which monitor air quality.

NETWORK - A graphic and/or mathematical representation of multimodal paths in a transportation system.

ON-STREET PARKING - Space for parking cars within the street right-of-way; on-street parking can improve access to nearby land uses, create a buffer between pedestrians and vehicles, and help reduce traffic speeds by narrowing the perceived right-of-way.

OXIDES OF NITROGEN (NOX) - A byproduct of processes employing a high temperature combustion. Power plants, industrial boilers, and motor vehicles are all principle sources of NoX.

PARATRANSIT - Services which serve the special needs of persons that standard mass transit services would serve with difficulty, or not at all.

PARTICULATE MATTER - Particulate Matter less than or equal to 10 microns. Consists of matter suspended in the atmosphere such as dust, chemicals, etc.

PEAK HOUR - The 60-minute period in the morning and evening in which the largest volume of travel is experienced.

PEDESTRIAN-ORIENTED - A built environment that emphasizes and is conducive to walking between destinations. A pedestrian-friendly environment may include sidewalks, buffers, street trees, benches,

fountains, transit stops, pedestrian-oriented signs and lighting, public art, and buildings that are visually interesting with high levels of transparency and articulation.

PERSON-TRIP - A trip made by one person from one origin to one destination

PMS or PaMS: Pavement Management System - A system used to monitor and evaluate pavement conditions on the road network.

PPM: Parts Per Million - A measurement used in relating concentrations of matter, such as ozone in the atmosphere.

PPP: Public Participation Plan - Plan developed by GVMC that dictates how public involvement will be incorporated into the transportation planning process.

PROVIDER - An agency that causes clients to be transported, as opposed to an agency whose role is limited to funding programs.

PTMS: Public Transportation Management System - A system which allows for the monitoring and evaluation of the public transportation system for an area.

REGION - An entire metropolitan area including designated urban and rural subregions.

REGIONALLY SIGNIFICANT - A project that is on a facility which serves regional transportation needs and would normally be included in the modeling of a metropolitan area=s transportation network. Said project also offers an alternative to regional highway travel.

RESCISSION - Legislative action to cancel the obligation of unused budget authority previously provided by Congress before the time when the authority would have otherwise lapsed.

REVERSE COMMUTE - Commuting against the main direction of traffic or a commute from the central city to the suburbs.

ROAD DIET - Narrowing a roadway by reducing the number of lanes or lane width; a traffic calming strategy used to reduce vehicle speeds. Road diets are often conversions of four-lane undivided roads into three lanes (two through lanes and a center two-way left turn lane (TWLTL). The ROW of the fourth lane may be used for bicycle lanes, sidewalks, and/or on-street parking.

ROADWAY - A thoroughfare at least twenty feet in width that has been dedicated to the public for transportation use; a section of the right-of-way that has been designed, improved, surfaced, or is typically used for motor vehicle travel.

ROUNDABOUT - A traffic calming device in which vehicles follow a circular path around a central island; upon approaching the roundabout, vehicles are expected to yield to traffic already in the circle.

ROW: Rights-of-Way - Public strip of land on which streets, sidewalks, alleys, transit and railroad lines, and public utilities are built.

SAFE ROUTES TO SCHOOL - Programs designed to encourage and enable children to safely walk and bike to school. These programs often include education, encouragement and enforcement efforts in conjunction with a variety of site-specific engineering measures designed to improve safety for bicycling and walking. See www.saferoutesinfo.org and http://safety.fhwa.dot.gov/saferoutes/ for more information.

SAFETEA-LU: Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy For Users - $286.4 federal transportation legislation that governs the United States federal surface transportation spending. It was signed into law by President George W. Bush on August 10, 2005 and will expire September 30, 2009.

SHARED LANE - A wide outside/curb or shared lane (WCL) is the lane nearest the curb and is wider than a standard (12-foot) lane, providing additional space so that the lane may be shared more comfortably by motor vehicles and bicycles. These lanes should be about 14 feet wide, as lanes wider than 15 feet can encourage the operation of two motor vehicles side by side. If lanes become too wide, some motorists may also assume parallel parking is allowed, constricting the travel lane for bikes.

SHARED ROADWAY - A roadway that is open to both bicycle and motor vehicle travel - may be an existing roadway, street with wide curb/outside lanes, or road with paved shoulders. Shared roadways typically have no bikeway designation, but should be designed and constructed under the assumption that they will be used by bicyclists.

SHARED USE PATH - A path physically separated from motorized vehicular traffic by an open space or barrier located either within the highway right-of-way or within an independent right-of-way. Shared use paths may be used by pedestrians, bicyclists, skaters, wheelchair users, runners, and other non-motorized users.
SHARROW - A chevron-style roadway lane marking that indicates that the lane is shared by bicyclists and other vehicles. Sharrows are used when the road lane is not wide enough to accommodate both a traffic lane and a dedicated bicycle lane.

SHOULDER - The portion of the roadway to the right of the rightmost travel lane, excluding curbs, buffers, and sidewalks; shoulders can be paved, gravel, dirt, or grass, and serve a number of different purposes, (bicycle and pedestrian travel, structural roadway support, space for emergency vehicles to pass, stopped/disabled vehicle pull-off, space for vehicles to slow and turn right) typically dictated by their width and composition.

SHUTTLE - Usually a service provided with a vehicle seating twenty or more passengers that connects major trip destinations and origins on a fixed-route or route-deviation basis.

SIDEPATH - A type of multi-use path running adjacent and parallel to a roadway, like an extra wide sidewalk. Sidepaths have special design challenges, as motor vehicles may not expect bikes to be entering an intersection from outside the travel lanes. AASHTO discourages two-way paths located immediately adjacent to roadways due to the operational and safety issues that can occur. Sidepaths should not be considered a substitute for street improvements even when the path is located adjacent to a highway, as many bicyclists find these paths less convenient than on-street facilities, particularly for utilitarian trips.

SIDEWALK - A paved pathway paralleling a highway, road, or street that is intended for pedestrians. Most sidewalks are separated from the curb by trees, grass, landscaping, lights, or other streetscape elements and are most common in areas of higher land use densities.

SIGNED SHARED ROADWAY - A shared roadway that has been designated with signing as a preferred route for bicycle use to provide continuity to other bicycle facilities, or to designate preferred routes through high-demand corridors.

SIP: State Implementation Plan - Required documents prepared by States and submitted to EPA for approval. SIPs identify state actions and programs to implement designated responsibilities under the Clean Air Act and subsequent amendments.

SOV: Single Occupancy Vehicle - The use of vehicle to get one person to a destination.

SMSA: Standard Metropolitan Statistical Area - A U.S. Census delineation for larger metropolitan areas in the U.S.

STIP: State Transportation Improvement Program - The compilation of Transportation Improvement Programs (TIPs) from around the State.

STPU: Surface Transportation Program-Urban - Federal funding category geared specifically to urbanized areas.

STREETSCAPE - The elements within and along the street right-of-way that define its appearance, identity, and functionality, including adjacent buildings and land uses, street furniture, landscaping, trees, sidewalks, and pavement treatments, among others.

STPR: Surface Transportation Program-Rural - Federal funding category geared specifically to rural areas.

TAZ: Traffic Analysis Zone - The smallest geographically designated area for analysis of transportation activity.

TCM: Transportation Control Measure - Local actions to adjust traffic patterns or reduce vehicle use to reduce air pollution.

TDM: Transportation Demand Management - Process used to monitor and evaluate the need of the transportation network relative to the number of users, and the total amount of usage the transportation network will receive.

TEDF: Transportation Economic Development Funds - This program has different lettered categories A through F that provide competitive statewide funding for roadways of different types that serve economic development purposes.

TIP: Transportation Improvement Program - A short-term, three-year program of transportation projects which are expected to be federally funded; these projects are drawn from and should be consistent with the Long Range Transportation Plan.

TMA: Transportation Management Area - An MPO with over 200,000 population. All transportation plans for these areas must be based on a continuing and comprehensive planning process carried out by the MPO in cooperation with the States and transit operators.

TOD: Transit Oriented Development - Development in which land uses are designed and sited to maximize transit ridership and the use of alternative forms of transportation; TOD's are typically also mixed-use developments.

TRAFFIC CALMING - Transportation techniques, facilities, or programs designed to slow the movement of motor vehicles. Traffic calming typically involves changes in street alignment, installation of barriers and other physical measures to reduce traffic speeds and/or cut-through volumes in the interest of safety, livability, and other public interests. Physical treatments may include speed tables, raised crosswalks, textured pavement, roundabouts, chicanes, curb extensions, partial roadway closures, diagonal diverters and median barriers.

TRANSIT - Passenger transportation service provided to the general public along established routes with fixed or variable schedules at published fares.

TRANSIT DEPENDENT - Persons who must rely on public transit or paratransit for most or all of their transportation needs.

TRAVEL TIME - Customarily calculated as the time it takes to travel from Adoor-to-door.

TSM: Transportation System Management - The element of a TIP that proposes non-capital-intensive steps toward the improvement of a transportation system.

URBANIZED AREA - An area which contains a city of 50,000 or more in population plus adjacent surrounding areas having a density of at least 1,000 people per square mile as determined by the U.S. Census.

USDOT: United States Department of Transportation - The principal direct federal funding and regulating agency for transportation facilities and programs.

UPWP: Unified Planning Work Program - Annual document prepared by the MPO that outlines transportation work tasks and products that will be completed and produced for the upcoming fiscal year.

VOC: Volatile Organic Compounds - Chemicals that are generated through the combustion of fossil fuels, industrial processes, and vegetation. VOCs are an ingredient in ground level ozone and smog.

VMT: Vehicle Miles Traveled - The number of vehicle miles traveled within a specified geographic area during a given period of time; one vehicle traveling one mile constitutes one vehicle mile, regardless of its size or the number of passengers.

WIDE OUTSIDE LANE - A wide outside/curb or shared lane (WCL) is the lane nearest the curb and is wider than a standard (12-foot) lane, providing additional space so that the lane may be shared more comfortably by motor vehicles and bicycles. These lanes should be about 14 feet wide, as lanes wider than 15 feet can encourage the operation of two motor vehicles side by side. If lanes become too wide, some motorists may also assume parallel parking is allowed, constricting the travel lane for bikes.

WMCAC: West Michigan Clean Air Coalition - A partnership of business, academia, government, industry, and the non-profit sector in Kent, Ottawa, and Muskegon counties working together to achieve cleaner air in the region.

WMEAC: West Michigan Environmental Action Council - A non-profit environmental advocacy and education organization founded in 1968.

YOE: Year of Expenditure - Project costs in the LRTP Project list must be inflated to the year or range of years that the project will be constructed.

ZONING - Classification system based on permitted and prohibited land uses, densities, and intensities used to promote land use compatibility.

Appendix C: Policies and Practices for Programming Projects

Policies and Practices for Programming Projects - Revised February 14, 2014

Capacity Deficient Project Eligibility

Previously Stated Goal:

The MPO shall make efforts to reduce system-wide congestion and travel times.

Strategy/Practice:

In Kent County, the MPO shall use all available TEDF funding to improve capacity of facilities that are rated or are projected to be rated Level Of Service (LOS) E and F. In Ottawa County, the MPO shall use available federal funding to improve capacity of facilities that are rated or are projected to be rated Level Of Service (LOS) E and F. These projects must be listed in the MPO's Long Range Transportation Plan prior to implementation through the TIP process. The funding ratios for capacity deficient projects should be set at 80% federal/EDFC with a required 20% local match. The committees may alter this ratio to accommodate funding shortfalls. STP funding may be used for capacity improvement projects in Kent County if the necessity exists to do so due to financial constraint demonstrated in the Long Range Plan.

Explanation:

If a facility has a 24 hour capacity of 24,000, and a 24 hour traffic volume of 18,000, then the V/C Ratio would be 0.75. Using the scale below, this facility would not be eligible for federal funding for the purpose of widening or adding capacity.

LOS Scale
V/C 0.00 - 0.25 = LOS A
V/C 0.26 - 0.50 = LOS B
V/C 0.51 - 0.75 = LOS C
V/C 0.76 - 1.00 = LOS D

V/C 1.01 - 1.25 = LOS E
V/C 1.26 - 9.99 = LOS F

Capacity Deficient

A comprehensive Roadway Infrastructure Management System (RIMS) has been developed and used as an inventory for all federal-aid roadways within the MPO boundary. The information contained in RIMS developed by MPO staff, reviewed by each jurisdiction, and approved through the MPO process. RIMS is updated as information becomes available. Data for RIMS is acquired through various sources, including but not limited to local data submittal, the GVMC traffic count program, MDOT's traffic count program, etc.

All capacity and bridge improvement projects programmed in the TIP will be designed to reduce the congested or projected congested situation through the time period of the MTP. No improve/expand or bridge projects will be programmed that do not address current and future congestion through the life of the MTP.

Only projects that increase capacity by adding lanes (thru lanes, center turn lanes, and/or boulevard) should be funded using EDFC funding. Projects that widen existing lanes should not be funded EDFC funds.

GVMC staff will work to develop an improved scope and description of project including specific termini, proposed typical cross section and if required, work on existing structures.

New transit routes to be included in the TIP that receive federal funding, must be first justified by current and accurate facts and figures identifying the need, the demand, and funding for such services. A commitment to

continue the proposed service beyond the scope of the federal funding must also in place if rider ship meets projections.

Projects located in the high priority corridors will be noted on the deficient project pool listing.

Capacity improvement projects shall include in the project as a participating cost any/all elements of planned ITS deployment.

All projects require consideration of Social and Environmental (S/E) impacts through the federal NEPA process. Minor projects, generally within the existing right-of-way, are usually classified as Categorical Exclusions. Projects which add capacity to an existing road or transit facility, and/or involve construction of a new transportation facility often require an Environmental Assessment (EA). The purpose of the EA is to identify the S/E effects of the proposed project and any mitigation required. If, through the EA process, significant S/E impacts are identified, an Environmental Impact Statement (EIS) is required. The EIS quantifies all S/E impacts associated with major projects, and identifies the required mitigation measures to address the impacts identified. Extensive public involvement, including a public hearing, and federal/state regulatory agency review, are included in both the EA and EIS processes. Proposed projects involving new or modified access to the Interstate system also require the completion of an Interchange Justification Report (IJR), to assess traffic impacts on the Interstate highway system.

The EA, EIS, and IJR processes may occur prior to inclusion of a project in the MPO MTP, or may occurs as part of the TIP project implementation process, depending on the scope of the proposed project.

Condition Deficient Project Eligibility

Stated Goal: To maintain and improve the system-wide pavement condition within the GVMC MPO boundary.

Strategy/Practice:

The MPO will maintain a Pavement Management System (PaMS). This system will include all necessary data to reasonably manage and improve the pavement condition of the federal aid network. MPO staff will update the condition data on the entire network annually.

The Pavement Surface Evaluation and Rating (PASER) system will be utilized as the basis for determining project eligibility. The PASER survey process will be completed on the entire system in the network annually. Staff representing individual jurisdictions in conjunction with trained GVMC staff will conduct the survey in the GVMC data collection vehicle. Field data for the entire network will be verified by GVMC staff using data and photos collected concurrently using the automated data collection system. GVMC staff will make the final PASER determination. Final PASER ratings will be provided to each jurisdiction in the study area. Upon completion of the data review an annual system condition report will be produced and placed on the GVMC website for public consumption.

Programming/Investment Policy

GVMC shall program federal funds according to the following criteria:

PASER Investment Scale	
PASER 10 – 8	Not Eligible for federal funds
PASER 7	Eligible for crack sealing funding*
PASER 6 - 5	Eligible for sealcoat/thin overlay funding*
PASER 4	Eligible for structural overlay funding
PASER 3 – 1	Eligible for reconstruction funding

* Approved GVMC treatment. Subject to MDOT Programming approval.

ASPHALT PASER RATING

Asphalt Surface Rating		Visible Distress	General Condition / Treatment Measures
10	Excellent	None	New construction
9	Excellent	None	Recent overlay, like new.
8	Very Good	No longitudinal cracks except occasional reflection of paving joints. Occasional transverse cracks, widely spaced (40' or greater).	Recent sealcoat or new road mix. Little or no maintenance required.
7	Good	Longitudinal cracks (open 1/4") spaced due to reflection or paving joints. Transverse cracks (open 1/4") spaced 10 feet or more apart, little or slight crack raveling. No patching or very few patches in excellent condition.	First signs of aging. Maintain with routine crack filling.
6	Good	Longitudinal cracks (open 1/4" - 1/2") due to reflection and paving joints. Transverse cracking (open 1/4" - 1/2") some spaced less than 10 feet. Slight to moderate flushing or polishing. Occasional patching in good condition.	Show signs of aging, sound structural condition. Could extend life with sealcoat.
5	Fair	Longitudinal cracks (open 1/2") show some slight raveling and secondary cracks. First signs of longitudinal cracks near wheel path or edge. Transverse cracking and first signs of block cracking. Slight crack raveling (open 1/2"). Extensive to severe flushing or polishing. Some patching or edge wedging in good condition.	Surface aging, sound structural condition. Needs sealcoat or non-structural overlay.
4	Fair	Multiple longitudinal and transverse cracking with slight raveling. Block cracking (over 25 - 50% of surface). Patching in fair condition. Slight rutting or distortions (1" deep or less).	Significant aging and first signs of need for strengthening. Would benefit from recycling or overlay.
3	Poor	Closely spaced longitudinal and transverse cracks often showing raveling and crack erosion. Block cracking over 50% of surface. Some alligator cracking (less than 25% of surface). Patches in fair to poor condition. Moderate rutting or distortion (1" or 2" deep). Occasional potholes.	Need patching and major overlay or complete recycling.
2	Very Poor	Alligator cracking (over 25% of surface). Severe distortions (over 2" deep). Extensive patching in poor condition. Potholes.	Severe deterioration. Need reconstruction with extensive base repair.
1	Failed	Severe distress with extensive loss of surface integrity.	Failed. Needs total reconstruction.

CONCRETE PASER RATING

Concrete Surface Rating		Visible Distress	General Condition / Treatment Measures
10	Excellent	None	New construction
9	Excellent	Traffic wear in wheelpath. Slight map cracking or pop-outs.	Recent concrete overlay or joint rehabilitation. Like new condition. No maintenance required.
8	Very Good	Pop-outs, map cracking, or minor surface defects. Slight surface scaling. Partial loss of joint sealant. Isolated meander cracks, tight or well sealed. Isolated cracks at manholes, tight or well sealed.	More surface wear or slight defects. Little or no maintenance required.
7	Good	More extensive surface scaling. Some open joints. Isolated transverse or longitudinal cracks, tight or well sealed. Some manhole displacement and cracking. First utility patch, in good condition. First noticeable settlement or heave area.	First sign of transverse cracks (all tight); first utility patch. More extensive surface scaling. Seal open joints and other routine maintenance.
6	Good	Moderate scaling in several locations. A few isolated surface spalls. Shallow reinforcement causing cracks. Several corner cracks, tight or well sealed. Open (1⁄4" wide) longitudinal or transverse joints and more frequent transverse cracks (some open 1⁄4").	First signs of shallow reinforcement or corner cracking. Needs general joint and crack sealing. Scaled areas could be overlaid.
5	Fair	Moderate to severe polishing or scaling over 25% of the surface. High reinforcing steel causing surface spalling. Some joints and cracks have begun spalling. First signs of joint or crack faulting (1⁄4"). Multiple corner cracks with broken pieces. Moderate settlement or frost heave areas. Patching showing distress.	First signs of joint or crack spalling or faulting. Grind to repair surface defects. Some partial depth patching or joint repairs needed.
4	Fair	Severe polishing, scaling, map cracking, or spalling over 50% of the area. Joints and cracks show moderate to severe spalling. Pumping and faulting of joints (1⁄2") with fair ride. Several slabs have multiple transverse or meander cracks with moderate spalling. Spalled area broken into several pieces. Corner cracks with missing pieces or patches. Pavement blowups.	Needs some full depth repairs, grinding, and/or asphalt overlay to correct surface defects.
3	Poor	Most joints and cracks are open, with multiple parallel cracks, severe spalling, or faulting. D-cracking is evident. Severe faulting (1") giving poor ride. Extensive patching in fair to poor condition. Many transverse and meander cracks, open and severely spalled.	Needs extensive full depth patching plus some full slab replacement.
2	Very Poor	Extensive slab cracking, severely spalled and patched. Joints failed. Patching in very poor condition. Severe and extensive settlements or frost heaves.	Recycle and/or rebuild pavement.
1	Failed	Restricted speed. Extensive potholes. Almost total loss of pavement integrity.	Total reconstruction.

Functional Classification

Current Policy/Practice:

Currently there is no policy to determine how roads are classified.

Policy/Practice:

1) Grandfather in the existing system.
2) Classify facilities as County Primary or City Major roads according to Act 51 designation.
3) Use the following table prepared as proposed recommended thresholds for consideration:

NFC #	Facility Type	Current Low Volume	Current High Volume	Current Average Volume	Proposed Minimum Threshold*
1	Rural Interstate	31,000	38,000	35,000	
2	Rural Freeway	26,000	51,000	41,000	
6	Rural Minor Arterial	2,100	23,000	8,700	5,000
7	Rural Major Collector	500	13,000	4,400	2,500
8	Rural Minor Collector	500	12,000	2,000	1,500
11	Urban Interstate	31,000	90,000	56,500	
12	Urban Freeway	44,000	129,000	95,500	
14	Urban Principal Arterial	4,000	55,000	23,300	25,000
16	Urban Minor Arterial	1,500	47,000	11,800	10,000
17	Urban Collector	750	17,000	5,000	5,000
	All Classes	500	129,000	13,000	

* Facilities not yet constructed would have to be modeled to determine out year volume (nearest modeled year).

Note: The above represent only volume thresholds. Other criteria must also be evaluated to determine regional significance of a roadway facility.

High Priority Corridors

Current Policy/Practice

The current policy/practice is reviewed on a case by case basis.

Policy/Practice:

Facilities Must:

- Be continuous
- Provide connectivity
- Provide alternative routing during emergency situations
- Serve a regionally significant purpose
- Serve major activity centers
- Serve intermodal facilities
- Serve regional medical facilities
- Be a Minor Arterial or above

The TIP and Technical committees recommend using the criteria developed for High Priority Corridors on a case by case basis to determine if a High Priority Corridor is eligible for special funding.

Obligation Authority

Current Policies/Practices:

Carry over projects (where possible) have priority to be funded in the next year of the TIP.

Policy/Practice:

- Encourage the use of Advance Construction (in the second and third year of the TIP) (STP-Urban funds only).
- Goal to have projects obligated by April 1st
- If a project cannot be obligated in the first year that projects drops to the second or third year and the advance construction project(s) are converted (paid for) in the first year.
- Preferably the third year of the TIP contains easily built projects (several overlay projects).
- Monthly project tracking.

Adding/Programming New or Revised Projects to the Transportation Improvement Program or MTP

Below, more specific information is provided /recommended to augment the existing Policies/Practices for TIP and MTP revisions. Project revisions will only be made with the consent of the implementing jurisdiction.

MPO Policy/Practice:

There are two actions that are covered by this policy/practice: administrative modifications and amendments.

TIP Amendments

Amendments require the review and recommendation of the Technical Committee and approval of the Policy Committee as well as federal approval, and are characterized by one of the following proposed changes (see matrix for appropriate MPO approvals):

- Projects with cost exceeding 20% of the TIP programmed Federal-aid amount.
- Adding a new project; the candidate project should be included on a deficiency list (see qualifications for adding projects listed below).
- Deleting a project; where applicable, funding will be returned to the MPO for reprogramming.
- Changing non-federally funded project to federally funded project.
- Major changes in project design concept or design scope, affecting roadway capacity and/or air quality (see matrix).
- Moving an illustrative project into the body of the TIP document.

An exception to this Policy includes new projects using Federal Aid funding sources not impacting other Federal Aid Funded projects such as MDOT, ITP, Transportation Enhancement, Bridge, Safety, HPP (earmarks), or other discretionary sources (see matrix). Upon MPO staff recommendation, the Technical and Policy Committee Chair or Vice Chair Persons are authorized to approve project amendments in the referenced federal funding categories.

Existing MPO, State and Federal processes will be followed for proposed TIP Amendments in the areas of air quality conformity, financial constraint, public participation, and environmental justice. TIP amendments involving the addition of a new project to an existing TIP will be subject to public involvement as described in

the MPO Public Participation Plan. Public involvement for changes to existing projects or moving projects from the Illustrative List to the funded TIP project list will be accommodated through the MPO committees.

At all times the TIP must maintain financial constraint through a combination of Federal and non-federal funds. Committee approved amendments will be forwarded to MDOT via electronic format (E-File) and hard copy with updated project sheets, financial constraint documentation, and proof of MPO action. MDOT will then forward the changes to FHWA.

TIP Administrative Modifications

Administrative modifications will be considered when any of the following is proposed to an existing project (see matrix for appropriate MPO approvals):

- Changes in Federal-aid cost, more than 10% and less than or equal to 20% of the TIP programmed amount, is an administrative modification and requires MPO staff/Committee approval (before it is obligated).
    1. Per Local Agency Programs; projects with a cost increase less than or equal to 10% of the TIP programmed amount do not require MPO action as long as financial constraint is maintained and should be reflected in the next TIP E-File.
- Minor Federal-aid changes may be allowed if other local projects are not impacted, and will be reflected in the next TIP E-File (ie-MDOT, ITP, TE, Bridge, Safety, HPP (earmarks), or other discretionary sources).
- Revisions that cause projects to switch years can be made by MPO staff with Committee notification; however, if financial constraint and/or another agency project are impacted, MPO Committee approval is required.
- Changes in non-federal funding participation; these modifications will be reflected in the next TIP E-File.
- Minor changes in scope; however, project scope changes affecting AQ conformity or other projects will require MPO Committee approval and may become a TIP amendment (see matrix).
- Changes in funding source within the same funding category (i.e. federal to federal, state to state and local to local, adding or changing job numbers within the project funding limits described herein); these modifications will be reflected in the next TIP E-File.
- Corrections to minor listing errors that don't change cost or scope; these modifications will be reflected in the next TIP E-File.
- Cost decreases (Federal or non-Federal); these modifications will be reflected in the next TIP E-File. Any resultant additional federal funding applied to a new or existing project will follow the amendment or modification process described herein.
- Changing an existing project to an advance construction project and vice versa.
- Adding lanes or non-motorized, up to one mile.

In most cases administrative modifications do not require Federal approval. GVMC practice is that administrative modifications that affect Federal-aid, and/or other projects, require Technical review and recommendation and Policy Committee approval only. In addition, MPO staff may approve modifications as noted above. The public will be notified of Administrative Modifications affecting existing projects in the TIP through the MPO committee meetings or the GVMC web-site.

In the event that an administrative modification must be considered immediately, staff will have the authority to implement that adjustment and/or with permission from the Chairpersons of the Technical and Policy Committees and the requesting agency impacted by the adjustment. If the Chairperson from either committee is not available, permission for the Vice-Chairperson will be sought. The modification will be included in the next TIP E-File.

At all times the TIP must maintain financial constraint through a combination of Federal and non-federal funds. Administrative modifications will be communicated to MDOT and FHWA in a timely fashion and reflected in the next TIP E-File.

Technical and Policy Committee Quorum

If a Quorum is not present, or an action item (modifications or amendments) is time sensitive, at the Technical Committee meeting, action items can go directly to the Policy Committee; if a quorum is not present at either the Technical and/or Policy Committee meeting(s), then action by the respective Chairperson(s) may be requested and then confirmed at the next committee meeting.

Qualifications for Adding/Amending New Projects to an Existing TIP-

PASER 10 – 8	Not Eligible for federal funds
PASER 7	Eligible for crack sealing funding*
PASER 6 - 5	Eligible for sealcoat/thin overlay funding*
PASER 4	Eligible for structural overlay funding
PASER 3 – 1	Eligible for reconstruction funding

* Approved GVMC treatment. Subject to MDOT Programming approval.

Expand & Widen Project. - Should be listed in the Congestion Management System capacity deficiency list and be listed in the Metropolitan Transportation Plan.

ITS Project - Should be recommended by the ITS committee.

Transit Project - Should be listed in the 5 year Short Range Public Transportation Plan or in the Long Range Public Transportation Plan.

Buses - All buses should come from the Fleet Plan.

MTP Amendments

MTP Amendments require the review and recommendation of the Technical Committee and approval of the Policy Committee as well as state and federal approval, and are characterized by one of the following proposed changes (see corresponding MTP Revisions matrix):

- Adding a new regionally significant project. A project is considered to be regionally significant if it involves adding or reducing through road capacity over one mile or adding new Federal-aid road, transit, non-motorized, or rail infrastructure.
- Deleting a project; where applicable, funding will be returned to the MPO for reprogramming.
- Projects with cost exceeding 20% of the MTP programmed Federal-aid amount.
- Major changes in project design concept or design scope. A major change is one affecting roadway capacity and/or air quality.
- Moving an Illustrative List project into the body of the MTP document.
- Changing non-federally funded project to federally funded project.
- Changing air quality conformity model year grouping for a regionally significant project.

Existing MPO, State and Federal processes will be followed for proposed MTP Amendments in the areas of air quality conformity, financial constraint, public participation, and environmental justice. MTP amendments will be subject to public involvement as described in the MPO Public Participation Plan.

At all times the MTP must maintain financial constraint through a combination of Federal and non-federal funds. Approved MTP amendments will be forwarded to MDOT with updated project lists, financial constraint documentation, and proof of MPO action. MDOT will then forward the changes to FHWA.

MTP Administrative Modifications

Administrative modifications will be considered when any of the following is proposed to an existing project:

- Adding lanes or non-motorized facilities, up to one mile.
- Increase in Federal-aid cost less than or equal to 20% of the MTP programmed amount.
- Decrease in Federal-aid project cost.
- Change in Non Federal-aid project cost.
- Change in Federal or Non Federal funding category.
- Corrections to minor listing errors or other non-regionally significant project changes.
- Minor changes in scope, or scope changes not considered regionally significant.
- Update to the first four-years of the MTP to correspond to the most current TIP. The first four years of the MTP **are** the TIP and vice versa. When the MTP is updated or amended, the first four years will be adjusted to match the latest version of the TIP, including all TIP amendments and modifications to-date.

Administrative modifications regarding the addition of lanes or non-motorized facilities up to one mile and increases in Federal-aid project cost up to 20% require Committee approval. The other minor modifications to the MTP occur only when the MTP itself is undergoing an update or is being amended. The MTP document is visionary and long range by its very nature and is only administratively modified when other major changes (amendments) are demanded.

At all times the MTP must maintain financial constraint through a combination of Federal and non-federal funds. Administrative modifications will be communicated to MDOT and FHWA during the next MTP amendment or plan update.

Qualifications for Adding/Amending New Projects to an Existing MTP-

Reconstruct/Resurfacing Project. - These types of projects will only be added when/if the MTP is amended for other reasons to reflect the current TIP projects.

Expand & Widen Project. - Should be listed in the Congestion Management System capacity deficiency list. Project should be regionally significant.

ITS Project - Should be recommended by the ITS committee.

Transit Project -Should be listed in the 5 year Short Range Public Transportation Plan or in the Long Range Public Transportation Plan.

Advance Construction

Current Policies/Practices:

When the TIP program is developed it needs to be financially constrained.
The conversion of advance construction projects is the 1st priority.

Policy/Practice:

When the TIP program is developed it needs to be financially constrained.
The conversion of advance construction projects is the 1st priority. Allow advance construction within the three year TIP and the Illustrative program

The TIP and Technical Committees recommend that the use of Advance Construction be restricted to the first 3 years of the TIP and the 2 Illustrative years; that there are no limits on the dollar amount and the number of Advance Construct projects allowed, and that once the TIP is developed it will be financially constrained.

CMAQ Program

Current Policies/Practices:

Traditionally busses, intersections and the Ozone Action Program are funded with this program.
MDOT/Local split of the funds (MDOT gets 50% of the CMAQ funds off the top).

TPSG Committee recommended Policy/Practice:

Eliminate the 50/50 split of CMAQ funds allocated to this MPO between MDOT and the local jurisdictions.

With the CMAQ funds allocated to the MPO, the TIP Committee will rank all CMAQ eligible projects based on emission reduction/cost benefit basis. (Competitive based on emissions).
Develop and have in place a consistent and improved statewide evaluation process of CMAQ projects.

All new transit route projects need to show a demonstration of need and that service will continue beyond a 3 year commitment if rider-ship meets projections.
Agreement for CMAQ funding in West Michigan

- MDOT will do the East/West estimating of funding split.
- MDOT will provide estimates of funding available for each MPO (GVMC, MACC, WMSRDC) and rural Ottawa County based on population using the 2000 Census data.
- Working through the TIP development process the MPO and MDOT representatives will cooperatively distribute the funds to local and state eligible projects.
- MDOT will provide a time line with the estimates for completion of task #3.
- All parties will meet to discuss all projects and compile the CMAQ program.
- MDOT makes the final decisions to reach financial constraint of the final program.
- This entire agreement will be re-evaluated when the USEPA takes action on the 8 hour standard.

This item was passed by the TIP and Technical committees to accept the proposed policy/practice as submitted.

Non-Motorized Transportation Federal Funding Eligibility

Goal:

The MPO shall support the development of an area-wide network of interconnected, convenient, safe, and efficient non-motorized routes so that they may become an integral mode of travel for area residents. A non-motorized element of the Long Range Transportation Plan shall maintain a listing of eligible non-motorized projects and funding shall be allocated through the long range plan and transportation improvement planning processes to achieve an overall goal of improving the condition of the system.

Background:

The GVMC 2035 Long Range Transportation Plan (LRTP) lays out goals that pertain to non-motorized transportation in our region. These LRTP goals carry over the federal and state level themes encouraging non-motorized transportation. Related objectives include:

1d: "Sustain and develop the interconnected regional network of non-motorized transportation facilities to provide access to employment, services, schools, and other destinations."
3d: "Collaborate with communities, public schools, and MDOT to regionally plan for safe bicycle and pedestrian routes for students to travel to and from home and school."
3e: "Encourage the multiple and safe use of transportation rights-of-way by different modes, including non-motorized transportation."

Federal surface transportation law provides flexibility to MPOs to fund bicycle and pedestrian improvements from a wide variety of federal programs (STP, CMAQ, Transportation Enhancement, etc). However, historically the GVMC Committees have restricted the use of federal funds for non-motorized projects, which permit solely the use of Transportation Enhancement (TE) statewide competitive grants for the construction of non-motorized transportation facilities. Federal funds have not historically been permitted for the construction of sidewalk.

Deficiency Definition

The MPO, in cooperation with the Non-Motorized Committee and using AASHTO standards, has developed definitions for each of the non-motorized facility types. These are the non-motorized facility types recognized by the MPO.

Sidewalks – A sidewalk is a paved pathway paralleling a highway, road, or street, and is intended for pedestrians. Sidewalks are typically four to five feet wide and made from concrete, but may be up to a maximum of eight feet wide and made from other materials depending on their location.

Shared Use Paths – Shared use paths mainly serve corridors not served by streets and highways, or where wide utility or former railroad rights-of-way exist (rail-trails), but may also parallel highway, roads, and streets (formally called "sidepaths"). Shared use paths are wider than sidewalks, between 8 and 12 feet wide (10 feet width is federally required for federal funds) with a soft two to four-foot shoulder on each side, and a minimum width of 14 feet on all structures, such as bridges and boardwalks. They are shared facilities for use by both pedestrians and bicyclists.

Bicycle Lanes – Bicycle lanes are dedicated, marked, and signed rights-of-way assigned to bicyclists. They are paired one-way facilities located on both sides of a street, with standard intersection designs to minimized conflicts between bicycles and automobiles. Standard bicycle lane widths are six feet; five feet is the minimum width adjacent to curbs and four feet is the minimum width when no curb exists. Dedicated bike lanes must be accompanied by both pavement markings and bike lanes signs (R3-17).

Signed Shared Roadways – Signed shared roadways are designated bicycle routes that are signed (D11-1 or W11-1) or have pavement markings to indicate that the roadway is shared with bicyclists ("sharrow" chevron pavement marking).

Unsigned Shared Roadways – Unsigned shared roadways are open to both bicycle and motor vehicle and are designed and constructed under the assumption that they may be used by bicyclists, but are not signed or marked. Unsigned shared roadways typically have wider than the standard 12-foot lane. Shared roadways may also be standard width roadways with a minimum four-foot paved shoulder (where there is no curb and gutter), also known as a "wide-shoulder."

Bicycle Centers and Staging Areas – Bicycle centers and staging areas are auxiliary facilities to increase the convenience and effectiveness of non-motorized transportation and may offer amenities such as showers and bicycle parking, as well as motorized vehicle parking and network access points.

Pedestrian Bridges and Refuge Islands – Pedestrian bridges are modified road bridge structures that accommodate pedestrians and bicyclists, or they may be pedestrian/bike only structures. A refuge island is a protected area between traffic lanes providing pedestrians or bicyclists with a safe place to wait for gaps in traffic in order to cross a road safely.

Recommended Policy/Practice:

All non-motorized projects included in the GVMC Long Range Transportation Plan/Non-motorized Transportation Plan are eligible for funding as allowed under applicable federal-aid categories. A target of one-half of the allocated funds to the MPO for the Transportation Alternatives Program (TAP) shall be used on bicycle and pedestrian related facility improvements. The allocated funds to the MPO for the Congestion Mitigation and Air Quality (CMAQ) program shall also be eligible and considered for use on bicycle and pedestrian facility improvements. All CMAQ funded non-motorized projects shall be addressed on a case by case basis to prove high use, mode shift, and connectivity and score well using the scoring criteria set forth in the Non-Motorized Plan. For the use of CMAQ funds all projects must demonstrate emission reduction and alleviate congestion.

All non-motorized projects requesting federal funds must be endorsed by the MPO to receive federal funds and be included in the MPO TIP.

Federal Funding of Right of Way (ROW)

Current Policy/Practice:

Use of Federal funds is not allowed unless the committee deems a corridor with a high priority a special case as identified by the MPO.

Policy/Practice:

Eliminate Federal/State funding of ROW. An exception may be approved by the TIP Committee if a jurisdiction requests to use ROW funds for a large or expensive project.

Federal Funding of Engineering Expenses

Current Policy/Practice:

There is no current policy or practice in the use of Federal Funds for engineering costs.

Recommended Policy/Practice:

No Federal/State funds for Engineering.

Encourage local jurisdictions staff to work on future year projects, get programming into MDOT early in the fiscal year and obligate projects in a timely basis.

The TIP committee recommends continuing the current practice of not funding Engineering Costs – that restricts Federal Funds from being used for Engineering Costs by local jurisdictions.

Title VI

Current Policy/Practice:

The MPO will update the Title VI Plan before the beginning of the development of the Metropolitan Transportation Plan. The Plan will then be offered to the MPO members to complement their policies and practices. Any agency that receives federal funds must maintain a Title VI Plan that meets Federal regulations. GVMC will notify members to review their Title VI Plans to make sure they comply with the law at the start of the fiscal year.

Appendix D: Committee Members

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(616) 866-1537

Sand Lake, Village of
Policy Committee Representative: Roger Towsley
Technical Committee Representative: Roger Towsley
2 East Maple Street
Post Office Box 139, Michigan 49343
(616) 616-636-8854

Tallmadge Township
Policy Committee Representative: Toby VanEss (tvaness@tallmadge.com)
Technical Committee Representative: Toby VanEss
O-1451 Leonard St NW
Grand Rapids, Michigan 49544
(616) 677-1248

Walker, City of
Policy Committee Representative: Darrel Schmalzel(dschmalz@ci.walker.mi.us)
Technical Committee Representative: Scott Conners (sconners@ci.walker.mi.us)
4243 Remembrance Rd NW
Walker, Michigan 49534
(616) 784-9090

Wyoming, City of
Policy Committee Representatives: Rich Pastoor (pastoorr@wyomingmi.gov)
Jack Poll (pollj@wyomingmi.gov)
Technical Committee Representative: Bill Dooley (dooleyb@wyomingmi.gov)
Tim Cochran (cochrant@wyomingmi.gov)
1155 28th St, PO Box 905
Grand Rapids, Michigan 49509
(616) 530-7226

Appendix E: Consultation Agency List

The organizations from the Interested Citizens/Agencies list that GVMC maintains for transportation public participation was used as a starting point for the consultation process, as this list encompasses many of the types of agencies and contacts targeted for this process. The Consultation List is as follows:

ACSET-Latin American Services, Grand Rapids, Michigan
ACSET-West Side Complex, Grand Rapids, Michigan
Aero Med-Air Medical Transport, Grand Rapids, Michigan
Air Ambulance by Life EMS, Grand Rapids, Michigan
Allendale Township DDA, Allendale, Michigan
AMB-U-CAB by G.R. Veterans, Grand Rapids, Michigan
Ambucab Neighbors International Transport, Grand Rapids, Michigan
Ambulance Service By American, Grand Rapids, Michigan
American Red Cross - Muskegon, Michigan
American Red Cross of Greater Grand Rapids - Grand Rapids, Michigan
Amtrak, Chicago, Illinois
Annis Water Resources Institute, Muskegon, Michigan
Area Agency on Aging of Western Michigan, Grand Rapids, Michigan
Arts Council of Greater Grand Rapids, Grand Rapids, Michigan
Association for the Blind & Visually Impaired - Grand Rapids, Michigan
Blandford Nature Center, Grand Rapids, Michigan
Byron Township DDA, Byron Center, Michigan
Calder City Taxi, Grand Rapids, Michigan
Cascade Charter Township DDA, Grand Rapids, Michigan
Cedar Springs DDA, Cedar Springs, Michigan
Cherry Hill Historic District, Grand Rapids, Michigan
City of Grand Rapids - Grand Rapids, Michigan
City of Grand Rapids Economic Development - Grand Rapids, Michigan
City of Grandville DDA, Grandville, Michigan
City of Hudsonville DDA, Hudsonville, Michigan
City of Rockford DDA, Rockford, Michigan
City of Wyoming DDA, Wyoming, Michigan
Columbian Distribution, Grand Rapids, Michigan
Comstock Park DDA, Comstock Park, Michigan
Conrail, Grand Rapids, Michigan
Con-Way Central Express Inc., Grand Rapids, Michigan
CSX Transportation, Grand Rapids, Michigan
Cutlerville-Gaines Chamber of Commerce - Grand Rapids, Michigan
Disability Advocates - Grand Rapids, Michigan
Dwelling Place, Grand Rapids, Michigan
Environmental Protection Agency - Region 5, Chicago, Illinois
EPA, Office of Federal Activities, NEPA, Washington, DC
Fair Housing Center of West Michigan, Grand Rapids, Michigan
Faith in Motion, Grand Rapids, Michigan
Federal Aviation Administration - Great Lakes Region, Romulus, Michigan
Federal Highway Administration, Michigan Division
Fish-For-My-People, Grand Rapids, Michigan
Friends of the White Pine Trail - Belmont, Michigan
Friends of Transit, Grand Rapids, Michigan
Gainey Transportation Services, Grand Rapids, Michigan
Genesis Non-Profit Housing Corporation, Grand Rapids, Michigan
Gerald R. Ford International Airport, Grand Rapids, Michigan
Grand Action, Grand Rapids, Michigan
Grand Rapids Air Pollution Control, Grand Rapids, Michigan

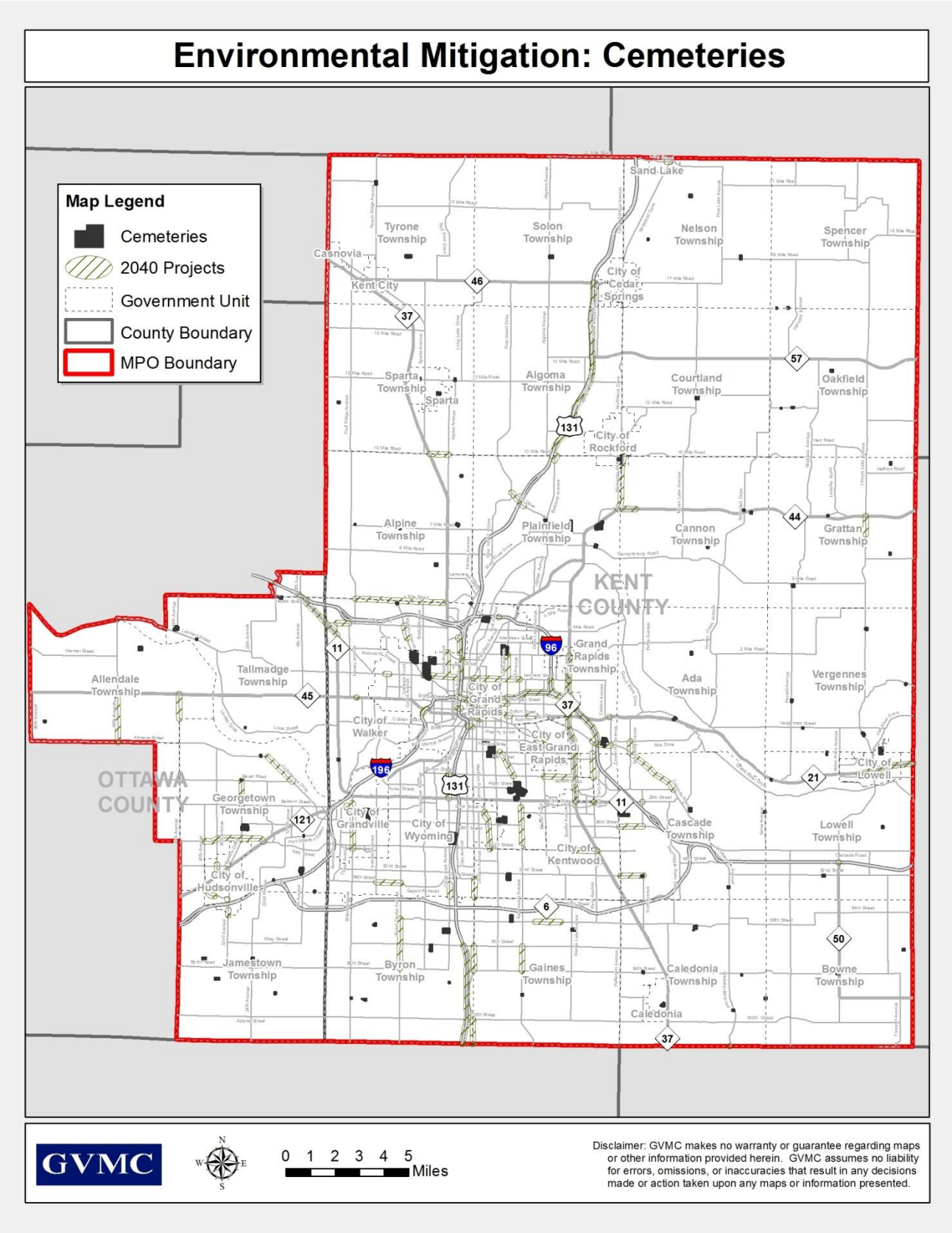
Grand Rapids Area Chamber of Commerce - Grand Rapids, Michigan
Grand Rapids Area Coalition to End Homelessness, Grand Rapids, Michigan
Grand Rapids Audubon Club, Grand Rapids, Michigan
Grand Rapids Convention & Visitors Bureau, Grand Rapids, Michigan
Grand Rapids DDA, Grand Rapids, Michigan
Grassmid Transport, Zeeland, Michigan
Green Pepper Growers Association, Wyoming, Michigan
Greyhound Bus Lines, Grand Rapids, Michigan
GROW, Grand Rapids, Michigan
Habitat for Humanity of Kent County - Grand Rapids, Michigan
Hispanic Center of West Michigan, Grand Rapids, Michigan
Historic Preservation, Grand Rapids, Michigan
Hope Network - Grand Rapids, Michigan
Indian Trails Motorcoach, Grand Rapids, Michigan
Inner City Christian Federation, Grand Rapids, Michigan
ITP - The Rapid, Grand Rapids, Michigan
Izaak Walton League - Dwight Lydell Chapter - Belmont, Michigan
John Ball Park Community Association, Grand Rapids, Michigan
John Ball Zoo, Grand Rapids, Michigan
Kent Conservation District, Grand Rapids, Michigan
Kent County - Grand Rapids, Michigan
Kent County Community Development & Housing Commission - Grand Rapids, Michigan
Kent County Dept. of Human Services, Grand Rapids, Michigan
Kent County Dept. of Parks, Grand Rapids, Michigan
Kent County Dept. of Public Works - Grand Rapids, Michigan
Kent County Dept. of Social Services, Grand Rapids, Michigan
Kent County Drain Commission - Grand Rapids, Michigan
Kent County Farm Service Agency, Grand Rapids, Michigan
Kent County Home Repair Services, Grand Rapids, Michigan
Kent County, Michigan State University Extension, Grand Rapids, Michigan
Kent Intermediate School District, Grand Rapids, Michigan
Land Conservancy of West Michigan, Grand Rapids, Michigan
LGROW - E. Grand Rapids, Michigan
Little River Band of Ottawa Indians - Manistee, Michigan
Michigan Association of Rail Passengers, Grandville, Michigan
Match-E-Be-Nash-She-Wish Band of Potawatomi Indians - Dorr, Michigan
Mercy Ambulance Service, Grand Rapids, Michigan
Michigan Dept. of Agriculture, Lansing, Michigan
Michigan Dept. of Community Health, Lansing, Michigan
Michigan Dept. of Natural Resources & Environment, Grand Rapids, Michigan
Michigan Dept. of Transportation - Grand Rapids, Michigan
Michigan Dept. of Transportation - Passenger Transportation Division - Lansing, Michigan
Michigan Economic Development Corporation, Lansing, Michigan
Michigan Historical Center, Lansing, Michigan
Michigan Housing Development Authority, Lansing, Michigan
Michigan Land Use Institute, Traverse City, Michigan
Michigan State Historic Preservation Office, Lansing, Michigan
Michigan United Conservation Clubs, Grand Rapids, Michigan
Mid-Michigan Railroad Co. - Vassar, Michigan
Native American Community Services - Grand Rapids, Michigan
Norfolk Southern Corporation, Grand Rapids, Michigan
North Country Trail-West Chapter, Grand Rapids, Michigan
Nottawaseppi Huron Band of Potawatomi, Fulton, Michigan
Ottawa County Dept. of Parks & Recreation - West Olive, Michigan
Ottawa County Drain Commission, West Olive, Michigan
Ottawa County Farm Bureau, Allendale, Michigan

Pioneer Resources - Muskegon, Michigan
Ready Ride Transportation, Inc., Wyoming, Michigan
Rental Property Owners Assn., Grand Rapids, Michigan
Riverview Aviation, Jenison, Michigan
Roadway Express, Wyoming, Michigan
Rockford Area Chamber of Commerce, Rockford, Michigan
Sierra Club - Mackinac Chapter, Lansing, Michigan
Standale DDA, Walker, Michigan
Sunshine Transportation, Grand Rapids, Michigan
Take Pride! Community, Grand Rapids, Michigan
The ARC Kent County, Grand Rapids, Michigan
The Rapid Wheelmen, Grand Rapids, Michigan
The Right Place, Inc., Grand Rapids, Michigan
The TLC Group, Inc., Holland, Michigan
Thornapple Trail Assn., Middleville, Michigan
Towne Air Freight Inc., Grand Rapids, Michigan
U.S. Army Corps of Engineering, Detroit District, Detroit, Michigan
U.S. Department of Agriculture - Michigan State Office, East Lansing, Michigan
U.S. Dept. of Agriculture - Natural Resource of Conservation Service, East Lansing, Mich.
U.S. Dept. of Commerce - National Oceanic & Atmospheric Administration, Washington, DC
U.S. Dept. of Housing & Urban Development, Detroit Office, Detroit, Michigan
U.S. Fish & Wildlife Service, East Lansing, Michigan
U.S. Geological Survey - Lansing District Office, Lansing, Michigan
United Growth for Kent County, Grand Rapids, Michigan
United Methodist Community House, Grand Rapids, Michigan
Village of Sparta DDA, Sparta, Michigan
West Michigan Environmental Action Council, Grand Rapids, Michigan
West Michigan Mountain Biking Association - Grand Rapids, Michigan
West Michigan Regional Planning Commission - Grand Rapids, Michigan
West Michigan Strategic Alliance, Grand Rapids, Michigan
West Michigan Trails & Greenways Coalition, Comstock Park, Michigan
West Side Connection, Grand Rapids, Michigan
Wyoming-Kentwood Chamber of Commerce - Wyoming, Michigan

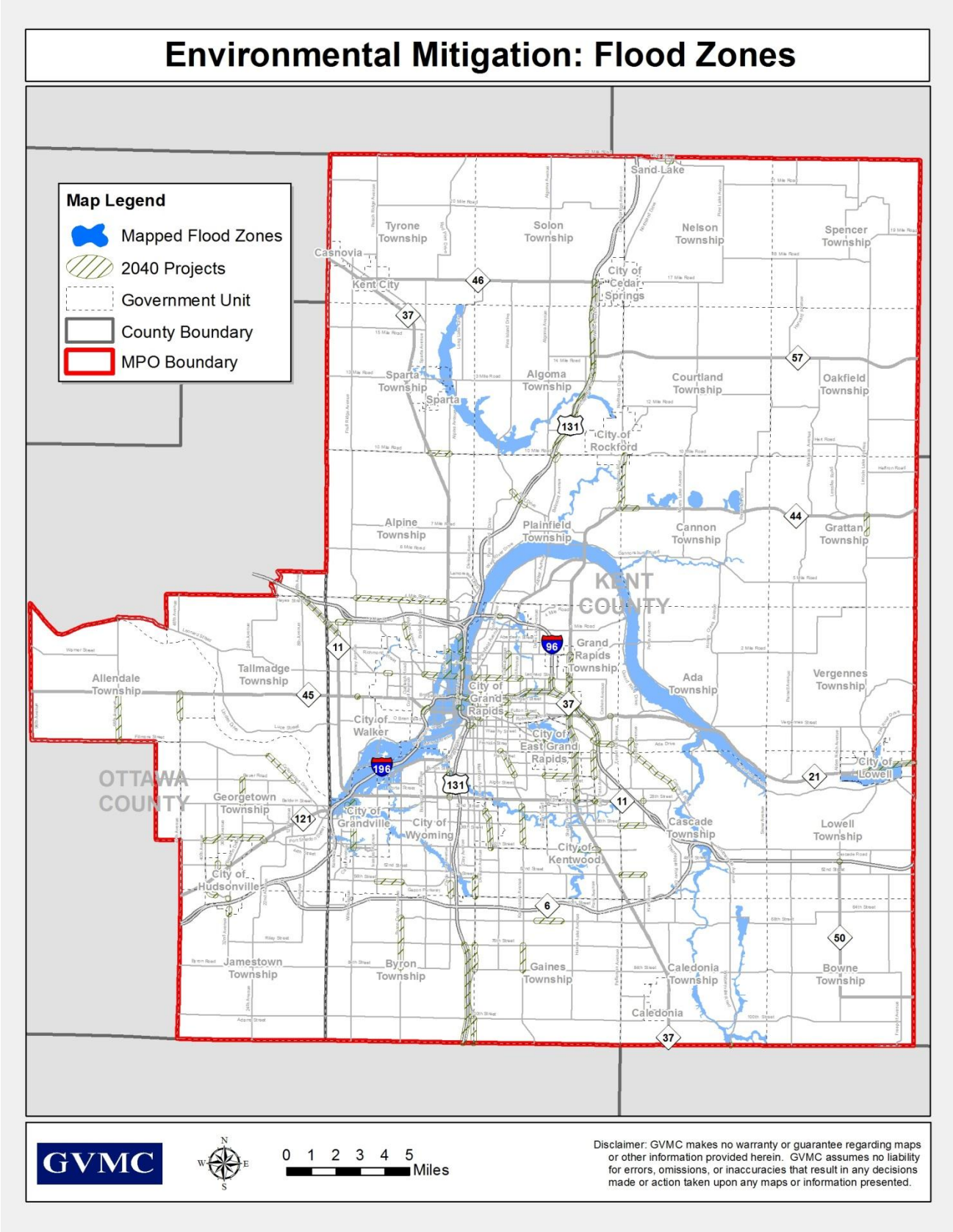
Appendix F: Environmental Mitigation Maps

This appendix contains the following seven Environmental Mitigation maps and accompanying tables of related information:

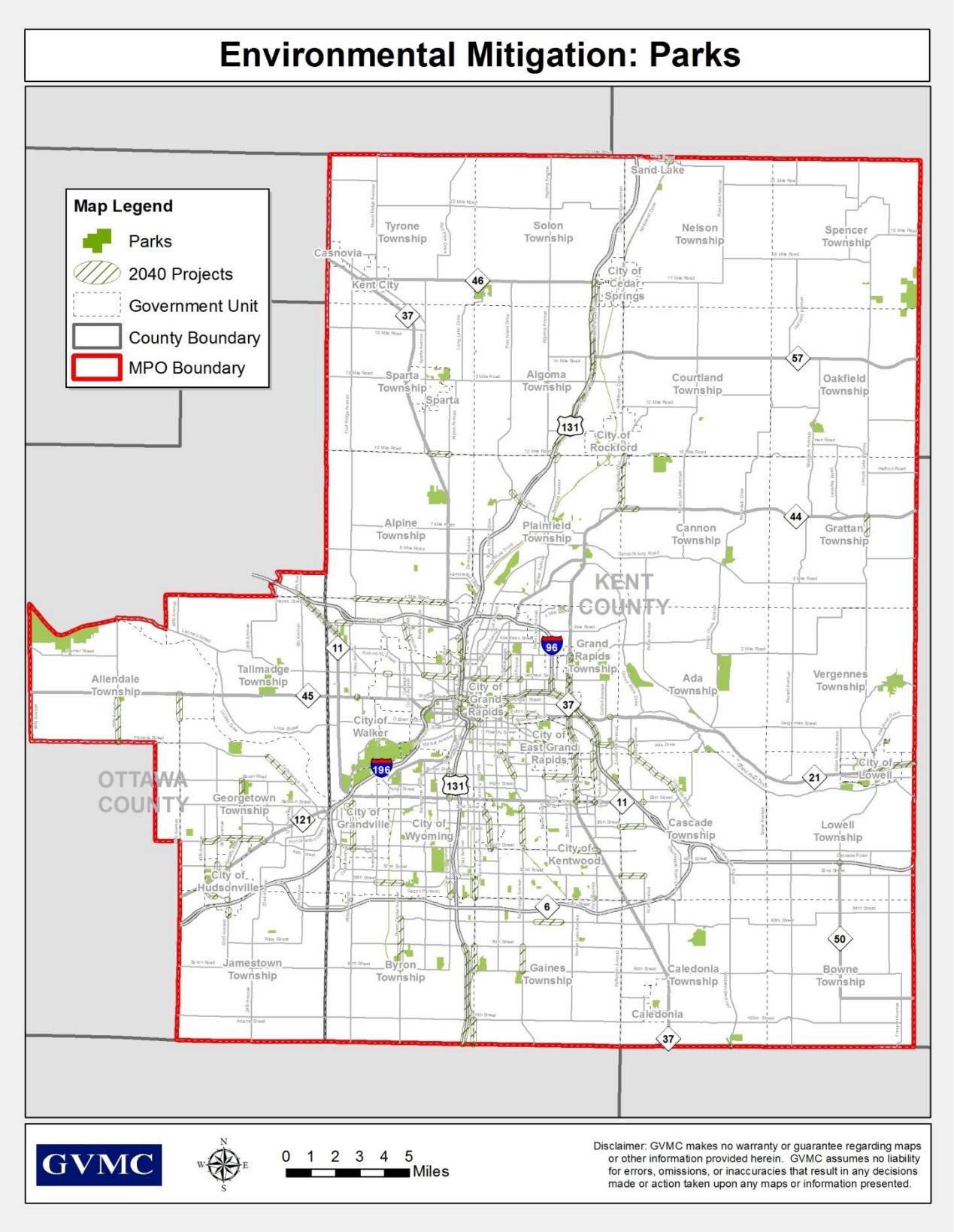
1. Cemeteries
2. Flood Zones
3. Parks
4. Water Features
5. Wetlands
6. Woodlands
7. Historic Sites and Structures



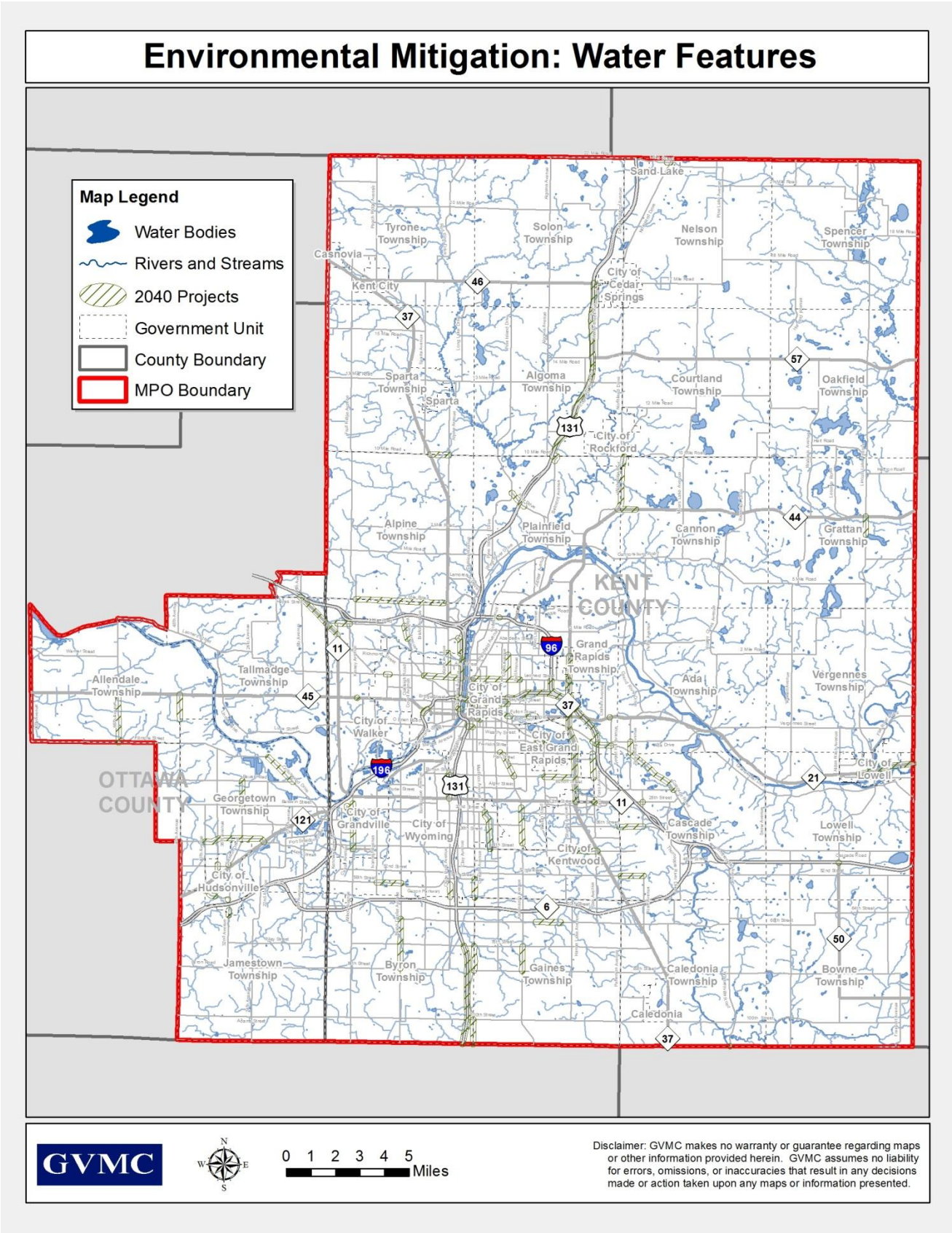
Map 19 – Environmental Mitigation Map: Cemeteries



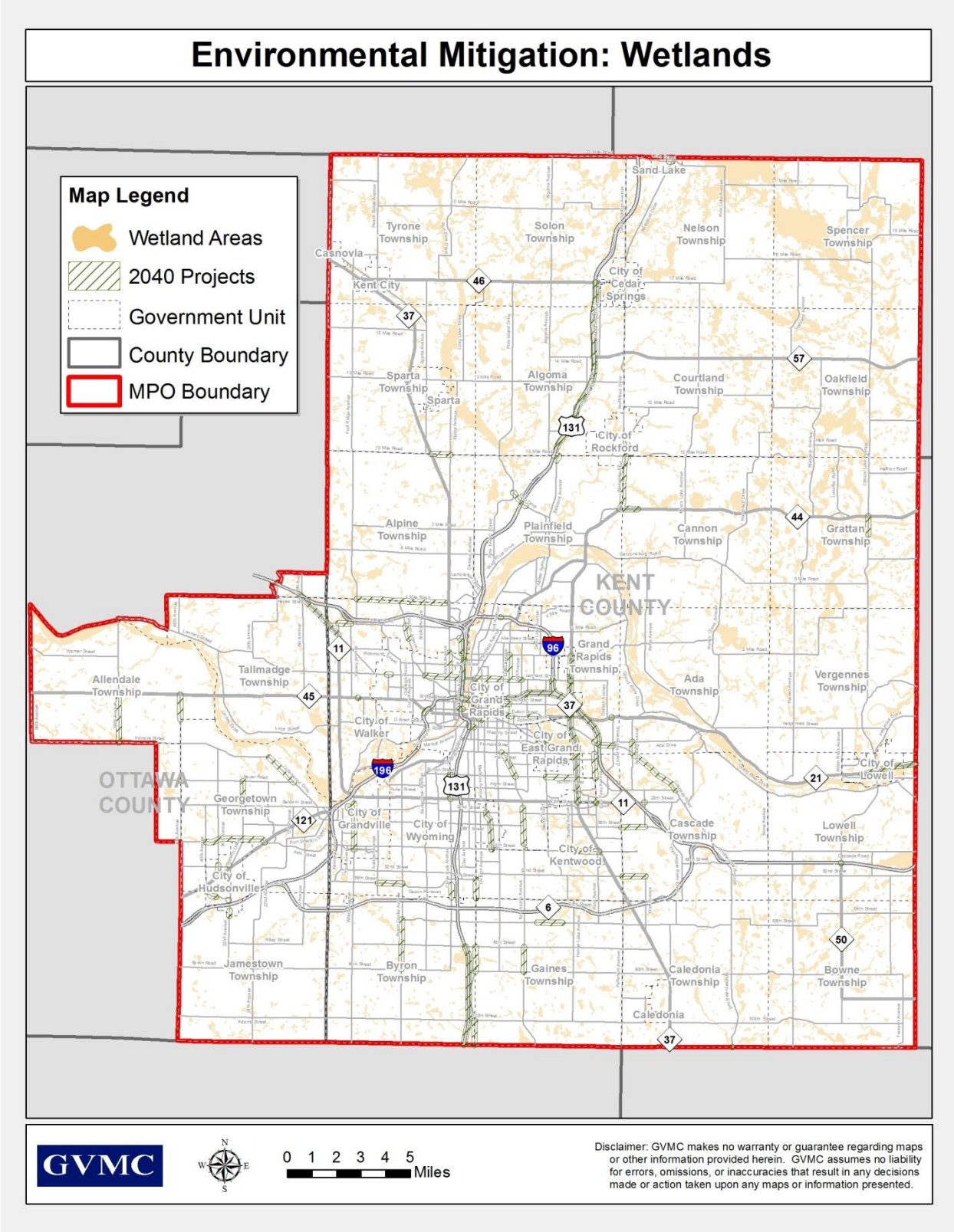
Map 20 – Environmental Mitigation Map: Flood Zones



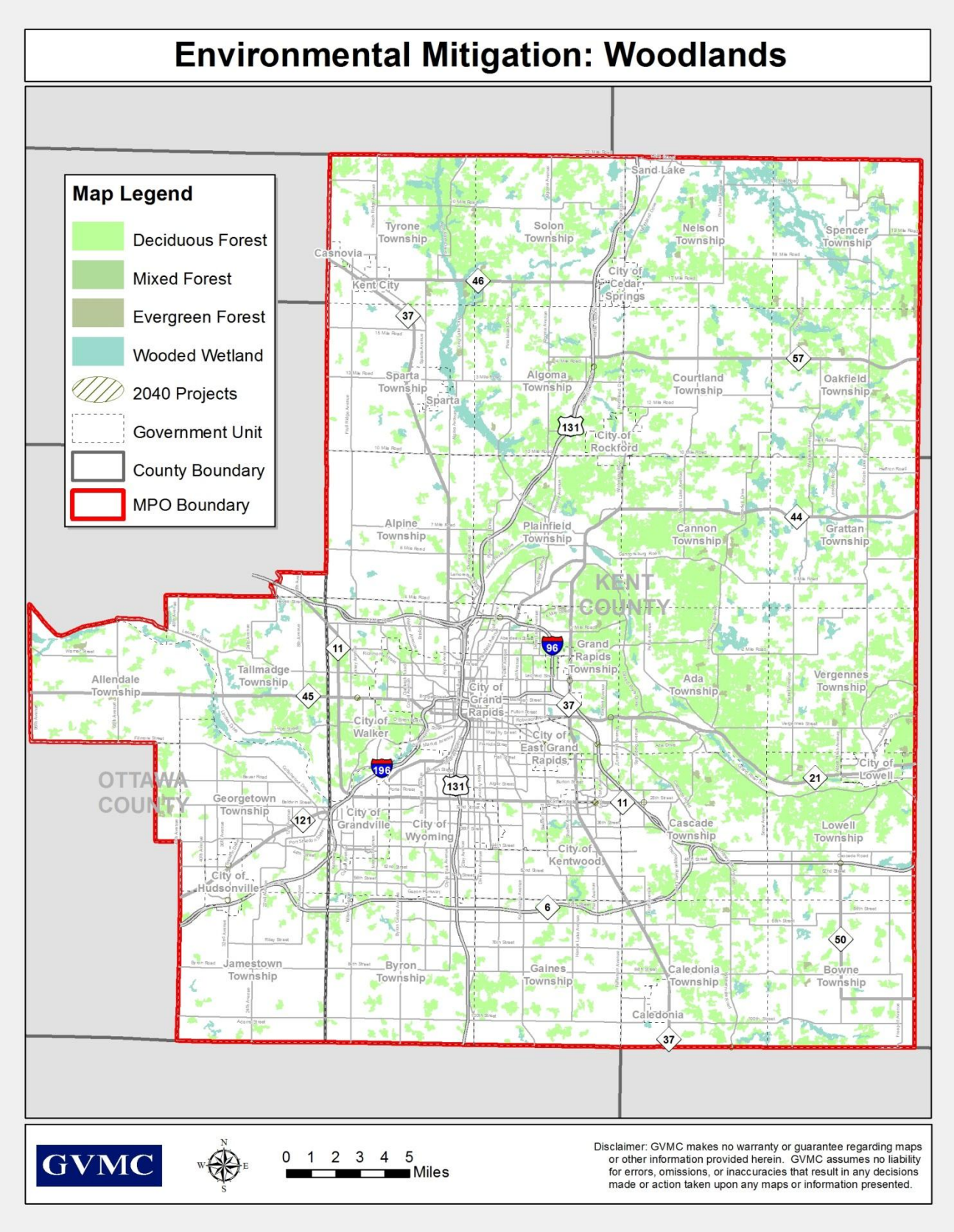
Map 21 – Environmental Mitigation Map: Parks



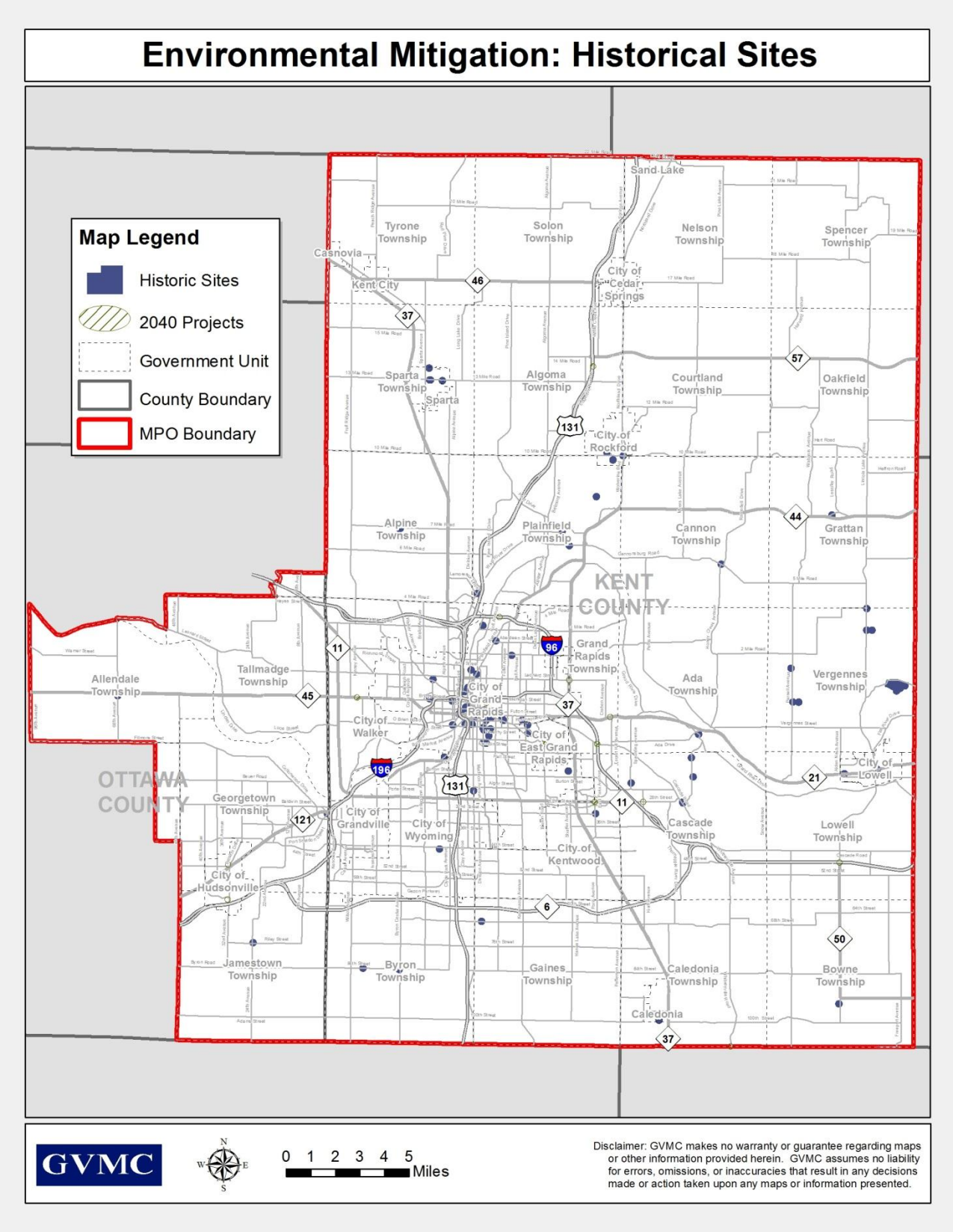
Map 22 – Environmental Mitigation Map: Water Features



Map 23 – Environmental Mitigation Map: Wetlands

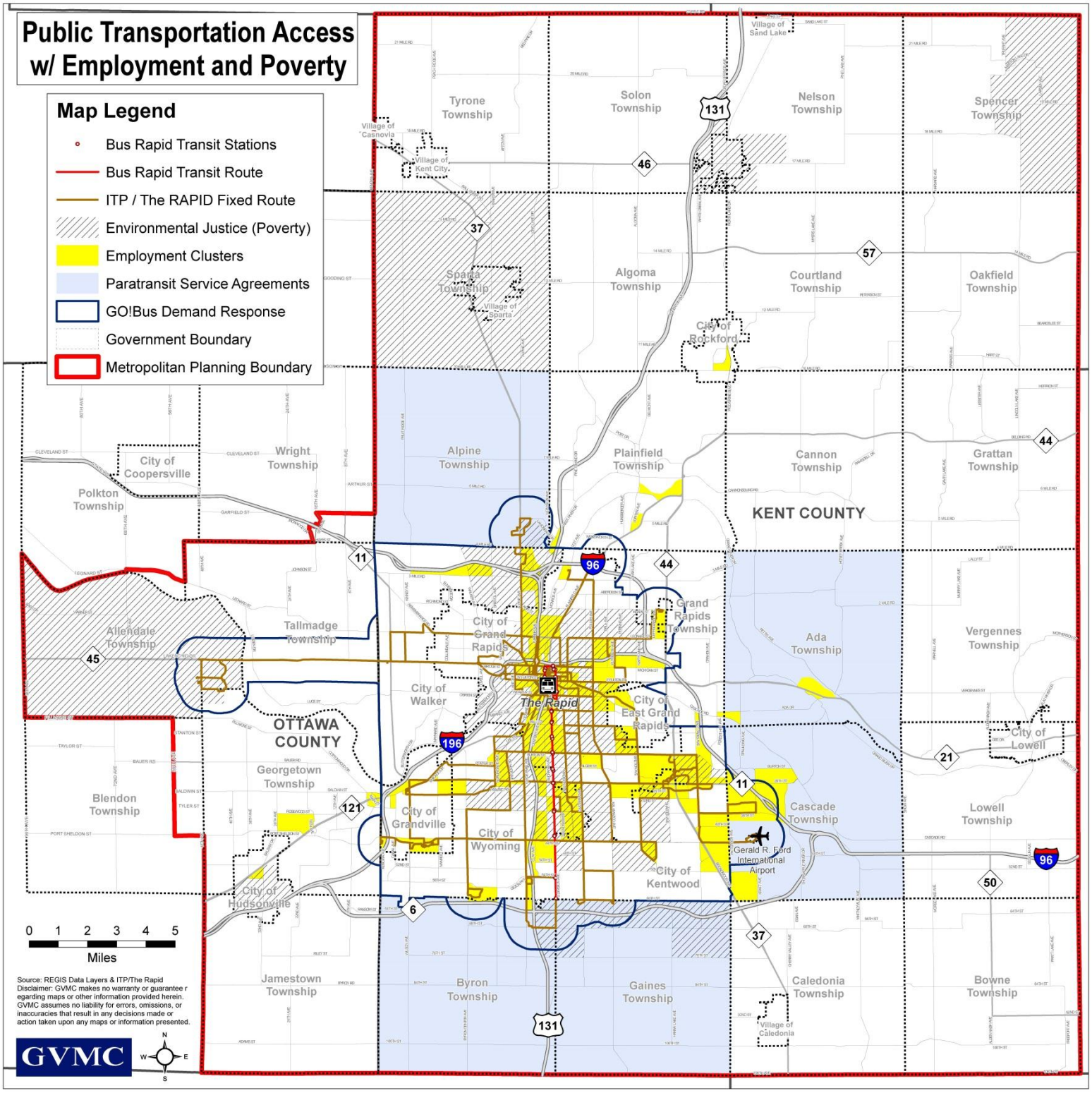


Map 24 – Environmental Mitigation Map: Woodlands



Map 25 – Environmental Mitigation Map: Historic Sites & Structures

Appendix G: Environmental Justice Employment Accessibility Map



Map 26 – EJ Employment/Transit Accessibility