



# Transportation Asset Management Program 2024 Federal Aid PASER Road Survey

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**WEST MICHIGAN SHORELINE  
REGIONAL DEVELOPMENT COMMISSION  
(WMSRDC)**

The WMSRDC is a regional council of governments representing 127 local governments in the West Michigan counties of Lake, Mason, Muskegon, Newaygo, Oceana, and northern Ottawa. The mission of WMSRDC is to promote and foster regional development in West Michigan... through cooperation amongst local governments.



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## I. Background

### What Is Asset Management?

Asset management is a concept in the transportation industry that has emerged as an important planning tool for public officials, planners, engineers, and others. Asset Management is based on an inventory of each local road network within the region. It will provide data that will allow transportation officials to monitor, plan, and strategically improve the road network. This strategic method of investment marks a break from the traditional “tactical” method of fixing roads that have the most severe problems.

The Michigan Transportation Commission has formed an Asset Management Council, with the objective to implement a state law that enacted the Asset Management Program. The Council has been appointed by the Transportation Commission and answers directly to the Commission and legislature. Its five main elements include: policy goals and objectives, data collection, planning and programming, program delivery, and monitoring and reporting. Its goal is to inventory all 39,000 miles of federal aid eligible roads within the State of Michigan, and according to the data collected, determine future distribution of ACT 51 transportation funds. In the future, the Asset Management Council may implement a similar initiative to collect similar information on the remaining local road network.

### Regional Commission Involvement

In a typical year, region staff, along with the Michigan Department of Transportation (MDOT) and a county road commission employee, collect this data within the region. Annually, staff attend a training session to review the previous year’s collection process and to keep the training up to date for those who will be involved.

Each region within the State of Michigan receives a laptop equipped with GIS, a GPS device, and software to collect data. The data collection effort will require the collection of three items: PASER rating (Pavement Surface Evaluation and Rating), surface type, and the number of lanes. PASER is a visual rating assessment system that rates the road surface condition for a given segment on a scale of 1-10.

### Purpose

The purpose of this task is to help satisfy the requirements of P.A. 499 of 2002, which establishes an Asset Management Council and charges it with developing an Asset Management Process for the State of Michigan. Regional transportation planning agencies play a significant role in this process as outlined in the following task assignments.

### Method

The Asset Management Council has developed a statewide process that will result in approximately 50 percent of federal aid eligible roads in the state to be rated per year. Activities to be undertaken as part of this task include:

1. Attendance at training seminars on the use of PASER.
2. Participation as part of a three-person team that will rate the federal-aid eligible roads in the region.
3. Providing the results of the PASER ratings with local agencies to review and revise where appropriate.
4. Public display of PASER ratings on the WMSRDC website or through other public means so it is available for public review and use in project and plan development activities.
5. Transmit PASER ratings along with other roadway data to the TAMC. (i.e., traffic counts).

#### Products

1. Road network loaded in Roadsoft.
2. PASER data collected on federal-aid eligible roads in region.
3. Web based or other public display of PASER road ratings on network.
4. Report to the Asset Management Council with PASER and other roadway data and transportation project completion information for the region.



## **II. Data Collection Process**

In a typical year, regional staff, along with an MDOT employee and a county road commission employee, collect data on 100 percent of roads on the Federal aid system in the region.

The first step in this process is for each of the county road commissions to create a network in Roadsoft and export it to the region's Laptop Data Collector (LDC). The LDC software is housed on the region's laptop computer and connected to a GPS unit. Roadsoft GIS is an asset management software package created and distributed free of charge by the Michigan Technology Institute's Technology Development Group. The current version of the program was designed with a special module to collect PASER rating data. The rating group then drives the entire network that was previously selected by the Road Commission. For each segment of road, the rating team agrees on a road rating by using the PASER system, giving a numerical value for the condition of the road, 10 being new and 1 being failed.

Once the entire network has been rated, the data is exported back to the county road commission's Roadsoft program. After this is completed, the county's data is exported to the region, which passes the information back to the Asset Management Council.

### **Computer Equipment and Software**

Staff collected data using a laptop computer with the Roadsoft GIS LDC software. A Garmin GPS unit was connected to the laptop to track position and locate road segments.

### **Staff Time**

To collect PASER data, it is most efficient to have three people in the vehicle; one driver, one rater, and one who is assigned to enter information into the computer. In typical years, for each county road rating project, there is one representative from the region, one road commission employee, and one MDOT representative present.

### **Training**

COVID-19 has also changed the training requirements for asset management. An in-person training was required for all raters pre-COVID-19. New trainees are now required to participate in three webinars containing background information on asset management. Participants receive an overview of the project and are given instructions on how to use the Roadsoft software and the PASER road rating system for data collection. Once out in the field, experienced staff members show the new participants how to use the Roadsoft program and guide them through the rating process. Most participants feel comfortable after an hour of working on the computer and rating the roads. In addition, every three years, raters are required to complete webinar training on how to rate unpaved roads.

### III. PASER Rating System

The PASER road rating system was developed by the University of Wisconsin-Madison Transportation Information Center to be used as the State of Wisconsin's standard road rating system. PASER is a "windshield" road rating system that uses a 1 to 10 rating scale, with a value of 10 representing a new road and a value of 1 representing a failed road. Condition ratings are assigned by monitoring the type and number of visual defects along a road segment while driving the segment. The PASER system interprets these observations into a condition rating. A sample PASER rating chart has been included with this report.

The State of Michigan Asset Management Council has requested that the information gathered in this survey be reported using the following categories:

- **Roads with PASER ratings of 8-10 require Routine Maintenance.** Routine maintenance is the day-to-day maintenance activities that are scheduled, such as street sweeping, drainage clearing, shoulder gravel grading, and sealing cracks to prevent standing water and water penetration.

- **Roads with PASER ratings of 5-7 require Capital Preventive Maintenance.** Capital preventive maintenance is a planned set of cost-effective treatments to an existing roadway system and its appurtenances that preserves, retards future deterioration, and maintains or improves the functional condition of the system without significantly increasing structural capacity. The purpose of capital preventive maintenance is to protect the pavement structure, slow the rate of pavement deterioration and/or correct pavement surface deficiencies. Surface treatments are targeted at pavement surface defects primarily caused by the environment and by pavement material deficiencies.

- **Roads with PASER ratings of 1-4 require Structural Improvements.** This category includes work identified as rehabilitation and reconstruction which addresses the structural integrity of a road.

This Road Rating system is illustrated on the following page.

Surface Rating		Visible Distress	General Condition / Treatment Measures
10	Excellent	<ul style="list-style-type: none"> <li>None</li> </ul>	New construction
9	Excellent	<ul style="list-style-type: none"> <li>None</li> </ul>	Recent overlay, like new.
8	Very Good	<ul style="list-style-type: none"> <li>No longitudinal cracks except reflection of paving joints.</li> <li>Occasional transverse cracks, widely spaced (40' or greater).</li> </ul>	Recent sealcoat or new road mix. Little or no maintenance required.
7	Good	<ul style="list-style-type: none"> <li>Very slight or no raveling, surface shows some traffic wear.</li> <li>Longitudinal cracks (open 1/4") spaced due to reflection or paving joints.</li> <li>Transverse cracks (open 1/4") spaced 10 feet or more apart, little or slight crack raveling.</li> <li>No patching or very few patches in excellent condition.</li> </ul>	First signs of aging. Maintain with routine crack filling.
6	Good	<ul style="list-style-type: none"> <li>Slight raveling (loss of lines) and traffic wear.</li> <li>Longitudinal cracks (open 1/4" - 1/2") due to reflection and paving joints.</li> <li>Transverse cracking (open 1/4" - 1/2") some spaced less than 10 feet.</li> <li>Slight to moderate flushing or polishing.</li> <li>Occasional patching in good condition.</li> </ul>	Show signs of aging, sound structural condition. Could extend life with sealcoat.
5	Fair	<ul style="list-style-type: none"> <li>Moderate to severe raveling (loss of lines and coarse aggregate).</li> <li>Longitudinal cracks (open 1/2") show some slight raveling and secondary cracks. First signs of longitudinal cracks near wheel path or edge.</li> <li>Transverse cracking and first signs of block cracking. Slight crack raveling (open 1/2").</li> <li>Extensive to severe flushing or polishing.</li> <li>Some patching or edge wedging in good condition.</li> </ul>	Surface aging, sound structural condition. Needs sealcoat or non-structural overlay.
4	Fair	<ul style="list-style-type: none"> <li>Severe surface raveling.</li> <li>Multiple longitudinal and transverse cracking with slight raveling.</li> <li>Block cracking (over 25 - 50% of surface).</li> <li>Patching in fair condition.</li> <li>Slight rutting or distortions (1" deep or less).</li> </ul>	Significant aging and first signs of need for strengthening. Would benefit from recycling or overlay.
3	Poor	<ul style="list-style-type: none"> <li>Closely spaced longitudinal and transverse cracks often showing raveling and crack erosion.</li> <li>Block cracking over 50% of surface.</li> <li>Some alligator cracking (less than 25% of surface).</li> <li>Patches in fair to poor condition.</li> <li>Moderate rutting or distortion (1" or 2" deep).</li> <li>Occasional potholes.</li> </ul>	Need patching and major overlay or complete recycling.
2	Very Poor	<ul style="list-style-type: none"> <li>Alligator cracking (over 25% of surface).</li> <li>Severe distortions (over 2" deep).</li> <li>Extensive patching in poor condition.</li> <li>Potholes.</li> </ul>	Severe deterioration. Needs reconstruction with extensive base repair.
1	Failed	<ul style="list-style-type: none"> <li>Severe distress with extensive loss of surface integrity.</li> </ul>	Failed. Needs total reconstruction.

## IV. County Projects

### Summary: West Michigan Shoreline Regional Development Commission

In 2024, over 3,100 miles of local and federal aid eligible roads were rated. Individual county summaries are included in the following pages. A summary of road ratings for all counties is illustrated in the following table.

	<b># of Miles Needing Routine Maintenance (Rated Good)</b>	<b># of Miles Needing Capital Preventive Maintenance (Rated Fair)</b>	<b># of Miles Needing Structural Improvements (Rated Poor)</b>
<b>Lake</b>	<b>65.089</b>	<b>106.967</b>	<b>96.524</b>
<b>Mason</b>	<b>71.700</b>	<b>83.385</b>	<b>144.530</b>
<b>Muskegon</b>	<b>367.695</b>	<b>457.156</b>	<b>272.259</b>
<b>Newaygo</b>	<b>116.483</b>	<b>140.040</b>	<b>452.385</b>
<b>Oceana</b>	<b>126.657</b>	<b>160.933</b>	<b>113.661</b>
<b>Ottawa</b>	<b>84.795</b>	<b>139.023</b>	<b>110.326</b>
<b>TOTAL MILES</b>	<b>832.419</b>	<b>1087.504</b>	<b>1189.685</b>
<b>PERCENTAGE</b>	<b>26.77%</b>	<b>34.97%</b>	<b>38.26%</b>

The largest percentage of roads, 38.26%, need structural improvements. Typical actions required for this category would consist of reconstruction, major overlay, or complete rehabilitation. The next level of roads, those needing capital preventive maintenance, total 34.97% of the federal aid eligible roads within the region. These activities may include crack sealing, seal-coating, or non-structural overlays. Roads only needing routine maintenance, totaled 26.77% of the network. Roads in this category need little to no maintenance.

## Lake County

### Project overview

In 2024, region staff assessed the condition of 100% of Lake County's federal-aid eligible roads using the PASER road rating system, as requested by the State of Michigan Asset Management Council.

### Results

Approximately 269 miles of federal-aid eligible roads were rated in 2024 for this project. The following summarizes the distribution of ratings by mileage and percentage of the total for all roads rated in the project. The Asset Management Council has prescribed a fix for each of the PASER rating categories:

- Roads receiving a rating of Good (8 or higher) require only Routine Maintenance
- Roads receiving a rating of Fair (5-7) require Capital Preventative Maintenance
- Roads receiving a rating of Poor (4 or less) require Structural Improvements

### 2024 PASER Rating Summary for Lake County

<i>Condition</i>	<i>Centerline Miles</i>	<i>Percentage</i>
<i>Good (Rating 8+)</i>	<b>65.809</b>	<b>24.447</b>
<i>Fair (Rating 5-7)</i>	<b>106.967</b>	<b>39.720</b>
<i>Poor (Rating 1-4)</i>	<b>96.524</b>	<b>35.471</b>

## Mason County

### Project overview

In 2024, region staff assessed the condition of 100% of Mason County’s federal-aid eligible roads using the PASER road rating system, as requested by the State of Michigan Asset Management Council.

### Results

Approximately 298 miles of federal-aid eligible roads were rated for this project in 2024. The following summarizes the distribution of ratings by mileage and percentage of the total for all roads rated in the project. The Asset Management Council has prescribed a fix for each of the PASER rating categories:

- Roads receiving a rating of Good (8 or higher) require only Routine Maintenance
- Roads receiving a rating of Fair (5-7) require Capital Preventative Maintenance
- Roads receiving a rating of Poor (4 or less) require Structural Improvements

### 2024 PASER Rating Summary for Mason County

<i>Condition</i>	<i>Centerline Miles</i>	<i>Percentage</i>
<i>Good (Rating 8+)</i>	<b>71.700</b>	<b>24.011</b>
<i>Fair (Rating 5-7)</i>	<b>83.385</b>	<b>27.92</b>
<i>Poor (Rating 1-4)</i>	<b>143.530</b>	<b>48.07</b>

## Muskegon County

### Project overview

In 2024, region staff assessed the condition of 100% of Muskegon County’s federal-aid eligible roads, using the PASER road rating system, as required by the State of Michigan Asset Management Council. In addition, the Muskegon County Road Commission rated some local roads under their jurisdiction.

### Results

Approximately 1097.100 miles of combined local and federal-aid eligible roads were rated for this project in 2024. The following summarizes the distribution of ratings by mileage and percentage of the total for all roads rated in the project. The Asset Management Council has prescribed a fix for each of the PASER rating categories:

- Roads receiving a rating of Good (8 or higher) require only Routine Maintenance
- Roads receiving a rating of Fair (5-7) require Capital Preventative Maintenance
- Roads receiving a rating of Poor (4 or less) require Structural Improvements

### 2024 PASER Rating Summary for Muskegon County

<i>Condition</i>	<i>Centerline Miles</i>	<i>Percentage</i>
<i>Good (Rating 8+)</i>	<b>637.695</b>	<b>33.52</b>
<i>Fair (Rating 5-7)</i>	<b>457.146</b>	<b>41.67</b>
<i>Poor (Rating 1-4)</i>	<b>272.259</b>	<b>24.82</b>

## Newaygo County

### Project overview

In 2024, region staff assessed 100% of Newaygo County’s federal-aid eligible roads. In addition, WMSRDC contracted with a consultant to rate a number of local roads using the PASER road rating system.

### Results

Approximately 708 miles of local and federal-aid eligible roads were rated for this project. The following summarizes the distribution of ratings by mileage and percentage of the total for all roads rated in the project. The Asset Management Council has prescribed a fix for each of the PASER rating categories:

- Roads receiving a rating of Good (8 or higher) require only Routine Maintenance
- Roads receiving a rating of Fair (5-7) require Capital Preventative Maintenance
- Roads receiving a rating of Poor (4 or less) require Structural Improvements

### 2024 PASER Rating Summary for Newaygo County

<i>Condition</i>	<i>Centerline Miles</i>	<i>Percentage</i>
<i>Good (Rating 8+)</i>	<b>116.483</b>	<b>16.43</b>
<i>Fair (Rating 5-7)</i>	<b>140.040</b>	<b>19.75</b>
<i>Poor (Rating 1-4)</i>	<b>452.385</b>	<b>63.81</b>



## Oceana County

### Project overview

In 2024, region staff assessed the condition of 100% of Oceana County's federal-aid eligible roads using the PASER road rating system.

### Results

Approximately 401.251 miles of federal-aid eligible roads were rated for this project in 2024. The following summarizes the distribution of ratings by mileage and percentage of the total for all roads rated in the project. The Asset Management Council has prescribed a fix for each of the PASER rating categories:

- Roads receiving a rating of Good (8 or higher) require only Routine Maintenance
- Roads receiving a rating of Fair (5-7) require Capital Preventative Maintenance
- Roads receiving a rating of Poor (4 or less) require Structural Improvements

### 2024 PASER Rating Summary for Oceana County

<i>Condition</i>	<i>Centerline Miles</i>	<i>Percentage</i>
<i>Good (Rating 8+)</i>	<b>126.657</b>	<b>31.57</b>
<i>Fair (Rating 5-7)</i>	<b>160.933</b>	<b>40.11</b>
<i>Poor (Rating 1-4)</i>	<b>113.661</b>	<b>28.33</b>

## Ottawa County

### Project overview

Northern Ottawa County is part of the WestPlan MPO which is administered by WMSRDC. In 2024, region staff assessed 100% of the federal-aid eligible roads in the Village of Spring Lake, the City of Ferrysburg, the City of Grand Haven, Spring Lake Township, Grand Haven Township, Robinson Township, and Crockery Township. In addition, the Ottawa County Road Commission rated a number of local roads using the PASER road rating system.

### Results

Approximately 334.144 miles of local and federal-aid eligible roads were rated for this project in 2024. This includes less than 1 mile of unpaved roads which do not receive a number rating. The following summarizes the distribution of ratings by mileage and percentage of the total for all roads rated in the project. The Asset Management Council has prescribed a fix for each of the PASER rating categories:

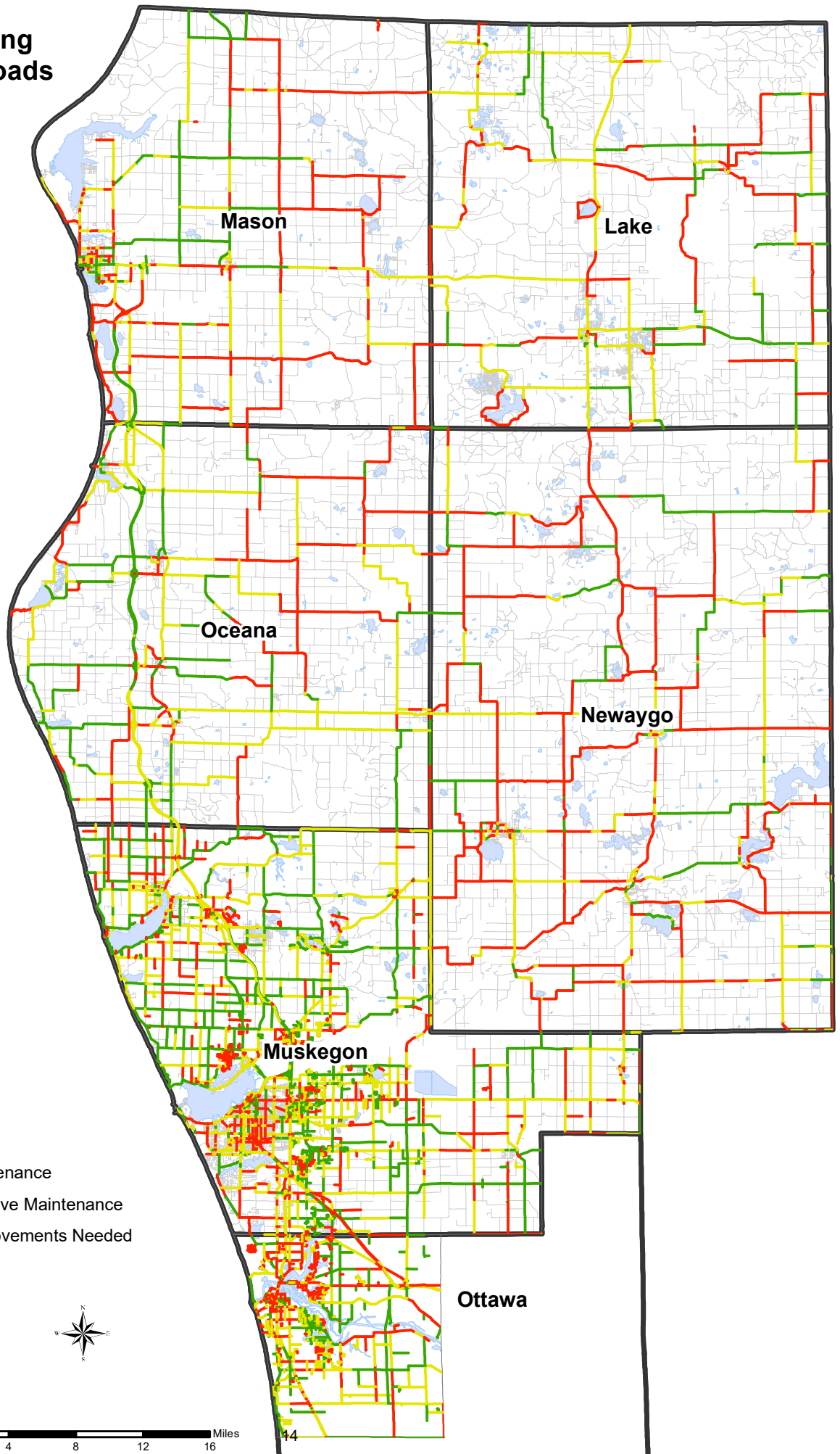
- Roads receiving a rating of Good (8 or higher) require only Routine Maintenance
- Roads receiving a rating of Fair (5-7) require Capital Preventative Maintenance
- Roads receiving a rating of Poor (4 or less) require Structural Improvements

### 2024 PASER Rating Summary for Ottawa County

<i>Condition</i>	<i>Centerline Miles</i>	<i>Percentage</i>
<i>Good (Rating 8+)</i>	<b>84.795</b>	<b>25.38</b>
<i>Fair (Rating 5-7)</i>	<b>139.023</b>	<b>41.61</b>
<i>Poor (Rating 1-4)</i>	<b>110.326</b>	<b>33.02</b>

## V. Maps

# 2024 PASER Rating County Fed-Aid Roads



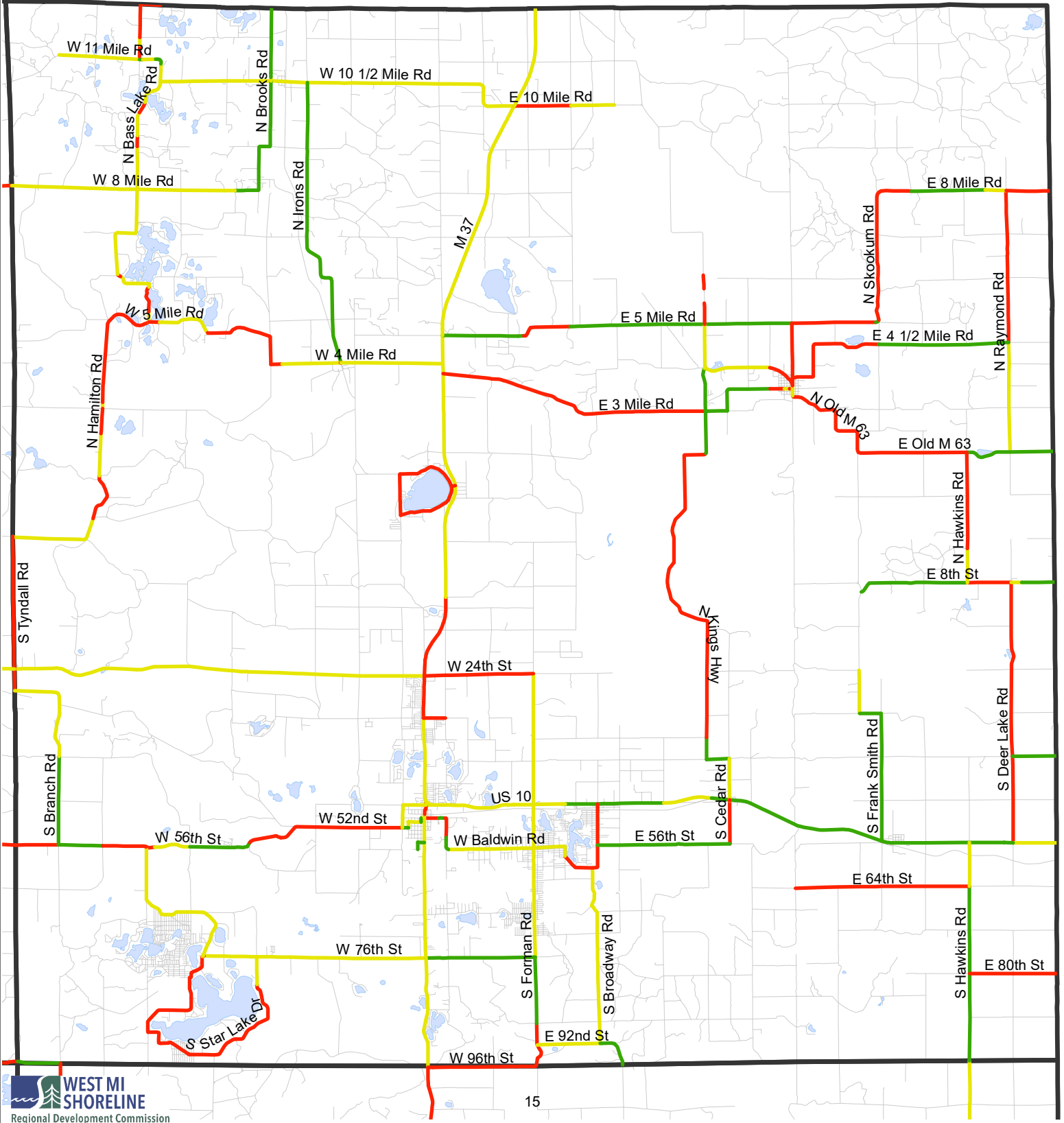
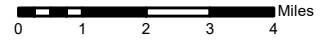
## Legend

- 10-8 Routine Maintenance
- 7-5 Capital Preventive Maintenance
- 4-1 Structural Improvements Needed
- County
- Unrated Road
- Lake

# 2024 PASER Rating Lake County Fed-Aid Roads

## Legend

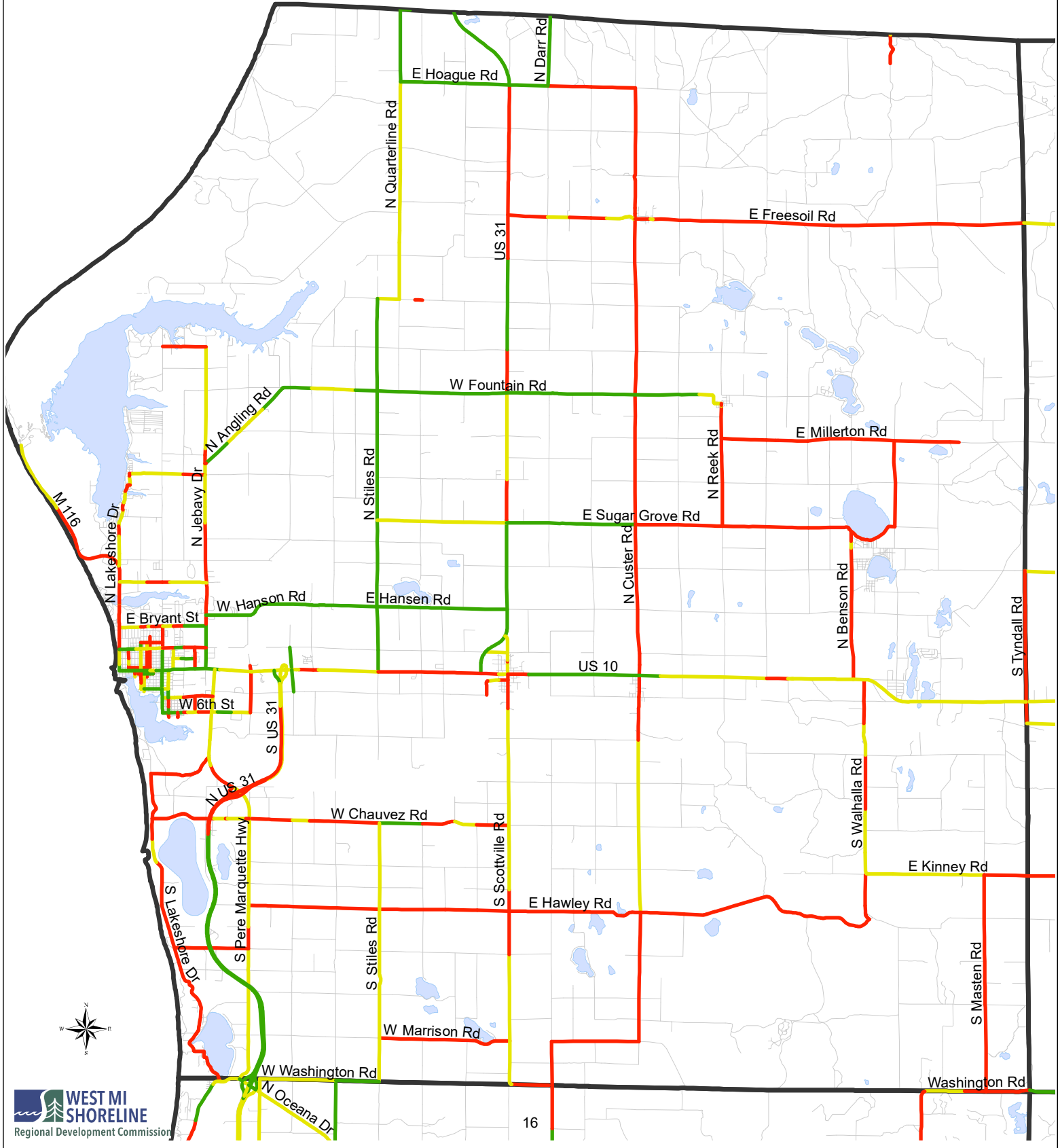
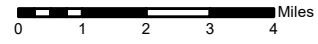
- 10-8 Routine Maintenance
- 7-5 Capital Preventive Maintenance
- 4-1 Structural Improvements Needed
- County
- Unrated Road
- Lake



# 2024 PASER Rating Mason County Fed-Aid Roads

## Legend

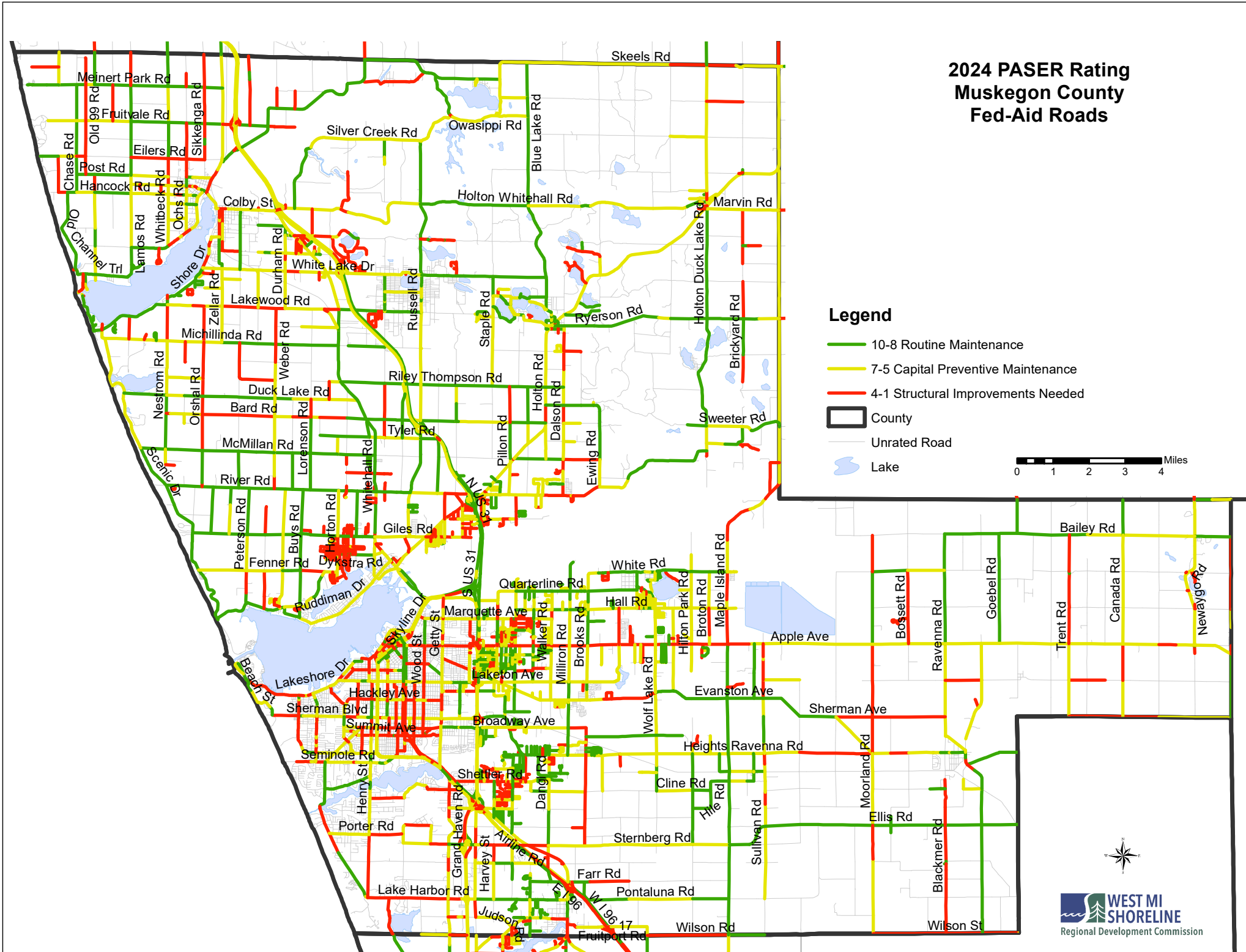
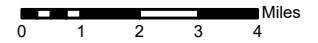
- 10-8 Routine Maintenance
- 7-5 Capital Preventive Maintenance
- 4-1 Structural Improvements Needed
- County
- Unrated Road
- Lake



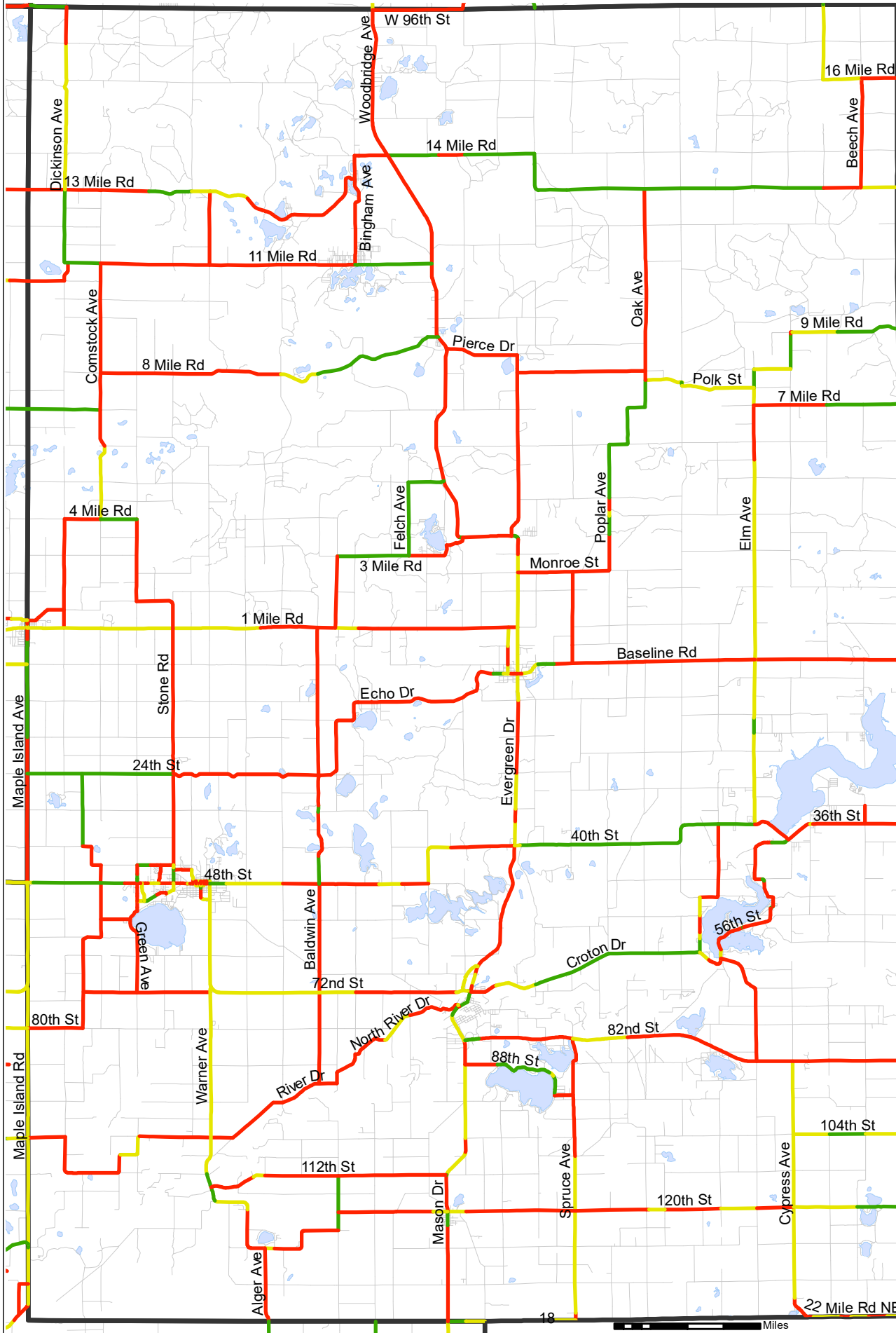
# 2024 PASER Rating Muskegon County Fed-Aid Roads

## Legend

- 10-8 Routine Maintenance
- 7-5 Capital Preventive Maintenance
- 4-1 Structural Improvements Needed
- County
- Unrated Road
- Lake





# 2024 PASER Rating - Newaygo County Fed-Aid Roads



**Legend**

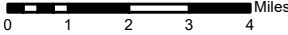
- 10-8 Routine Maintenance
- 7-5 Capital Preventive Maintenance
- 4-1 Structural Improvements Needed
- County
- Unrated Road
- Lake

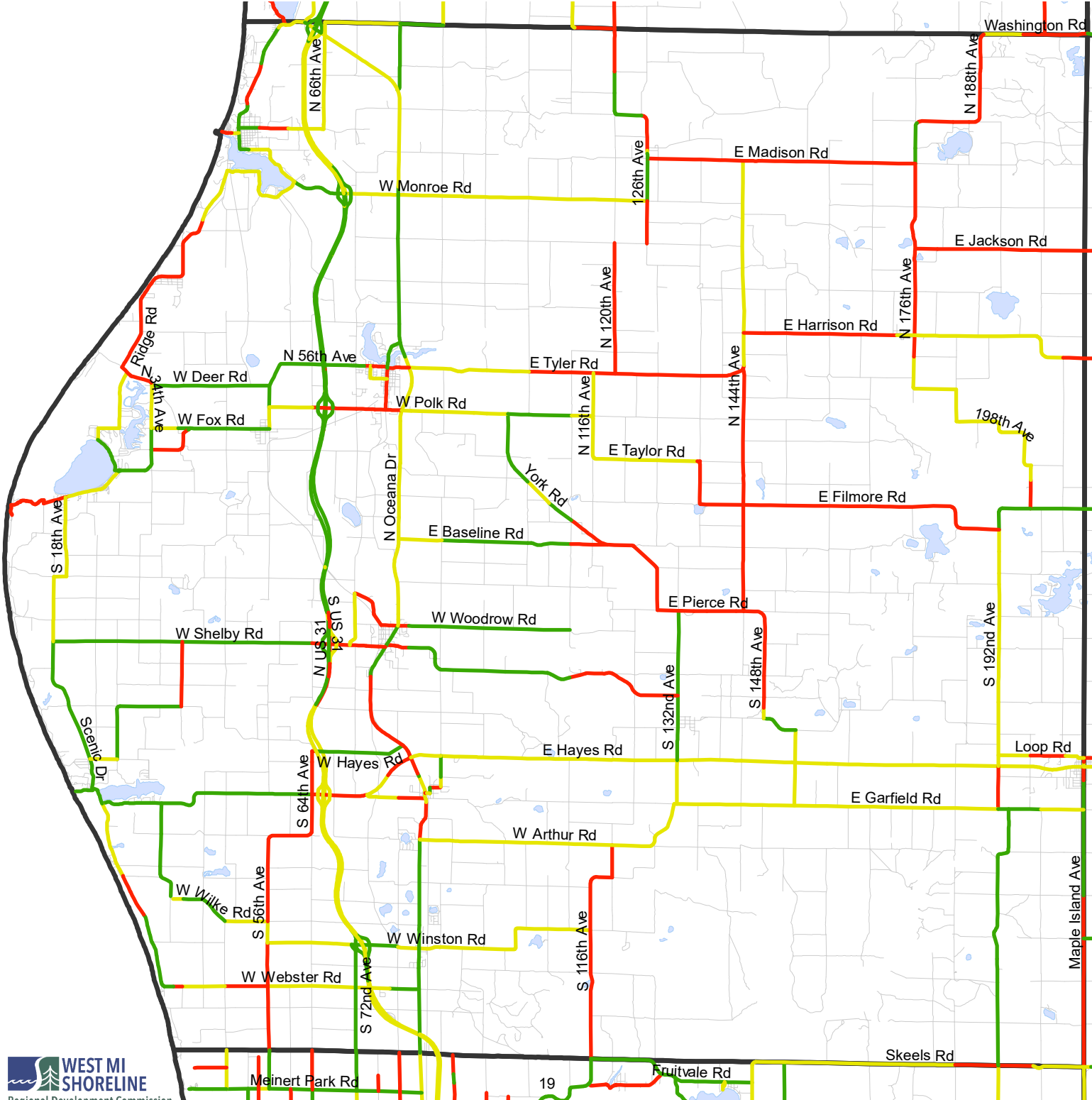



# Legend

- 10-8 Routine Maintenance
- 7-5 Capital Preventive Maintenance
- 4-1 Structural Improvements Needed
- County
- Unrated Road
- Lake



# 2024 PASER Rating Oceana County Fed-Aid Roads



# 2024 PASER Rating Northern Ottawa County Fed-Aid Roads

## Legend

- 10-8 Routine Maintenance
- 7-5 Capital Preventive Maintenance
- 4-1 Structural Improvements Needed
- County
- Unrated Road
- Lake

