

# Tuscola County Transportation Asset Management Program FY 2019 PASER Road Survey

## **Project Overview:**

On June 18, 2019 East Michigan Council Of Governments Region 7 staff along with representatives of the Tuscola County Road Commission (TCRC) and the Michigan Department of Transportation (MDOT) assessed the condition of Clare County federal aid eligible roads using the PASER road rating system as requested by the State of Michigan Transportation Asset Management Council (TAMC). Tuscola County rates 50% of their Federal Aid roads each year.

## **PASER Road Rating System:**

The Pavement Surface Evaluation and Rating (PASER) 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 amount of visual defects along a road segment while driving the segment. The PASER system interprets these observations into a condition rating.

The State of Michigan Transportation 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 fixes is to protect the pavement structures, 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 address the structural integrity of a road.

## **Field Survey Methodology:**

*Equipment:* Staff collected data using a laptop computer with the RoadSoft GIS Laptop Data Collector software installed. A Global Position System (GPS) unit was connected to the laptop to track position and locate road segments. 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.

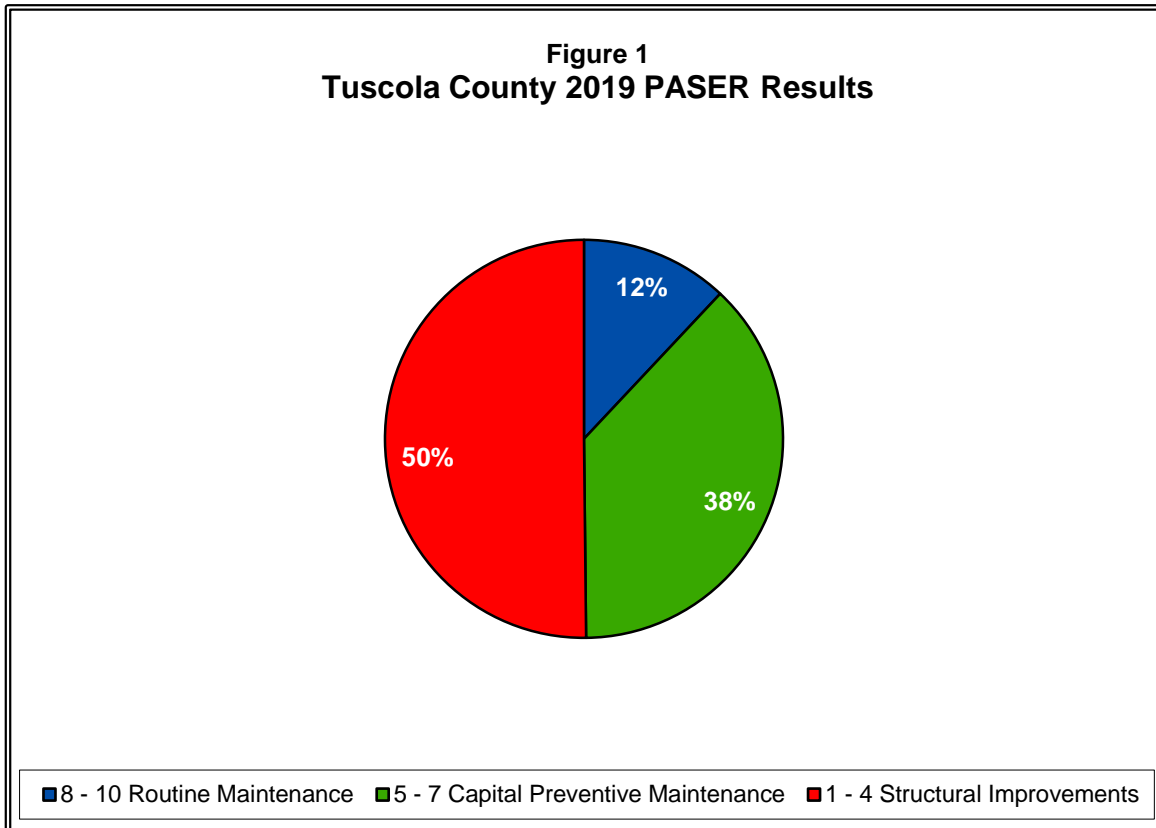
*Staff:* The rating team consisted of three members. A driver and a navigator jointly rated the roads. The third team member entered rating information into the laptop computer. For the Tuscola County road-rating project there was always one Region 7 representative, one TCRC representative, and one MDOT representative present.

*Training:* All participants in the survey were required to attend a daylong training session. Participants received an overview of the project and were given instruction on how to use the RoadSoft software and the PASER road rating system for data collection. Once out in the field, experienced staff members taught new participants how to use the RoadSoft program and guided them through the rating process. Most participants felt comfortable after an hour of working the computer and rating the roads.

**Results:**

A total of 194.035 miles of federal aid eligible roads were rated for this project. The project was completed in approximately 6 hours with an average rating speed of 31 miles per hour. **Table 1** and **Figure 1** below summarize the distribution of ratings by mileage and percentage of the total for all roads rated during the project.

<b>Table 1 – Tuscola County 2019 PASER Results</b>			
<b>PASER Rating</b>	<b>Prescribed Fix</b>	<b>Mileage</b>	<b>Percent of Total Miles Rated</b>
8 - 10	Routine Maintenance	23.282	12%
5 - 7	Capital Preventive Maintenance	73.408	38%
1 - 4	Structural Improvements	97.345	50%

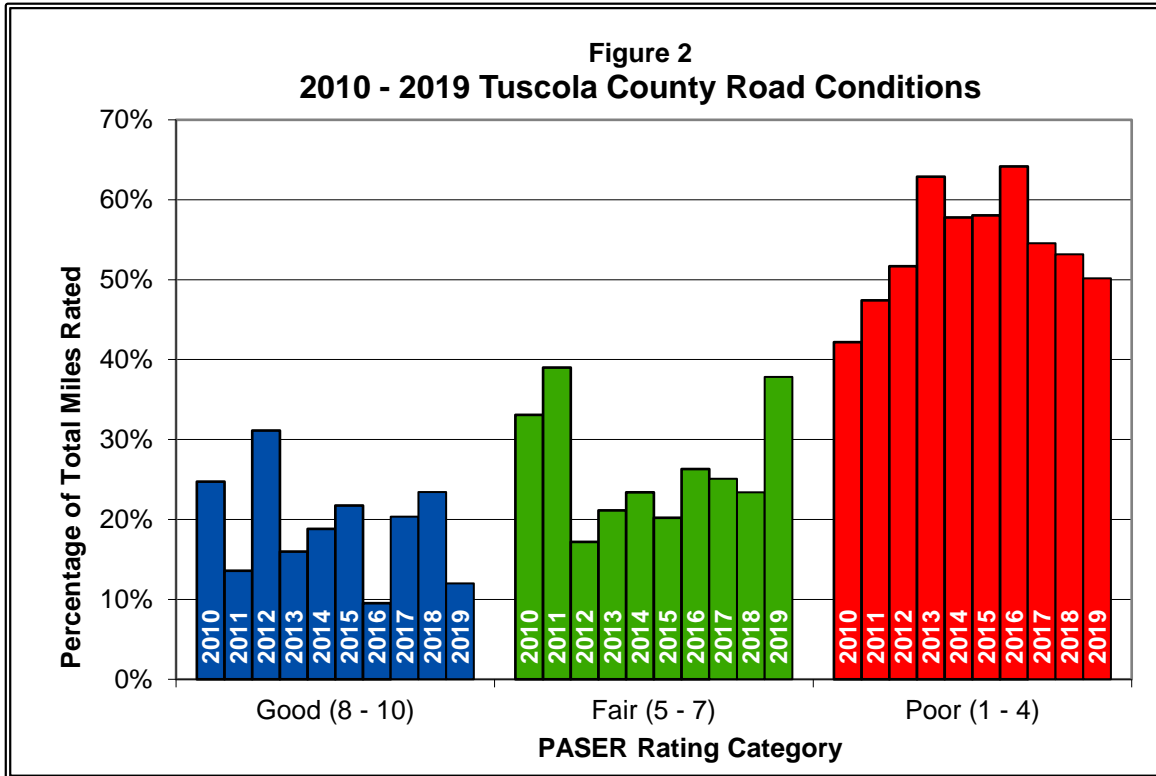


**Table 2** below summarizes the PASER ratings and total miles rated for each of the jurisdictions represented in Tuscola County, as well as Tuscola County as a whole.

<b>Table 2 - 2019 PASER Results by Jurisdiction</b>				
<b>Jurisdiction</b>	<b>8 - 10</b>	<b>5 - 7</b>	<b>1 - 4</b>	<b>Total Mileage Rated</b>
Village of Akron	0.000	0.000	0.000	0.000
Village of Cass City	0.000	0.000	0.000	0.000
Village of Fairgrove	0.000	0.000	0.495	0.495
Village of Gagetown	0.000	0.000	0.000	0.000
Village of Kingston	0.000	0.000	0.000	0.000
Village of Mayville	0.000	0.011	0.000	0.011
Village of Millington	0.000	0.000	0.962	0.962
Village of Reese	0.000	0.000	1.049	1.049
Village of Unionville	0.000	0.000	0.000	0.000
City of Caro	0.000	0.000	0.000	0.000
City of Vassar	0.236	0.825	1.645	2.706
MDOT	9.087	32.021	28.626	69.734
Tuscola CRC	13.959	40.551	64.568	119.078
Tuscola County	23.282	73.408	97.345	194.035

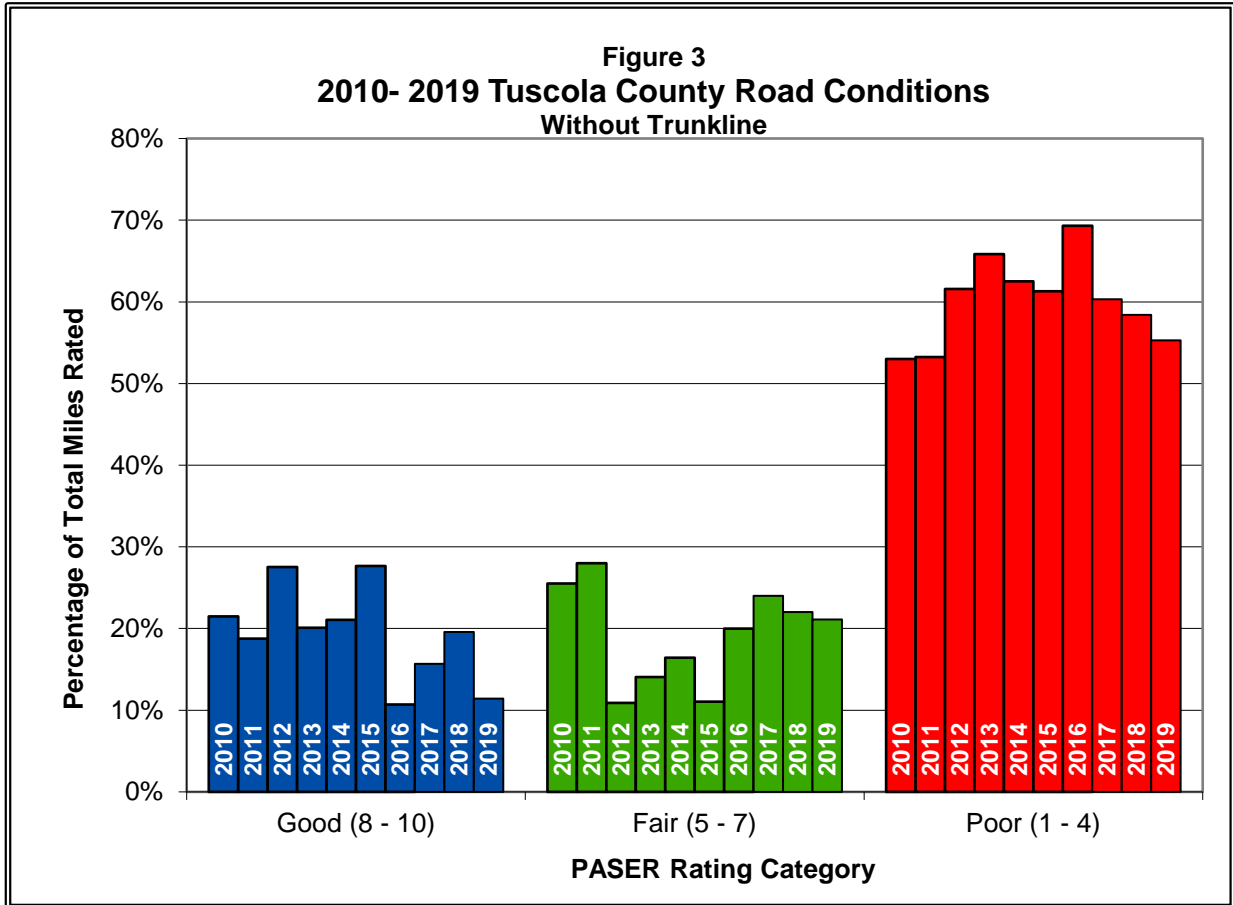
### Multi-Year Comparison of PASER Ratings:

The comparison of PASER ratings from year to year provides a valuable assessment of the effectiveness of current transportation funding and maintenance activities. **Figure 2** below shows a 10-year trend analysis of the paved federal aid road conditions for Tuscola County. Due to slight variations in the mileage rated each year, the results have been reported as a percentage of the total miles rated for each given year.



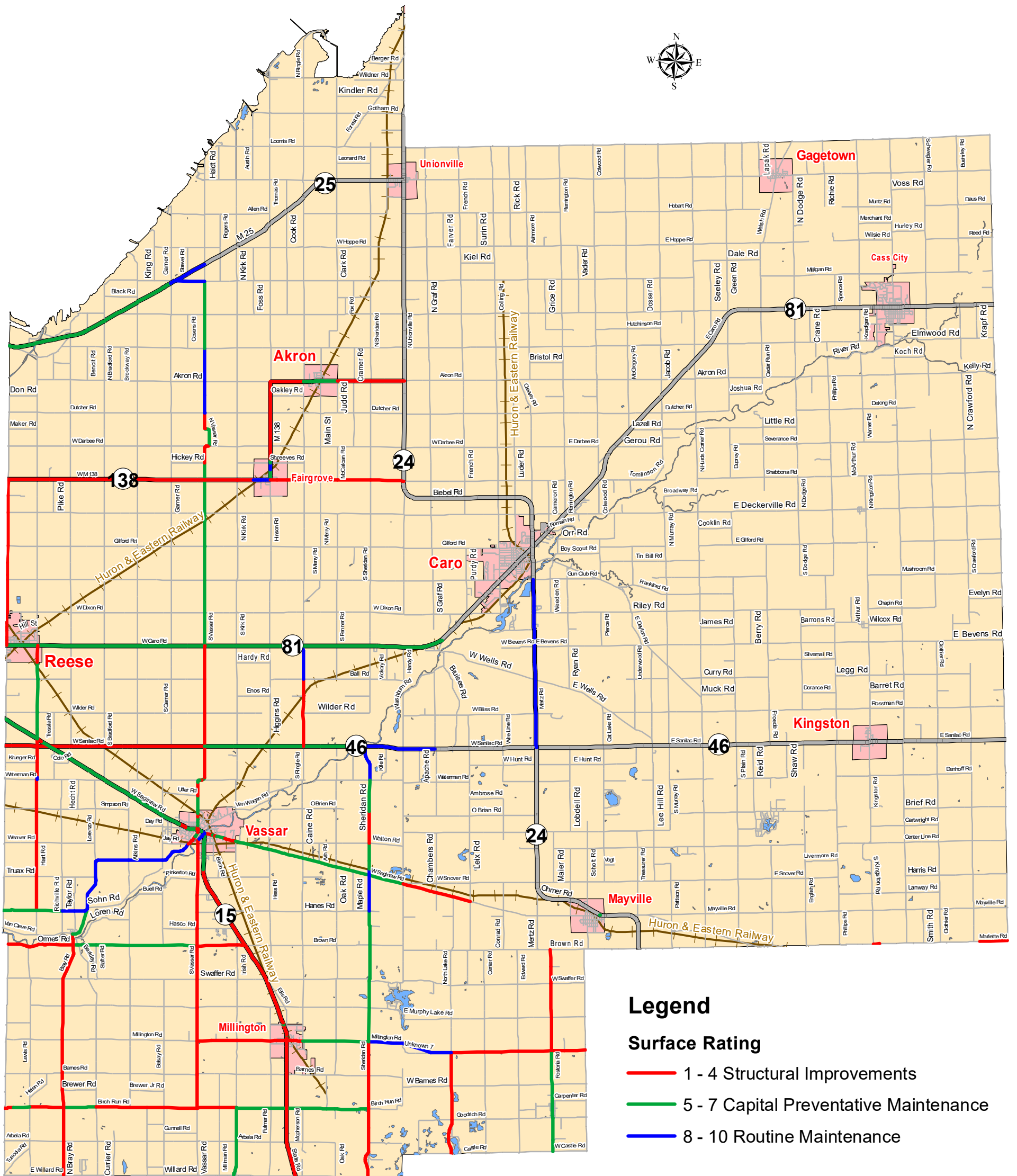
As can be seen in Figure 2, road conditions within the County continue to appear to be increasing in the fair category. Roads in the good category are somewhat level while those in the poor category are declining. The percentage of roads in the fair category appears to be increasing percentage wise. This may be an indication that the capital preventive maintenance program at the road commission is effective.

**Figure 3** shows the 10-year trend analysis with state trunkline data removed. Removing the State Trunkline data from this trend analysis paints a similar picture, with the good category having declined more dramatically in the last 4 years. Poor roads still represent a large percentage of the overall mileage, but the percentage is declining, with fair roads increasing. Again, this may be an indication that the preventive maintenance program is effective.



# Tuscola County

## 2019 Road Surface Ratings



### Legend

#### Surface Rating

- 1 - 4 Structural Improvements
- 5 - 7 Capital Preventative Maintenance
- 8 - 10 Routine Maintenance

**Total PASER Miles: 194.035**

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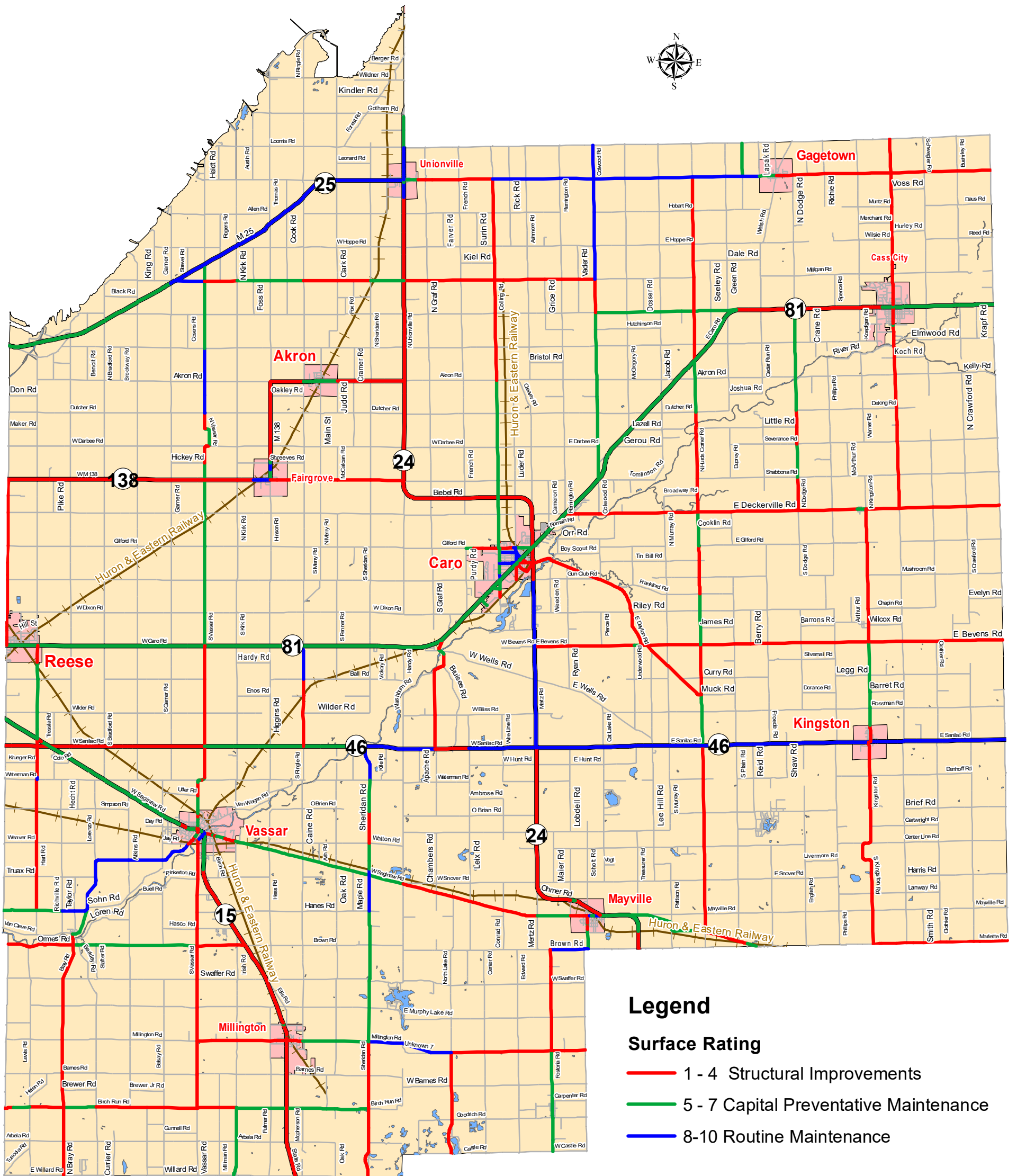


#### A Cooperative Effort Between:

- Tuscola County Road Commission
- Michigan Department of Transportation
- East Michigan Council of Governments
- Transportation Asset Management Council

# Tuscola County

## 2018 & 2019 Road Surface Ratings



### Legend

#### Surface Rating

- 1 - 4 Structural Improvements
- 5 - 7 Capital Preventative Maintenance
- 8-10 Routine Maintenance

**Total PASER Miles: 431.013**

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