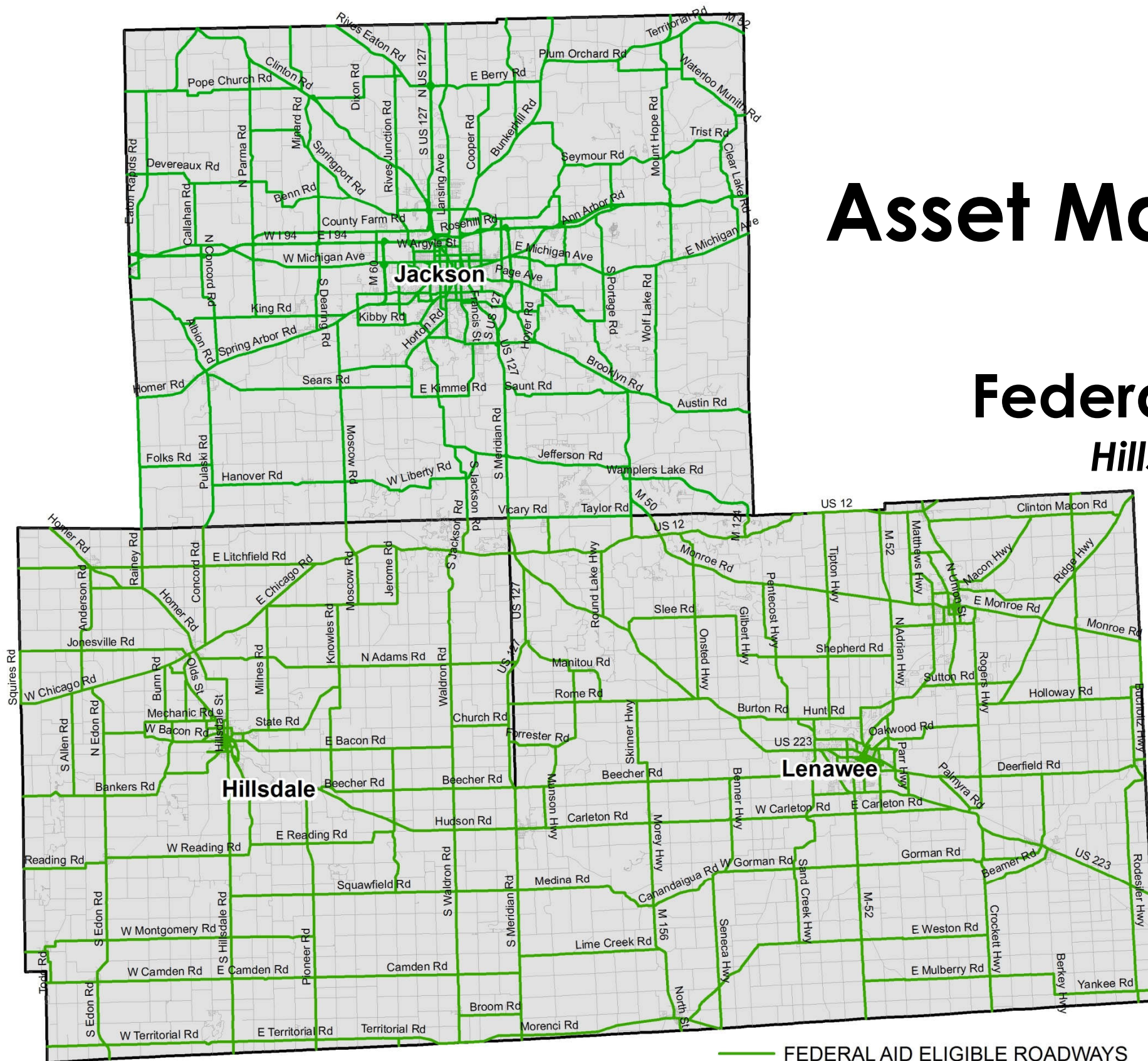


2018-2019 Asset Management Report

Federal-Aid Eligible Roadways
Hillsdale, Jackson, & Lenawee Counties

November 2019

Region 2
Planning Commission
Serving Hillsdale, Jackson and Lenawee Counties



2018-2019 Region 2 Area Asset Management Report

Federal-Aid Eligible Roads *Hillsdale, Jackson, & Lenawee Counties*

November 2019



The Asset Management Program for Federal-Aid Eligible Roads in the Region 2 Area (Hillsdale, Jackson, and Lenawee Counties) is administered by the Region 2 Planning Commission (R2PC) and funded by the Michigan Department of Transportation (MDOT). The 2018-2019 Asset Management Report was prepared by the R2PC.

The Asset Management Program is led by the statewide Transportation Asset Management Council, an eleven-member body consisting of representatives from the Michigan Municipal League, Michigan Township Association, Michigan Transportation Planners Association, Michigan Association of Regions, Michigan Association of Counties, the County Road Association of Michigan, and MDOT. The mission of the Transportation Asset Management Council is:

“Advise the State Transportation Commission on a statewide asset management strategy and the necessary procedures and analytical tools to implement such a strategy on Michigan’s highway system in a cost-effective, efficient manner”.





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Introduction

The [Asset Management Program](#) in the Region 2 Area is a continuous effort to monitor the surface conditions of federal-aid eligible roads (except for minor collectors) in Hillsdale, Jackson and Lenawee Counties. The Program is administered by the [Region 2 Planning Commission](#), with guidance from Michigan's [Transportation Asset Management Council](#) and in collaboration with the [Michigan Department of Transportation](#) (MDOT), two county road commissions, the Jackson County Department of Transportation, and the various cities and villages located in the Region 2 area. MDOT funds the program.

The Asset Management Program involves a strategic approach that assesses the complete road network comprehensively, and provides road agencies with a tool to:

- Manage road infrastructure in the short term
- Plan for future improvements in the long term

The data compiled for the Asset Management Program is gathered in the field and analyzed using a software program known as [RoadSoft](#)¹. Much of the data that pertains to road surface conditions can be used by road agencies to:

- Monitor the physical condition of the federal-aid roadway network (excluding bridges),
- Optimize the preservation, improvement, and timely replacement of federal-aid roadways.

The Asset Management Program is used to ensure the proper use and performance of the federal-aid road network, a process that involves the continuous assessment of conditions and evaluation of trade-offs between different actions (i.e., a “mix of fixes”).

The data collection effort was originally scheduled to take place over a three-year period, beginning in 2006. Since 2008, the program was extended, and all of the federal-aid roads in each county have been rated over a two-year period (i.e., one-half of the roadways each year) since that time. The following county and local road agencies are also using RoadSoft to rate their local roadway network: the cities of Adrian, Hillsdale, Jackson, Litchfield, and Tecumseh; the Village of Blissfield; and the counties of Hillsdale, Jackson, and Lenawee.

Asset Management strives to gather road ratings that are accurate and consistent. To help ensure consistency, raters are required to attend annual training provided by Michigan Technological University's Center for Technology and sponsored by MDOT.

¹ The Center for Technology, Michigan Technological University, developed and maintains [RoadSoft](#).

2018-2019 Asset Management Survey Data Collection

The roadway network is comprised of three different types of roadways:

- Principal and Minor Arterials.** Interstates, other freeways, highways, roads, and streets designed to carry large amounts of traffic and to provide access to important destinations (e.g., employment centers, retail districts, etc.);
- Major/Urban Collectors.** Roads and streets which function as conduits directing local traffic to arterial roadways and are designed to provide more access to property than arterial; and
- Local Roadways.** Road and streets designed to provide access to property and to carry small amounts of traffic.

The data collection is limited to federal-aid roadways (i.e., arterials and collectors), although various road agencies are also encouraged to rate local roads. Federal-aid roads are eligible for federal transportation funding to be spent on their construction, repair, and maintenance. There are currently 1,642 miles of federal-aid eligible roads in the Region 2 Area:

Hillsdale County	422 miles
Jackson County	687 miles
Lenawee County	533 miles

The highways, roads, and streets which comprise the road network are owned and operated by MDOT, the two road commissions, Jackson County Department of Transportation, and the various municipalities (cities and villages). Data is collected in each county on a biennial basis (half of the network each year) by teams of staff from MDOT, the Region 2 Planning Commission, the county road commission/county department of transportation and/or local municipalities. The following types of data are collected using Roadsoft:

- Lanes.** The number of lanes in each roadway segment, with freeways and boulevards divided into separate segments by direction.
- Surface subtype.** The surface subtype (i.e., asphalt, sealcoat, composite, concrete, or gravel) for each road segment.
- Surface rating.** The condition of those surfaces are rated using the Pavement Surface Evaluation and Rating (PASER) system, according to the scale in Table 1.



Table 1
PASER Rating Scale

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 reflection of paving joints). ☞ Occasional transverse cracks, widely spaced (40 ft. or greater).	Recent sealcoat or new road mix. Little or no maintenance required.
7	Good	☞ Very slight or no raveling, surface shows some traffic wear. ☞ Longitudinal cracks (open ¼ in.) spaced due to reflection or paving joints. ☞ Transverse cracks (open ¼ in.) 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	☞ Slight raveling (loss of lines) and traffic wear. ☞ Longitudinal cracks (open ¼ in. – ½ in.) due to reflection and paving joints. ☞ Transverse cracking (open ¼ in. – ½ in.), some spaced less than 10 ft. ☞ Slight to moderate flushing or polishing. ☞ Occasional patching in good condition.	Shows signs of aging, sound structural condition. Could extend life with sealcoat.
5	Fair	☞ Moderate to severe raveling (loss of lines and coarse aggregate). ☞ Longitudinal cracks (open ½ in.) 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 ½ in.). ☞ 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	☞ Severe surface raveling. ☞ Multiple longitudinal and transverse cracking with slight raveling. ☞ Block cracking (over 25-50% of surface). ☞ Patching in fair condition. ☞ Slight rutting or distortions (1 in. deep or less).	Significant aging and first signs of need for strengthening. Would benefit from recycling or overlay.

(continued)

Table 1
PASER Rating Scale

Surface Rating		Visible Distress	General Condition/ Treatment Measures
3	Poor	<div><div></div>Closely spaced longitudinal and transverse cracks often showing raveling and crack erosion.</div> <div><div></div>Block cracking over 50% of surface.</div> <div><div></div>Some alligator cracking (less than 25% of surface).</div> <div><div></div>Patches in fair to poor condition.</div> <div><div></div>Moderate rutting or distortion (1 in. or 2 in. deep).</div> <div><div></div>Occasional potholes.</div>	Needs patching and major overlay or complete recycling.
2	Very poor	<div><div></div>Alligator cracking (over 25% of surface).</div> <div><div></div>Severe distortions (over 2 in. deep).</div> <div><div></div>Extensive patching in poor condition.</div> <div><div></div>Potholes.</div>	Severe deterioration. Reconstruction with extensive base repair is needed.
1	Failed	<div><div></div>Severe distress with extensive loss of surface integrity.</div>	Failed. Needs total reconstruction.

Hillsdale County

2018 Asset Management Team	2019 Asset Management Team
<div><div></div><div>Laurent Fournier, MDOT University Reg.</div></div> <div><div></div><div>Heather Boyd, Hillsdale CRC</div></div> <div><div></div><div>Susan Richardson, R2PC</div></div>	<div><div></div><div>Daniel Lugauer, MDOT University Reg.</div></div> <div><div></div><div>Heather Boyd, Hillsdale CRC</div></div> <div><div></div><div>Tanya DeOliveira, R2PC</div></div>
Survey Dates: 9/17/18, 9/18/18	Survey Date: 8/26/19, 9/3/19

PASER (Pavement Surface Evaluation and Rating) ratings were gathered during the 2019 reporting period for 208 miles of eastern Hillsdale County roads. About 215 miles of roads were rated in the western half of the County in 2018 (Map 1).

The surveys reveal that of the **federal-aid roads**:

14% are in very good or excellent condition.

24% are in fair or good condition.

62% are in poor or very poor condition or have failed.

Table 2
2018-2019 Hillsdale County PASER Ratings

PASER Rating	2018		2019		2018-2019	
	Miles	Miles	Miles	Ratio	Miles	Ratio
10	0	0%	0.1	0%	0.1	0%
9	23.2	11%	9.0	4%	32.2	8%
8	23	11%	3.4	2%	26.4	6%
7	10.4	5%	18.8	9%	29.2	7%
6	32.4	15%	5.3	3%	37.7	9%
5	8.6	4%	25.8	12%	34.4	8%
4	10.8	5%	76.2	37%	87.0	21%
3	86.7	40%	49.3	24%	136.0	32%
2	19.7	9%	19.8	10%	39.5	9%
1	0	0%	0.0	0%	0.0	0%
Total*	214.8	100%	207.61	100%	422.4	100%

*PASER Rating Miles are collected by .000 in Roadsoft. The total miles rated may be slightly off due to rounding.

The federal-aid road network is divided into five different types:

➤ **State trunkline (highways)** comprise 27% of the federal-aid road network. **22%** are in very good or excellent condition. **54%** are in fair or good condition. **23%** of state highways are in poor or very poor condition or have failed.

➤ **County primary roads** comprise 66% of the federal-aid road network. **10%** of primary roads are in very good or excellent condition. **13%** of primary roads are in fair or good condition. **77%** of primary roads are in poor or very poor condition.

➤ **Local county roads** did not comprise any of the ratings for the 2018-2019 collection years.

➤ **Major streets** in cities and villages comprise 7% of the federal-aid road network. **19%** are in very good or excellent condition. **16%** are in fair or good condition. **77%** are in poor or very poor condition or have failed.

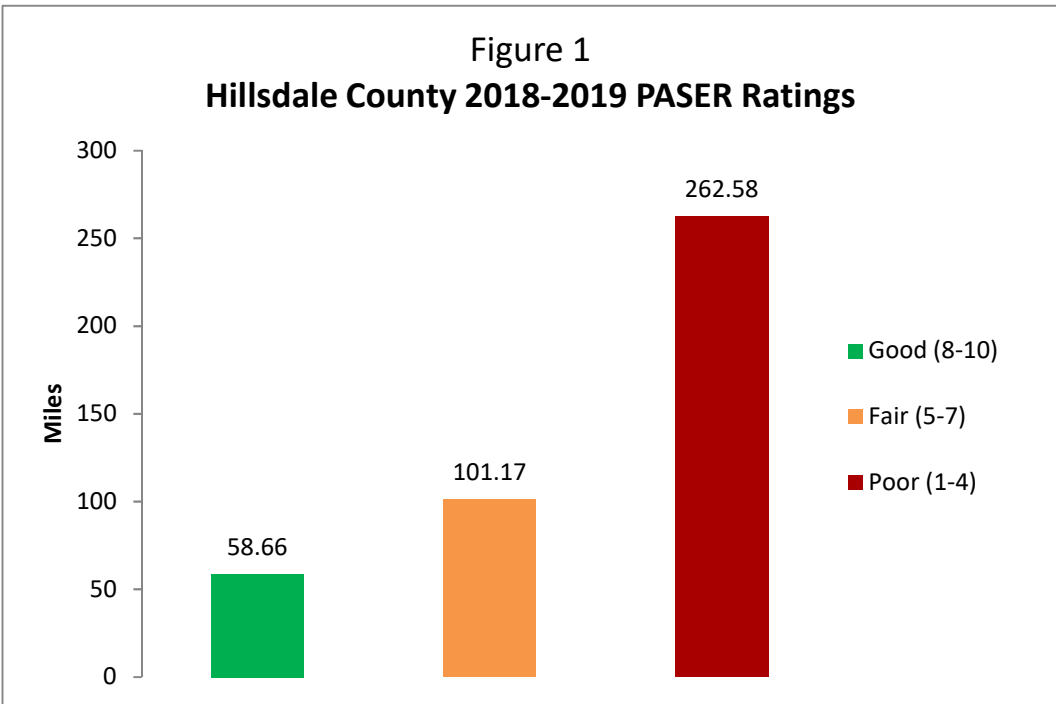
➤ **Minor streets** in cities and villages comprised less than 1% of the ratings for the 2018-2019 collection years. **49%** are in very good or excellent condition. **51%** are in poor or very poor condition or have failed.

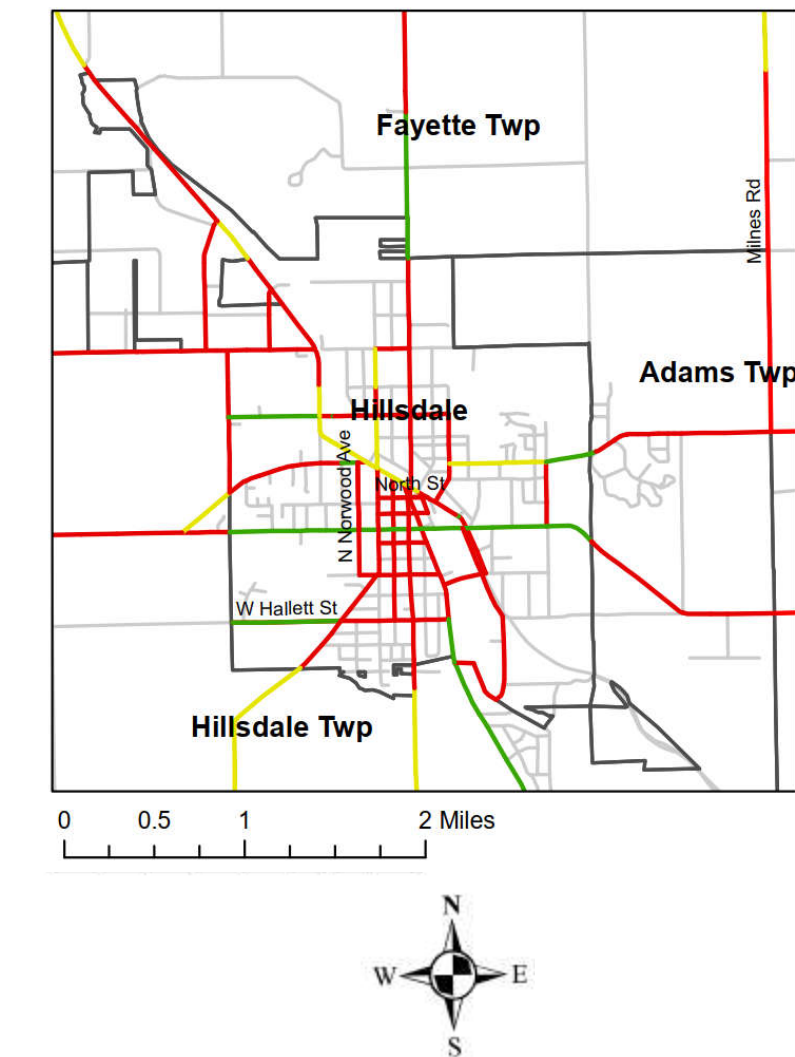
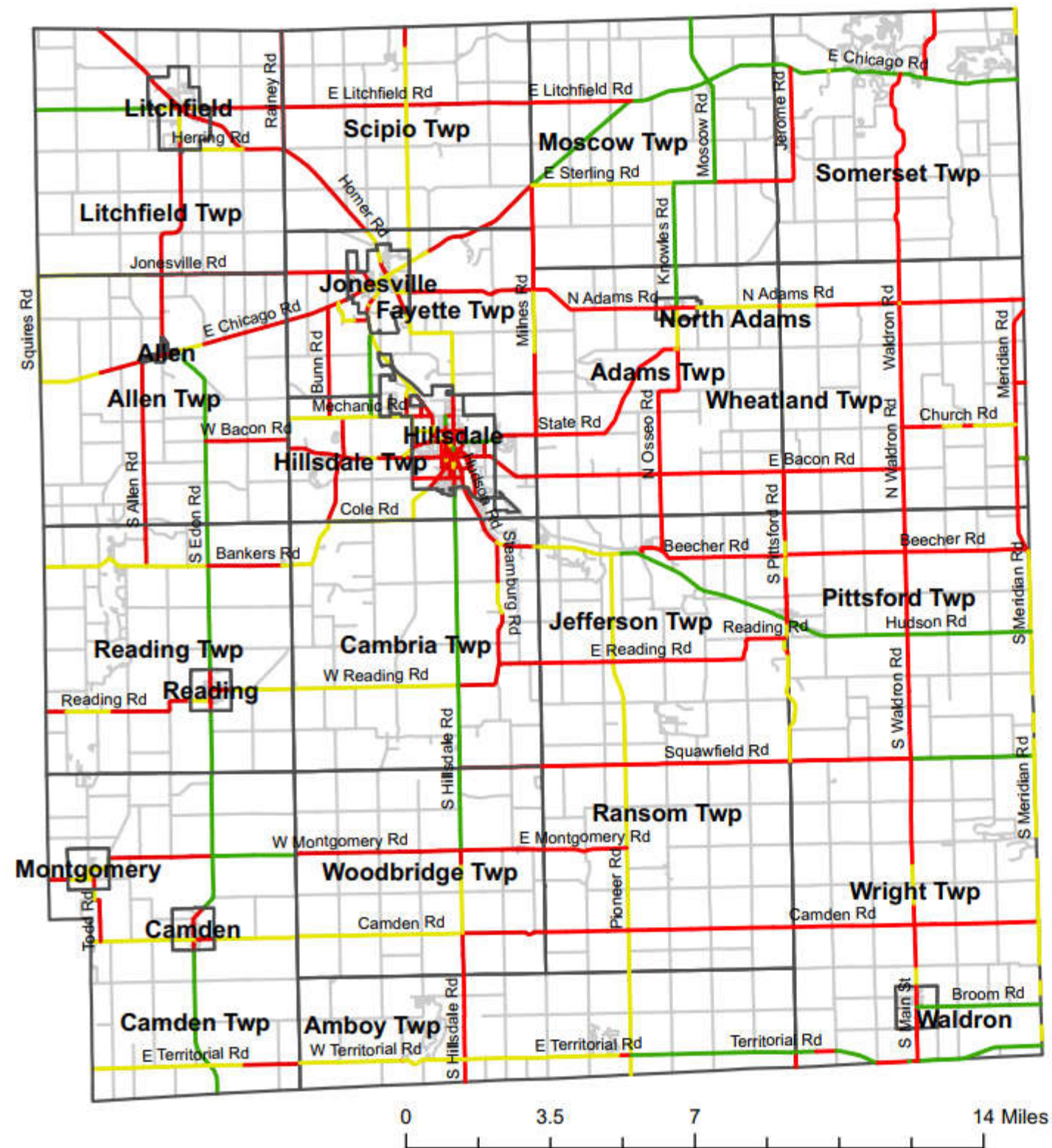
Hillsdale County Ratings History

Table 3 provides the PASER ratings for the federal-aid road network from 2010 through the 2018-2019 rating cycle for Hillsdale County:

Table 3
History of Hillsdale County PASER Ratings

PASER Rating	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
8-10	20.0%	19.7%	19.4%	15.4%	11.2%	16.2%	14.5%	19.0%	13.9%
5-7	54.6%	52.1%	36.5%	38.1%	32.2%	29.1%	29.8%	27.0%	24.0%
1-4	25.4%	28.2%	44.1%	46.5%	56.6%	54.7%	55.7%	54.0%	62.2%





Jackson County

2018 Asset Management Team	2019 Asset Management Team
<div><div></div> Scott Walter, MDOT University Region</div> <div><div></div> Michael Anderson, JCDOT</div> <div><div></div> Susan Richardson, R2PC</div> <div><div></div> Tanya DeOliveira, R2PC</div>	<div><div></div> Scott Walter, MDOT University Region</div> <div><div></div> Michael Anderson, JCDOT</div> <div><div></div> Tanya DeOliveira, R2PC</div>
Survey Dates: 9/20/18, 9/27/18, 9/28/18	Survey Dates: 6/10/19, 6/11/19, 6/12/19

PASER (Pavement Surface Evaluation and Rating) ratings were gathered during the 2019 reporting period for 304 miles of Jackson County and City of Jackson roads. In 2018, 343 miles of roads were rated in Jackson County. (Map 2).

The surveys reveal that of the **federal-aid roads**:

15% are in very good or excellent condition.

49% are in fair or good condition.

36% are in poor or very poor condition or have failed.

The federal-aid road network is divided into five different types:

☞ **State trunkline** (highways) comprise 35% of the federal-aid road network.

Table 4
2018-2019 Jackson County PASER Ratings

PASER Rating	2018		2019		2018-2019	
	Miles	Ratio	Miles	Ratio	Miles	Ratio
10	1.1	0%	1.0	0%	2.1	0%
9	15.3	4%	4.3	1%	19.6	3%
8	37.8	11%	36.6	12%	74.4	11%
7	45.5	13%	41.3	14%	86.8	13%
6	56.5	16%	48.0	16%	104.5	16%
5	31.9	9%	95.2	31%	127.1	20%
4	53.3	16%	35.9	12%	89.2	14%
3	94.9	28%	40.5	13%	135.4	21%
2	7.1	2%	1.5	1%	8.6	1%
1	0	0%	0.0	0%	0	0%
Total*	343.4	100%	304.3	100%	647.7	100%

*PASER Rating Miles are collected by .000 in Roadsoft. The total miles rated may be slightly off due to rounding.

22% are in very good or excellent condition. **55%** are in fair or good condition. **23%** of state highways are in poor or very poor condition or have failed.

☞ **County primary roads** comprise 56% of the federal-aid road network. **48%** are in fair or good condition. **41%** are in poor or very poor condition or have failed.

☞ **Local county roads** comprise 1% of the federal-aid road network. **0%** are in very good or excellent condition. **12%** are in fair or

good condition. **88%** are in poor or very poor condition or have failed.

☞ **Major streets** in cities and villages comprise 7% of the federal-aid road network. **6%** are in very good or excellent condition. **35%** are in fair or good condition. **59%** are in poor or very poor condition or have failed.

☞ **Minor streets** in cities and villages did not comprise any of the ratings for the 2018-2019 collection years.

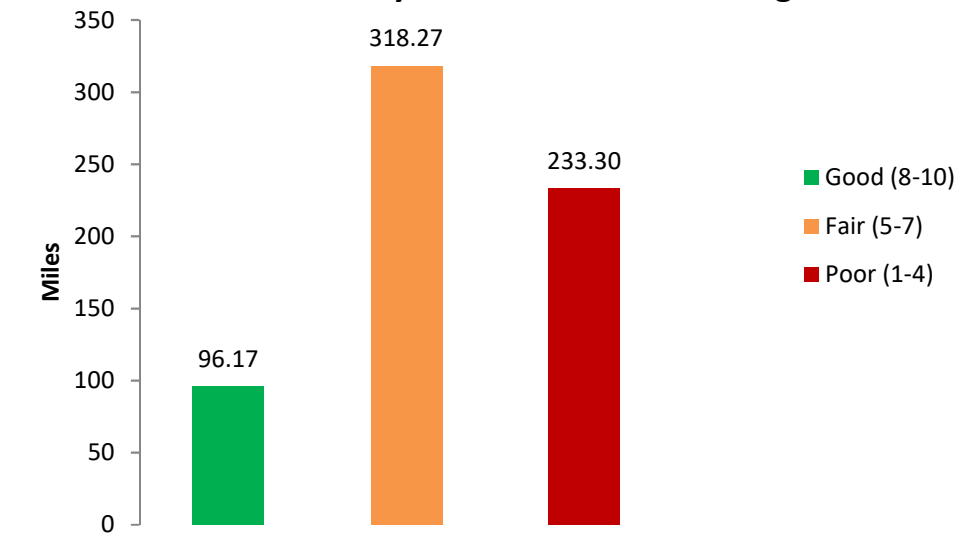
Jackson County Ratings History

Table 5 provides the PASER ratings for the federal-aid road network from 2010 through the 2018-2019 rating cycle for Jackson County.

Table 5
History of Jackson County PASER Ratings

PASER Rating	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
8-10	22.1%	15.2%	17.4%	18.4%	16.3%	15.4%	21.5%	16.0%	14.58%
5-7	59.1%	68.1%	59.0%	37.4%	39.1%	54.2%	56.6%	39.0%	49.1%
1-4	18.8%	16.7%	23.6%	44.2%	44.6%	30.4%	21.9%	45.0%	36.0%

Figure 2
Jackson County 2018-2019 PASER Ratings

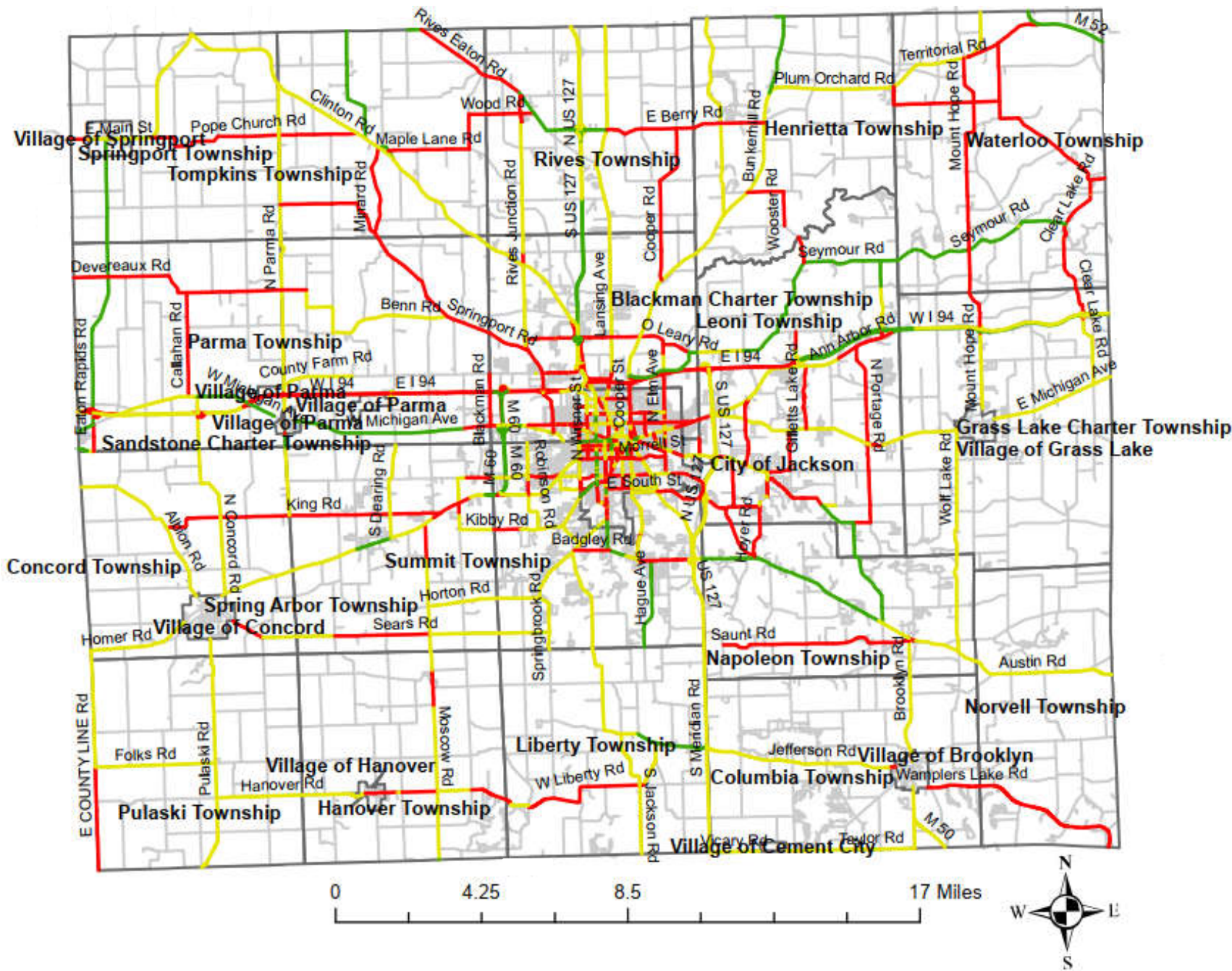
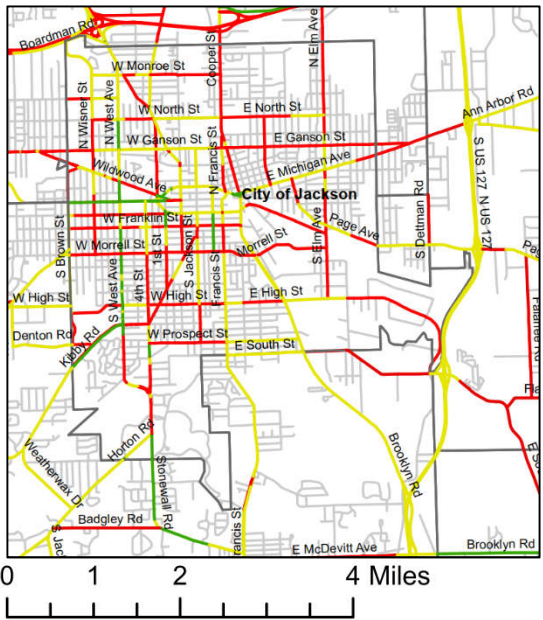


Jackson County 2018 - 2019

Asset Management (PASER)

Surface Condition Ratings

- 1 - 4 Poor
- 5 - 7 Fair
- 8 - 10 Good



Lenawee County

2018 Asset Management Team	2019 Asset Management Team
<div><div></div><div>Daniel Lugauer, MDOT University Reg.</div></div> <div><div></div><div>Roger Robinson, Lenawee CRC</div></div> <div><div></div><div>Tanya DeOliveira, R2PC</div></div>	<div><div></div><div>Daniel Lugauer, MDOT University Reg.</div></div> <div><div></div><div>Peter Greenman, Lenawee CRC</div></div> <div><div></div><div>Tanya DeOliveira, R2PC</div></div>
Survey Dates: 10/1/18, 10/2/18, 10/3/18	Survey Dates: 6/17/19, 6/21/19

PASER (Pavement Surface Evaluation and Rating) ratings were gathered during the 2019 reporting period for 277 miles of southern Lenawee County roadways. In 2018, 256 miles of northern Lenawee County were rated. (Map 3).

The surveys reveal of the **federal-aid roads**:

20% are in very good or excellent condition.
53% are in fair or good condition.
28% are in poor or very poor condition or have failed.

See Table 6 and Figure 3 for more detail.

Table 6

2018-2019 Lenawee County PASER Ratings

PASER Rating	2018		2019		2018-2019	
	Miles	Ratio	Miles	Ratio	Miles	Ratio
10	2	1%	0.0	0%	2	1%
9	14.4	6%	9.2	3%	23.591	6%
8	58.6	23%	21.6	8%	80.219	23%
7	21	8%	64.0	23%	85.018	8%
6	16.6	6%	80.6	29%	97.177	6%
5	56.3	22%	41.9	15%	98.176	22%
4	59.7	23%	47.6	17%	107.34	23%
3	16.3	6%	9.0	3%	25.346	6%
2	11.5	4%	2.9	1%	14.367	4%
1	0	0%	0.0	0%	0	0%
Total*	256.4	100%	276.8	100%	533.23	99%

The federal-aid road network can be divided into five different types:

State trunkline (highways) comprise 27% of the federal-aid road network. **6%** are in very good or excellent condition. **74%** are in fair or good condition. **20%** are in poor or very poor condition or have failed.

County primary roads comprise 61% of the federal-aid road network. **27%** are in very good or excellent condition. **46%** are in fair or good condition. **28%** are in poor or very poor condition or have failed.

Local county roads comprise 1% of the federal-

aid road network. **16%** are in very good or excellent condition. **68%** are in fair or good condition. **15%** of local roads in poor or very poor condition or have failed.

Major streets in cities and villages comprise 10% of the federal-aid road network. **18%** are in very good or excellent condition. **35%** are in fair or good condition. **49%** are in poor or very poor condition or have failed.

Minor streets in cities and villages comprise less than 1 mile of the federal-aid road network. **22%** are in very good or excellent condition. **44%** are in fair or good condition. **34%** are in poor or very poor condition or have failed.

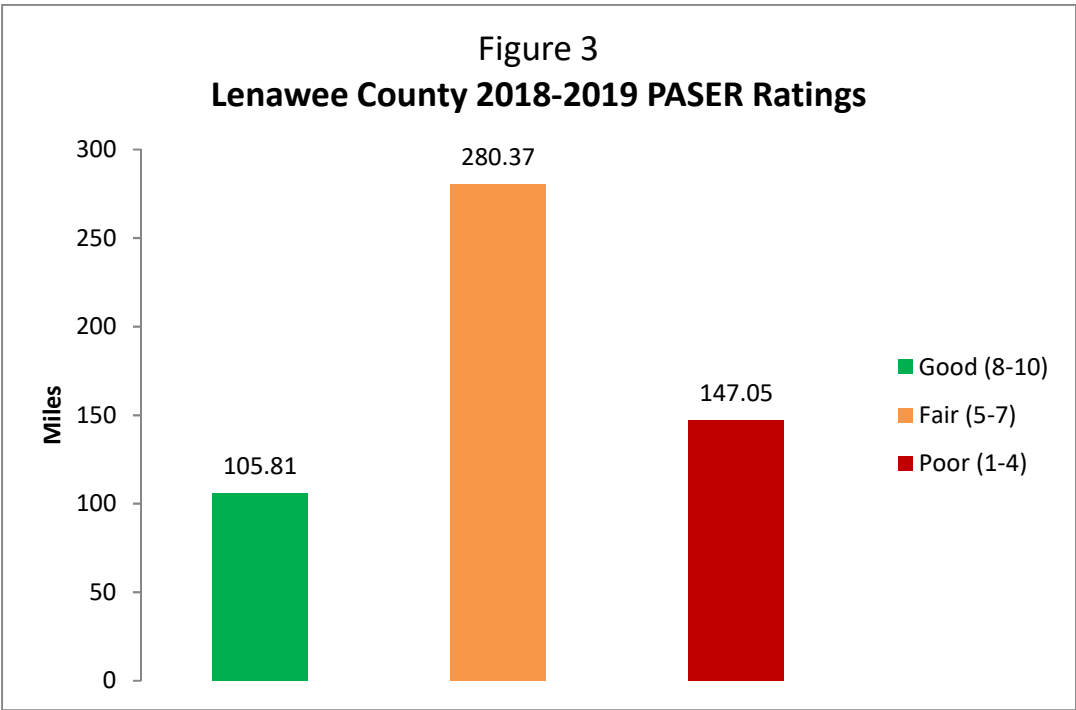
Lenawee County Ratings History

Table 7 provides the PASER ratings for the federal-aid road network from 2010 through the 2018-2019 rating cycle for Lenawee County.

Table 7

History of Lenawee County PASER Ratings

PASER Rating	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
8-10	13.6%	14.7%	20.9%	18.2%	15.5%	18.2%	19.4%	29.0%	19.8%
5-7	55.3%	59.3%	48.4%	45.8%	44.0%	43.9%	39.8%	37.0%	52.6%
1-4	31.1%	26.0%	30.7%	36.0%	40.5%	37.9%	40.8%	34.0%	27.6%



*PASER Rating Miles are collected by .000 in Roadsoft. The total miles rated may be slightly off due to rounding.

Lenawee County 2018 - 2019

Asset Management (PASER)
Surface Condition Ratings

- 1 - 4 Poor
- 5 - 7 Fair
- 8 - 10 Good

