

**Isabella County
Transportation Asset Management Program
FY 2019 PASER Road Survey**

Project Overview:

On April 25, 2019 East Michigan Council Of Governments Region 7 staff along with representatives of the Isabella County Road Commission (ICRC and the Michigan Department of Transportation (MDOT) assessed the condition of Isabella County federal aid eligible roads using the PASER road rating system as requested by the State of Michigan Transportation Asset Management Council (TAMC).

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 Isabella County road-rating project there was always one Region 7 representative, one ICRC 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 190.626 miles of federal aid eligible roads were rated for this project. The project was completed in approximately 5.5 hours with an average rating speed of 35 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.

Table 1 – Isabella County 2019 PASER Results			
PASER Rating	Prescribed Fix	Mileage	Percent of Total Miles Rated
8 - 10	Routine Maintenance	55.757	29%
5 - 7	Capital Preventive Maintenance	64.848	34%
1 - 4	Structural Improvements	70.021	37%

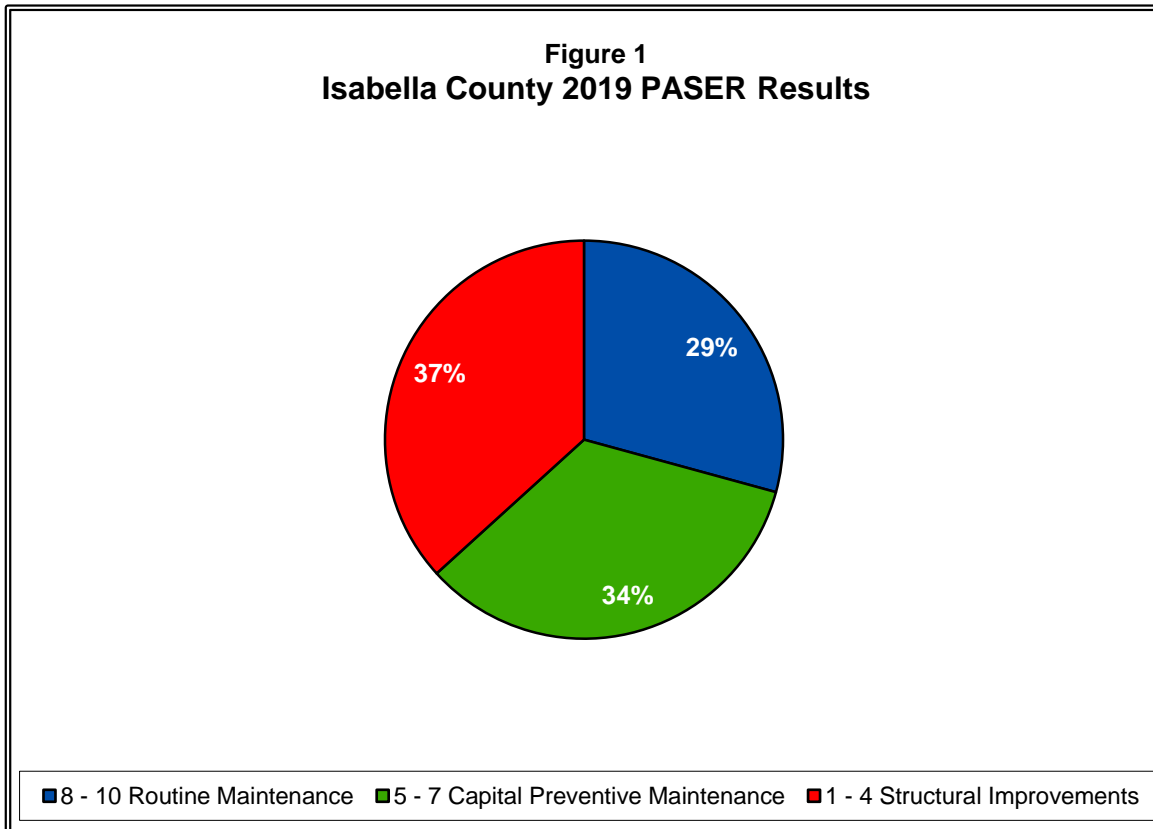
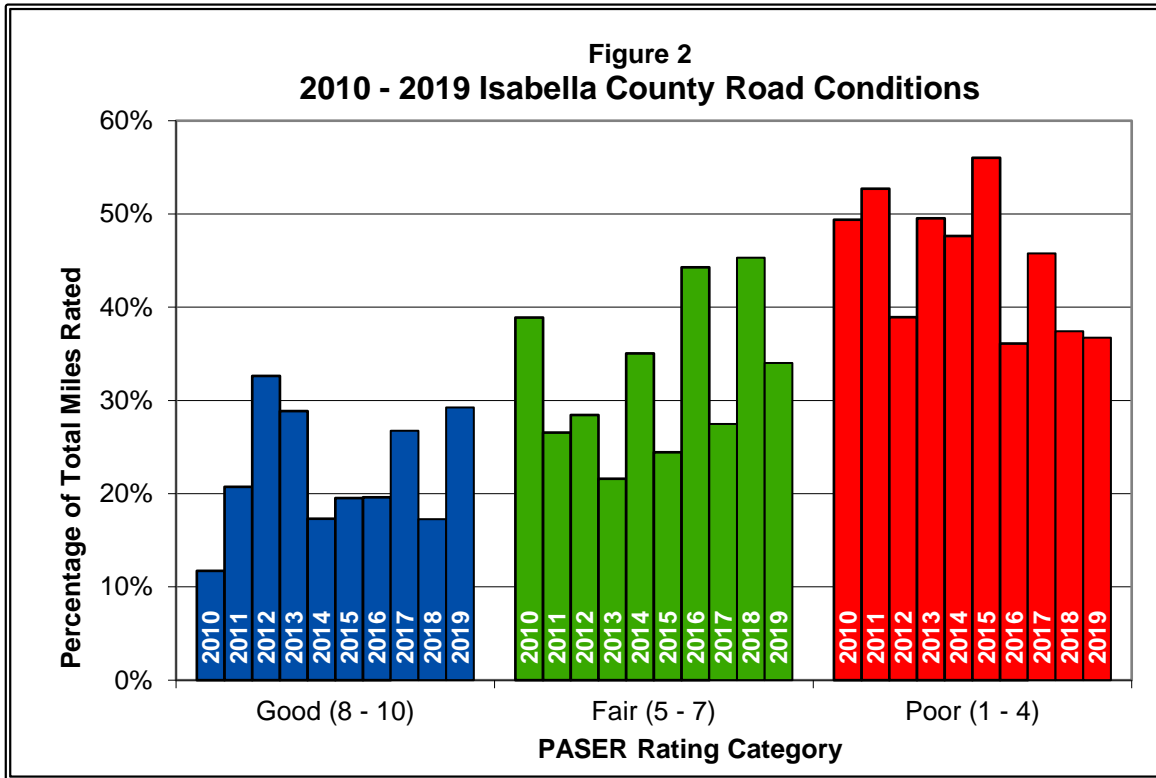


Table 2 below summarizes the PASER ratings and total miles rated for each of the jurisdictions represented in Isabella County, as well as Isabella County as a whole.

Table 2 - 2019 PASER Results by Jurisdiction				
Jurisdiction	8 - 10	5 - 7	1 - 4	Total Mileage Rated
Village of Lake Isabella	0.000	0.000	0.000	0.000
Village of Rosebush	0.000	0.000	0.000	0.000
Village of Shepherd	0.000	0.000	0.000	0.000
City of Mt Pleasant	0.000	0.000	0.000	0.000
MDOT	0.000	8.479	3.465	11.944
Isabella CRC	55.757	56.369	66.556	178.682
Isabella County	55.757	64.848	70.021	190.626

Multi-Year Comparison of PASER Ratings:

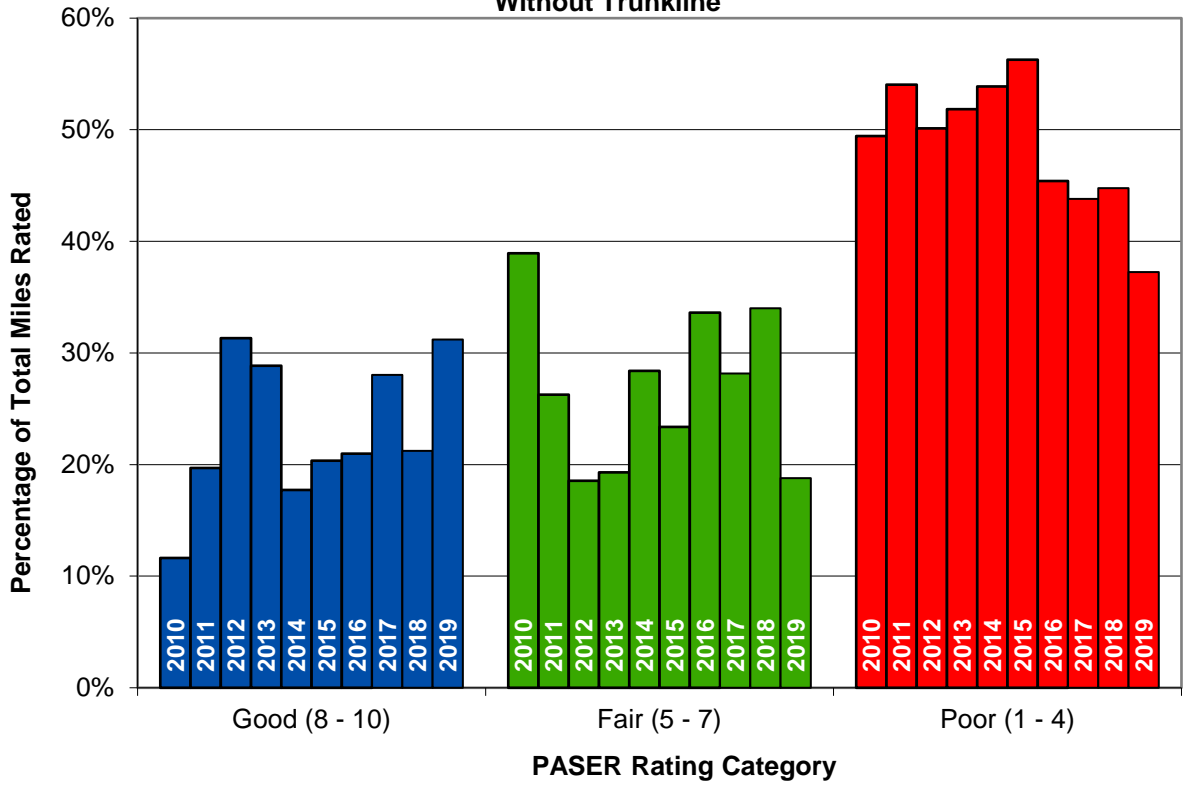
The comparison of PASER ratings from year to year provides a valuable assessment of the effectiveness of current transportation funding and maintenance activities. **Figure 2** below shows a 10-year trend analysis of the paved federal aid road conditions for Isabella County. Due to slight variations 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 have increased while those in the poor category have declined. 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.

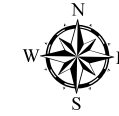
Removing the State Trunkline data from this trend analysis paints a similar picture. **Figure 3** shows the 10-year trend analysis with state trunkline data removed. Poor category roads still represent a large percentage of the overall mileage, but the percentage appears to be declining. Again, this may be an indication that the preventive maintenance program is effective.

Figure 3
2010- 2019 Isabella County Road Conditions
Without Trunkline



Isabella County

2019 Road Surface Ratings



Legend

Surface Rating

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

Total PASER Miles: 190.626

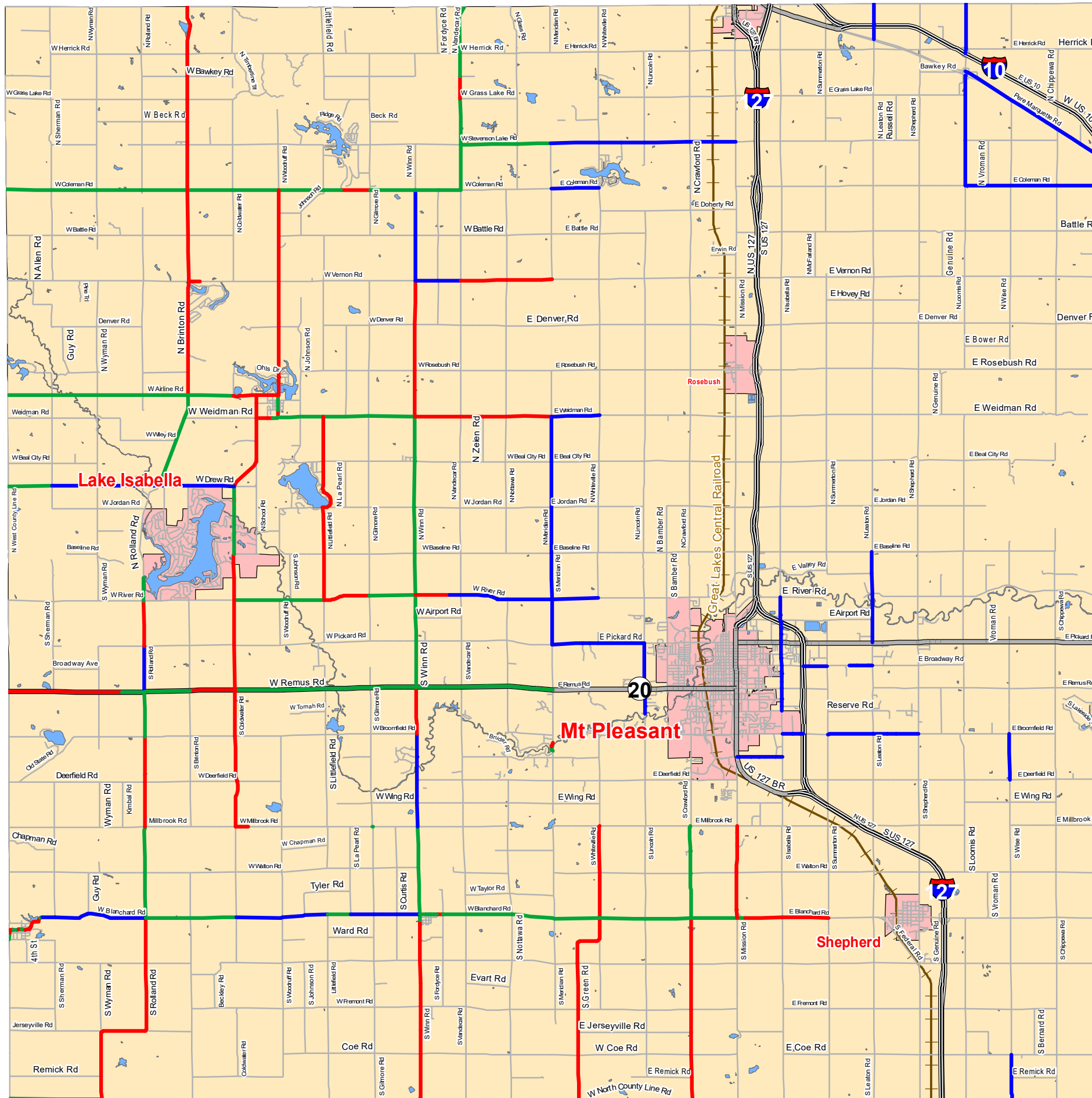
A Cooperative Effort Between:

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

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Isabella County

2018 & 2019 Road Surface Ratings



Legend

2018 & 2019 Isabella Paser Ratings Surface Rating

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

Total PASER Miles: 411.673

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