

# 2016 PASER Survey of Lapeer County



Prepared by the Genesee County Metropolitan Planning Commission  
[www.gcmpc.org](http://www.gcmpc.org) | November 2016



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**The State of Michigan  
Transportation Asset Management Council  
2016 PASER Road Survey  
Lapeer County**

**Project Overview:**

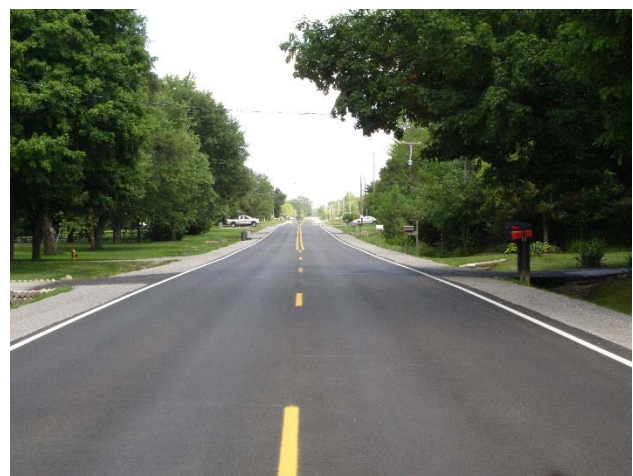
On August 1<sup>st</sup> through August 3<sup>rd</sup>, 2016, GLS Region V staff, along with representatives of the Lapeer County Road Commission (LCRC) and the Michigan Department of Transportation (MDOT) assessed the condition of Lapeer County federal aid eligible roads using the PASER road rating system as requested by the State of Michigan Transportation Asset Management Council.

**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. PASER rating charts for asphalt and concrete roads have been included with this report.

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

- **PASER rating of 8-10, "Good" condition, requires Routine Maintenance.** Routine maintenance is the day-to-day maintenance activities that are scheduled, such as street sweeping, drainage clearing, gravel shoulder grading and sealing cracks to prevent standing water and water penetration.



- **PASER rating of 5-7, "Fair" condition, requires Capital Preventive Maintenance.** Capital preventive maintenance (CPM) is a planned set of cost effective treatments to an existing roadway system that 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. Potential treatments include partial depth joint repairs, seal coating, and resurfacing.



- **PASER rating of 1-4, "Poor" condition, requires Structural Improvements.** This category includes work which addresses the structural integrity of a road, such as full depth repairs, a major overlay or reconstruction.



#### **Computer Equipment and Software:**

Staff collected data using a laptop computer with the RoadSoft GIS Laptop Data Collector 7.10 software loaded. RoadSoft GIS is an asset management software package created and distributed free of charge by the Michigan Technological University's Center for Technology and Training. The current version of the program was designed with a special module to collect PASER rating data. A GPS unit was connected to the laptop to track position and locate road segments.

### Staff Time and Training:

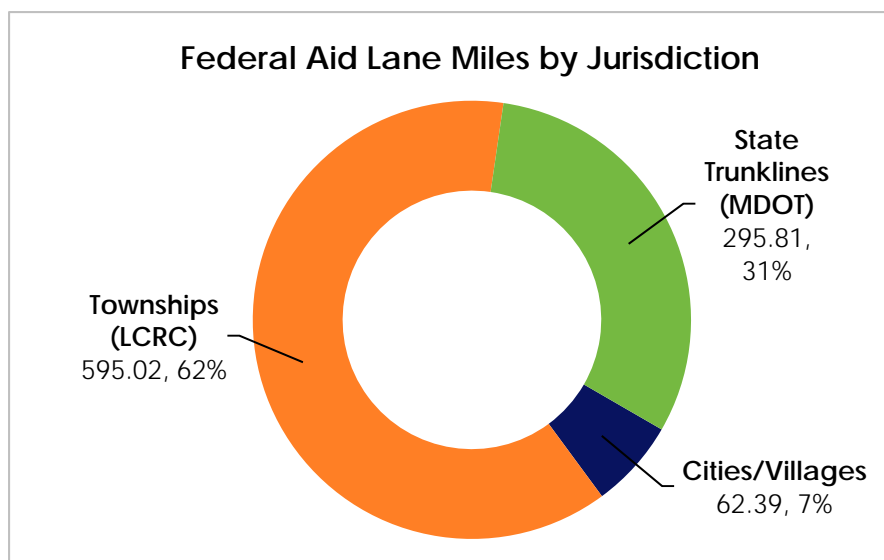
Three staff members is the optimal amount to use for collecting PASER data. One drives, one rates the roads, and the third staff member enters information into the computer. For the Lapeer County road rating project there was always one GLS Region V representative, one LCRC or City representative and one MDOT representative present. It took 18 hours to rate 480.6 linear miles of road, averaging approximately 26.7 miles per hour. This report provides information in lane miles which is linear miles multiplied by the number of lanes. Lane mile calculations provide a better representation of the condition of the system and what it may take to maintain the system.

All participants in the survey were required to attend a day long training session hosted by the Michigan Transportation Asset Management Council. 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.

### Overview of the Federal Aid Network:

The Lapeer County Federal Aid network is comprised of approximately 953.22 lane miles. Of the total, 595.02 (62%) lane miles are within Townships, which are under the jurisdiction of the Lapeer County Road Commission (LCRC), 62.39 lane miles (7%) are located within cities and villages, and approximately 295.81 lane miles (31%) of roadway are state trunklines, which are maintained by the Michigan Department of Transportation (MDOT). Federal aid eligible roads include those classified as Interstates, Other Freeways, Other Principal Arterials, Minor Arterials, Major Collectors, and Urban Minor Collectors. Rural Minor Collectors are only eligible for limited federal funding, and are not included in the PASER survey.

The following chart shows a breakdown of the Federal Aid Network in lane miles by jurisdiction. The second chart on the following page displays a summary of the 2016 PASER ratings collected on the Federal Aid Network.

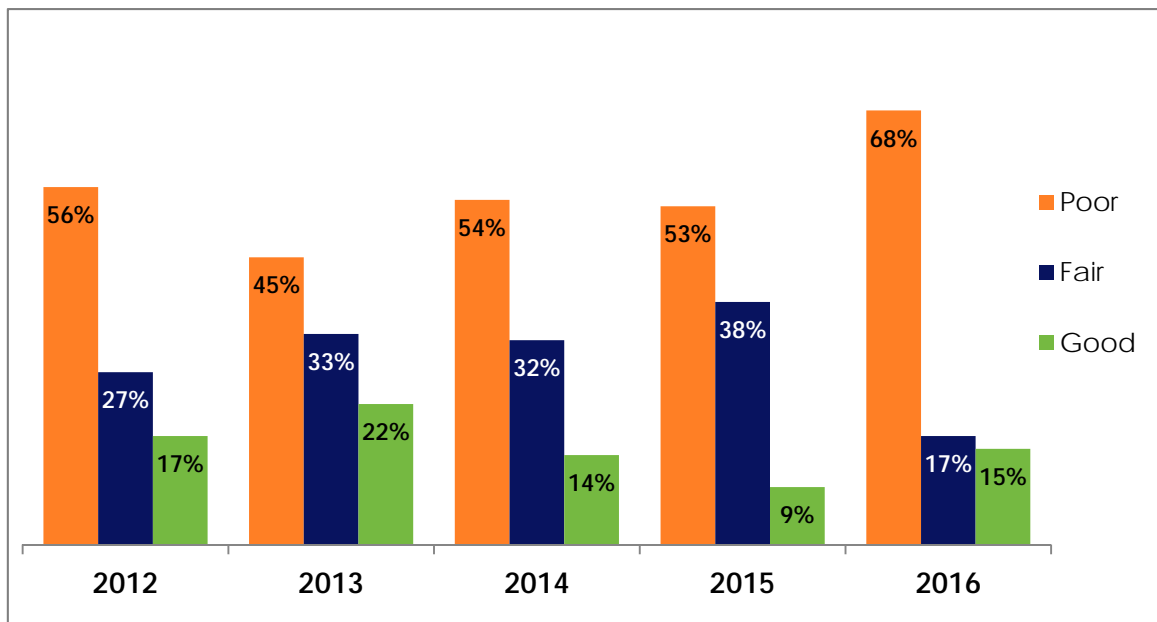


Lapeer County 2016 PASER Ratings			
PASER Rating	Prescribed Fix	Total Lane Miles	Percentage of PASER Lane Miles
1 to 4	Structural Improvements	652.32	68%
5 to 7	Capital Preventative Maintenance	162.35	17%
8 to 10	Routine Maintenance	138.55	15%

### Comparison of 2012 to 2016 Lapeer County PASER Surveys

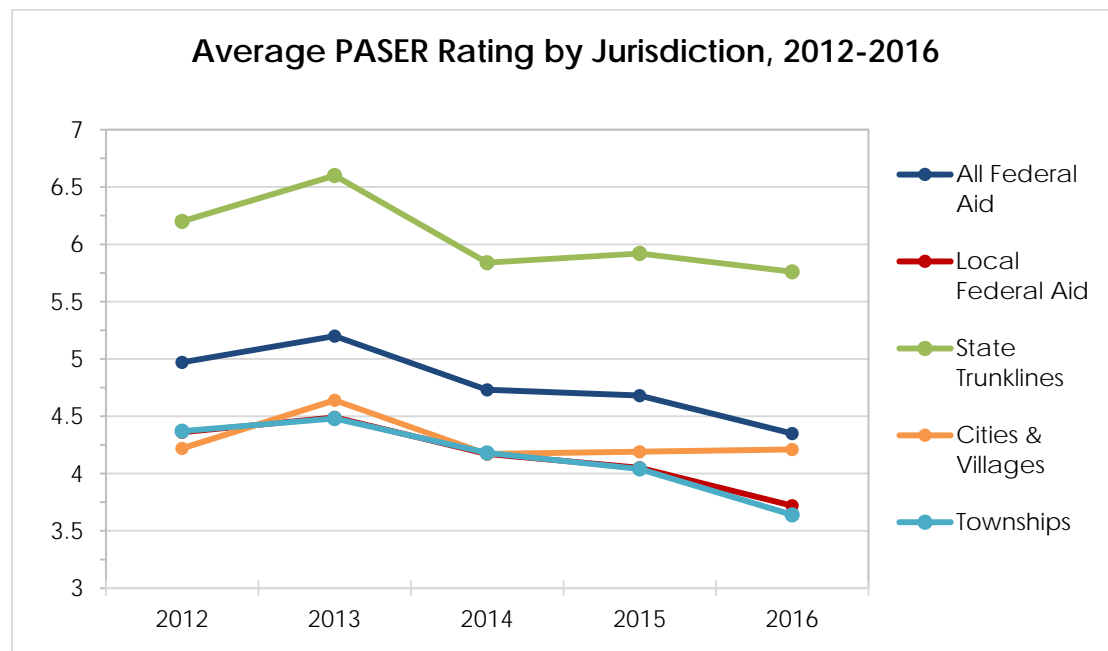
The following section compares data from PASER surveys conducted between 2012 and 2016 for all Federal Aid Roads in Lapeer County. The data is provided in lane miles and as percent of lane miles for a given year.

- In 2016, approximately 68% (625.32 lane miles) of the Federal Aid Road System received a PASER rating between 1 and 4. This represents an increase of 12% as compared to the 2012 rating distribution in the same category.
- In 2016, approximately 17% (162.35 lane miles) of the Federal Aid Road System received a PASER rating between 5 and 7. This represents a decrease of 10% as compared to the 2012 rating distribution in the same category.
- In 2016, approximately 15% (138.55 lane miles) of the Federal Aid Road System received a PASER rating between 8 and 10. This represents a decrease of 2% as compared to the 2012 rating distribution in the same category.



### Average PASER Rating (APR) Comparison:

Average PASER Rating, or APR, is an average of the ratings collected for a jurisdiction weighted by lane miles for each road segment. APR is a useful measure because it can be easily tracked and compared year-to-year. Up to this point, the information provided in this report has been on the full Federal Aid Network. This section also includes the Local Federal Aid Network, which does not include state trunklines maintained by MDOT. Using the Local Federal Aid Network allows for a more accurate analysis of roads maintained by Lapeer County's local road agencies. The following chart shows a comparison of the Average PASER Ratings (APR) for the most recent 5-year period, 2012-2016:



### Major Trends:

- Pavement conditions on both the overall Federal Aid network and the Local Federal Aid network saw a steady decline between 2012 and 2016.
- State Trunklines in Lapeer County, maintained by MDOT, saw an improvement in conditions between 2012 and 2013, followed by a decline between 2013 and 2016. Overall, state-maintained roads are in better condition than city or township roads.
- Township roads, maintained by the Lapeer County Road Commission (LCRC), saw a steady decline in conditions between 2012 and 2016. Overall, township roads are in worse condition than state trunklines and city/village roads.
- Pavement conditions on city and village Federal Aid roads remained nearly the same between 2012 and 2016.

The general trend we are seeing in 2016 is a continued deterioration of federal aid roads. After a slight improvement in road conditions between 2012 and 2013, many roads moved from the “fair” or “good” rating category into the “poor” category between 2013 and 2016. The decline in PASER ratings between 2013 and 2016 occurred on roads under most jurisdictions, including MDOT, the Lapeer County Road Commission, and roads maintained by cities and villages. This same trend can also be seen as a steady decline in Average PASER Ratings between 2012 and 2016. This is most likely due to a combination of particularly harsh winters in 2014 and 2015, and a lack of available funding to address the needs of the road system. As less funding is available to make structural improvements, we have seen a shift toward treatments that focus on road preservation, rather than reconstruction.

A deterioration trend was analyzed during the development of the 2040 Genesee County Long Range Transportation Plan. As part of the analysis, staff used the RoadSoft program to evaluate several different maintenance scenarios and found that the only way to improve the overall condition of the system is to provide at least 3 times the current level of funding for road improvements. This is a trend that is seen in similar analysis statewide, and can be reasonably applied to Lapeer County. As part of a pavement management program, an increased level of funding would help to stabilize roads that require routine and preventative maintenance and would also be able to incrementally improve roads that require more costly structural repairs.

*Local Road Agencies (LRA) may obtain a digital copy of the data collected during the survey by submitting a written request to GCMPC staff. The data will be distributed as a RoadSoft GIS file, so each LRA must also obtain a copy of the latest RoadSoft GIS program from Michigan Tech prior to using the data.*

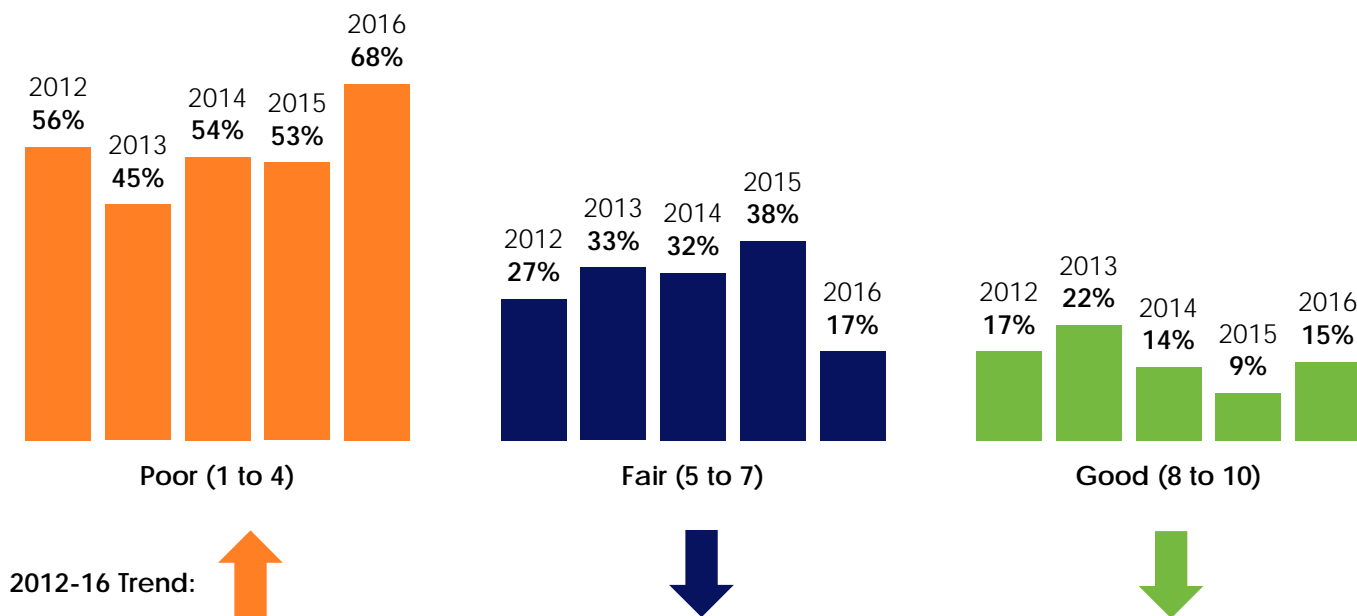
## **PASER Ratings by Jurisdiction**

The following pages provide an overview of Federal aid pavement conditions for each city, village and township in Lapeer County. On each page, you will find a history of PASER ratings collected between 2012 and 2016, Average PASER Rating trend, and the percentage of lane miles that improved, declined, or remained unchanged between 2012 and 2016. Included on the back of each agency’s page is a map of the federal aid ratings collected.

# 2016 PASER Survey of Lapeer County All Federal Aid Roads



## PASER Ratings 2012-2016

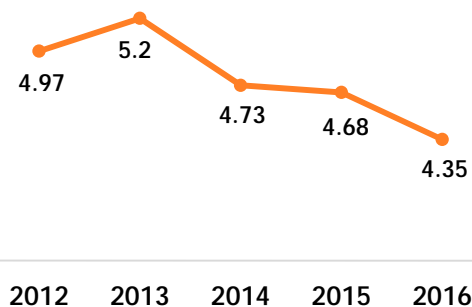


**953.2** lane miles of Federal Aid roads;  
ranked **#29** out of 83 counties statewide,  
with #1 having the highest lane mileage

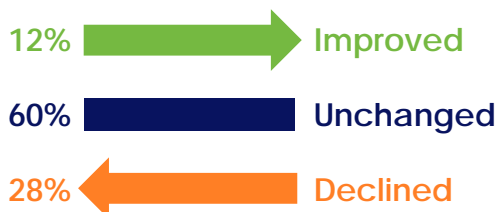
Lapeer County ranked **#14** out of 83 counties in  
the state comparing the percentage of poor roads,  
with #1 being the worst (*Michigan TAMC*)

Michigan ranked **#4** in the U.S. comparing the  
percentage of poor roads, #1 being the worst  
(2015 *TRIP* Report)

## Lapeer County Average PASER Rating (APR)



## Lapeer County Trend 2012-2016

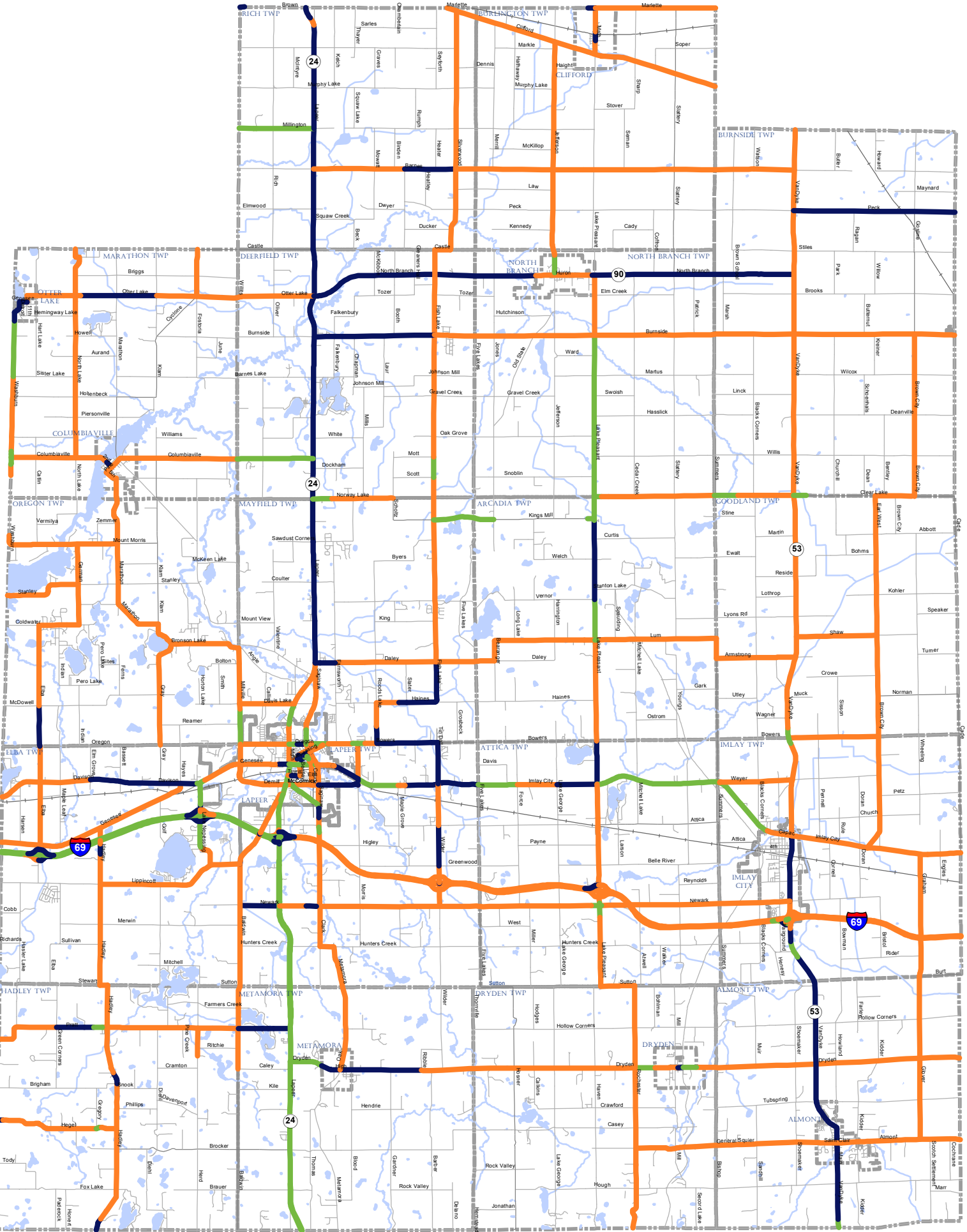


**Lapeer County** allocates an average of **\$795,000** in federal  
funds per year to improve the local federal aid network. **Lapeer  
County Road Agencies** spend an additional **\$3.4 million** per  
year on road surface improvements using state Act 51 and local funds.

According to the 2040 Genesee County Long Range Transportation  
Plan, **2** times the current funding is needed to maintain existing  
conditions; **3** times the current funding is needed to see improvement.  
This trend is seen statewide, and can be reasonably applied to Lapeer  
County.

All Federal Aid Roads

- Rating 8-10 (Good, 15%, 138.55 lane miles)
- Rating 5-7 (Fair, 17%, 162.35 lane miles)
- Rating 1-4 (Poor, 68%, 652.32 lane miles)
- Local Road (Not Rated)

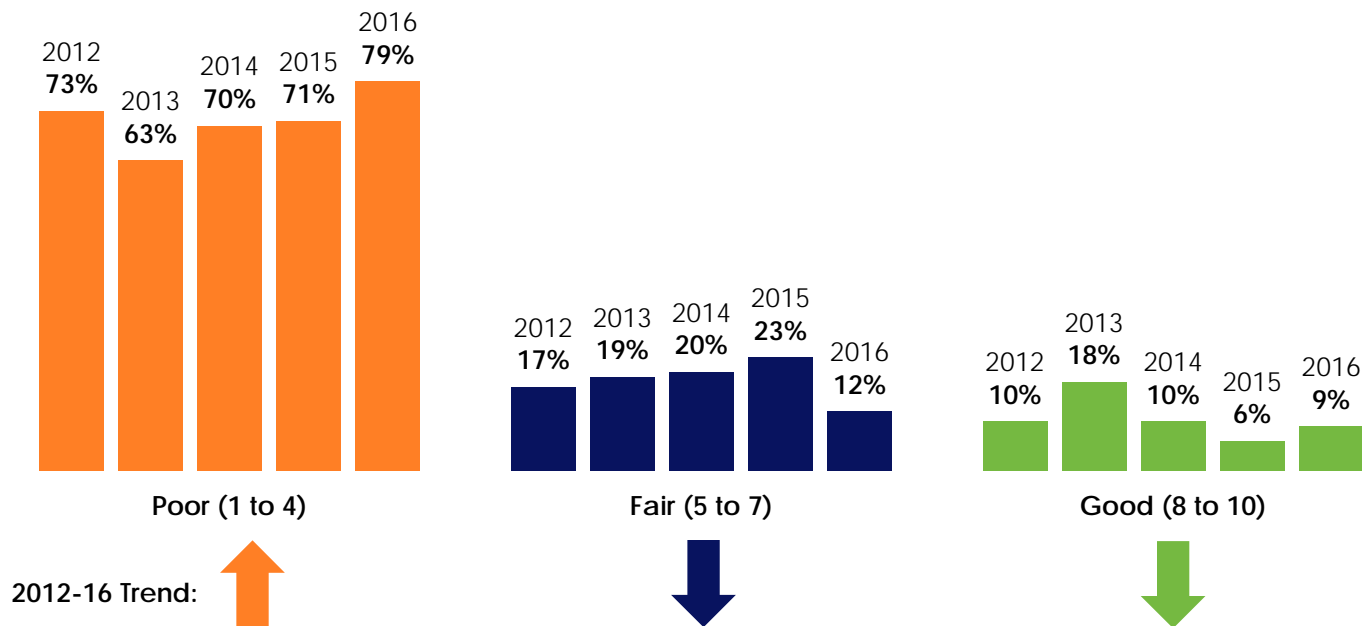


# 2016 PASER Survey of Lapeer County

## Local Federal Aid Roads



### PASER Ratings 2012-2016

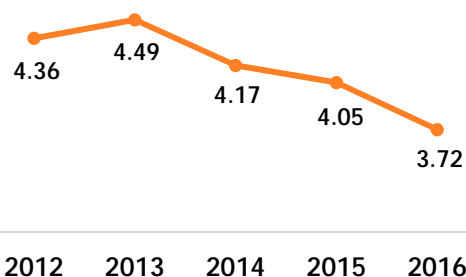


**657.4** lane miles of Federal Aid roads not including state trunklines; ranked **#29** out of 83 counties statewide (#1 having highest lane mileage)

Lapeer County ranked **#14** out of 83 counties in the state by percentage of poor roads, with #1 being the worst (*Michigan TAMC*)

Michigan ranked **#4** in the U.S. by comparing percentage of poor roads, #1 being the worst (2015 *TRIP* Report)

### Local Federal Aid Roads Average PASER Rating (APR)



### Local Federal Aid Roads Trend 2012-2016





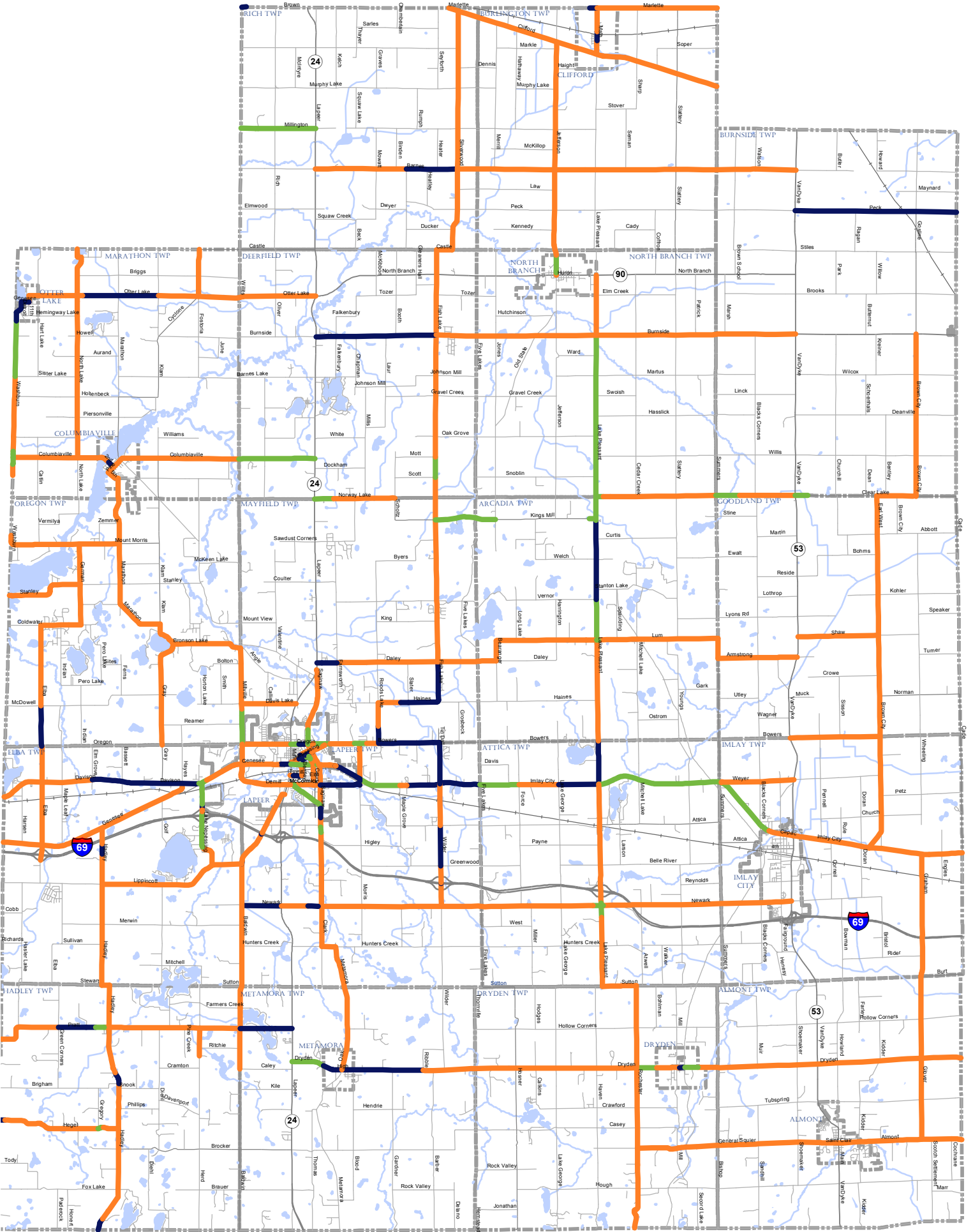
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According to the 2040 Genesee County Long Range Transportation Plan, **2** times the current funding is needed to maintain existing conditions; **3** times the current funding is needed to see improvement. This trend is seen statewide, and can be reasonably applied to Lapeer County.

2016 PASER Survey

Local Federal Aid Roads

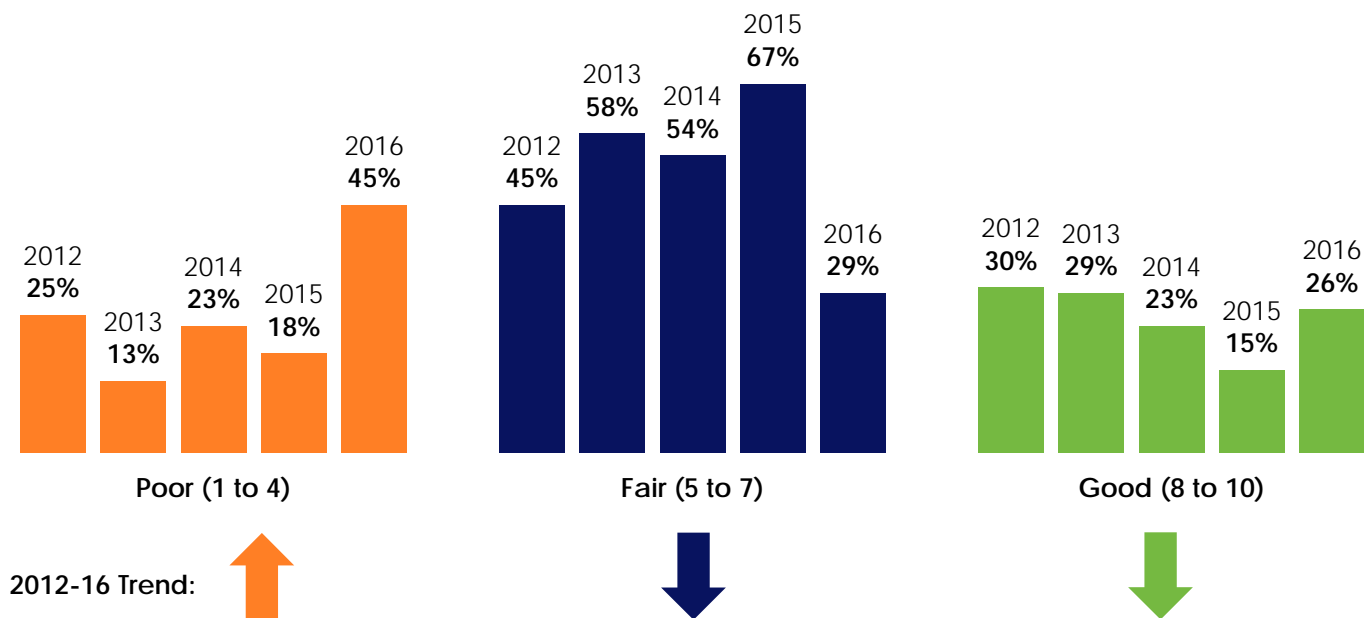
- Rating 8-10 (Good, 9%, 60.99 lane miles)
- Rating 5-7 (Fair, 12%, 77.89 lane miles)
- Rating 1-4 (Poor, 79%, 518.53 lane miles)
-  Roads Under State Jurisdiction
-  Local Road (Not Rated)



# 2016 PASER Survey of Lapeer County State Trunklines (MDOT)



## PASER Ratings 2012-2016

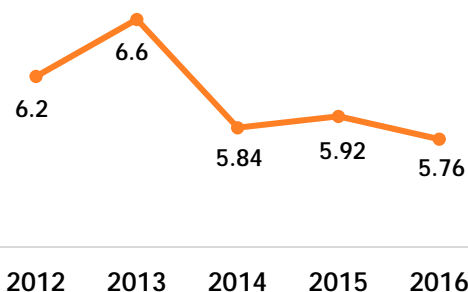


**295.8** lane miles of Federal Aid state trunklines owned by the Michigan Department of Transportation (MDOT)

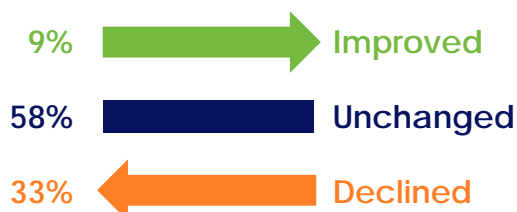
Lapeer County ranked **#14** out of 83 counties in the state by percentage of poor roads, with #1 being the worst (*Michigan TAMC*)

Michigan ranked **#4** in the U.S. by comparing percentage of poor roads, #1 being the worst (2015 *TRIP* Report)

## State Trunkline Average PASER Rating (APR)



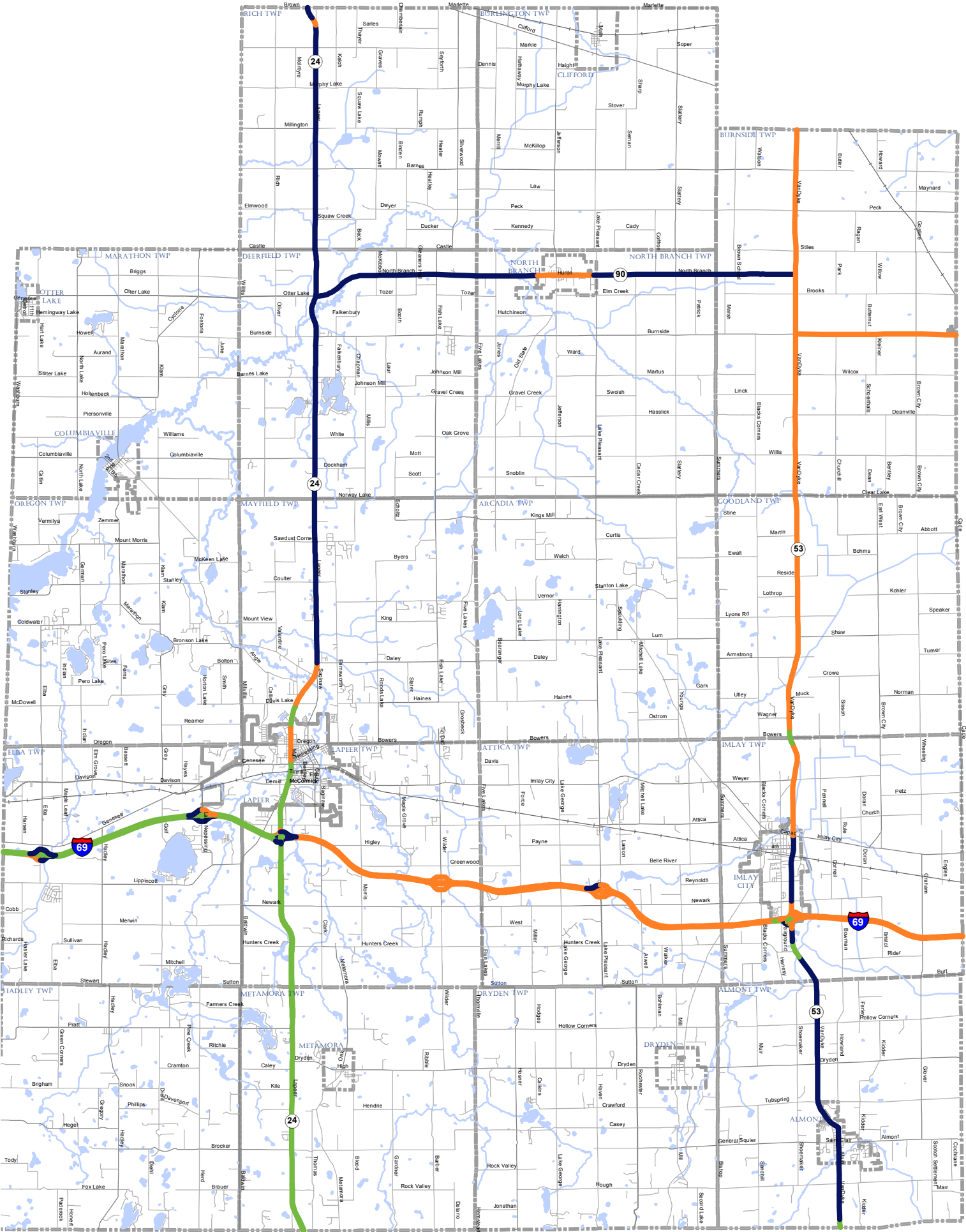
## State Trunkline Trend 2012-2016



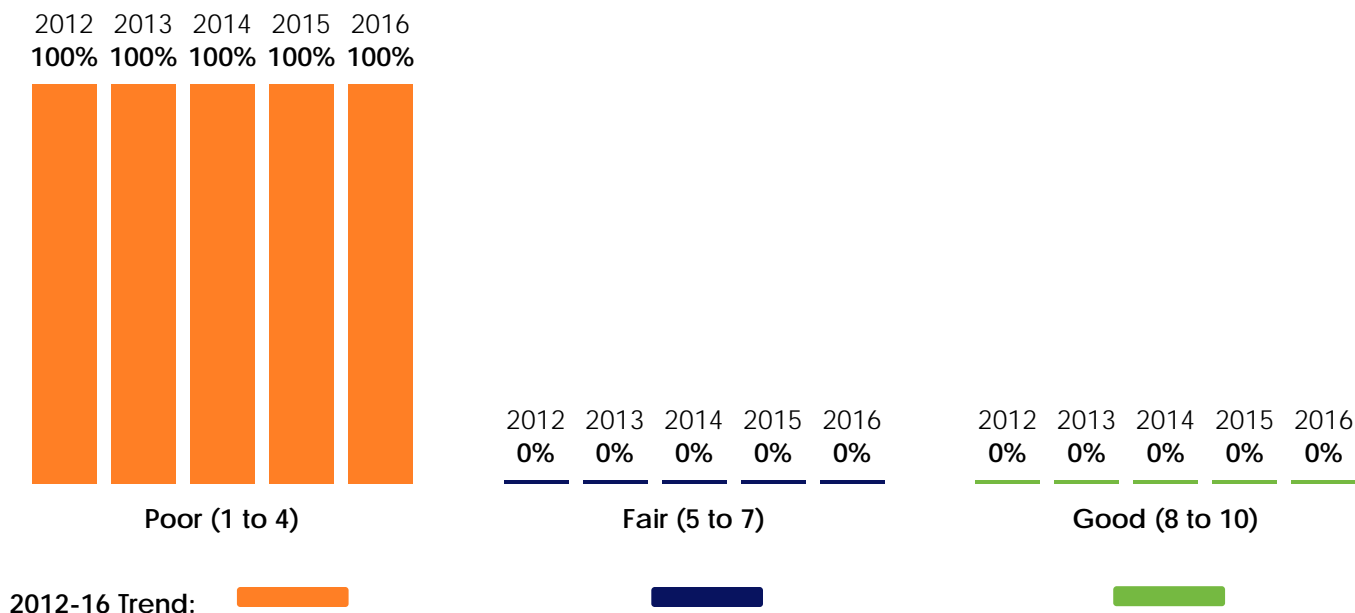
2016 PASER Survey

MDOT Roads

- Rating 8-10 (Good, 26%, 77.56 lane miles)
- Rating 5-7 (Fair, 29%, 84.46 lane miles)
- Rating 1-4 (Poor, 45%, 133.79 lane miles)
- Other Federal Aid Road
- Local Road (Not Rated)



## PASER Ratings 2012-2016

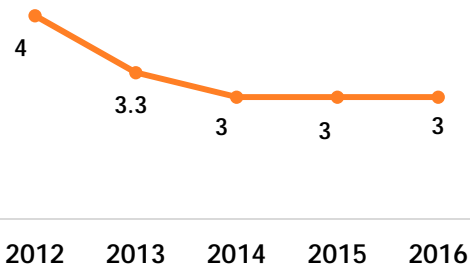
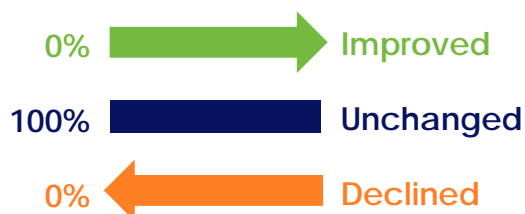


Ranked **#7** out of 9 cities & villages in Lapeer County by Average PASER Rating, #9 being the worst

**2.2** lane miles of Federal Aid roads; ranked **#6** out of 9 cities & villages, #1 having highest lane mileage

Lapeer County ranked **#14** out of 83 counties in the state by percentage of poor roads, with #1 being the worst (*Michigan TAMC*)

Michigan ranked **#4** in the U.S. by comparing percentage of poor roads, #1 being the worst (2015 *TRIP* Report)

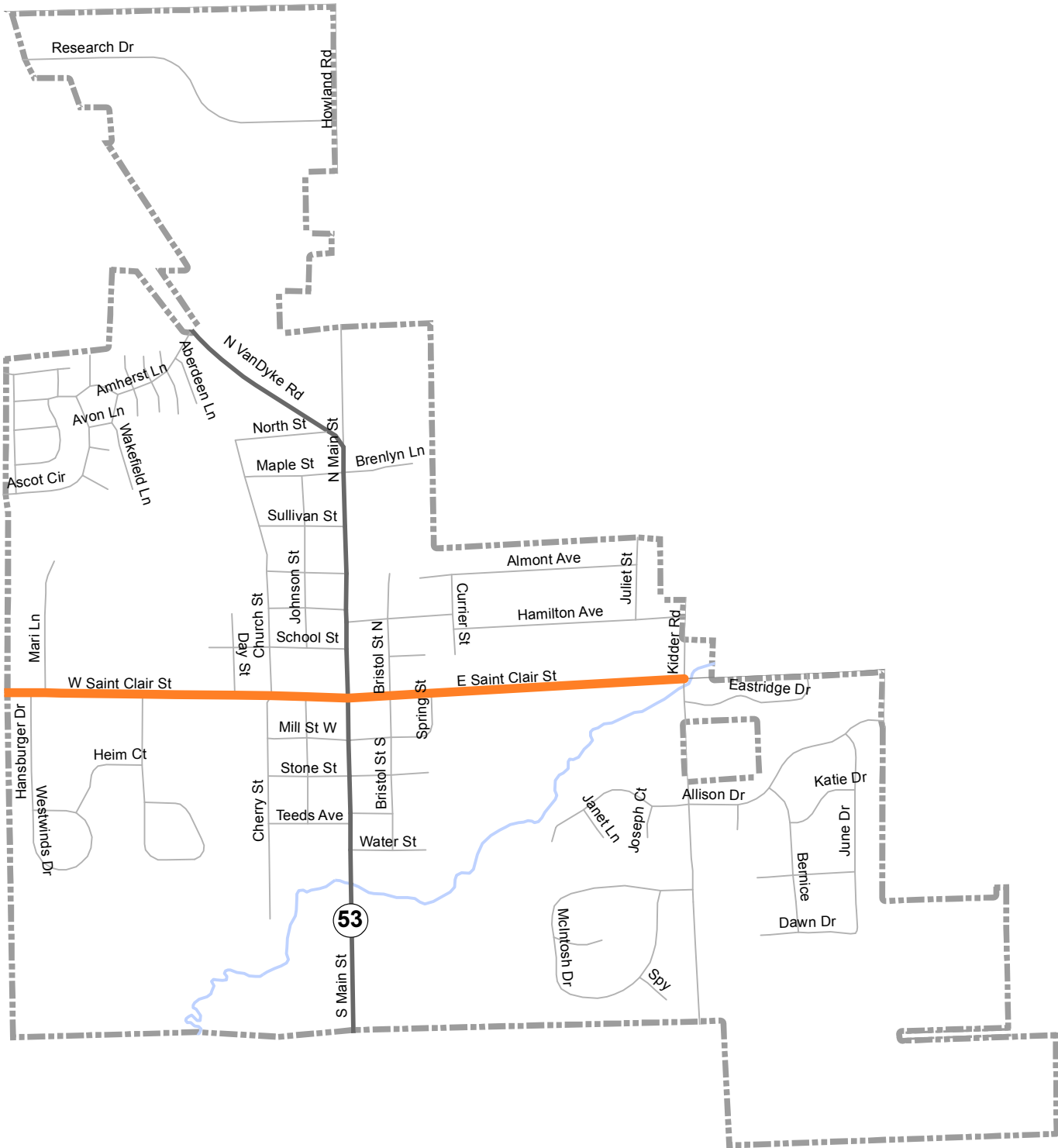
Village of Almont  
Average PASER Rating (APR)Village of Almont  
Trend 2012-2016

**Lapeer County** allocates an average of **\$795,000** in federal funds per year to improve the local federal aid network. **Lapeer County Road Agencies** spend an additional **\$3.4 million** per year on road surface improvements using state Act 51 and local funds.

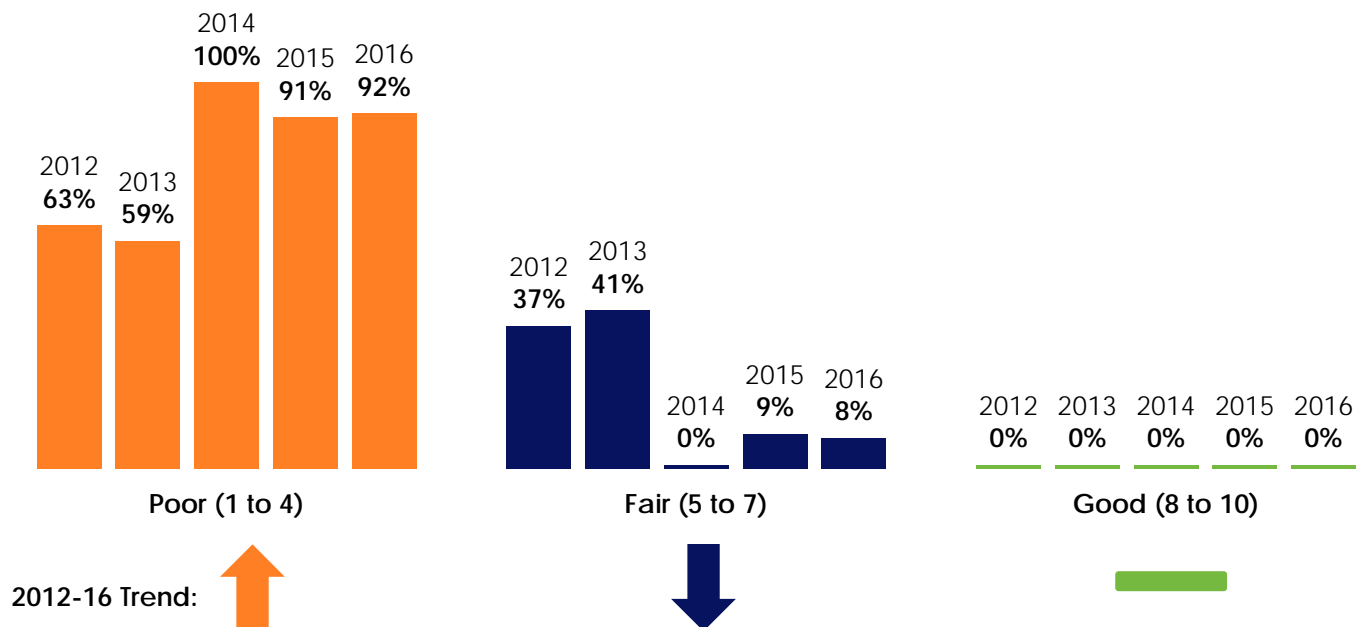
According to the 2040 Genesee County Long Range Transportation Plan, **2** times the current funding is needed to maintain existing conditions; **3** times the current funding is needed to see improvement. This trend is seen statewide, and can be reasonably applied to Lapeer County.

# Village of Almont

- Rating 8-10 (Good, 0%, 0.0 lane miles)
- Rating 5-7 (Fair, 0%, 0.0 lane miles)
- Rating 1-4 (Poor, 100%, 2.24 lane miles)
- Roads Under State Jurisdiction
- Local Road (Not Rated)



## PASER Ratings 2012-2016

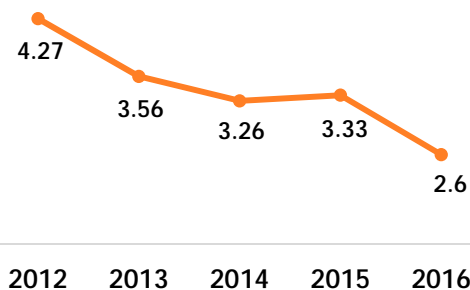
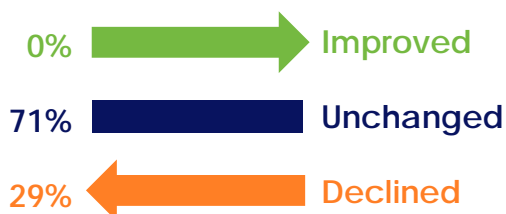


Ranked **#9** out of 9 cities & villages in Lapeer County by Average PASER Rating, #9 being the worst

**5.4** lane miles of Federal Aid roads; ranked **#2** out of 9 cities & villages, #1 having highest lane mileage

Lapeer County ranked **#14** out of 83 counties in the state by percentage of poor roads, with #1 being the worst (*Michigan TAMC*)

Michigan ranked **#4** in the U.S. by comparing percentage of poor roads, #1 being the worst (2015 *TRIP* Report)

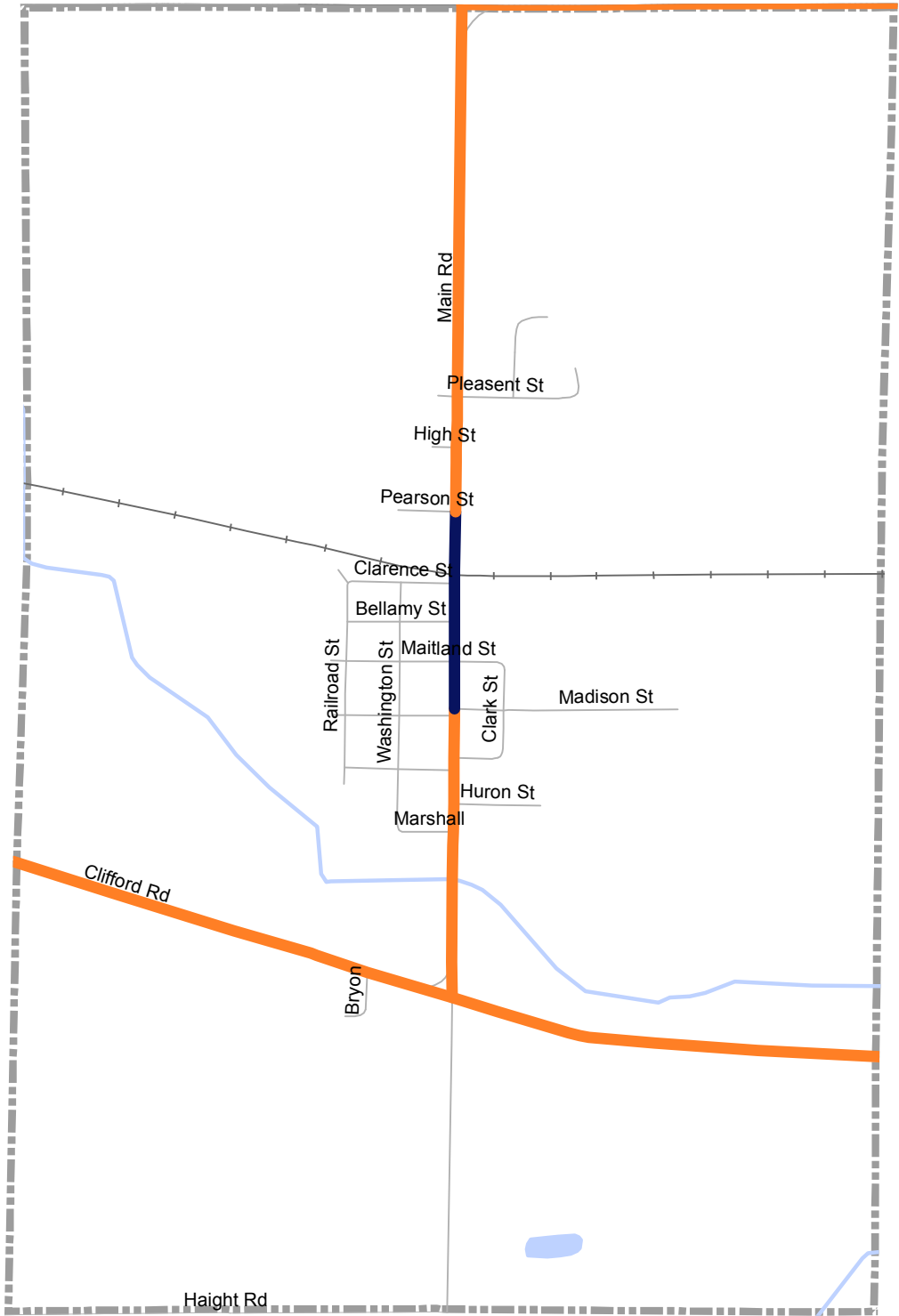
Village of Clifford  
Average PASER Rating (APR)Village of Clifford  
Trend 2012-2016

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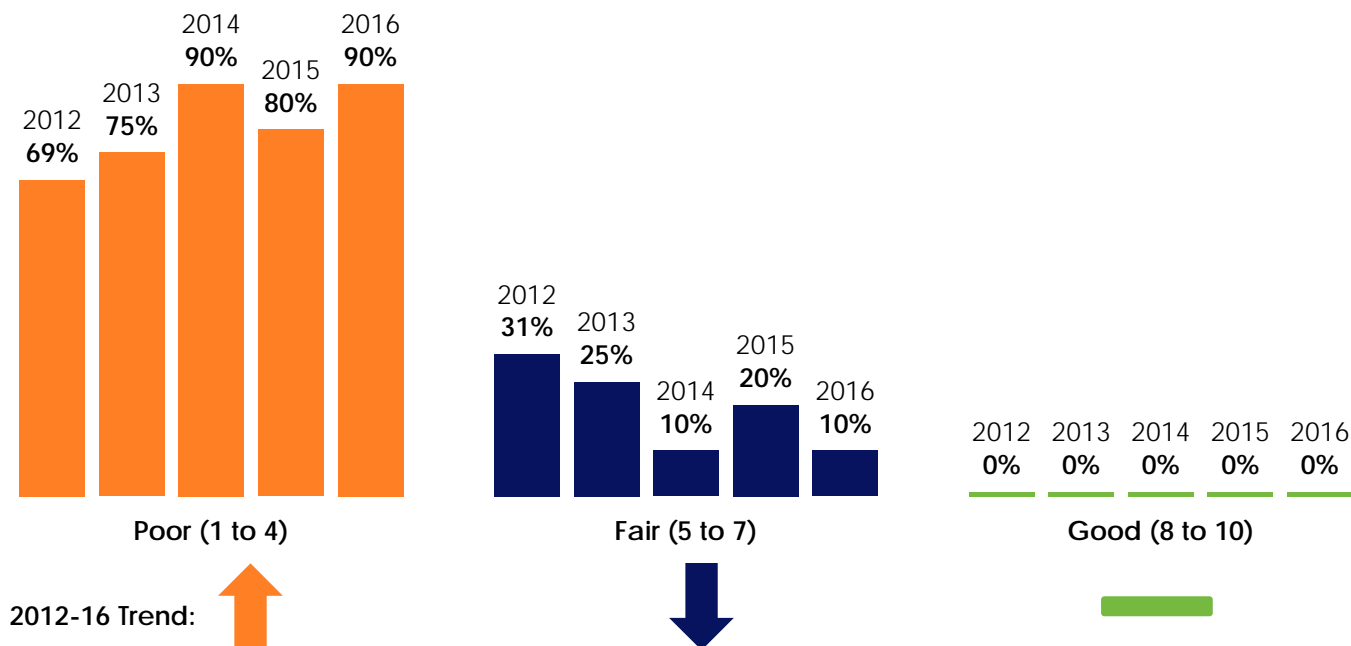
According to the 2040 Genesee County Long Range Transportation Plan, **2** times the current funding is needed to maintain existing conditions; **3** times the current funding is needed to see improvement. This trend is seen statewide, and can be reasonably applied to Lapeer County.

# Village of Clifford

- Rating 8-10 (Good, 0%, 0.0 lane miles)
- Rating 5-7 (Fair, 8%, 0.45 lane miles)
- Rating 1-4 (Poor, 92%, 4.90 lane miles)
- Roads Under State Jurisdiction
- Local Road (Not Rated)



## PASER Ratings 2012-2016

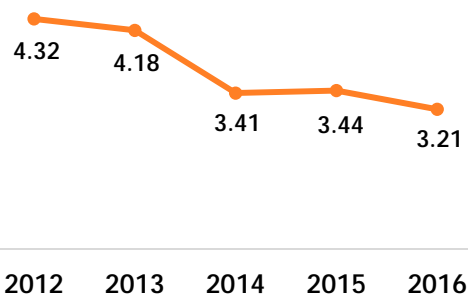
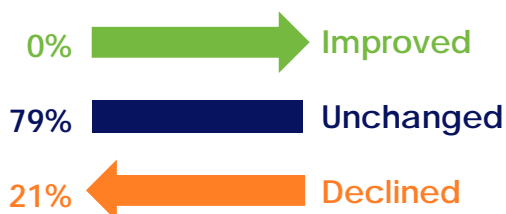


Ranked **#6** out of 9 cities & villages in Lapeer County by Average PASER Rating, #9 being the worst

**3.3** lane miles of Federal Aid roads; ranked **#4** out of 9 cities & villages, #1 having highest lane mileage

Lapeer County ranked **#14** out of 83 counties in the state by percentage of poor roads, with #1 being the worst (*Michigan TAMC*)

Michigan ranked **#4** in the U.S. by comparing percentage of poor roads, #1 being the worst (2015 *TRIP* Report)

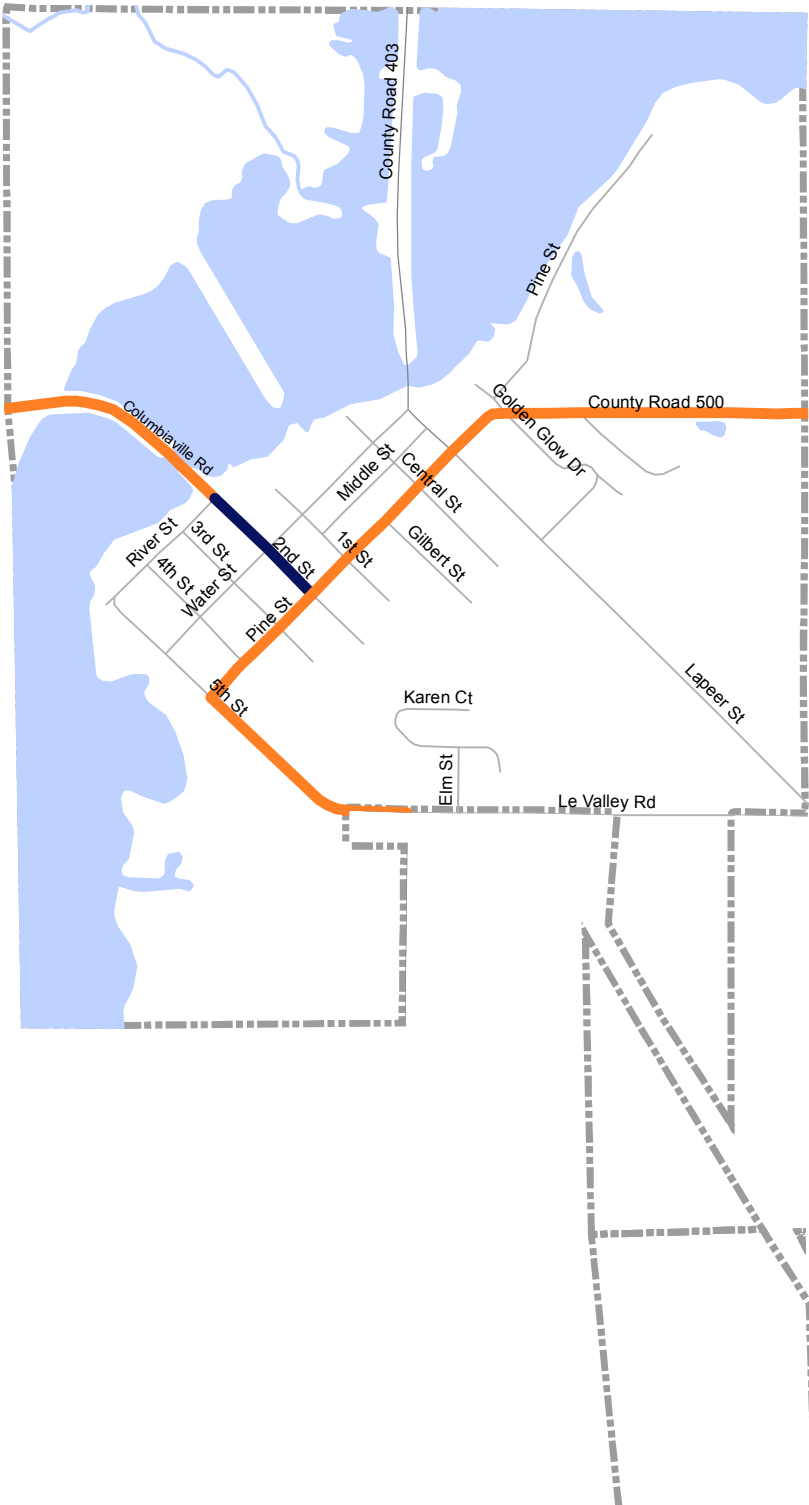
Village of Columbiaville  
Average PASER Rating (APR)Village of Columbiaville  
Trend 2012-2016

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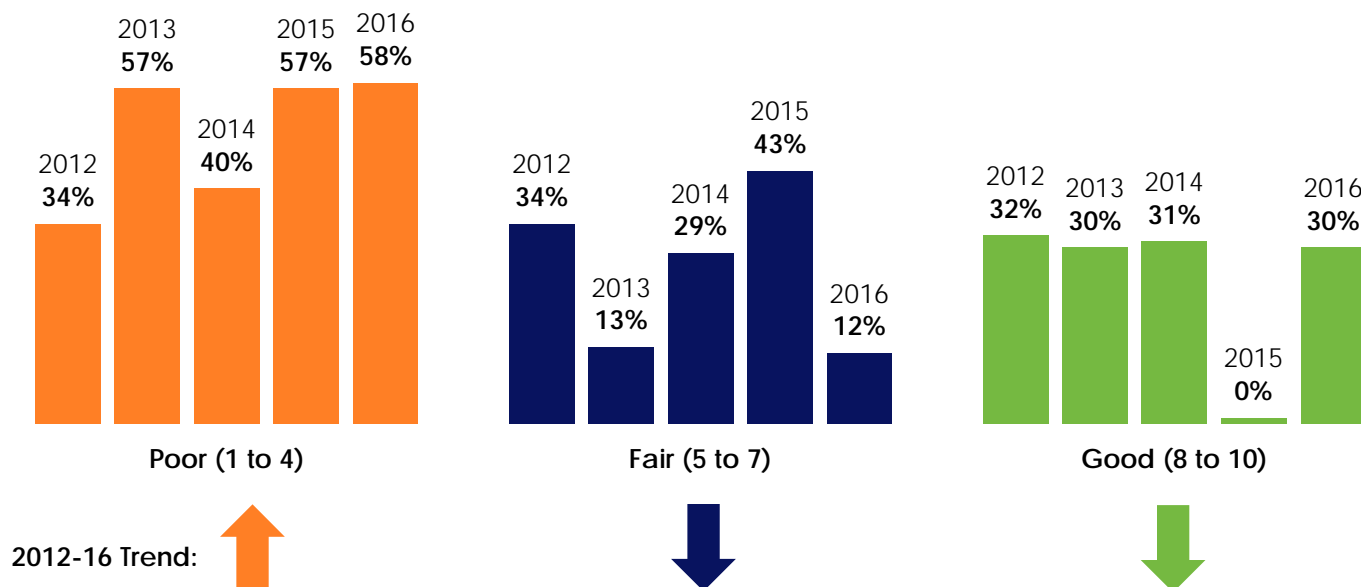
According to the 2040 Genesee County Long Range Transportation Plan, **2** times the current funding is needed to maintain existing conditions; **3** times the current funding is needed to see improvement. This trend is seen statewide, and can be reasonably applied to Lapeer County.

# Village of Columbiaville

- Rating 8-10 (Good, 0%, 0.0 lane miles)
- Rating 5-7 (Fair, 10%, 0.34 lane miles)
- Rating 1-4 (Poor, 90%, 2.98 lane miles)
-  Roads Under State Jurisdiction
- Local Road (Not Rated)



## PASER Ratings 2012-2016



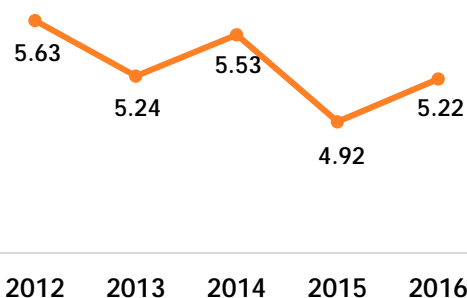
Ranked **#2** out of 9 cities & villages in Lapeer County by Average PASER Rating, #9 being the worst

**2.2** lane miles of Federal Aid roads; ranked **#7** out of 9 cities & villages, #1 having highest lane mileage

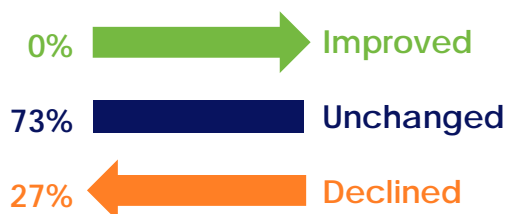
Lapeer County ranked **#14** out of 83 counties in the state by percentage of poor roads, with #1 being the worst (*Michigan TAMC*)

Michigan ranked **#4** in the U.S. by comparing percentage of poor roads, #1 being the worst (2015 *TRIP* Report)

### Village of Dryden Average PASER Rating (APR)




### Village of Dryden Trend 2012-2016



**Lapeer County** allocates an average of **\$795,000** in federal funds per year to improve the local federal aid network. **Lapeer County Road Agencies** spend an additional **\$3.4 million** per year on road surface improvements using state Act 51 and local funds.

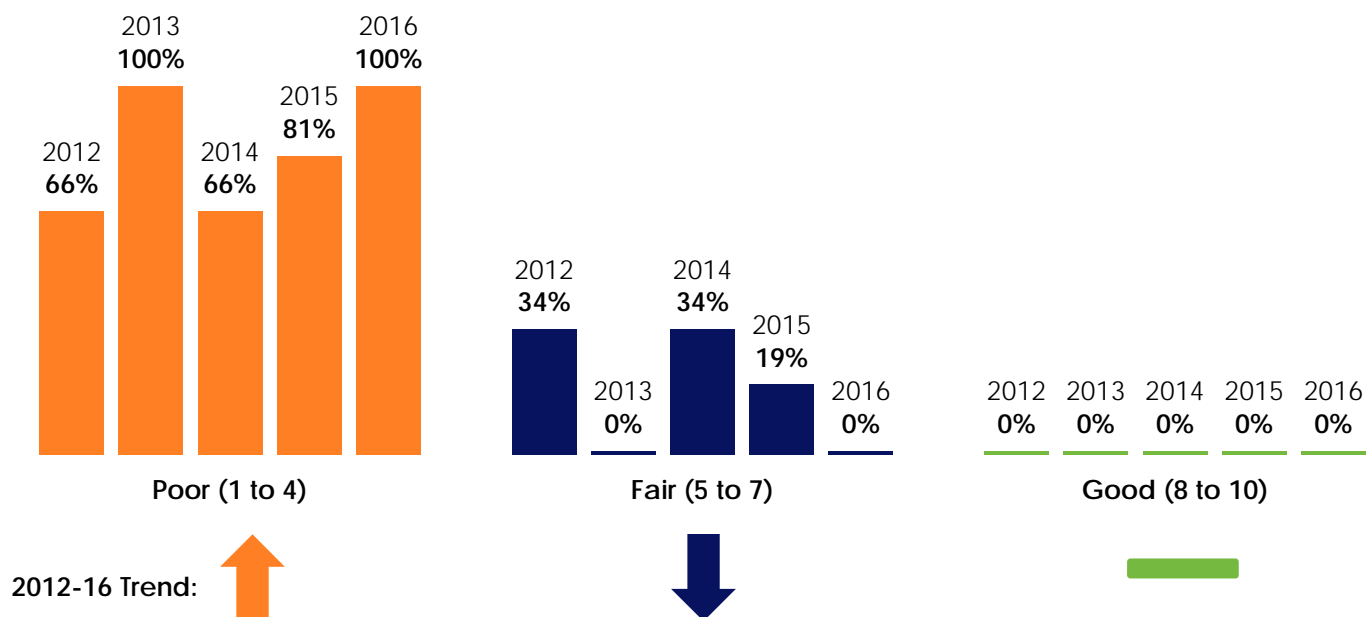
According to the 2040 Genesee County Long Range Transportation Plan, **2** times the current funding is needed to maintain existing conditions; **3** times the current funding is needed to see improvement. This trend is seen statewide, and can be reasonably applied to Lapeer County.

# Village of Dryden

- Rating 8-10 (Good, 30%, 0.65 lane miles)
- Rating 5-7 (Fair, 12%, 0.27 lane miles)
- Rating 1-4 (Poor, 58%, 1.26 lane miles)
-  Roads Under State Jurisdiction
- Local Road (Not Rated)



## PASER Ratings 2012-2016

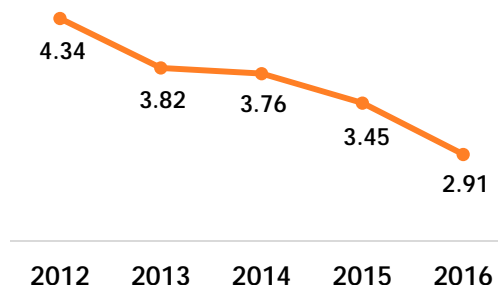


Ranked **#8** out of 9 cities & villages in Lapeer County by Average PASER Rating, #9 being the worst

**4.2** lane miles of Federal Aid roads; ranked **#3** out of 9 cities & villages, #1 having highest lane mileage

Lapeer County ranked **#14** out of 83 counties in the state by percentage of poor roads, with #1 being the worst (*Michigan TAMC*)

Michigan ranked **#4** in the U.S. by comparing percentage of poor roads, #1 being the worst (2015 *TRIP* Report)

City of Imlay City  
Average PASER Rating (APR)City of Imlay City  
Trend 2012-2016

0%  Improved

57%  Unchanged

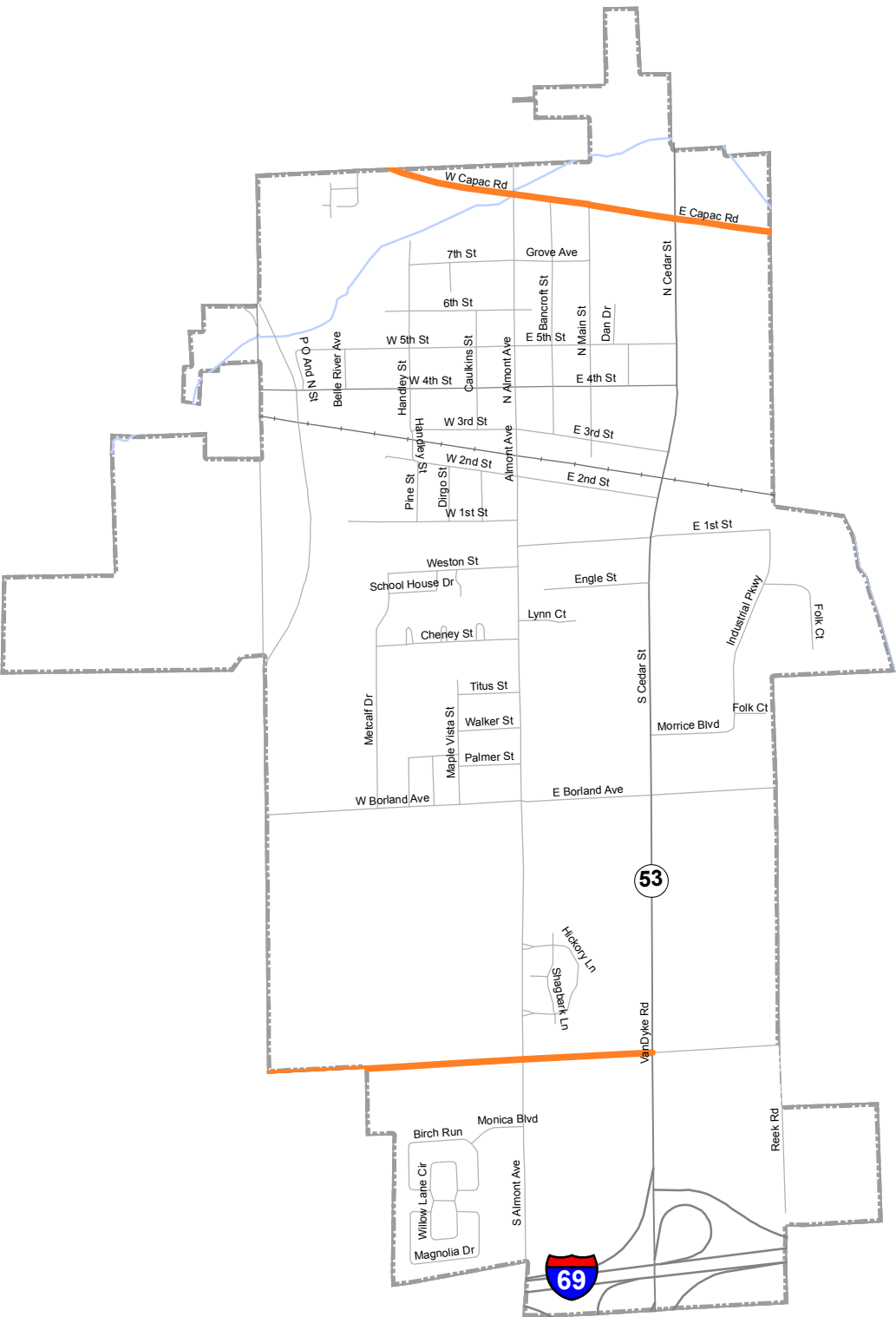
43%  Declined

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According to the 2040 Genesee County Long Range Transportation Plan, **2** times the current funding is needed to maintain existing conditions; **3** times the current funding is needed to see improvement. This trend is seen statewide, and can be reasonably applied to Lapeer County.

# City of Imlay City

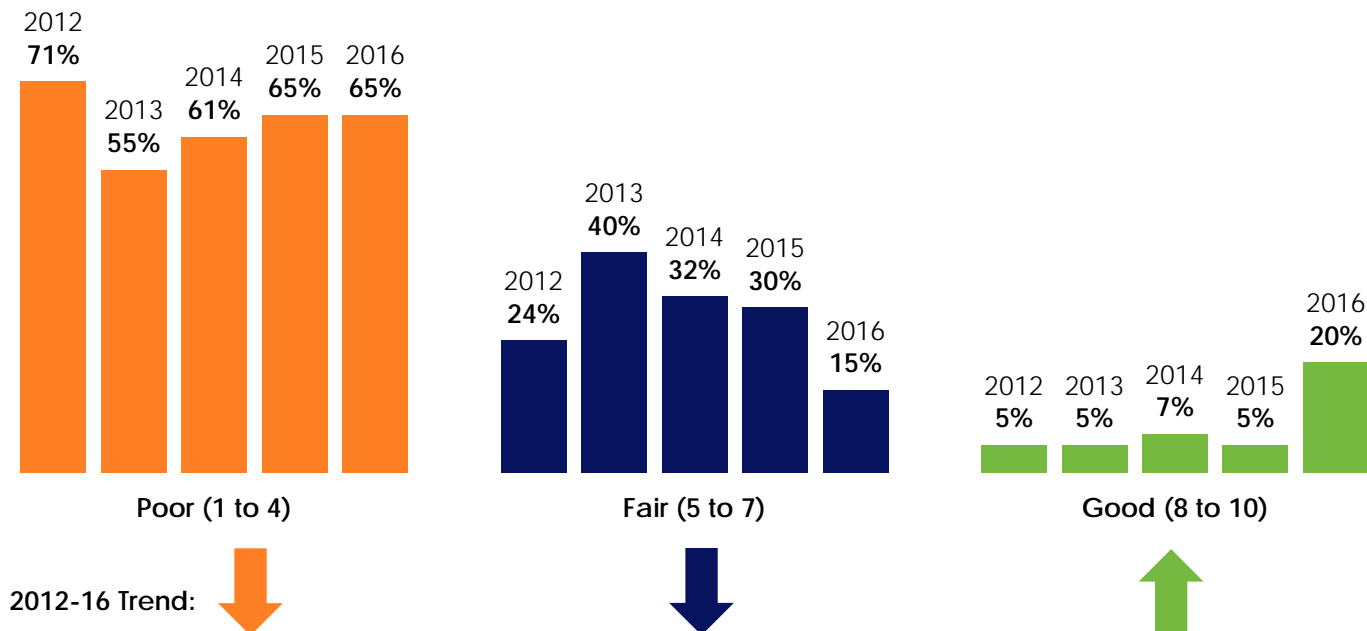
- Rating 8-10 (Good, 0%, 0.0 lane miles)
- Rating 5-7 (Fair, 0%, 0.0 lane miles)
- Rating 1-4 (Poor, 100%, 4.16 lane miles)
- Roads Under State Jurisdiction
- Local Road (Not Rated)



# 2016 PASER Survey City of Lapeer



## PASER Ratings 2012-2016



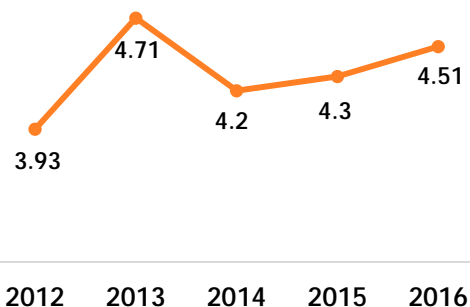
Ranked **#5** out of 9 cities & villages in Lapeer County by Average PASER Rating, #9 being the worst

**39.6** lane miles of Federal Aid roads; ranked **#1** out of 9 cities & villages, #1 having highest lane mileage

Lapeer County ranked **#14** out of 83 counties in the state by percentage of poor roads, with #1 being the worst (*Michigan TAMC*)

Michigan ranked **#4** in the U.S. by comparing percentage of poor roads, #1 being the worst (2015 *TRIP* Report)

## City of Lapeer Average PASER Rating (APR)



## City of Lapeer Trend 2012-2016



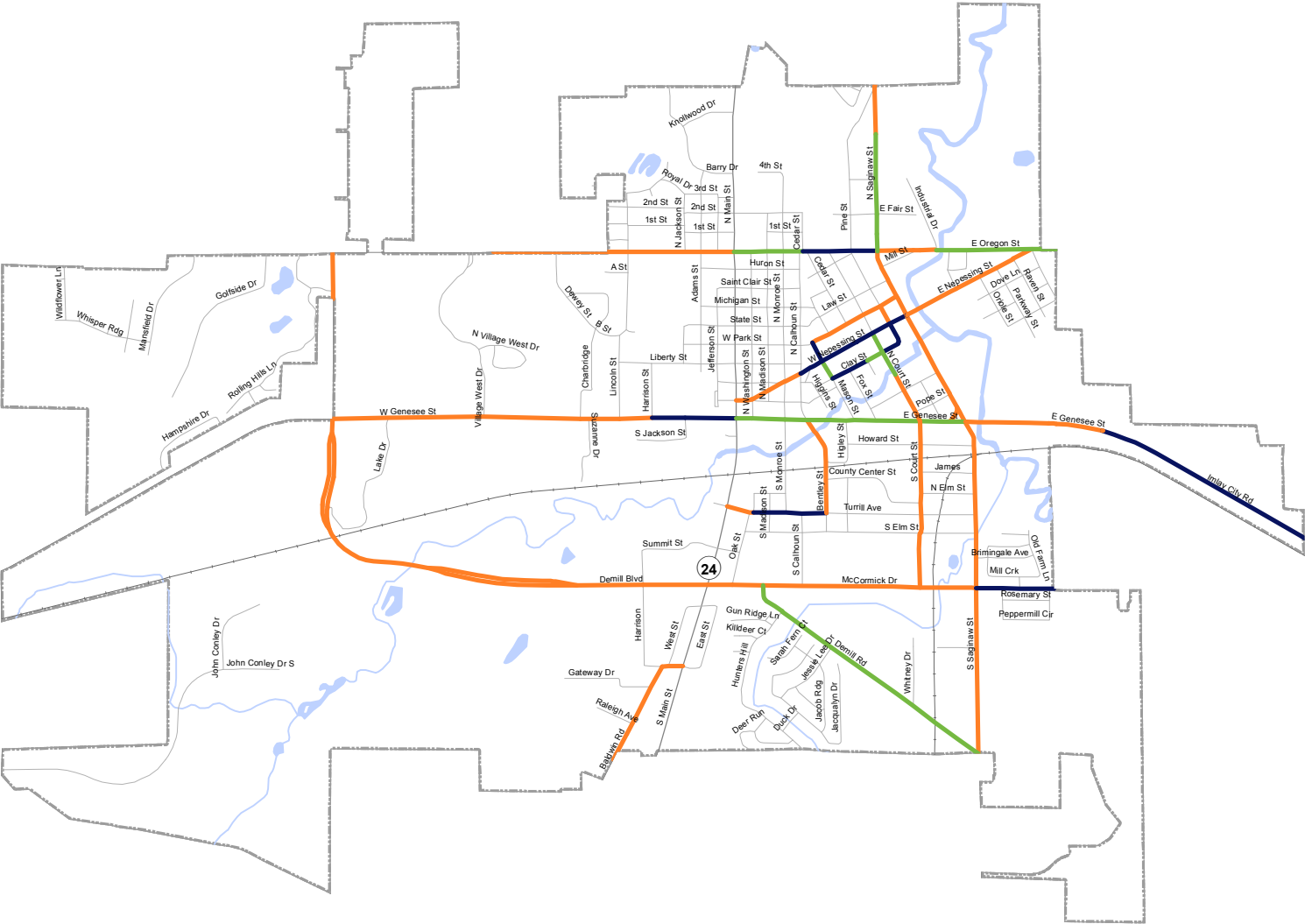
**Lapeer County** allocates an average of **\$795,000** in federal funds per year to improve the local federal aid network. **Lapeer County Road Agencies** spend an additional **\$3.4 million** per year on road surface improvements using state Act 51 and local funds.

Although conditions have improved in the short term, additional funding is needed to maintain roads in the long term. According to the 2040 Genesee County Long Range Transportation Plan, **2** times the current funding is needed to maintain existing conditions; **3** times the current funding is needed to see improvement. This trend is seen statewide, and can be reasonably applied to Lapeer County.

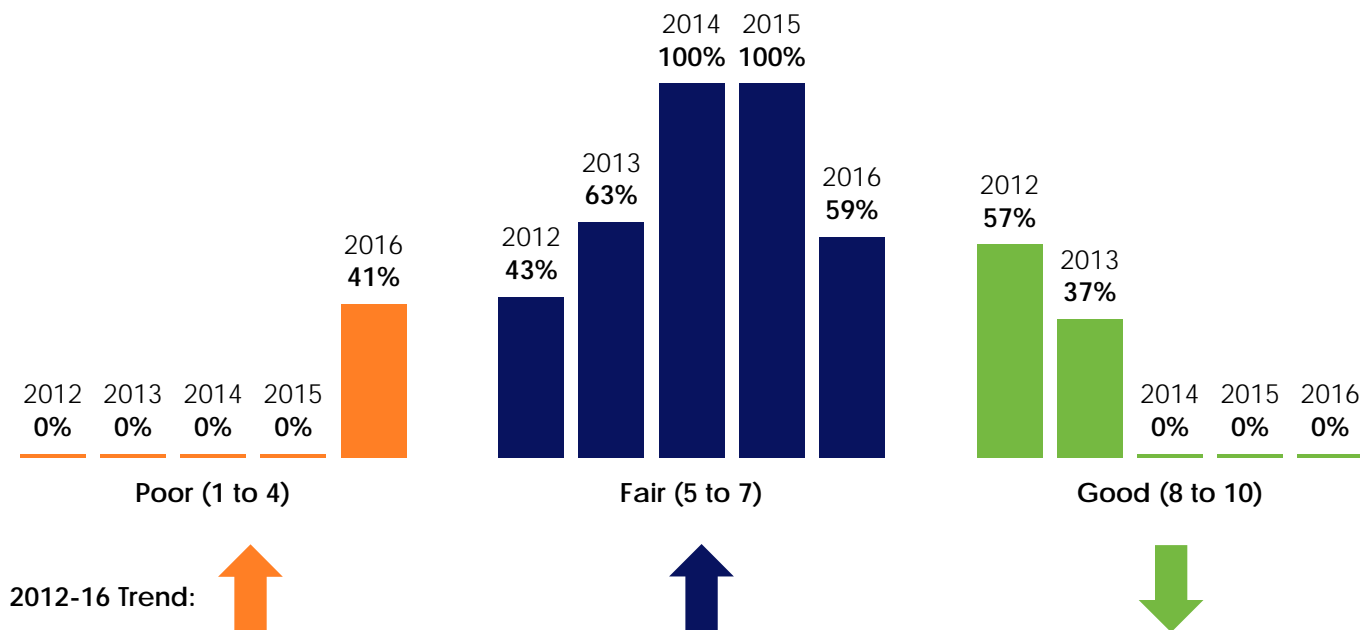
2016 PASER Survey

City of Lapeer

- Rating 8-10 (Good, 20%, 7.66 lane miles)
- Rating 5-7 (Fair, 15%, 6.05 lane miles)
- Rating 1-4 (Poor, 65%, 25.92 lane miles)
- Roads Under State Jurisdiction
- Local Road (Not Rated)



## PASER Ratings 2012-2016



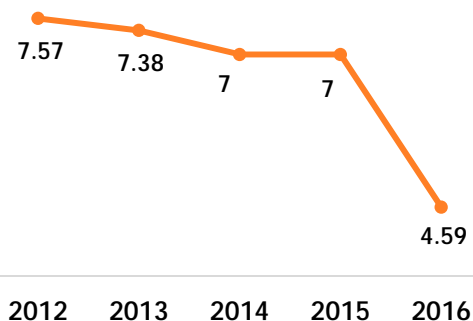
Ranked **#4** out of 9 cities & villages in Lapeer County by Average PASER Rating, #9 being the worst

**2.6** lane miles of Federal Aid roads; ranked **#5** out of 9 cities & villages, #1 having highest lane mileage

Lapeer County ranked **#14** out of 83 counties in the state by percentage of poor roads, with #1 being the worst (*Michigan TAMC*)

Michigan ranked **#4** in the U.S. by comparing percentage of poor roads, #1 being the worst (2015 *TRIP* Report)

### Village of Metamora Average PASER Rating (APR)



### Village of Metamora Trend 2012-2016

0%  Improved

43%  Unchanged

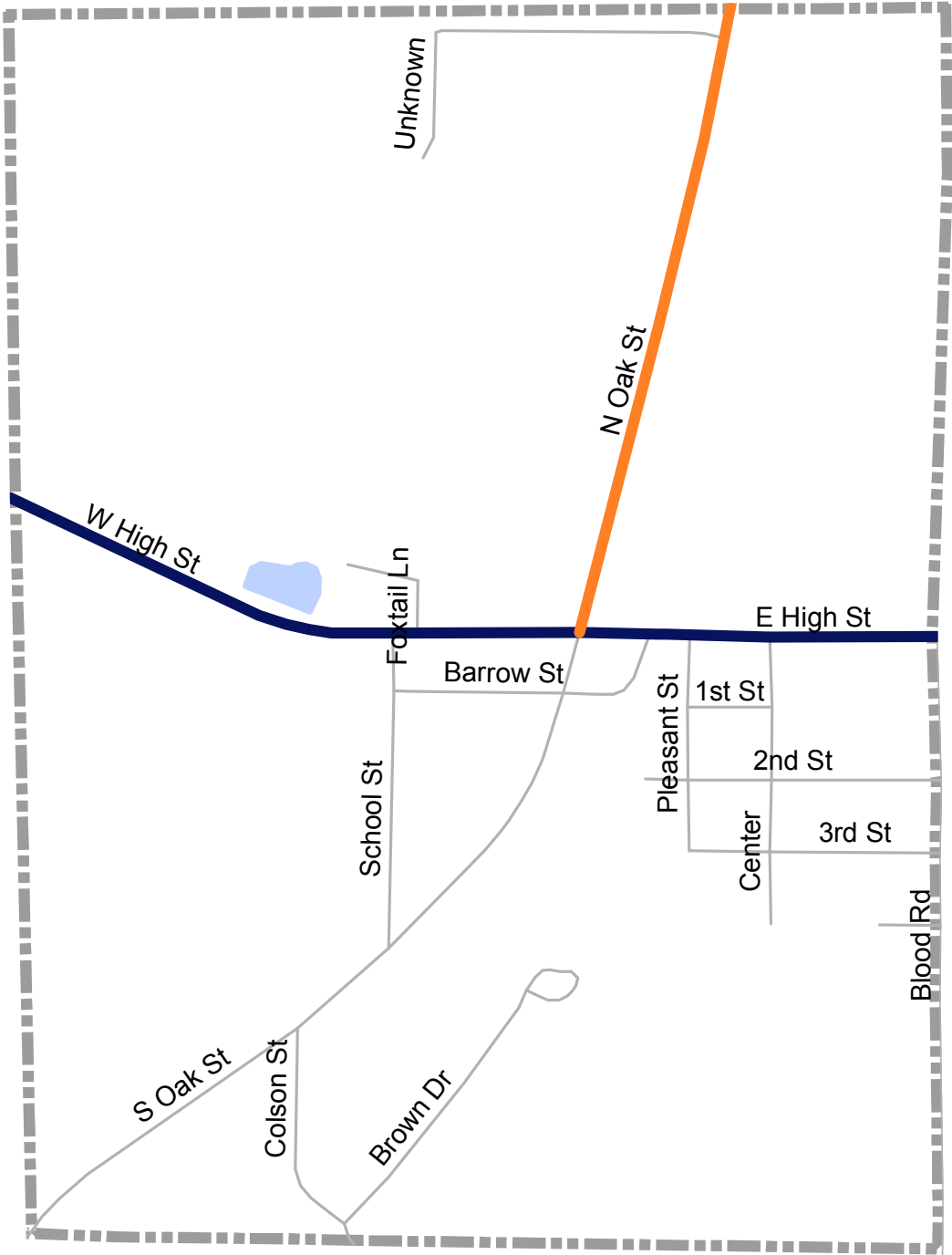
57%  Declined

**Lapeer County** allocates an average of **\$795,000** in federal funds per year to improve the local federal aid network. **Lapeer County Road Agencies** spend an additional **\$3.4 million** per year on road surface improvements using state Act 51 and local funds.

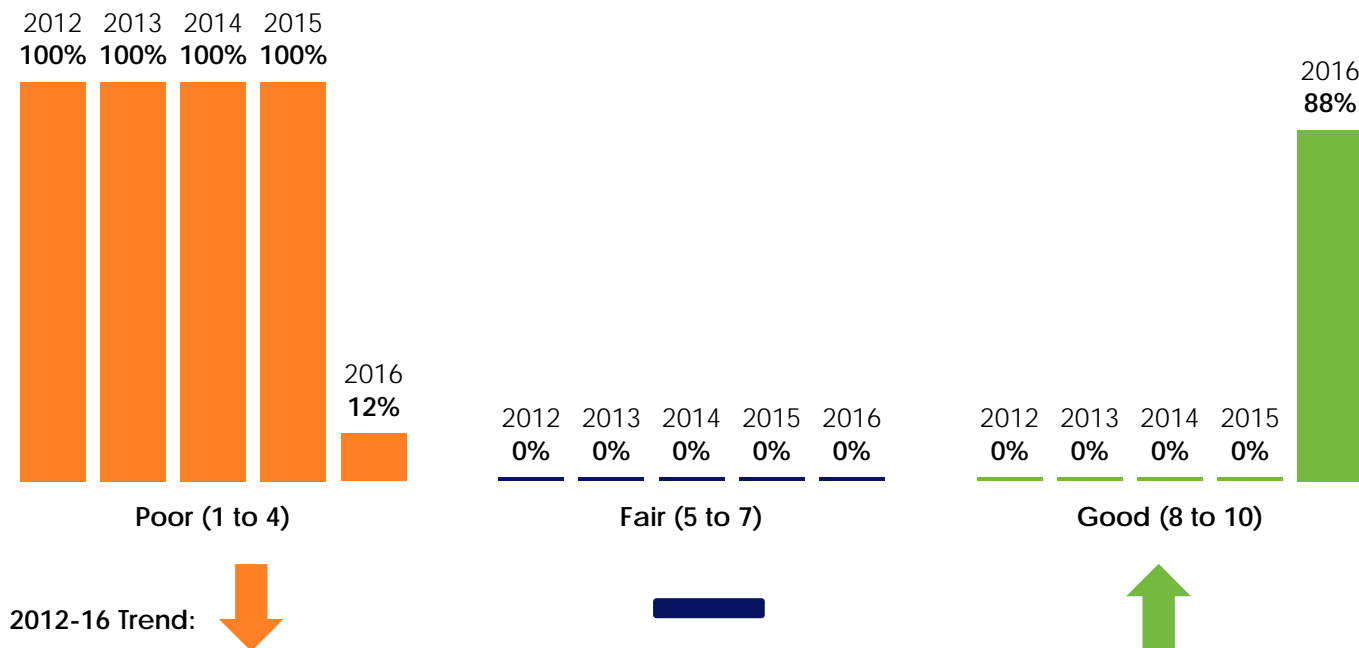
According to the 2040 Genesee County Long Range Transportation Plan, **2** times the current funding is needed to maintain existing conditions; **3** times the current funding is needed to see improvement. This trend is seen statewide, and can be reasonably applied to Lapeer County.

# Village of Metamora

- Rating 8-10 (Good, 0%, 0.0 lane miles)
- Rating 5-7 (Fair, 59%, 1.52 lane miles)
- Rating 1-4 (Poor, 41%, 1.05 lane miles)
-  Roads Under State Jurisdiction
- Local Road (Not Rated)



## PASER Ratings 2012-2016

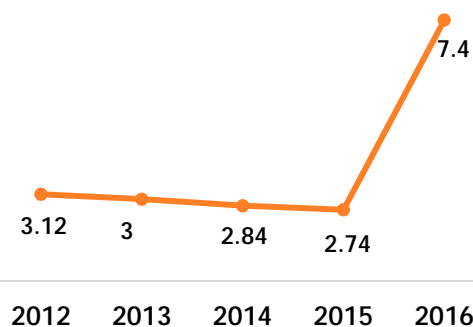
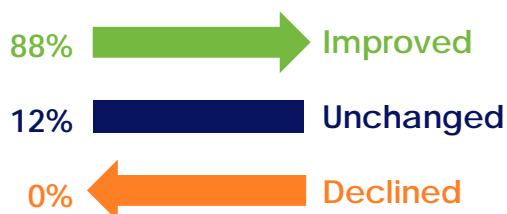


Ranked **#1** out of 9 cities & villages in Lapeer County by Average PASER Rating, #9 being the worst

**1.0** lane miles of Federal Aid roads; ranked **#9** out of 9 cities & villages, #1 having highest lane mileage

Lapeer County ranked **#14** out of 83 counties in the state by percentage of poor roads, with #1 being the worst (*Michigan TAMC*)

Michigan ranked **#4** in the U.S. by comparing percentage of poor roads, #1 being the worst (2015 *TRIP* Report)

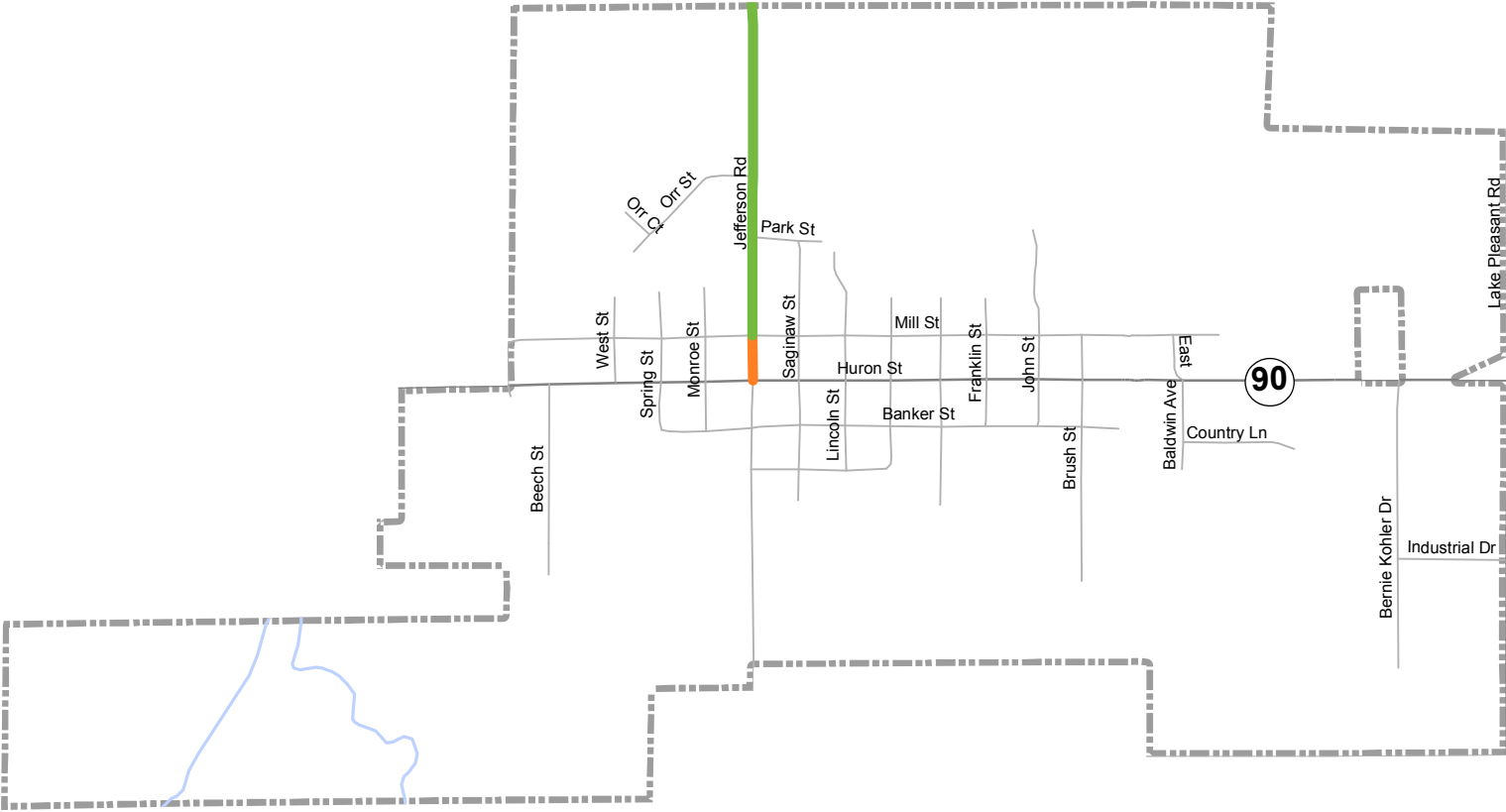
Village of North Branch  
Average PASER Rating (APR)Village of North Branch  
Trend 2012-2016

**Lapeer County** allocates an average of **\$795,000** in federal funds per year to improve the local federal aid network. **Lapeer County Road Agencies** spend an additional **\$3.4 million** per year on road surface improvements using state Act 51 and local funds.

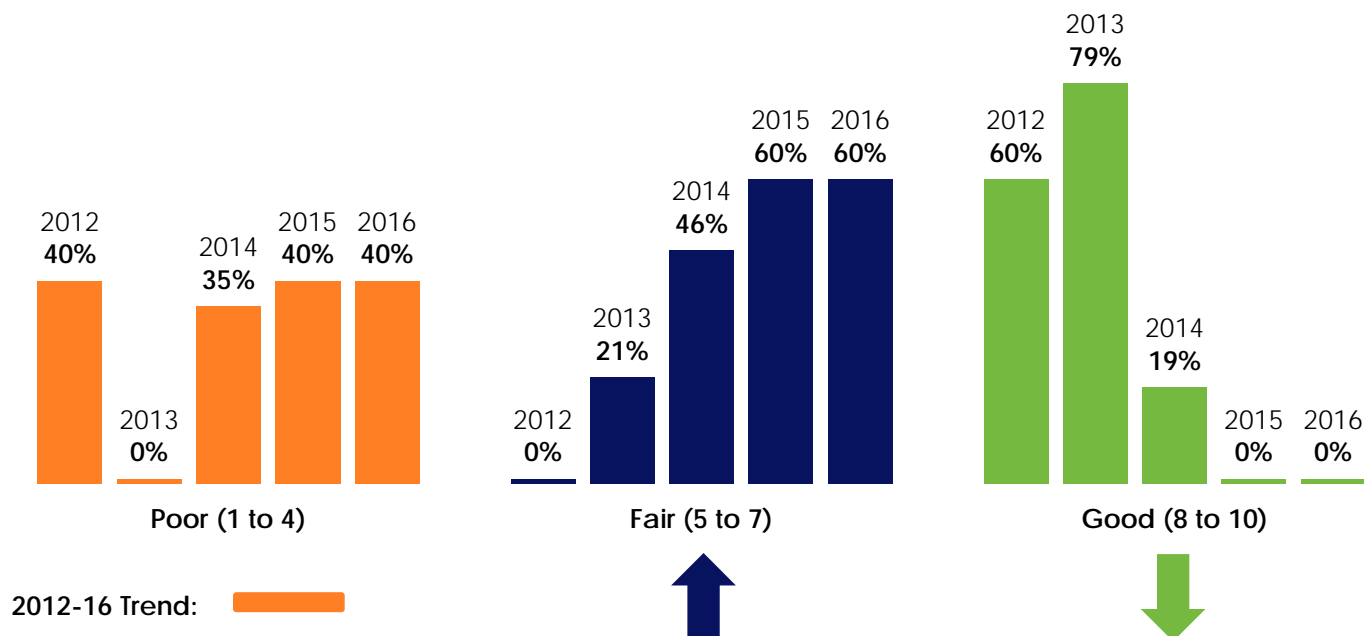
Although conditions have improved in the short term, additional funding is needed to maintain roads in the long term. According to the 2040 Genesee County Long Range Transportation Plan, **2** times the current funding is needed to maintain existing conditions; **3** times the current funding is needed to see improvement. This trend is seen statewide, and can be reasonably applied to Lapeer County.

# Village of North Branch

- Rating 8-10 (Good, 88%, 0.88 lane miles)
- Rating 5-7 (Fair, 0%, 0.0 lane miles)
- Rating 1-4 (Poor, 12%, 0.12 lane miles)
- Roads Under State Jurisdiction
- Local Road (Not Rated)



## PASER Ratings 2012-2016

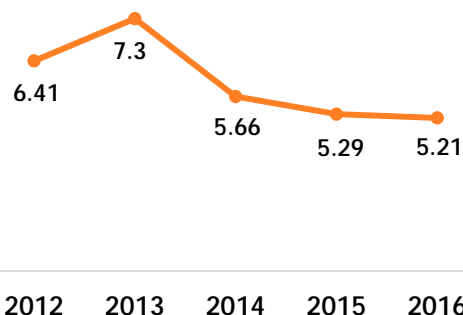
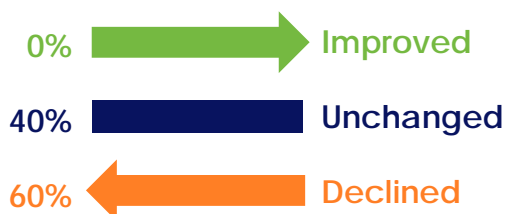


Ranked **#3** out of 9 cities & villages in Lapeer County by Average PASER Rating, #9 being the worst

**1.9** lane miles of Federal Aid roads; ranked **#8** out of 9 cities & villages, #1 having highest lane mileage

Lapeer County ranked **#14** out of 83 counties in the state by percentage of poor roads, with #1 being the worst (*Michigan TAMC*)

Michigan ranked **#4** in the U.S. by comparing percentage of poor roads, #1 being the worst (2015 *TRIP* Report)

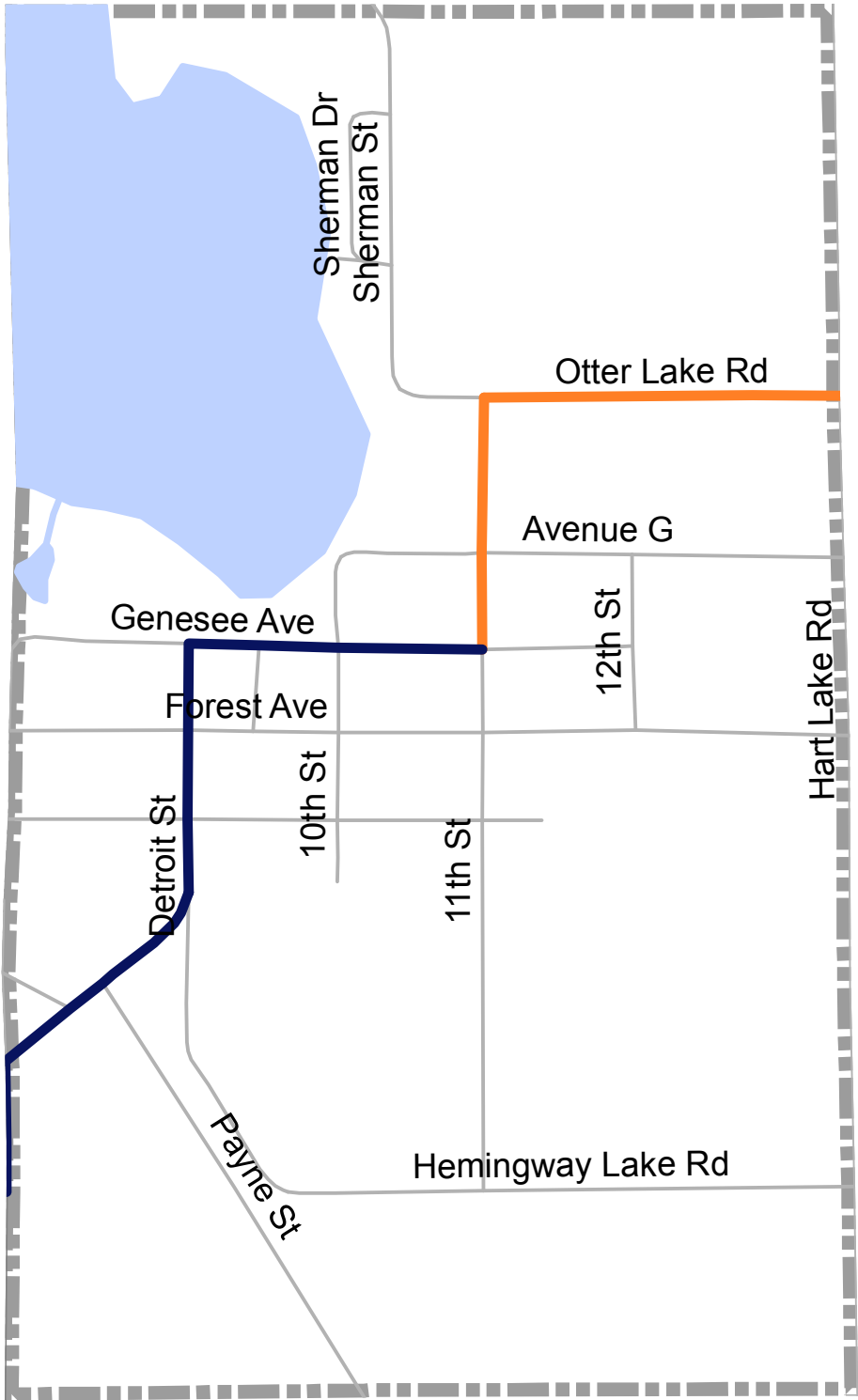
Village of Otter Lake  
Average PASER Rating (APR)Village of Otter Lake  
Trend 2012-2016

**Lapeer County** allocates an average of **\$795,000** in federal funds per year to improve the local federal aid network. **Lapeer County Road Agencies** spend an additional **\$3.4 million** per year on road surface improvements using state Act 51 and local funds.

According to the 2040 Genesee County Long Range Transportation Plan, **2** times the current funding is needed to maintain existing conditions; **3** times the current funding is needed to see improvement. This trend is seen statewide, and can be reasonably applied to Lapeer County.

# Village of Otter Lake

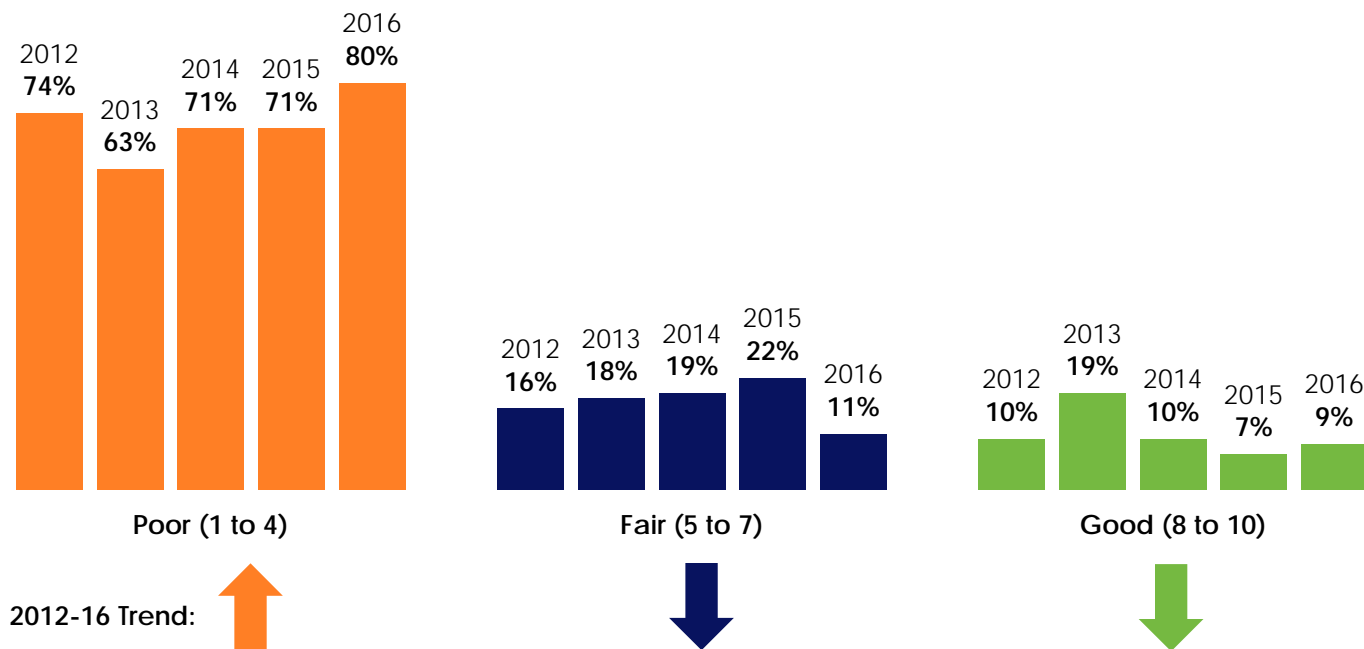
- Rating 8-10 (Good, 0%, 0.0 lane miles)
- Rating 5-7 (Fair, 60%, 1.17 lane miles)
- Rating 1-4 (Poor, 40%, 0.77 lane miles)
-  Roads Under State Jurisdiction
- Local Road (Not Rated)



# 2016 PASER Survey Township Roads – Lapeer County Road Commission (LCRC)



## PASER Ratings 2012-2016

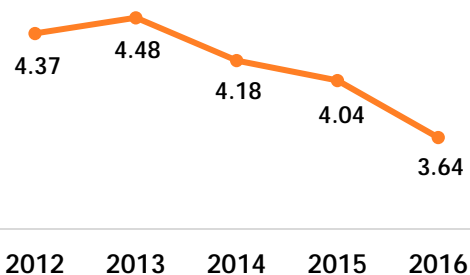


**595.0** lane miles of Federal Aid roads located in townships, maintained by the Lapeer County Road Commission (LCRC)

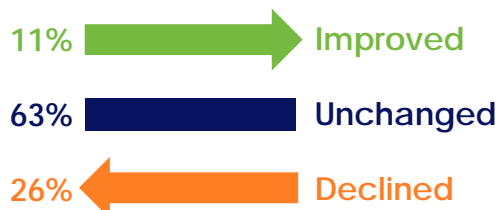
Lapeer County ranked **#14** out of 83 counties in the state by percentage of poor roads, with #1 being the worst (*Michigan TAMC*)

Michigan ranked **#4** in the U.S. by comparing percentage of poor roads, #1 being the worst (2015 *TRIP* Report)

## LCRC Average PASER Rating (APR)



## LCRC Trend 2012-2016

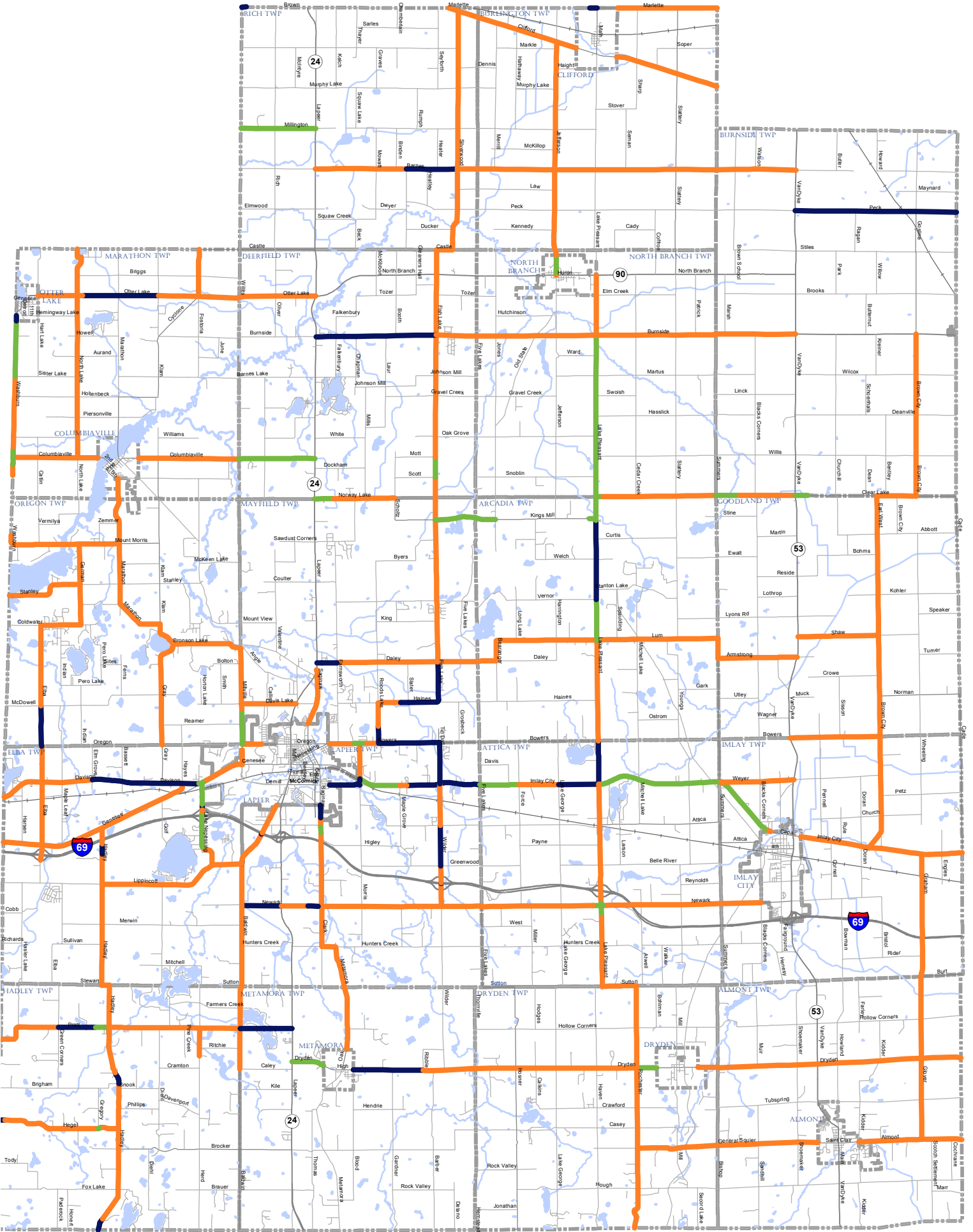


**Lapeer County** allocates an average of **\$795,000** in federal funds per year to improve the local federal aid network. **Lapeer County Road Agencies** spend an additional **\$3.4 million** per year on road surface improvements using state Act 51 and local funds.

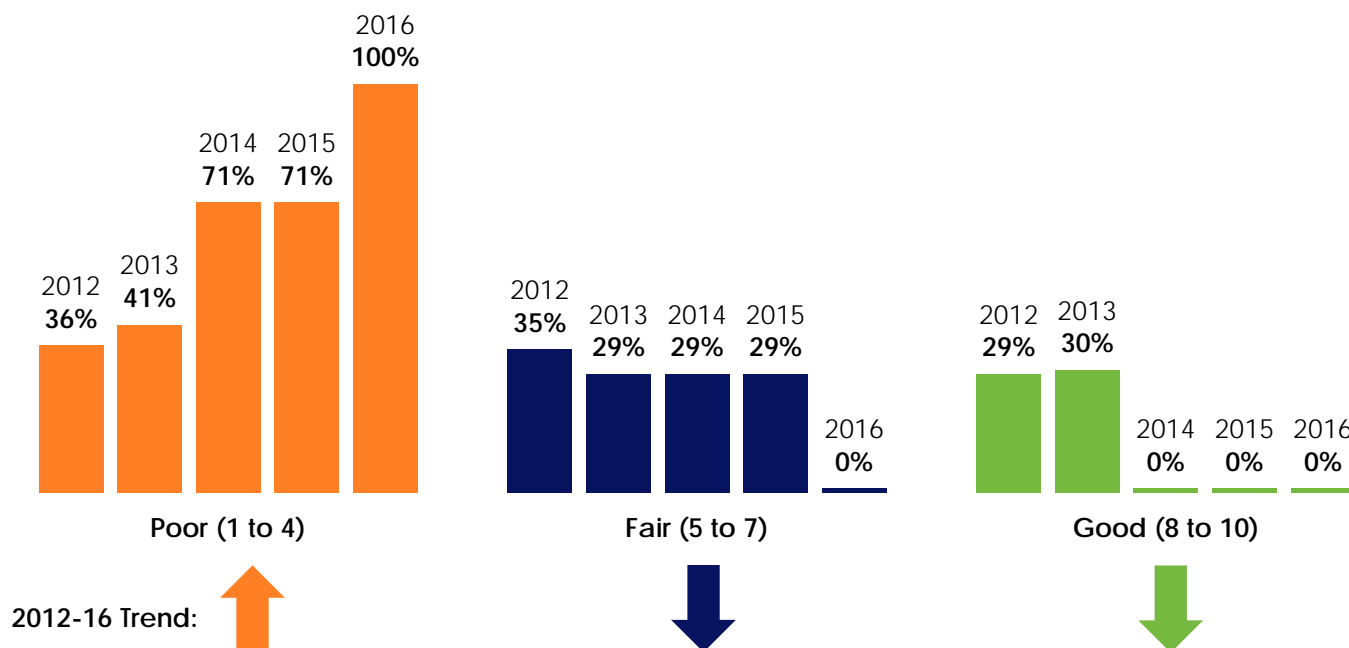
According to the 2040 Genesee County Long Range Transportation Plan, **2** times the current funding is needed to maintain existing conditions; **3** times the current funding is needed to see improvement. This trend is seen statewide, and can be reasonably applied to Lapeer County.

# Lapeer County Road Commission

- Rating 8-10 (Good, 9%, 51.80 lane miles)
- Rating 5-7 (Fair, 11%, 68.09 lane miles)
- Rating 1-4 (Poor, 80%, 475.13 lane miles)
- Roads Under State Jurisdiction
- Local Road (Not Rated)



## PASER Ratings 2012-2016



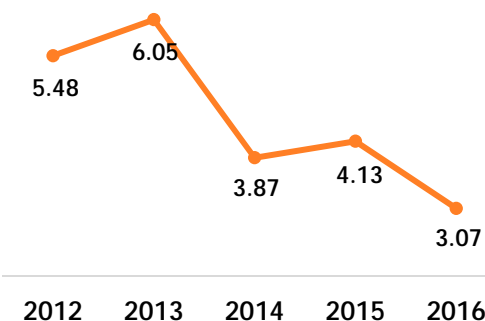
Ranked **#15** out of 18 townships in Lapeer County by Average PASER Rating, #18 being the worst

**30.3** lane miles of Federal Aid roads; ranked **#11** out of 18 townships, #1 having highest lane mileage

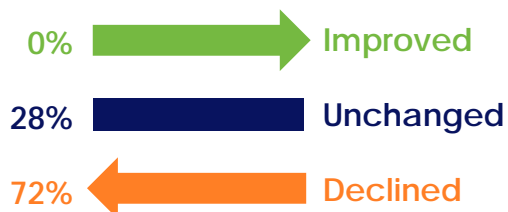
Lapeer County ranked **#14** out of 83 counties in the state by percentage of poor roads, with #1 being the worst (*Michigan TAMC*)

Michigan ranked **#4** in the U.S. by comparing percentage of poor roads, #1 being the worst (2015 *TRIP* Report)

## Almont Township Average PASER Rating (APR)



## Almont Township Trend 2012-2016

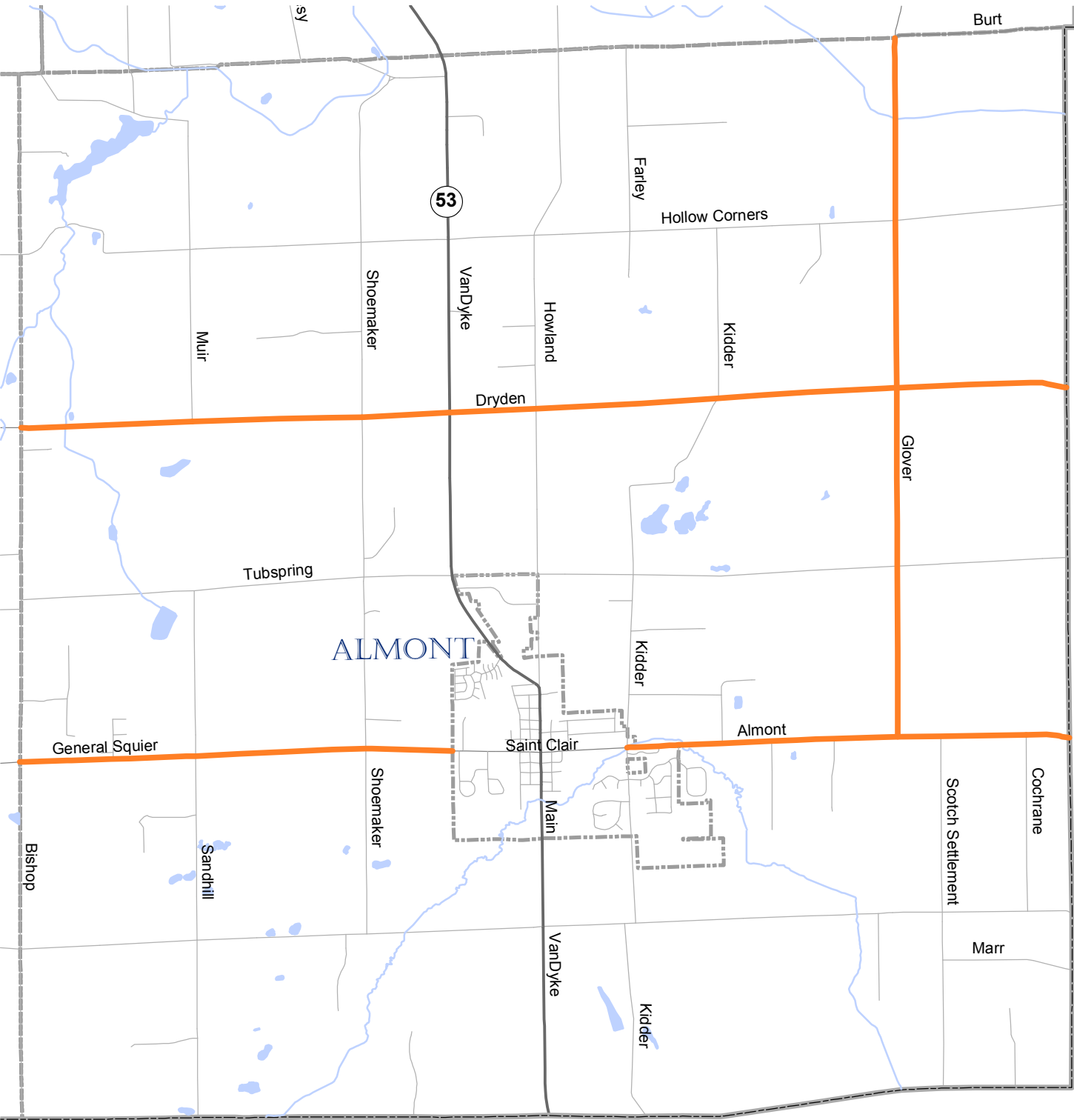


**Lapeer County** allocates an average of **\$795,000** in federal funds per year to improve the local federal aid network. **Lapeer County Road Agencies** spend an additional **\$3.4 million** per year on road surface improvements using state Act 51 and local funds.

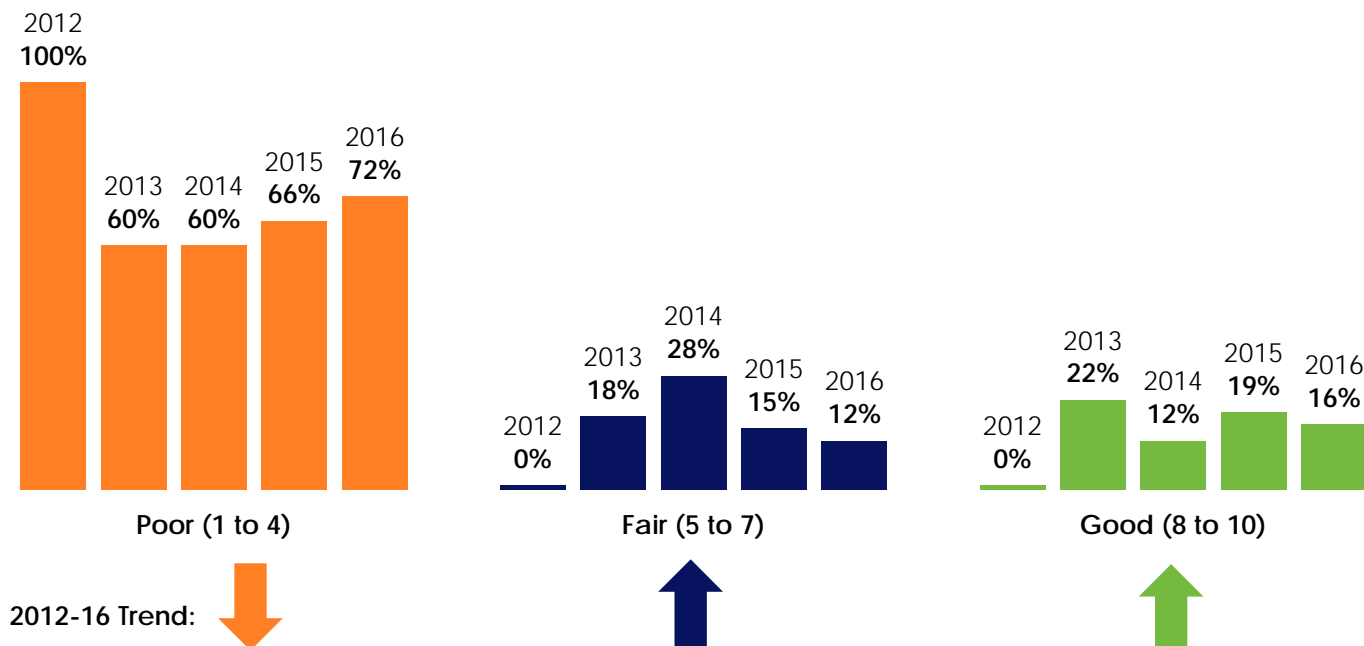
According to the 2040 Genesee County Long Range Transportation Plan, **2** times the current funding is needed to maintain existing conditions; **3** times the current funding is needed to see improvement. This trend is seen statewide, and can be reasonably applied to Lapeer County.

# Almont Township

- Rating 8-10 (Good, 0%, 0.0 lane miles)
- Rating 5-7 (Fair, 0%, 0.0 lane miles)
- Rating 1-4 (Poor, 100%, 30.26 lane miles)
- Roads Under State Jurisdiction
- Local Road (Not Rated)



## PASER Ratings 2012-2016

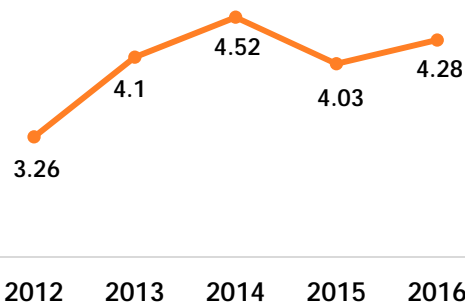
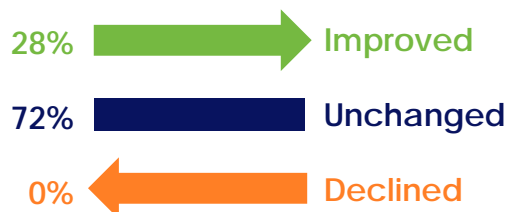


Ranked **#4** out of 18 townships in Lapeer County by Average PASER Rating, #18 being the worst

**32.3** lane miles of Federal Aid roads; ranked **#10** out of 18 townships, #1 having highest lane mileage

Lapeer County ranked **#14** out of 83 counties in the state by percentage of poor roads, with #1 being the worst (*Michigan TAMC*)

Michigan ranked **#4** in the U.S. by comparing percentage of poor roads, #1 being the worst (2015 *TRIP* Report)

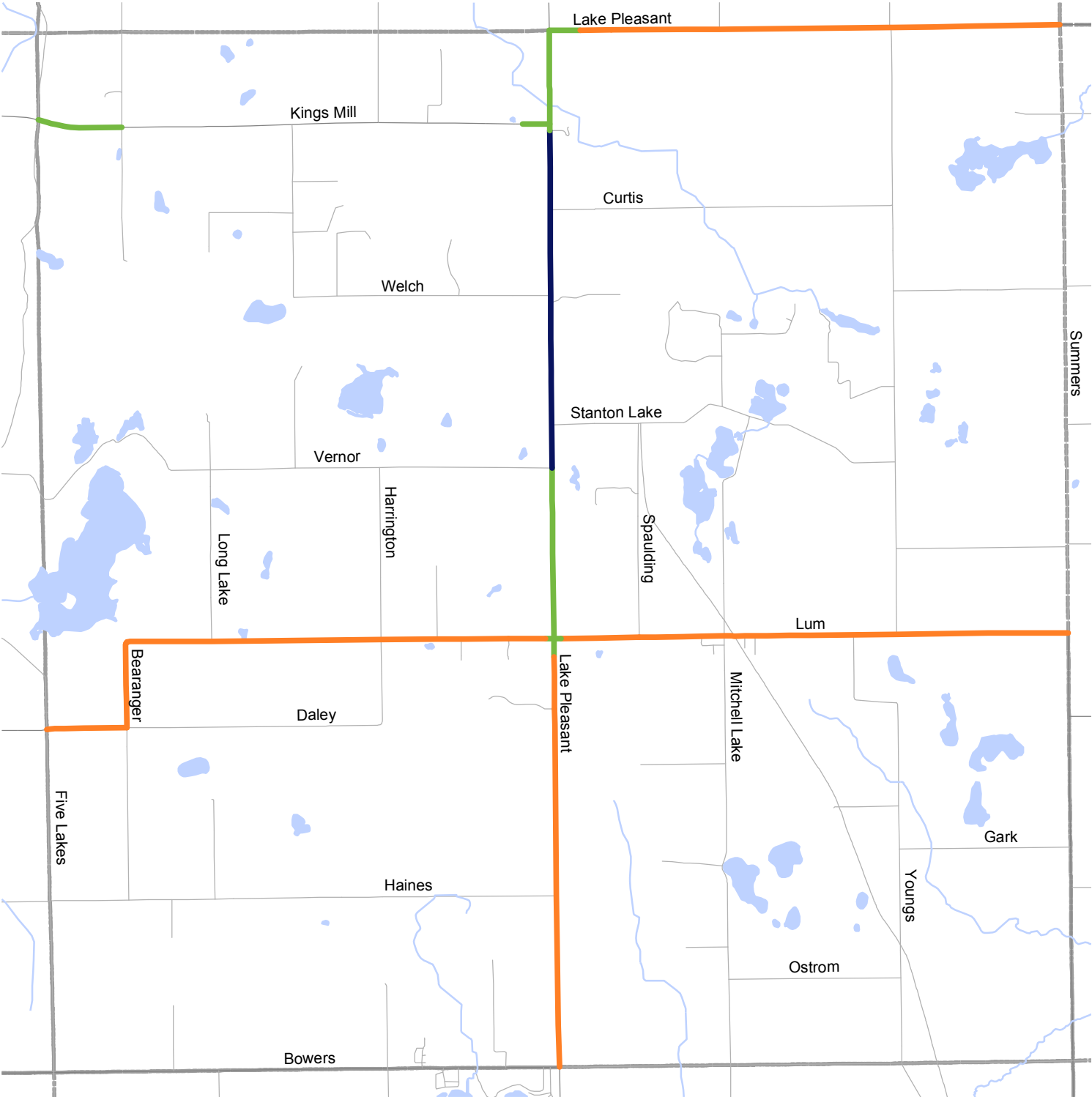
Arcadia Township  
Average PASER Rating (APR)Arcadia Township  
Trend 2012-2016

**Lapeer County** allocates an average of **\$795,000** in federal funds per year to improve the local federal aid network. **Lapeer County Road Agencies** spend an additional **\$3.4 million** per year on road surface improvements using state Act 51 and local funds.

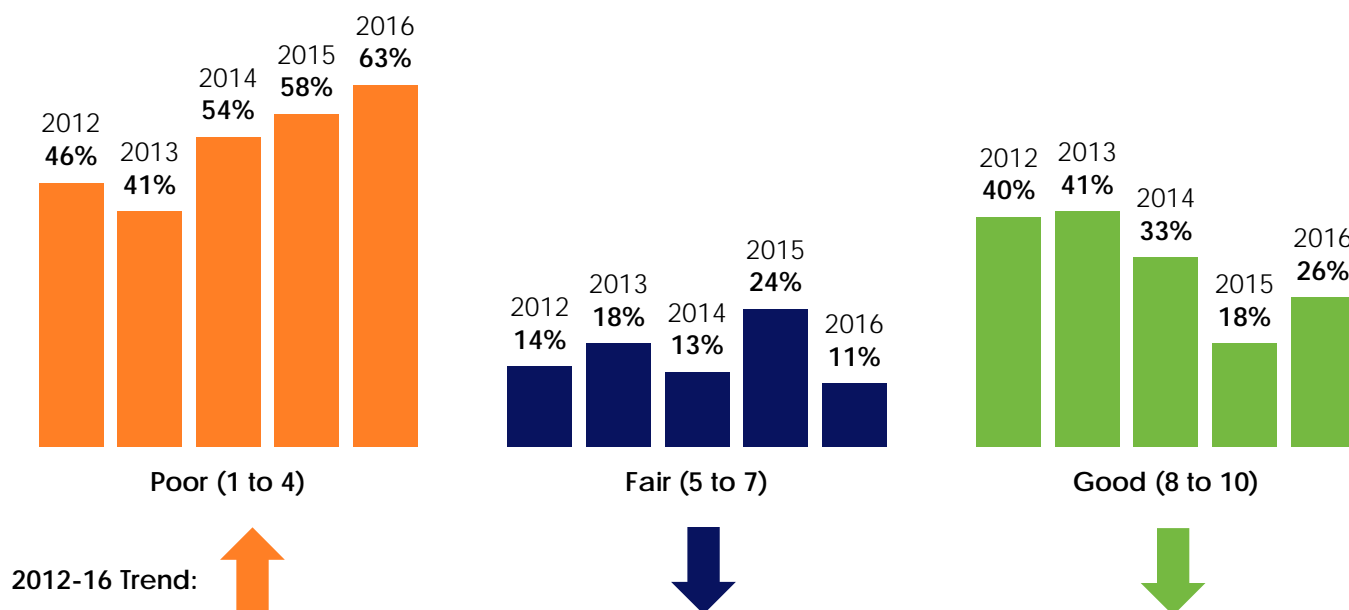
Although conditions have improved in the short term, additional funding is needed to maintain roads in the long term. According to the 2040 Genesee County Long Range Transportation Plan, **2** times the current funding is needed to maintain existing conditions; **3** times the current funding is needed to see improvement. This trend is seen statewide, and can be reasonably applied to Lapeer County.

# Arcadia Township

- Rating 8-10 (Good, 16%, 5.22 lane miles)
- Rating 5-7 (Fair, 12%, 3.94 lane miles)
- Rating 1-4 (Poor, 72%, 23.14 lane miles)
- Roads Under State Jurisdiction
- Local Road (Not Rated)



## PASER Ratings 2012-2016



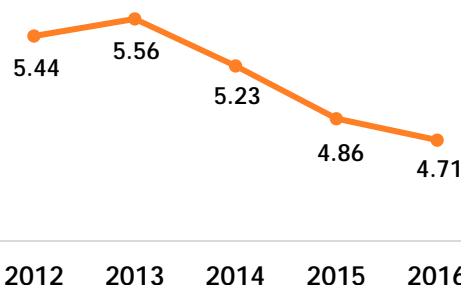
Ranked **#2** out of 18 townships in Lapeer County by Average PASER Rating, #18 being the worst

**36.2** lane miles of Federal Aid roads; ranked **#6** out of 18 townships, #1 having highest lane mileage

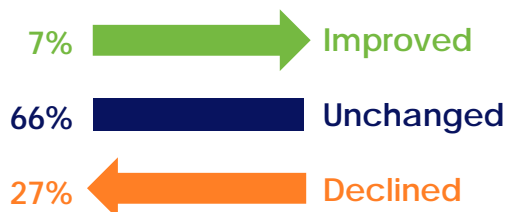
Lapeer County ranked **#14** out of 83 counties in the state by percentage of poor roads, with #1 being the worst (*Michigan TAMC*)

Michigan ranked **#4** in the U.S. by comparing percentage of poor roads, #1 being the worst (2015 *TRIP* Report)

### Attica Township Average PASER Rating (APR)



### Attica Township Trend 2012-2016

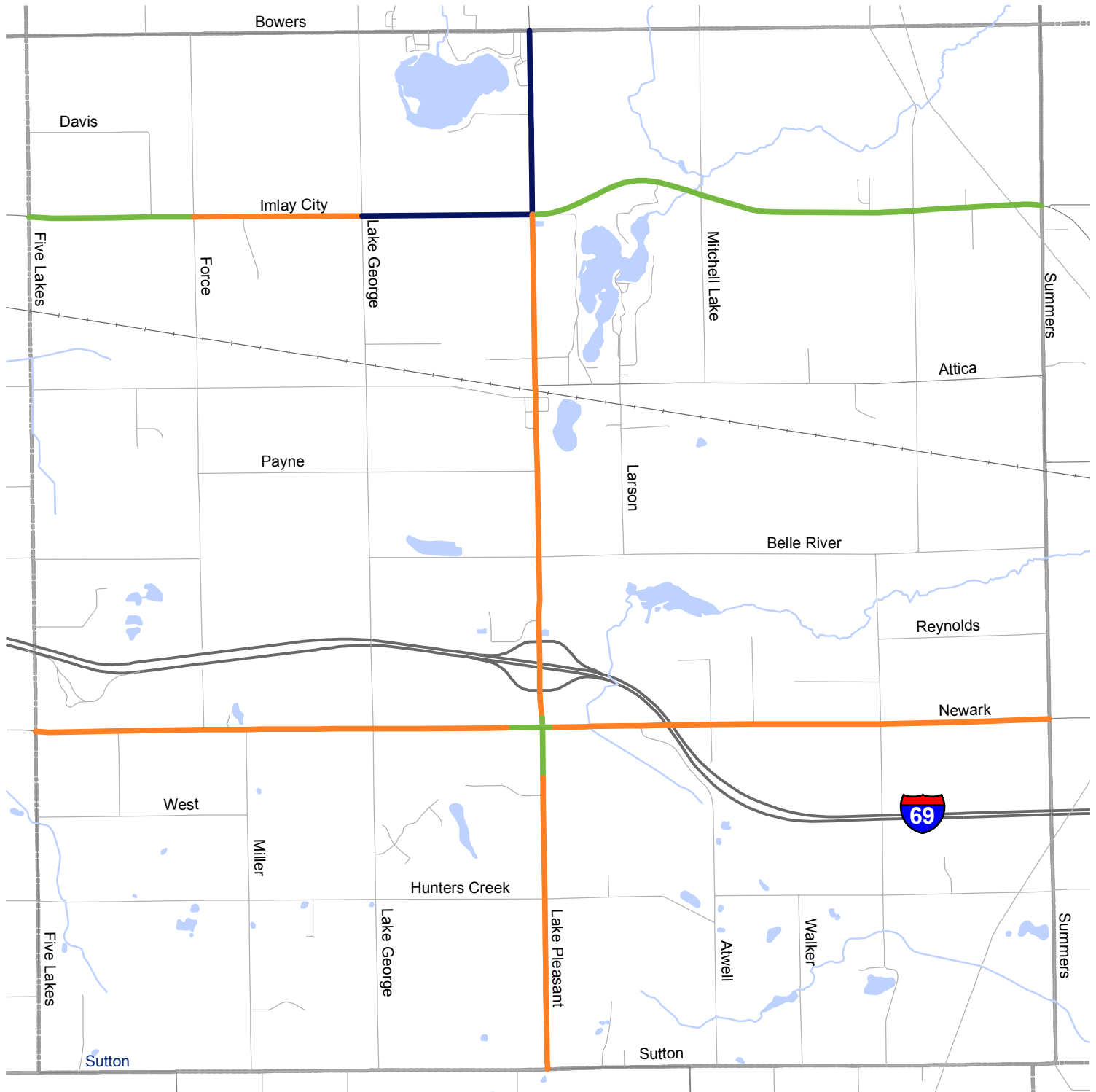


**Lapeer County** allocates an average of **\$795,000** in federal funds per year to improve the local federal aid network. **Lapeer County Road Agencies** spend an additional **\$3.4 million** per year on road surface improvements using state Act 51 and local funds.

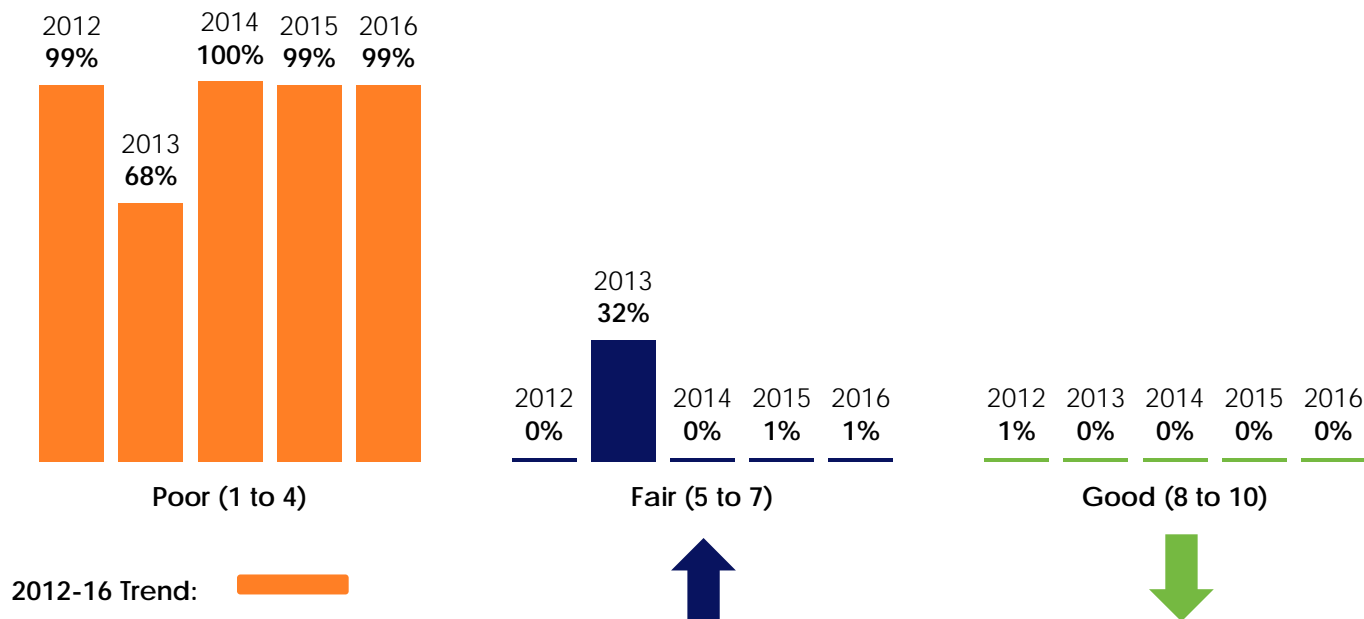
According to the 2040 Genesee County Long Range Transportation Plan, **2** times the current funding is needed to maintain existing conditions; **3** times the current funding is needed to see improvement. This trend is seen statewide, and can be reasonably applied to Lapeer County.

# Attica Township

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## PASER Ratings 2012-2016

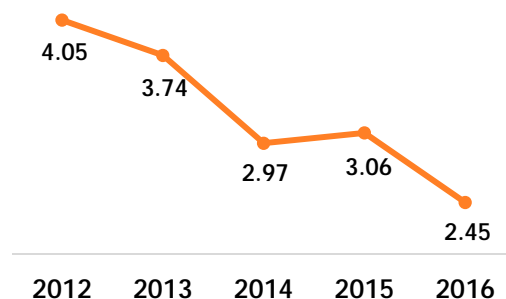
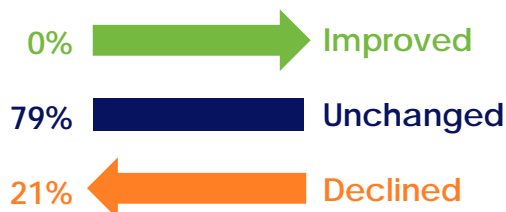


Ranked **#18** out of 18 townships in Lapeer County by Average PASER Rating, #18 being the worst

**37.8** lane miles of Federal Aid roads; ranked **#5** out of 18 townships, #1 having highest lane mileage

Lapeer County ranked **#14** out of 83 counties in the state by percentage of poor roads, with #1 being the worst (*Michigan TAMC*)

Michigan ranked **#4** in the U.S. by comparing percentage of poor roads, #1 being the worst (2015 *TRIP* Report)

Burlington Township  
Average PASER Rating (APR)Burlington Township  
Trend 2012-2016

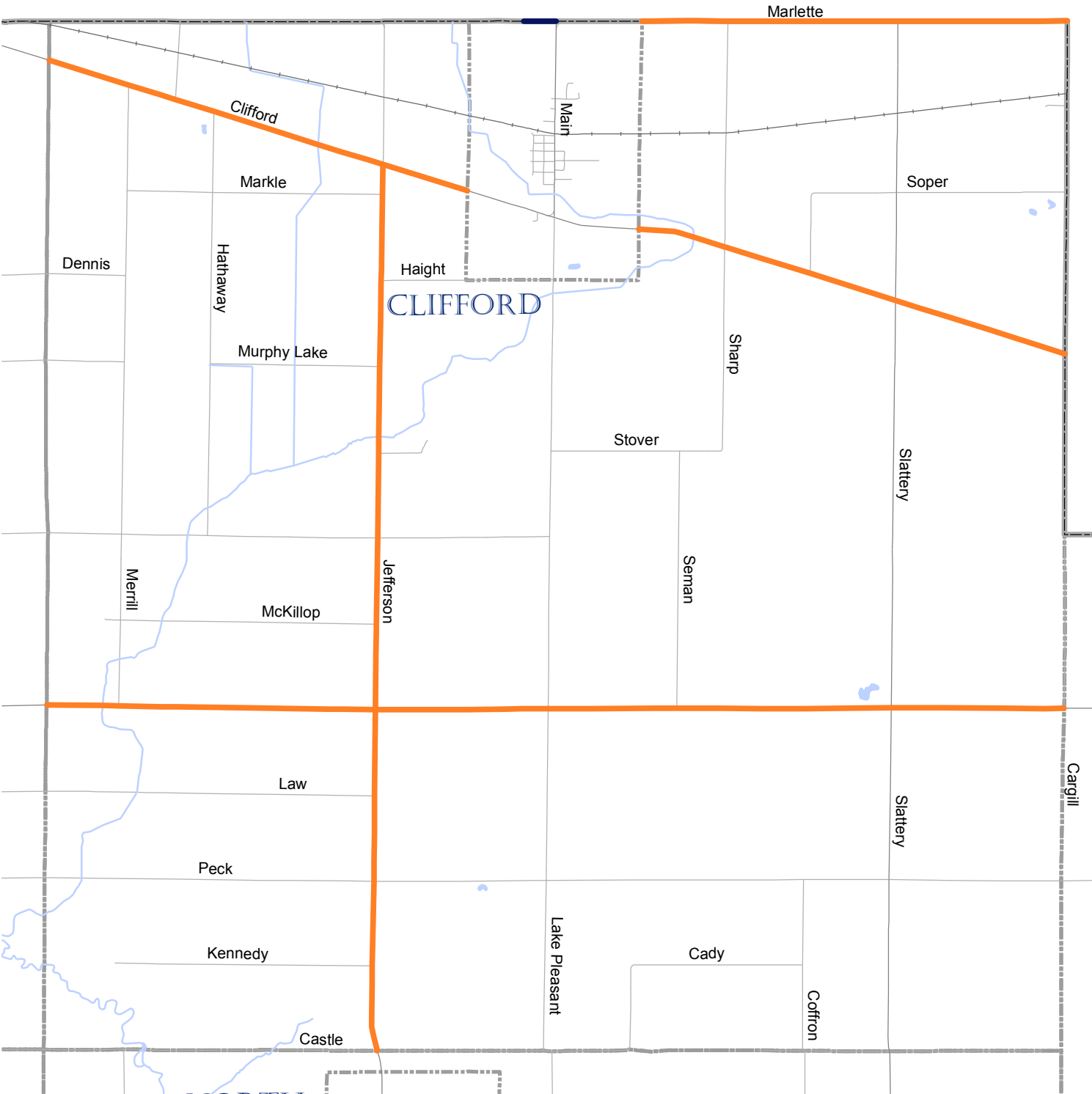
**Lapeer County** allocates an average of **\$795,000** in federal funds per year to improve the local federal aid network. **Lapeer County Road Agencies** spend an additional **\$3.4 million** per year on road surface improvements using state Act 51 and local funds.

According to the 2040 Genesee County Long Range Transportation Plan, **2** times the current funding is needed to maintain existing conditions; **3** times the current funding is needed to see improvement. This trend is seen statewide, and can be reasonably applied to Lapeer County.

2016 PASER Survey

Burlington Township

- Rating 8-10 (Good, 0%, 0.0 lane miles)
- Rating 5-7 (Fair, 1%, 0.38 lane miles)
- Rating 1-4 (Poor, 99%, 37.45 lane miles)
- Roads Under State Jurisdiction
- Local Road (Not Rated)

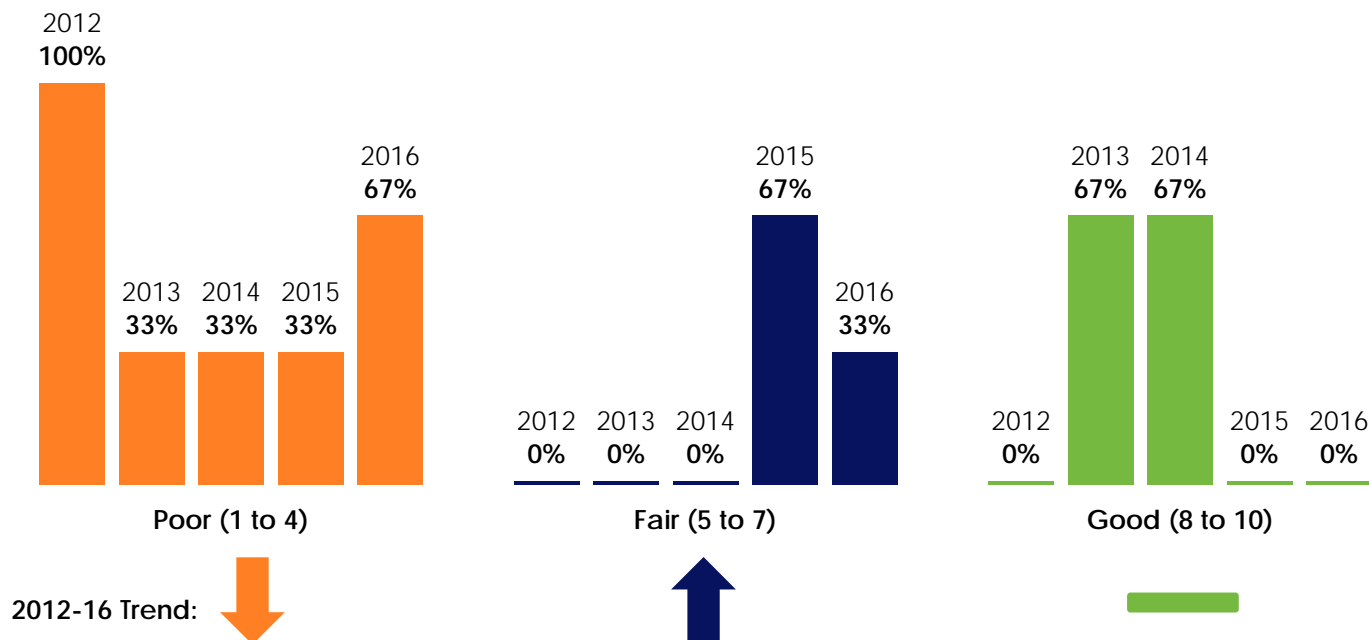


# 2016 PASER Survey

## Burnside Township



### PASER Ratings 2012-2016



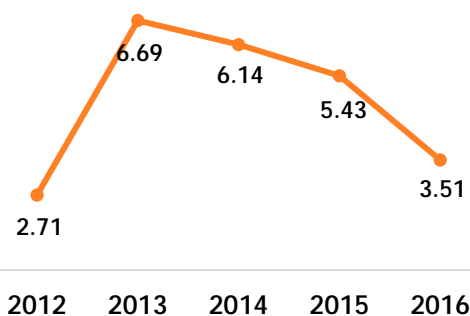
Ranked **#10** out of 18 townships in Lapeer County by Average PASER Rating, #18 being the worst

**23.9** lane miles of Federal Aid roads; ranked **#16** out of 18 townships, #1 having highest lane mileage

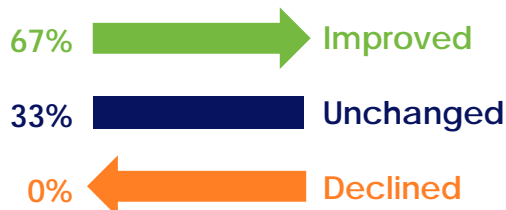
Lapeer County ranked **#14** out of 83 counties in the state by percentage of poor roads, with #1 being the worst (*Michigan TAMC*)

Michigan ranked **#4** in the U.S. by comparing percentage of poor roads, #1 being the worst (2015 *TRIP* Report)

### Burnside Township Average PASER Rating (APR)



### Burnside Township Trend 2012-2016

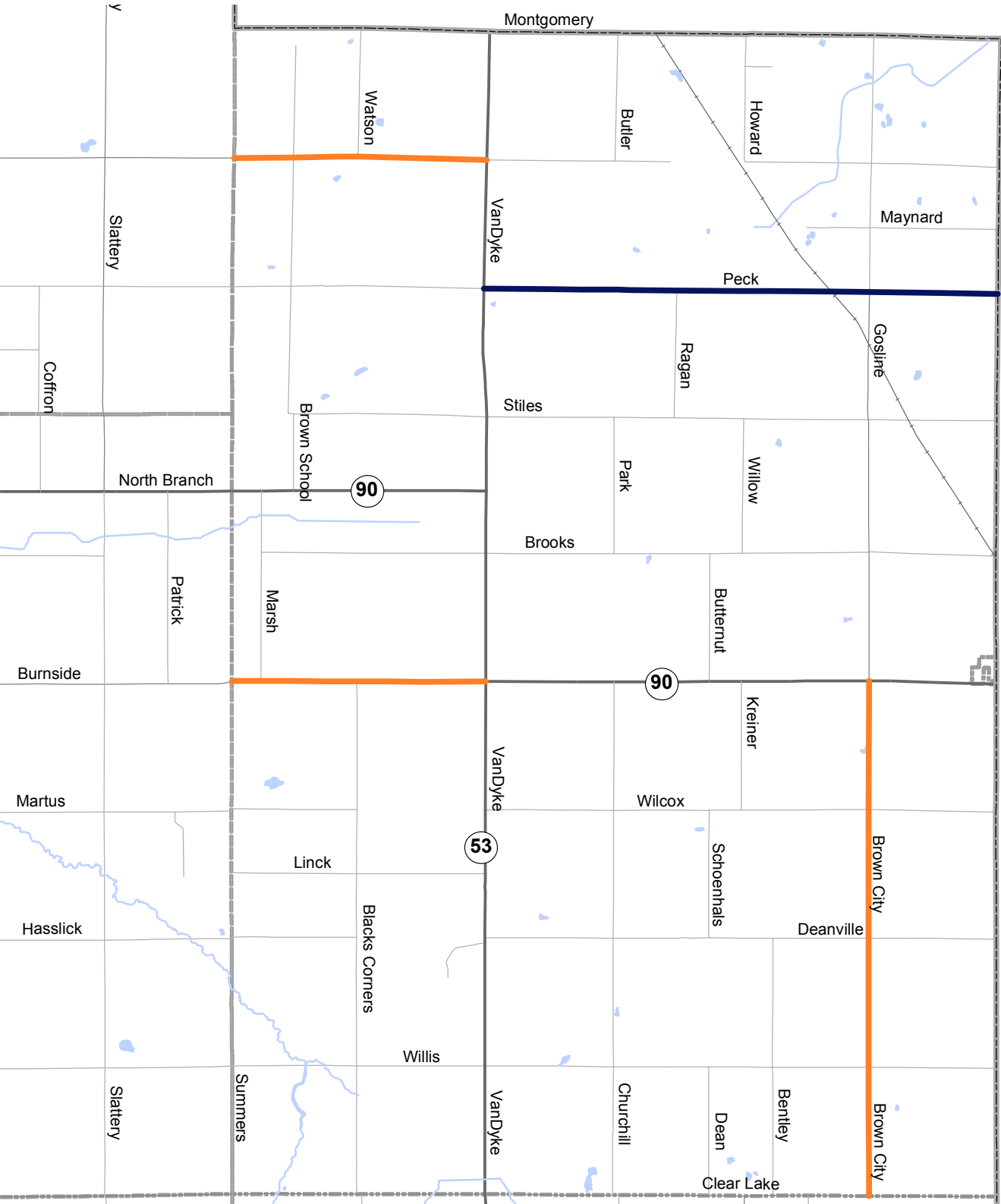


**Lapeer County** allocates an average of **\$795,000** in federal funds per year to improve the local federal aid network. **Lapeer County Road Agencies** spend an additional **\$3.4 million** per year on road surface improvements using state Act 51 and local funds.

Although conditions have improved in the short term, additional funding is needed to maintain roads in the long term. According to the 2040 Genesee County Long Range Transportation Plan, **2** times the current funding is needed to maintain existing conditions; **3** times the current funding is needed to see improvement. This trend is seen statewide, and can be reasonably applied to Lapeer County.

# Burnside Township

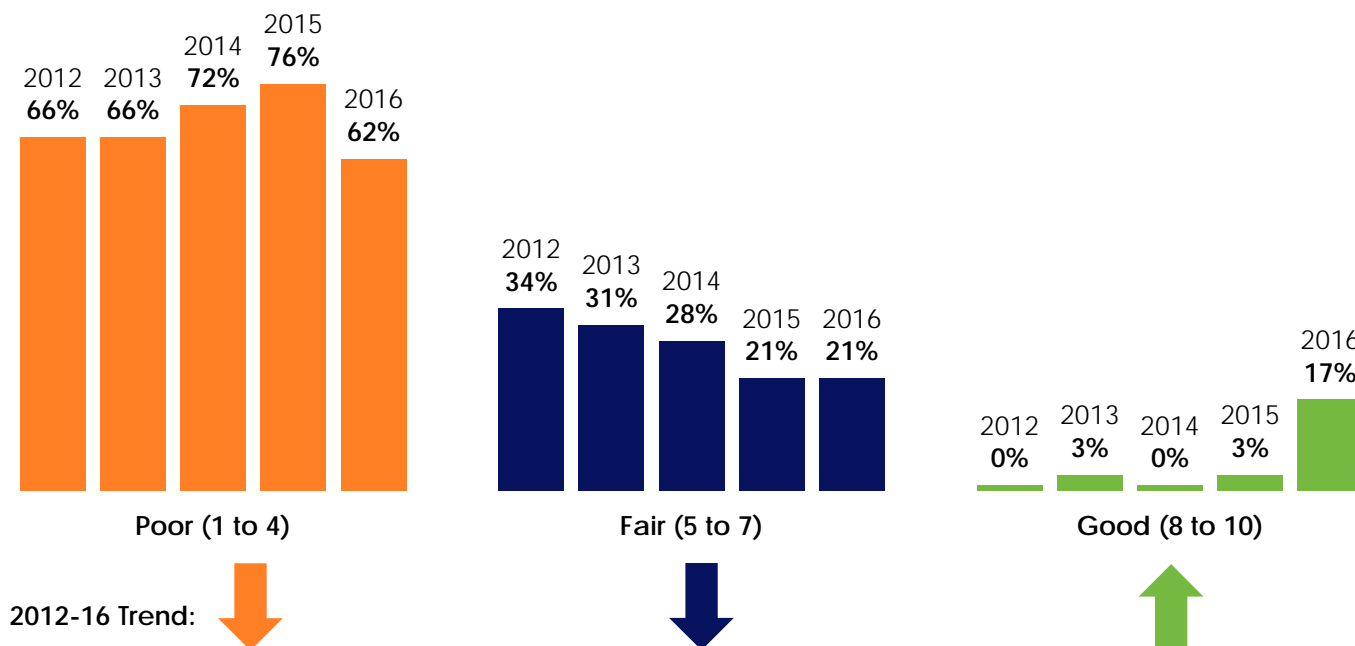
- Rating 8-10 (Good, 0%, 0.00 lane miles)
- Rating 5-7 (Fair, 33%, 8.02 lane miles)
- Rating 1-4 (Poor, 67%, 15.94 lane miles)
- Roads Under State Jurisdiction
- Local Road (Not Rated)



# 2016 PASER Survey Deerfield Township



## PASER Ratings 2012-2016



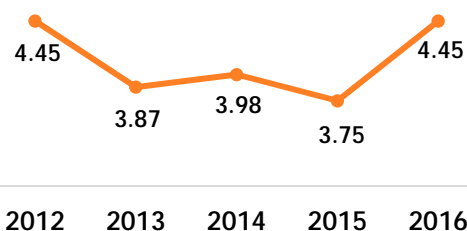
Ranked **#3** out of 18 townships in Lapeer County by Average PASER Rating, #18 being the worst

**28.6** lane miles of Federal Aid roads; ranked **#12** out of 18 townships, #1 having highest lane mileage

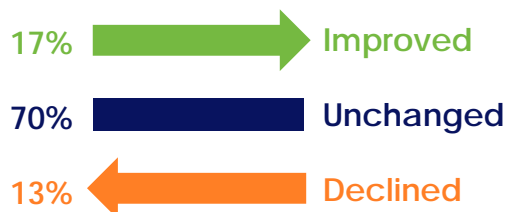
Lapeer County ranked **#14** out of 83 counties in the state by percentage of poor roads, with #1 being the worst (*Michigan TAMC*)

Michigan ranked **#4** in the U.S. by comparing percentage of poor roads, #1 being the worst (2015 *TRIP* Report)

## Deerfield Township Average PASER Rating (APR)



## Deerfield Township Trend 2012-2016



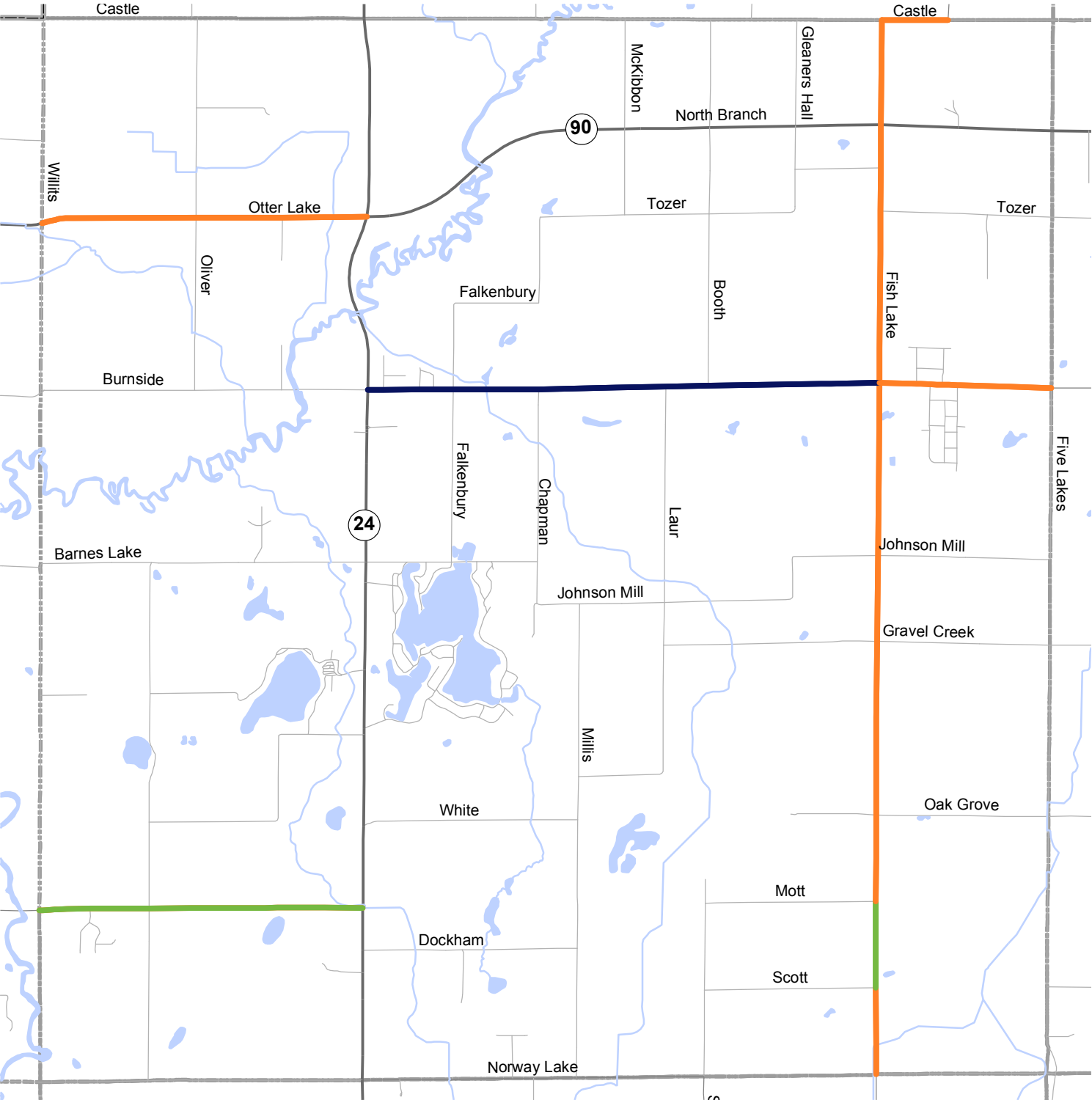
**Lapeer County** allocates an average of **\$795,000** in federal funds per year to improve the local federal aid network. **Lapeer County Road Agencies** spend an additional **\$3.4 million** per year on road surface improvements using state Act 51 and local funds.

According to the 2040 Genesee County Long Range Transportation Plan, **2** times the current funding is needed to maintain existing conditions; **3** times the current funding is needed to see improvement. This trend is seen statewide, and can be reasonably applied to Lapeer County.

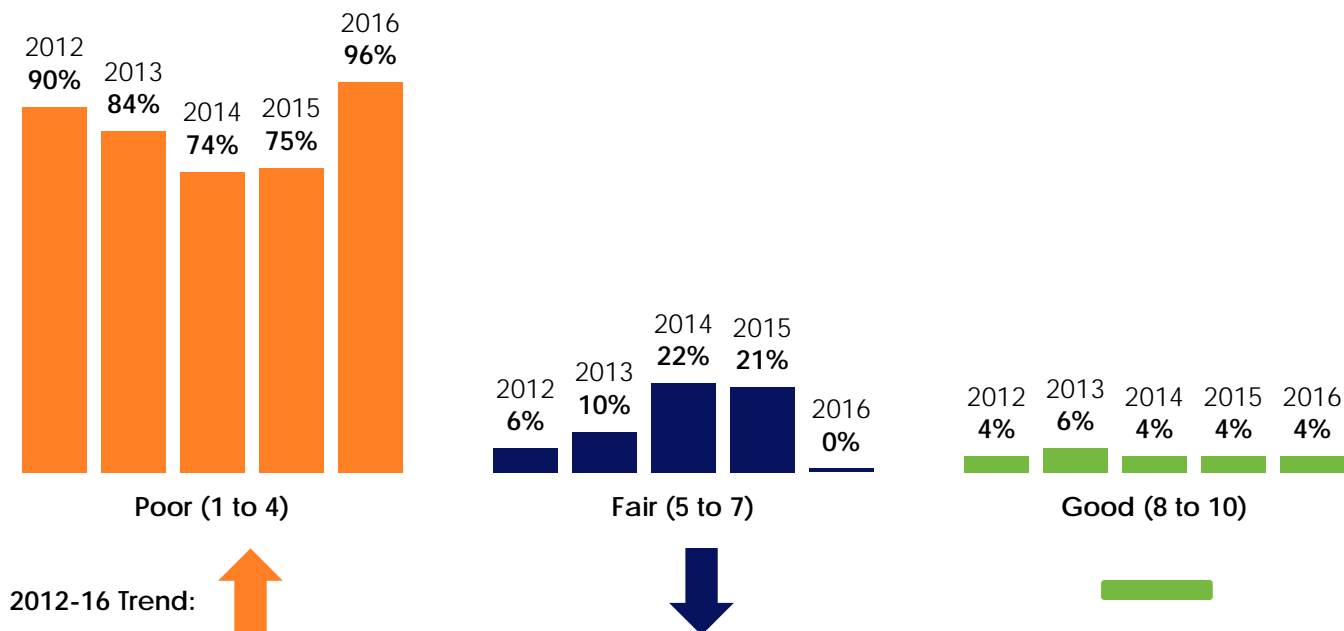
2016 PASER Survey

Deerfield Township

- Rating 8-10 (Good, 17%, 4.78 lane miles)
- Rating 5-7 (Fair, 21%, 5.97 lane miles)
- Rating 1-4 (Poor, 62%, 17.85 lane miles)
- Roads Under State Jurisdiction
- Local Road (Not Rated)



## PASER Ratings 2012-2016



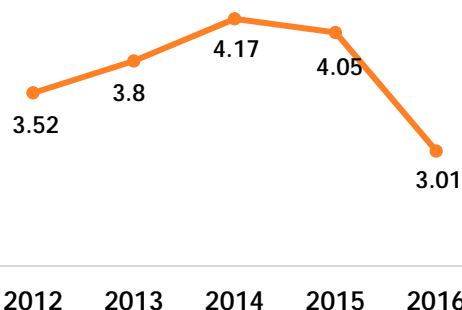
Ranked **#16** out of 18 townships in Lapeer County by Average PASER Rating, #18 being the worst

**27.8** lane miles of Federal Aid roads; ranked **#13** out of 18 townships, #1 having highest lane mileage

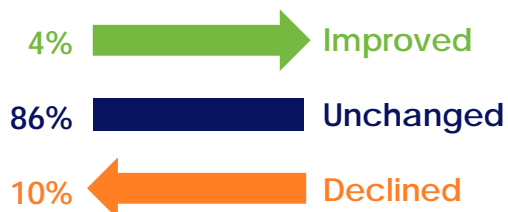
Lapeer County ranked **#14** out of 83 counties in the state by percentage of poor roads, with #1 being the worst (*Michigan TAMC*)

Michigan ranked **#4** in the U.S. by comparing percentage of poor roads, #1 being the worst (2015 *TRIP* Report)

## Dryden Township Average PASER Rating (APR)



## Dryden Township Trend 2012-2016

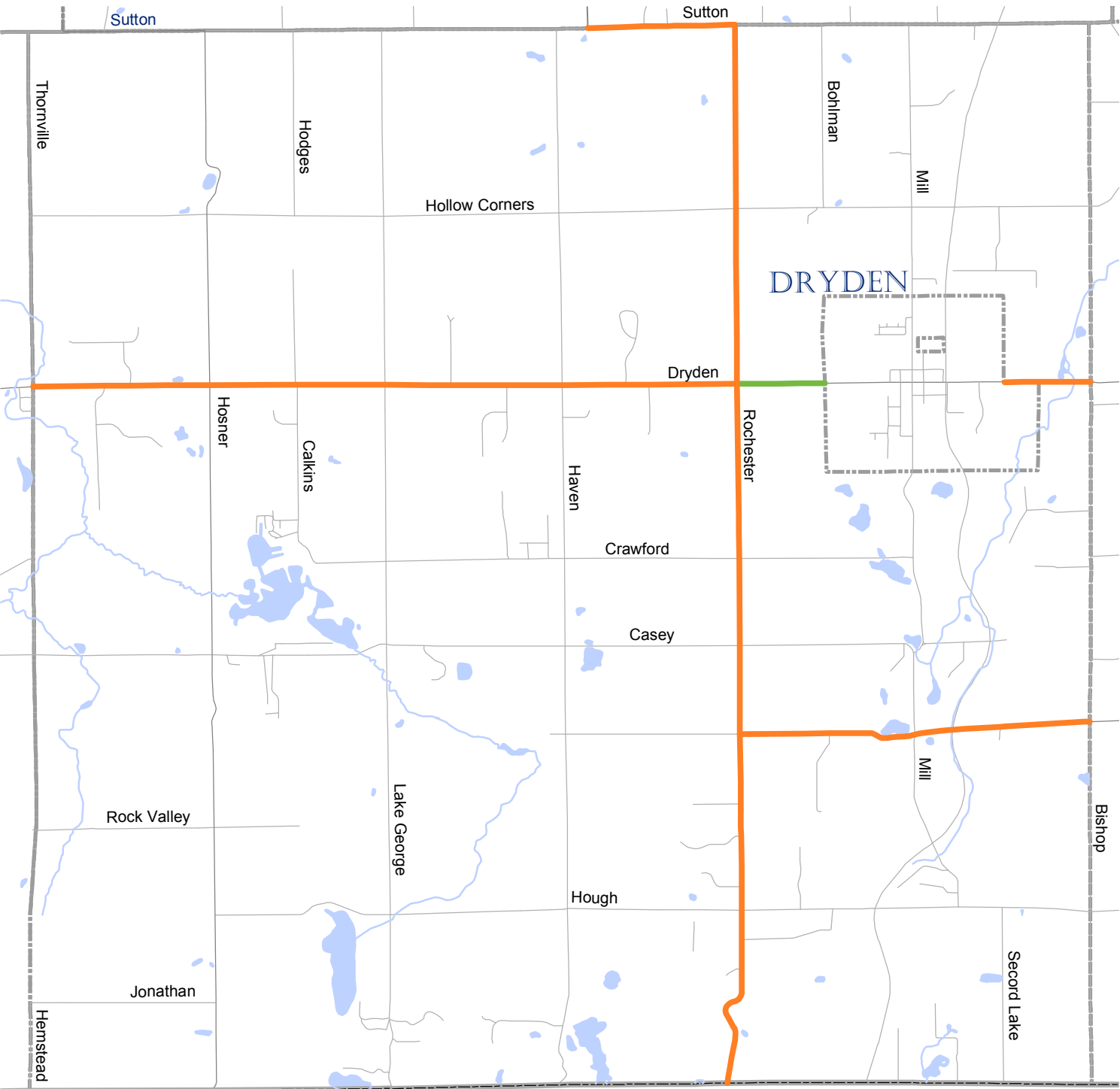


**Lapeer County** allocates an average of **\$795,000** in federal funds per year to improve the local federal aid network. **Lapeer County Road Agencies** spend an additional **\$3.4 million** per year on road surface improvements using state Act 51 and local funds.

According to the 2040 Genesee County Long Range Transportation Plan, **2** times the current funding is needed to maintain existing conditions; **3** times the current funding is needed to see improvement. This trend is seen statewide, and can be reasonably applied to Lapeer County.

# Dryden Township

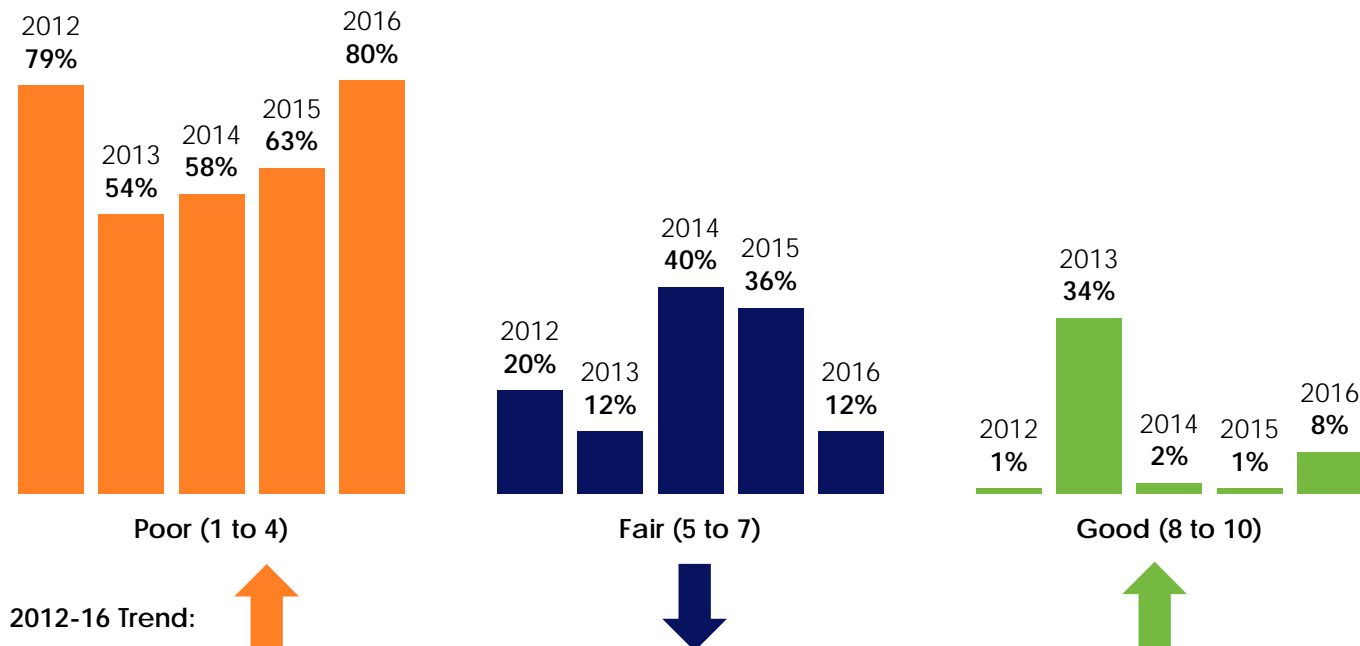
- Rating 8-10 (Good, 4%, 1.00 lane miles)
- Rating 5-7 (Fair, 0%, 0.0 lane miles)
- Rating 1-4 (Poor, 96%, 26.81 lane miles)
- Roads Under State Jurisdiction
- Local Road (Not Rated)



# 2016 PASER Survey Elba Township



## PASER Ratings 2012-2016



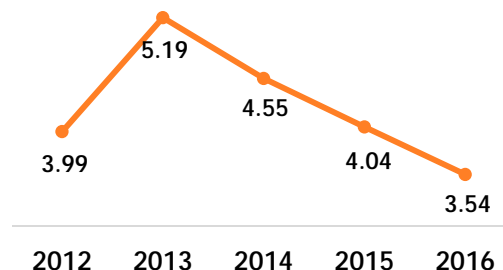
Ranked **#9** out of 18 townships in Lapeer County by Average PASER Rating, #18 being the worst

**50.4** lane miles of Federal Aid roads; ranked **#2** out of 18 townships, #1 having highest lane mileage

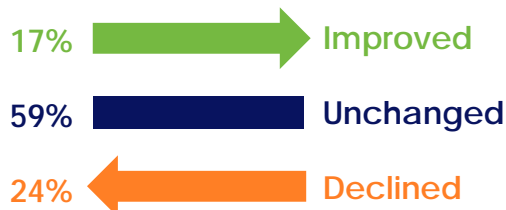
Lapeer County ranked **#14** out of 83 counties in the state by percentage of poor roads, with #1 being the worst (*Michigan TAMC*)

Michigan ranked **#4** in the U.S. by comparing percentage of poor roads, #1 being the worst (2015 *TRIP* Report)

## Elba Township Average PASER Rating (APR)



## Elba Township Trend 2012-2016



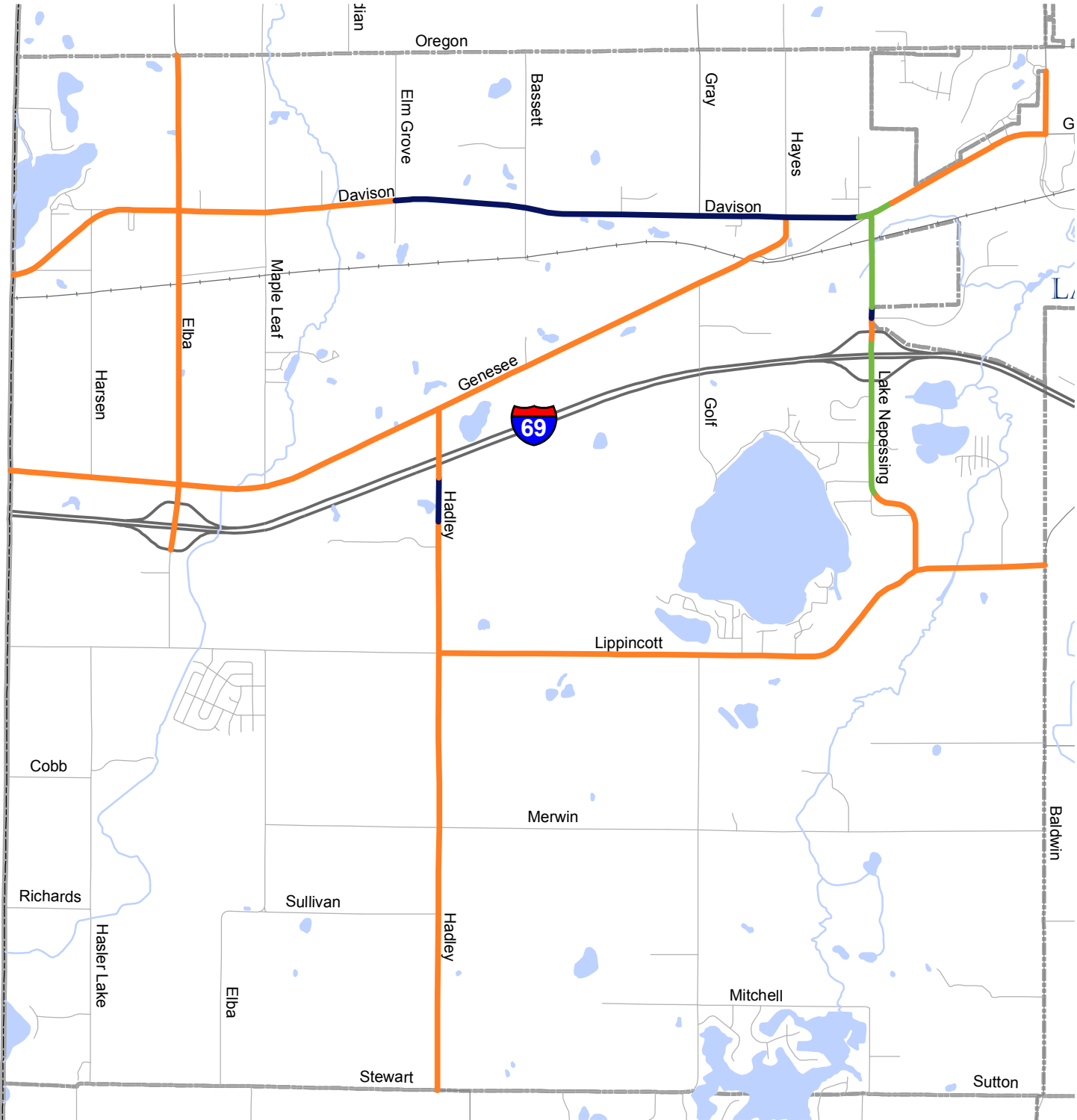
**Lapeer County** allocates an average of **\$795,000** in federal funds per year to improve the local federal aid network. **Lapeer County Road Agencies** spend an additional **\$3.4 million** per year on road surface improvements using state Act 51 and local funds.

According to the 2040 Genesee County Long Range Transportation Plan, **2** times the current funding is needed to maintain existing conditions; **3** times the current funding is needed to see improvement. This trend is seen statewide, and can be reasonably applied to Lapeer County.

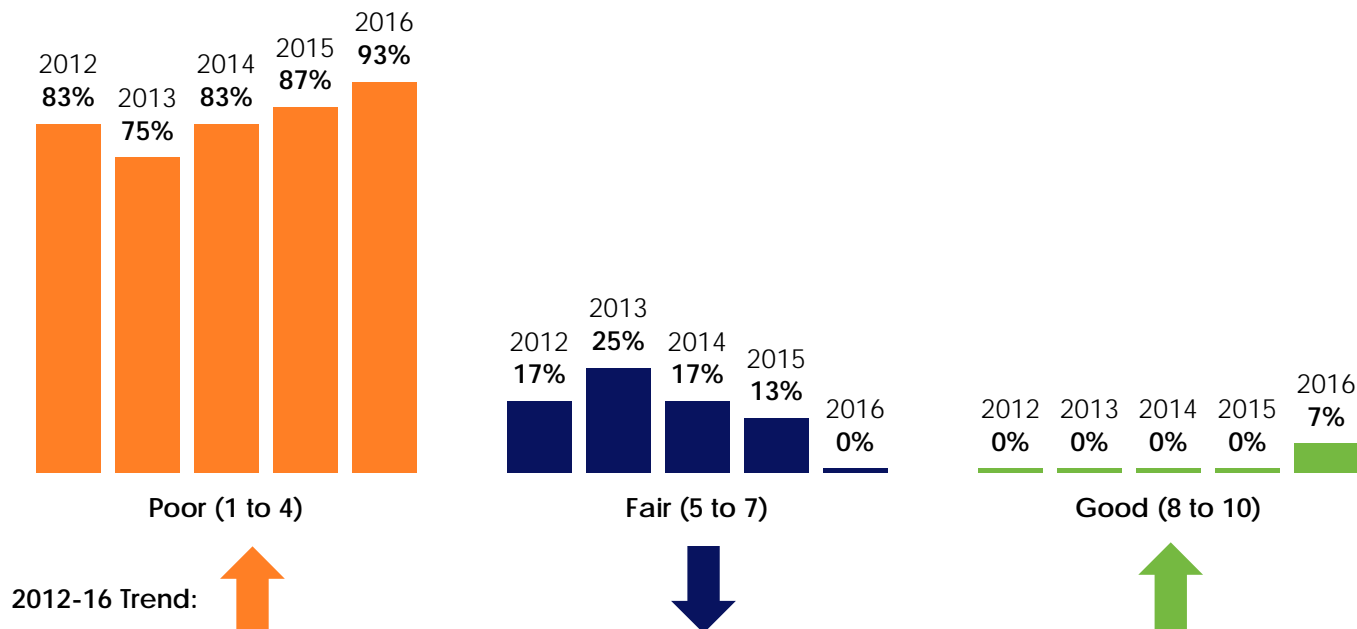
2016 PASER Survey

Elba Township

- Rating 8-10 (Good, 8%, 3.98 lane miles)
- Rating 5-7 (Fair, 12%, 6.07 lane miles)
- Rating 1-4 (Poor, 80%, 40.34 lane miles)
- Roads Under State Jurisdiction
- Local Road (Not Rated)



## PASER Ratings 2012-2016



Ranked **#14** out of 18 townships in Lapeer County by Average PASER Rating, #18 being the worst

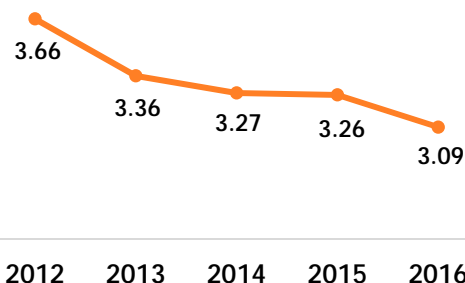
**27.3** lane miles of Federal Aid roads;

ranked **#14** out of 18 townships, #1 having highest lane mileage

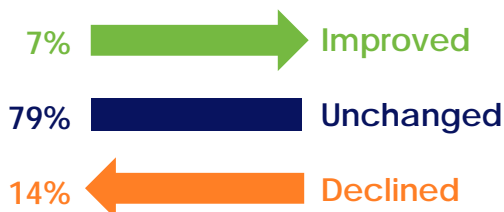
Lapeer County ranked **#14** out of 83 counties in the state by percentage of poor roads, with #1 being the worst (*Michigan TAMC*)

Michigan ranked **#4** in the U.S. by comparing percentage of poor roads, #1 being the worst (2015 *TRIP* Report)

## Goodland Township Average PASER Rating (APR)



## Goodland Township Trend 2012-2016



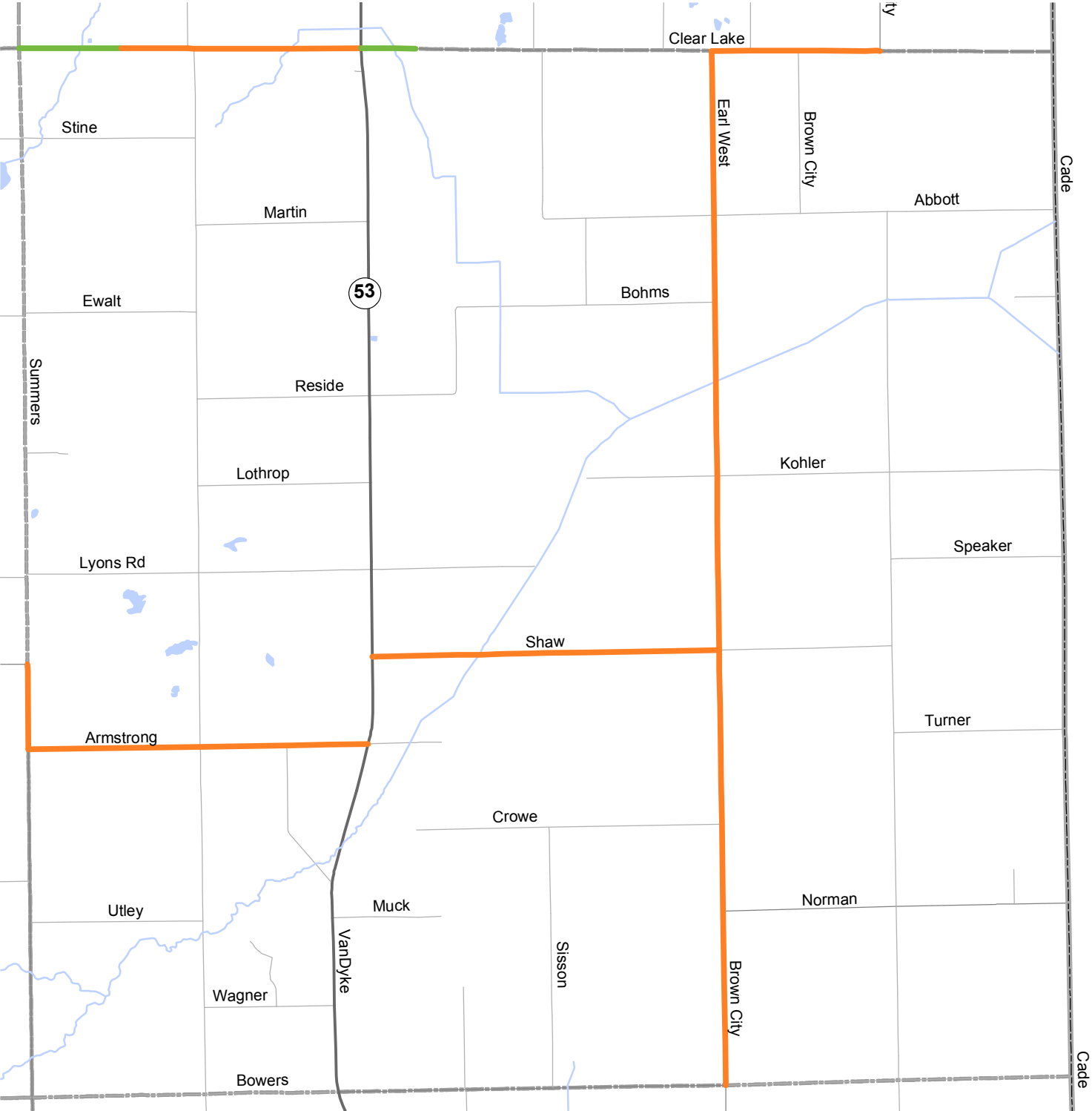
**Lapeer County** allocates an average of **\$795,000** in federal funds per year to improve the local federal aid network. **Lapeer County Road Agencies** spend an additional **\$3.4 million** per year on road surface improvements using state Act 51 and local funds.

According to the 2040 Genesee County Long Range Transportation Plan, **2** times the current funding is needed to maintain existing conditions; **3** times the current funding is needed to see improvement. This trend is seen statewide, and can be reasonably applied to Lapeer County.

2016 PASER Survey

Goodland Township

- Rating 8-10 (Good, 7%, 1.81 lane miles)
- Rating 5-7 (Fair, 0%, 0.0 lane miles)
- Rating 1-4 (Poor, 93%, 25.53 lane miles)
- Roads Under State Jurisdiction
- Local Road (Not Rated)

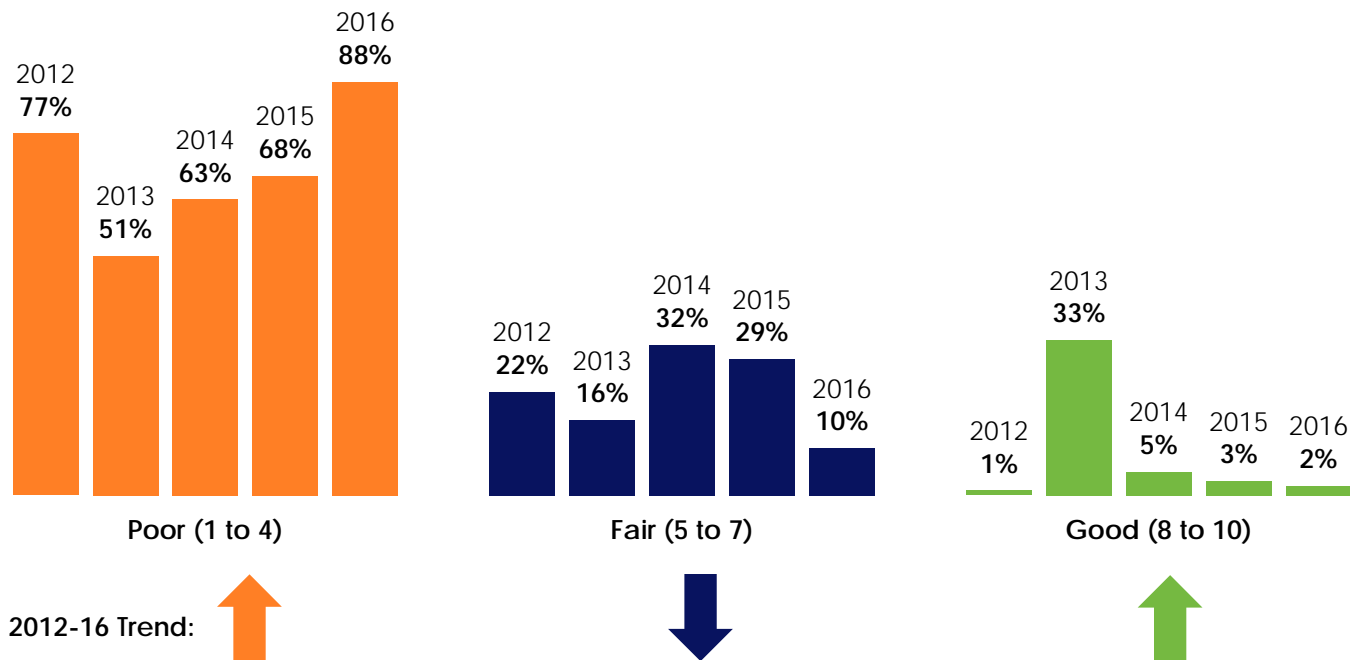


# 2016 PASER Survey

## Hadley Township



### PASER Ratings 2012-2016



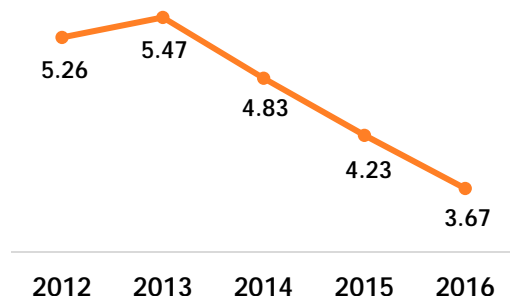
Ranked **#8** out of 18 townships in Lapeer County by Average PASER Rating, #18 being the worst

**32.6** lane miles of Federal Aid roads; ranked **#9** out of 18 townships, #1 having highest lane mileage

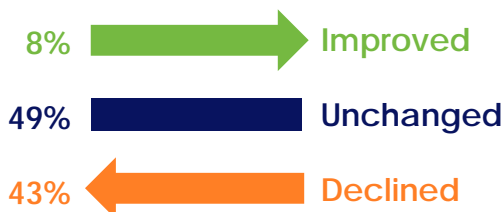
Lapeer County ranked **#14** out of 83 counties in the state by percentage of poor roads, with #1 being the worst (*Michigan TAMC*)

Michigan ranked **#4** in the U.S. by comparing percentage of poor roads, #1 being the worst (2015 *TRIP* Report)

### Hadley Township Average PASER Rating (APR)



### Hadley Township Trend 2012-2016



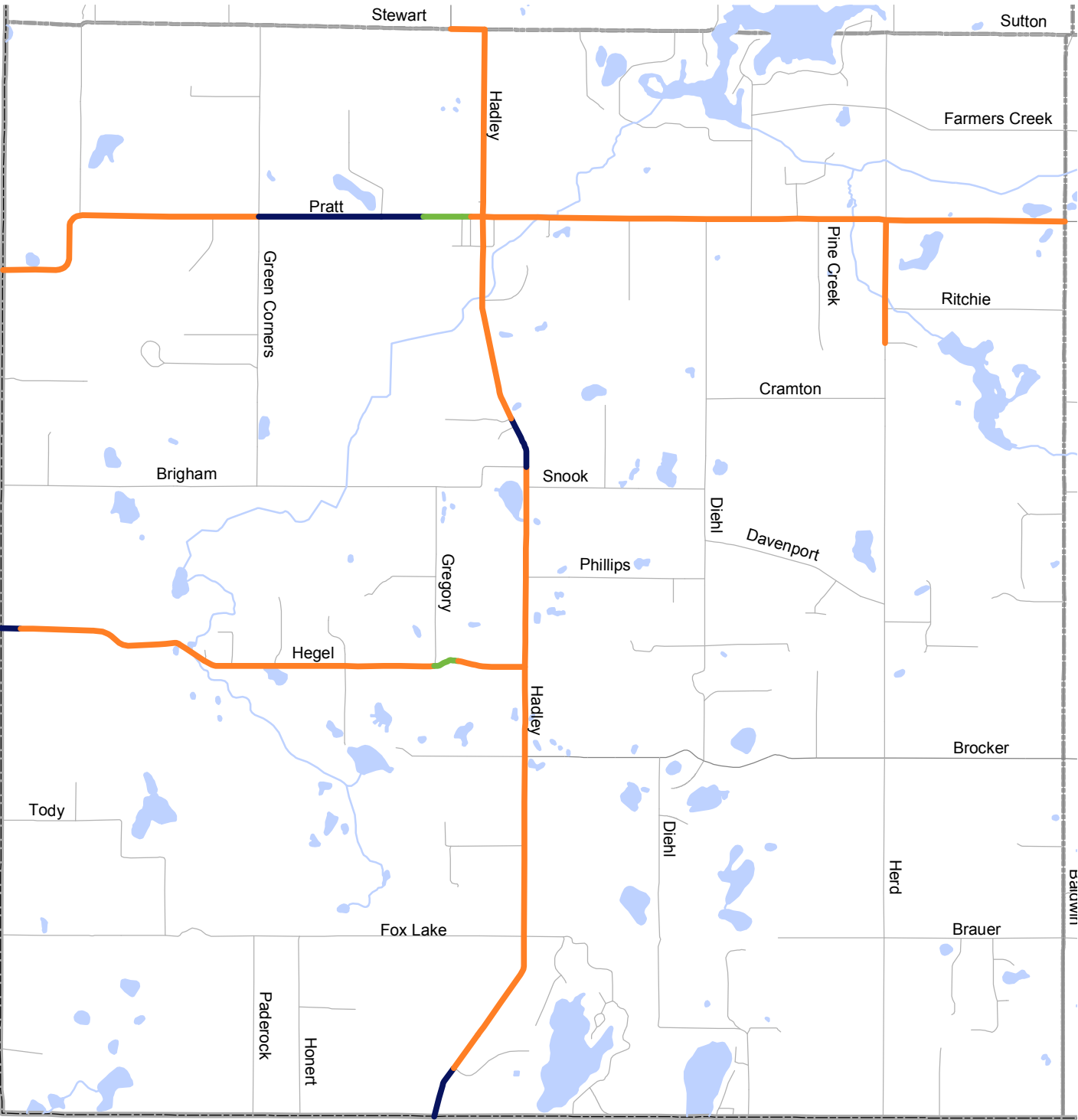
**Lapeer County** allocates an average of **\$795,000** in federal funds per year to improve the local federal aid network. **Lapeer County Road Agencies** spend an additional **\$3.4 million** per year on road surface improvements using state Act 51 and local funds.

According to the 2040 Genesee County Long Range Transportation Plan, **2** times the current funding is needed to maintain existing conditions; **3** times the current funding is needed to see improvement. This trend is seen statewide, and can be reasonably applied to Lapeer County.

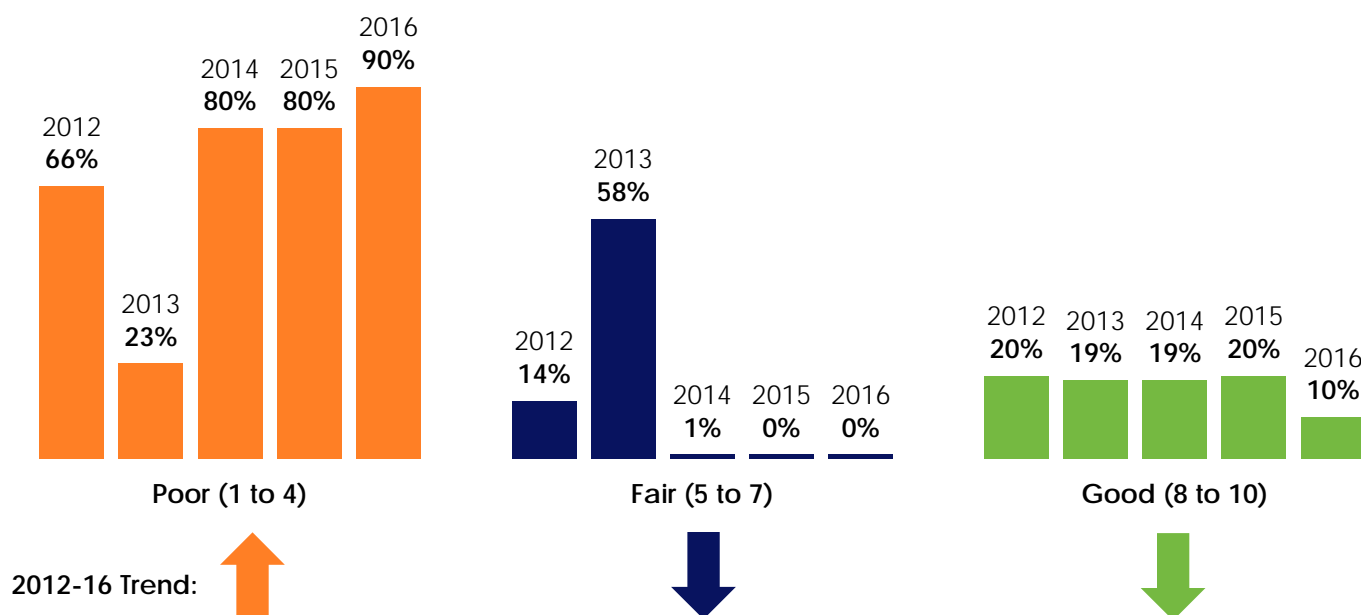
2016 PASER Survey

Hadley Township

- Rating 8-10 (Good, 2%, 0.81 lane miles)
- Rating 5-7 (Fair, 10%, 3.22 lane miles)
- Rating 1-4 (Poor, 88%, 28.57 lane miles)
-  Roads Under State Jurisdiction
- Local Road (Not Rated)



## PASER Ratings 2012-2016



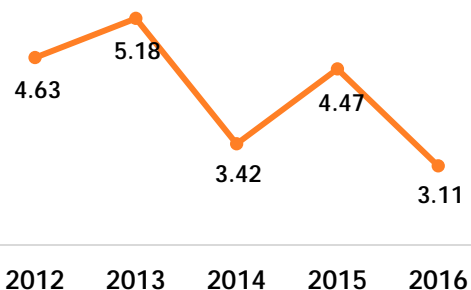
Ranked **#13** out of 18 townships in Lapeer County by Average PASER Rating, #18 being the worst

**33.6** lane miles of Federal Aid roads; ranked **#7** out of 18 townships, #1 having highest lane mileage

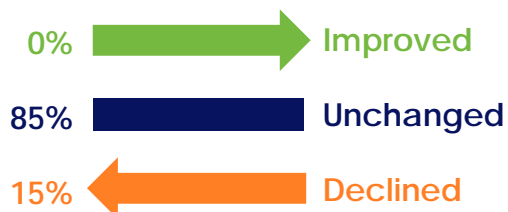
Lapeer County ranked **#14** out of 83 counties in the state by percentage of poor roads, with #1 being the worst (*Michigan TAMC*)

Michigan ranked **#4** in the U.S. by comparing percentage of poor roads, #1 being the worst (2015 *TRIP* Report)

### Imlay Township Average PASER Rating (APR)



### Imlay Township Trend 2012-2016

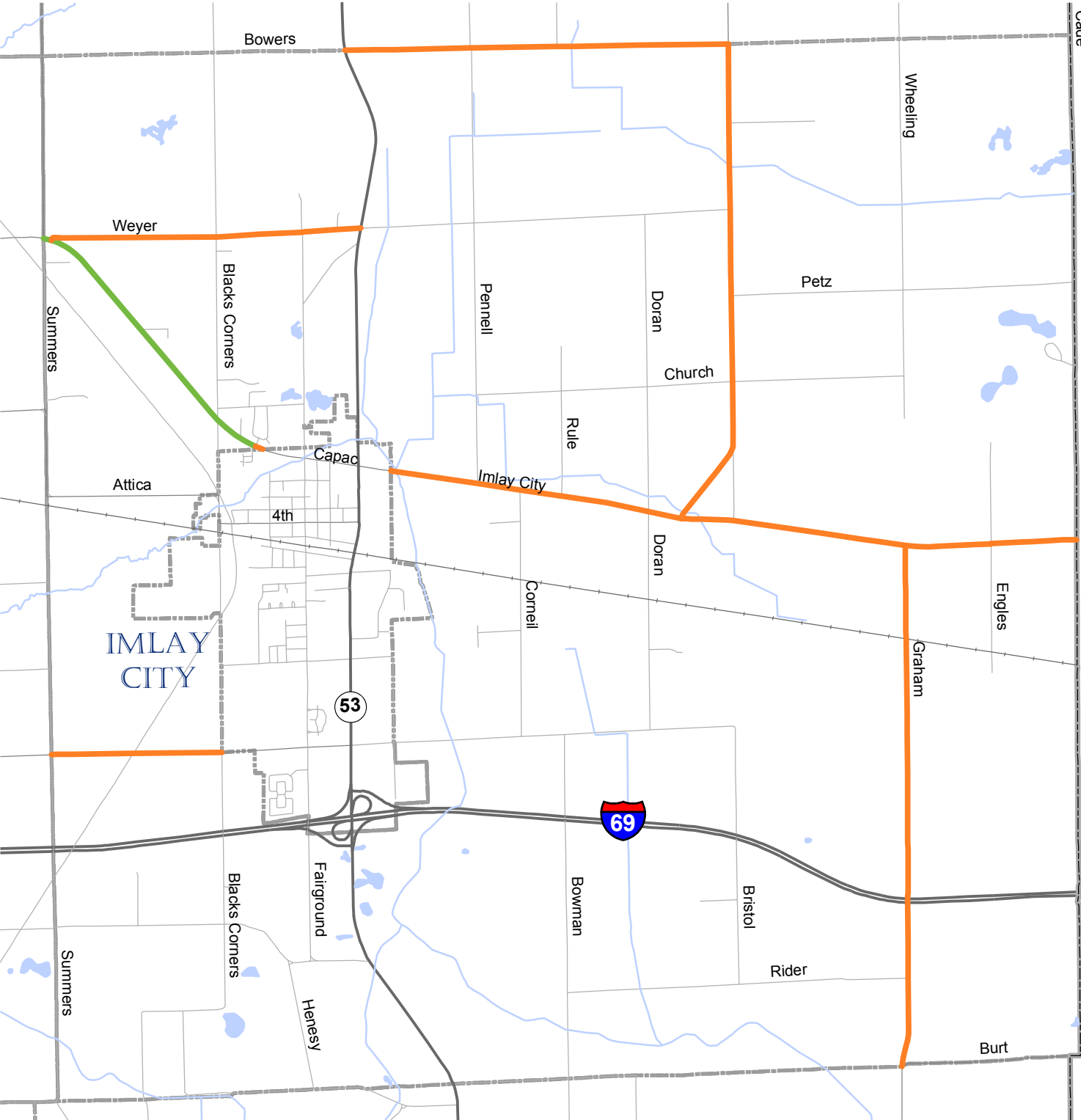


**Lapeer County** allocates an average of **\$795,000** in federal funds per year to improve the local federal aid network. **Lapeer County Road Agencies** spend an additional **\$3.4 million** per year on road surface improvements using state Act 51 and local funds.

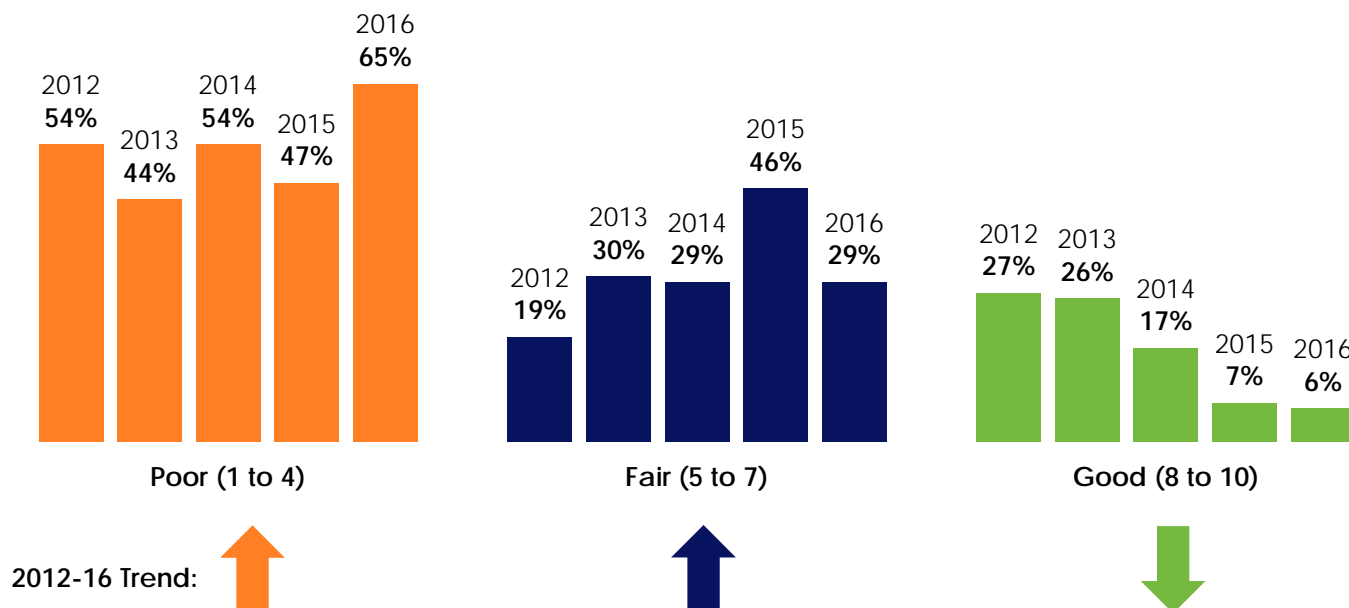
According to the 2040 Genesee County Long Range Transportation Plan, **2** times the current funding is needed to maintain existing conditions; **3** times the current funding is needed to see improvement. This trend is seen statewide, and can be reasonably applied to Lapeer County.

# Imlay Township

- Rating 8-10 (Good, 10%, 3.51 lane miles)
- Rating 5-7 (Fair, 0%, 0.0 lane miles)
- Rating 1-4 (Poor, 90%, 30.07 lane miles)
- Roads Under State Jurisdiction
- Local Road (Not Rated)



## PASER Ratings 2012-2016



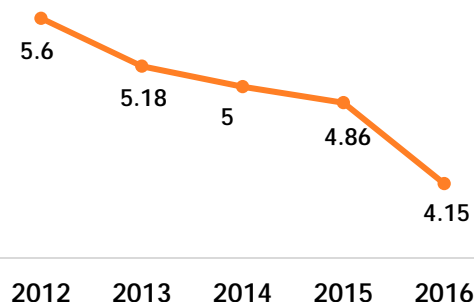
Ranked **#7** out of 18 townships in Lapeer County by Average PASER Rating, #18 being the worst

**54.7** lane miles of Federal Aid roads; ranked **#1** out of 18 townships, #1 having highest lane mileage

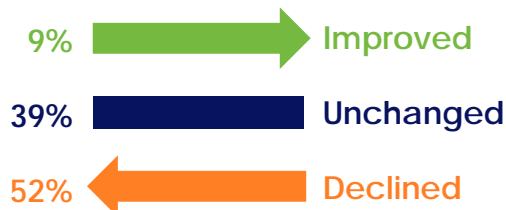
Lapeer County ranked **#14** out of 83 counties in the state by percentage of poor roads, with #1 being the worst (*Michigan TAMC*)

Michigan ranked **#4** in the U.S. by comparing percentage of poor roads, #1 being the worst (2015 *TRIP* Report)

## Lapeer Township Average PASER Rating (APR)



## Lapeer Township Trend 2012-2016



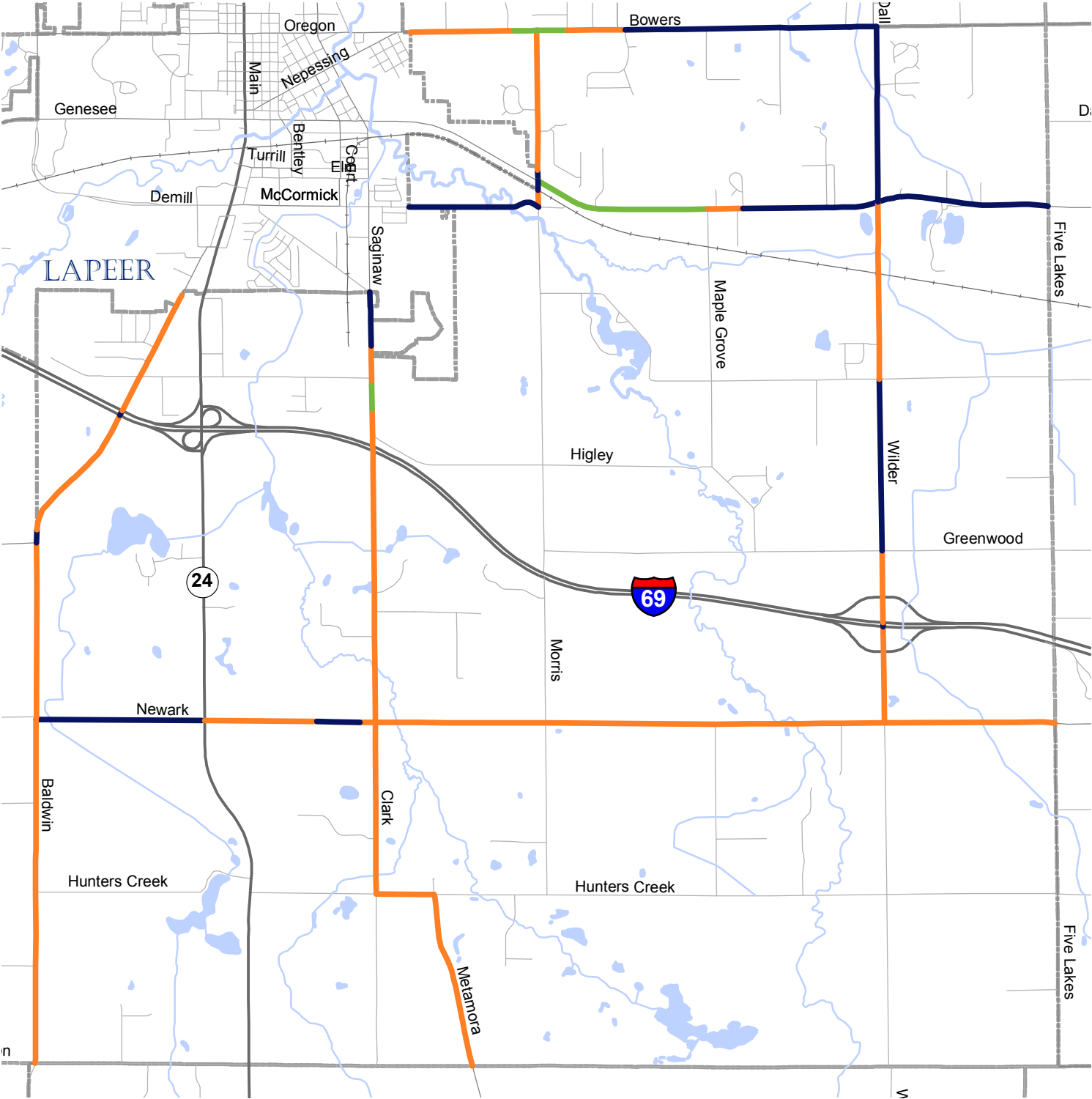
**Lapeer County** allocates an average of **\$795,000** in federal funds per year to improve the local federal aid network. **Lapeer County Road Agencies** spend an additional **\$3.4 million** per year on road surface improvements using state Act 51 and local funds.

According to the 2040 Genesee County Long Range Transportation Plan, **2** times the current funding is needed to maintain existing conditions; **3** times the current funding is needed to see improvement. This trend is seen statewide, and can be reasonably applied to Lapeer County.

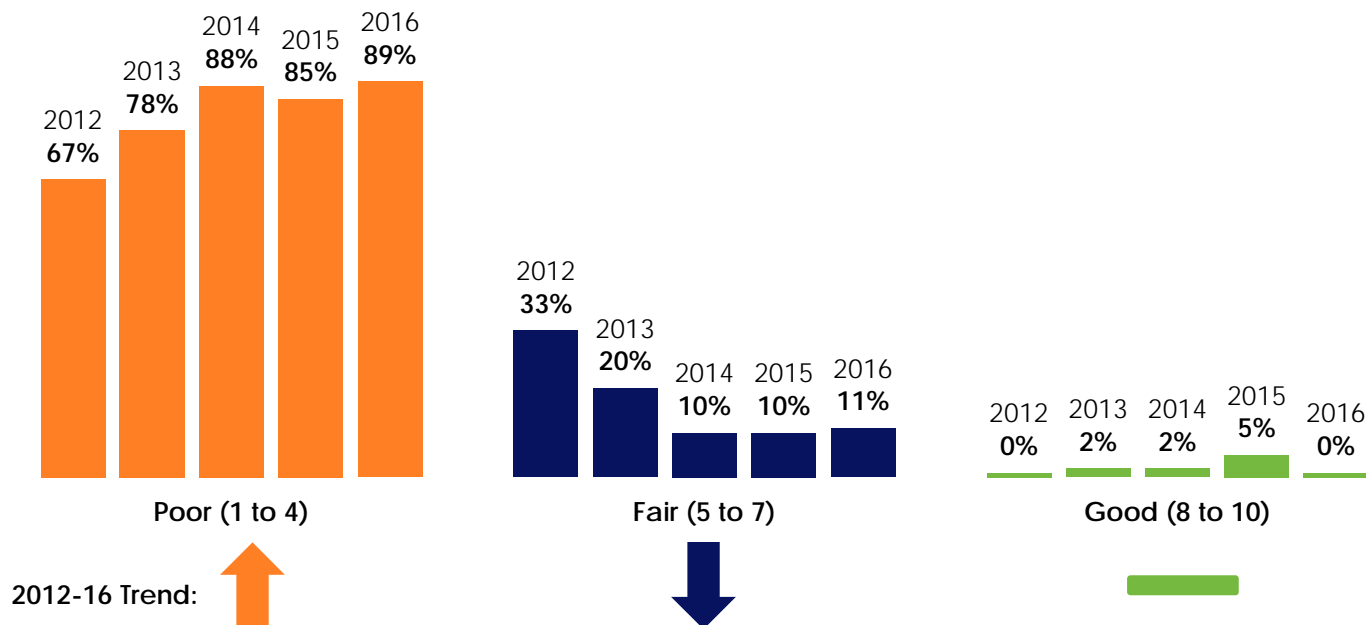
2016 PASER Survey

Lapeer Township

- Rating 8-10 (Good, 6%, 2.95 lane miles)
- Rating 5-7 (Fair, 29%, 16.08 lane miles)
- Rating 1-4 (Poor, 65%, 35.70 lane miles)
- Roads Under State Jurisdiction
- Local Road (Not Rated)



## PASER Ratings 2012-2016

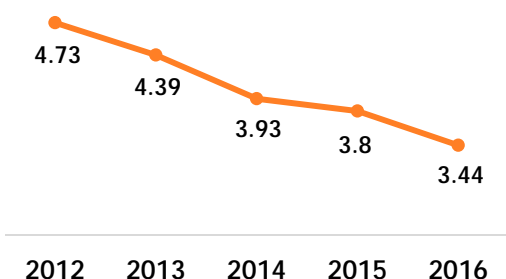
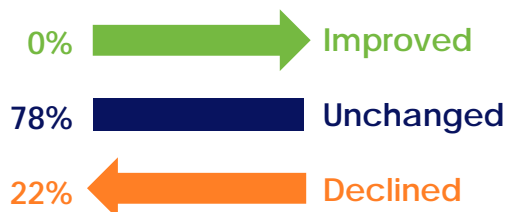


Ranked **#12** out of 18 townships in Lapeer County by Average PASER Rating, #18 being the worst

**33.2** lane miles of Federal Aid roads; ranked **#8** out of 18 townships, #1 having highest lane mileage

Lapeer County ranked **#14** out of 83 counties in the state by percentage of poor roads, with #1 being the worst (*Michigan TAMC*)

Michigan ranked **#4** in the U.S. by comparing percentage of poor roads, #1 being the worst (2015 *TRIP* Report)

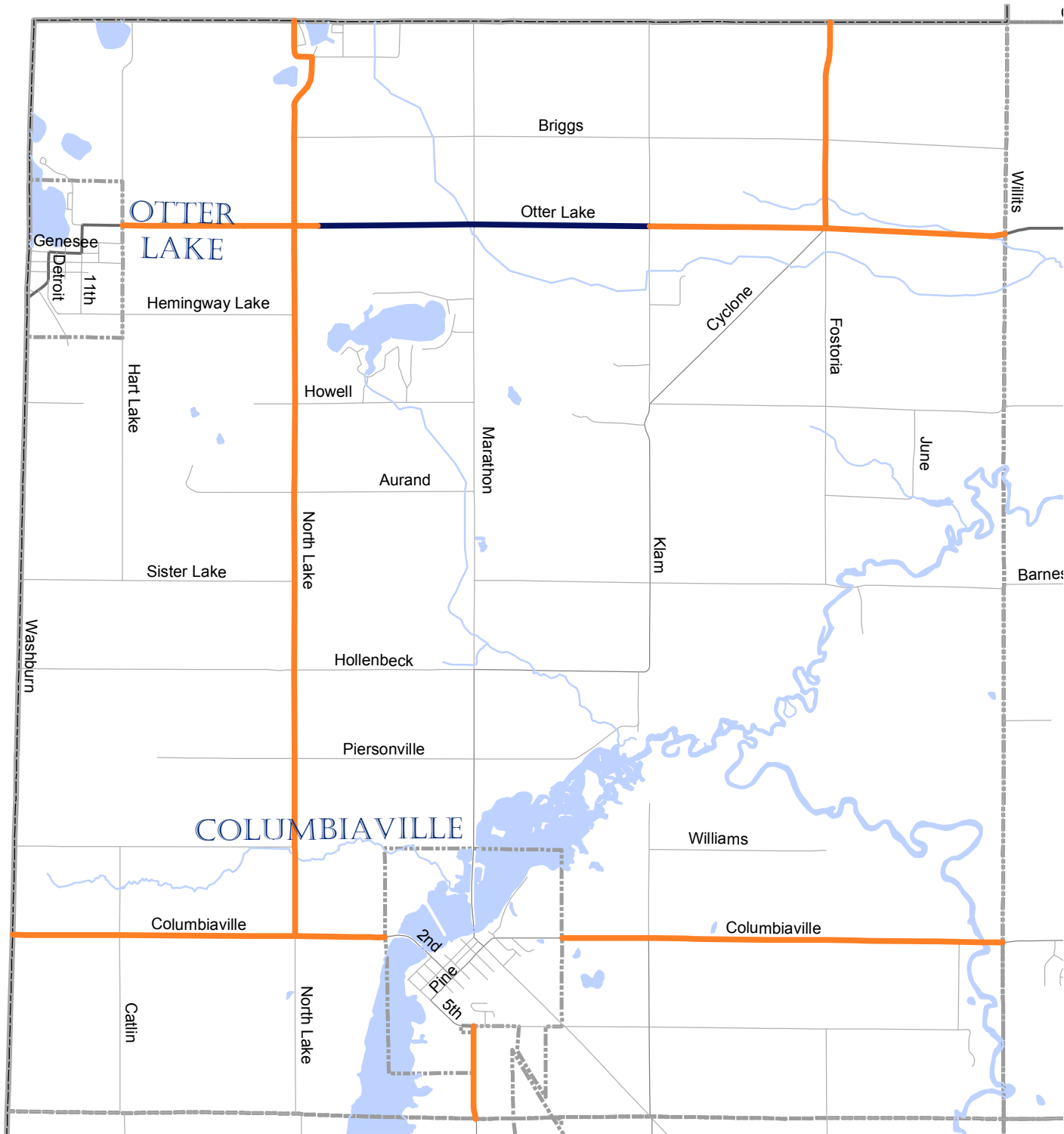
Marathon Township  
Average PASER Rating (APR)Marathon Township  
Trend 2012-2016

**Lapeer County** allocates an average of **\$795,000** in federal funds per year to improve the local federal aid network. **Lapeer County Road Agencies** spend an additional **\$3.4 million** per year on road surface improvements using state Act 51 and local funds.

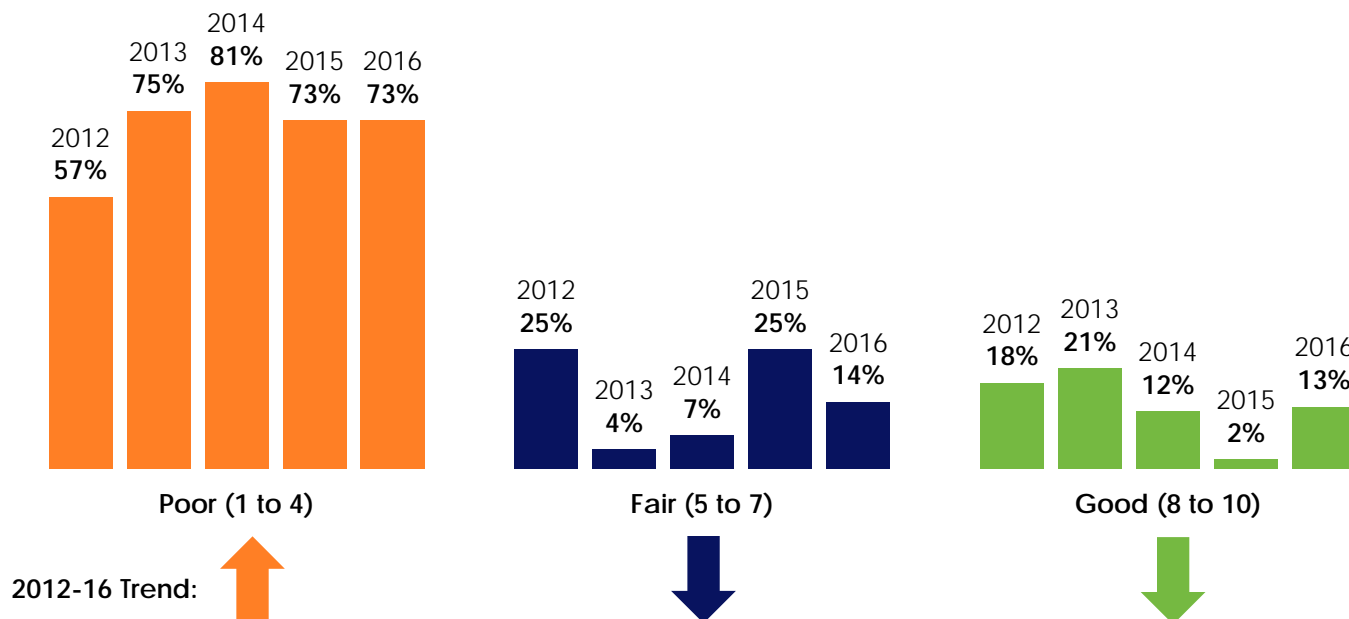
According to the 2040 Genesee County Long Range Transportation Plan, **2** times the current funding is needed to maintain existing conditions; **3** times the current funding is needed to see improvement. This trend is seen statewide, and can be reasonably applied to Lapeer County.

# Marathon Township

- Rating 8-10 (Good, 0%, 0.0 lane miles)
- Rating 5-7 (Fair, 11%, 3.76 lane miles)
- Rating 1-4 (Poor, 89%, 29.42 lane miles)
-  Roads Under State Jurisdiction
- Local Road (Not Rated)



## PASER Ratings 2012-2016

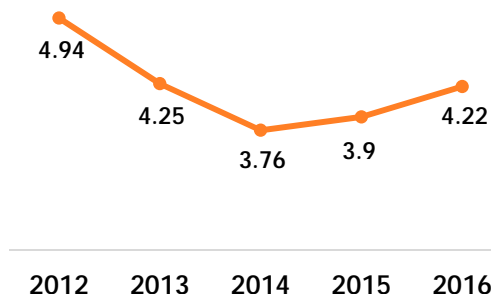
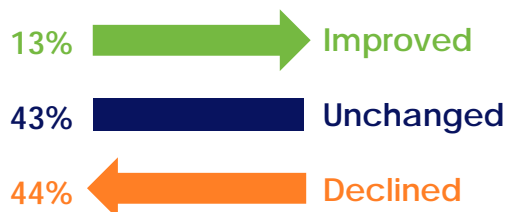


Ranked **#5** out of 18 townships in Lapeer County by Average PASER Rating, #18 being the worst

**40.9** lane miles of Federal Aid roads; ranked **#3** out of 18 townships, #1 having highest lane mileage

Lapeer County ranked **#14** out of 83 counties in the state by percentage of poor roads, with #1 being the worst (*Michigan TAMC*)

Michigan ranked **#4** in the U.S. by comparing percentage of poor roads, #1 being the worst (2015 *TRIP* Report)

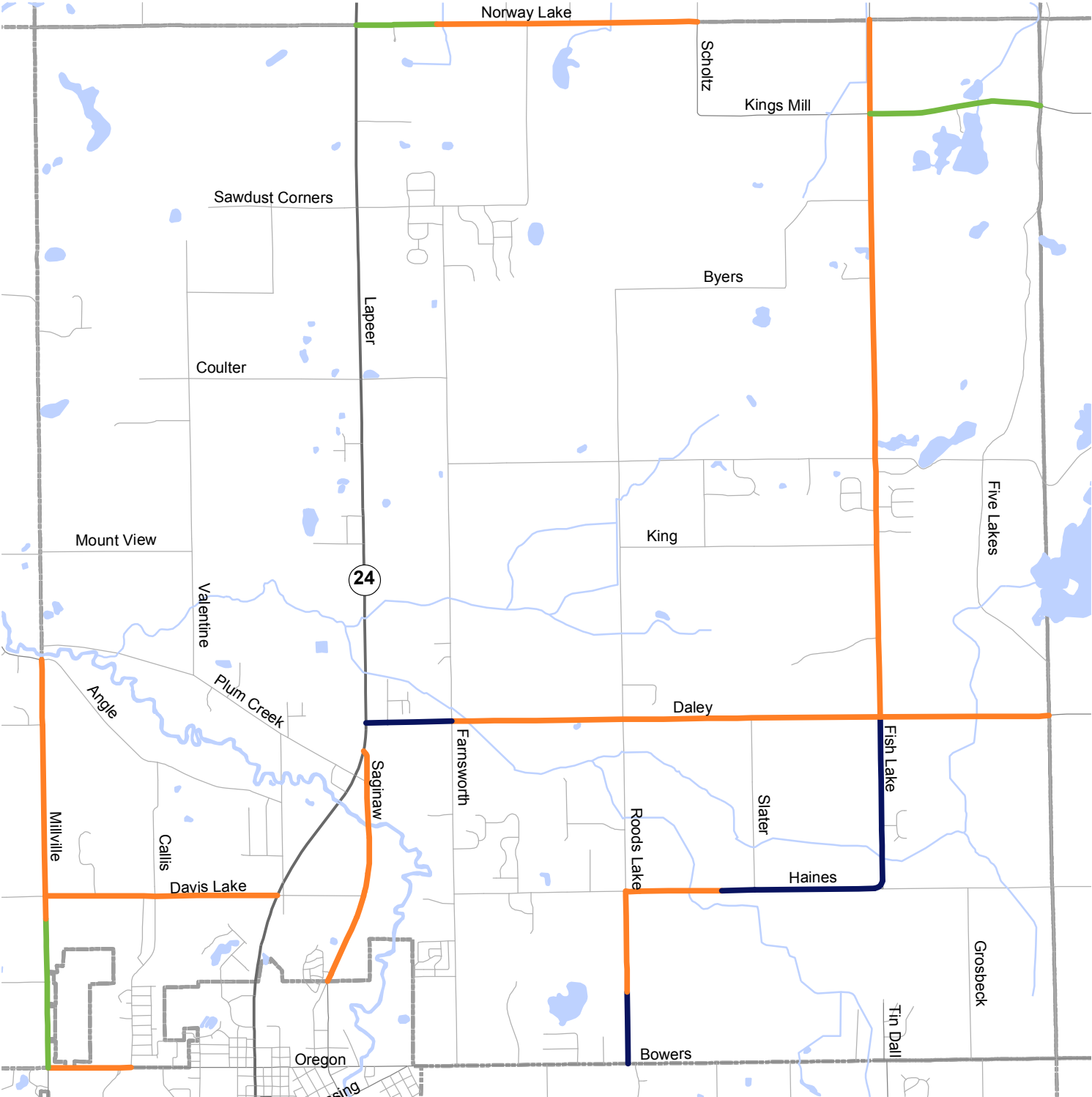
Mayfield Township  
Average PASER Rating (APR)Mayfield Township  
Trend 2012-2016

**Lapeer County** allocates an average of **\$795,000** in federal funds per year to improve the local federal aid network. **Lapeer County Road Agencies** spend an additional **\$3.4 million** per year on road surface improvements using state Act 51 and local funds.

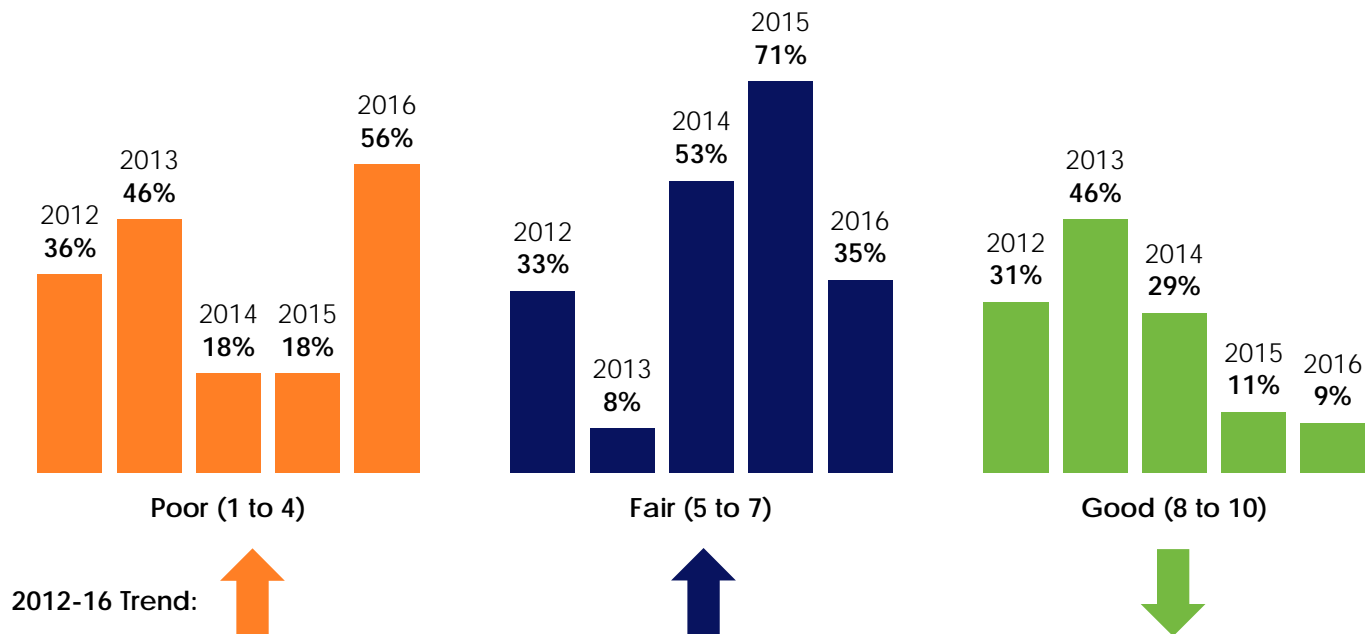
According to the 2040 Genesee County Long Range Transportation Plan, **2** times the current funding is needed to maintain existing conditions; **3** times the current funding is needed to see improvement. This trend is seen statewide, and can be reasonably applied to Lapeer County.

# Mayfield Township

- Rating 8-10 (Good, 13%, 5.19 lane miles)
- Rating 5-7 (Fair, 14%, 5.67 lane miles)
- Rating 1-4 (Poor, 73%, 30.05 lane miles)
- Roads Under State Jurisdiction
- Local Road (Not Rated)



## PASER Ratings 2012-2016

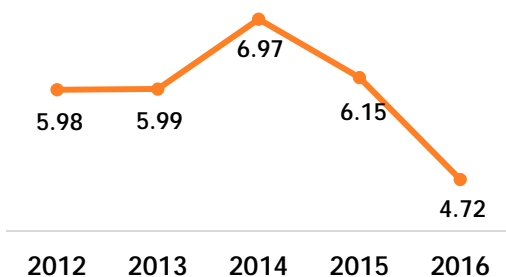
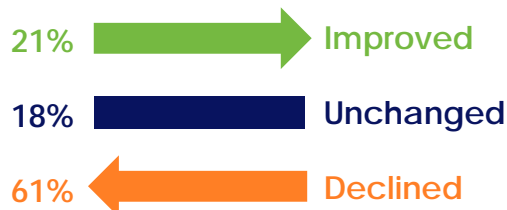


Ranked **#1** out of 18 townships in Lapeer County by Average PASER Rating, #18 being the worst

**17.5** lane miles of Federal Aid roads; ranked **#18** out of 18 townships, #1 having highest lane mileage

Lapeer County ranked **#14** out of 83 counties in the state by percentage of poor roads, with #1 being the worst (*Michigan TAMC*)

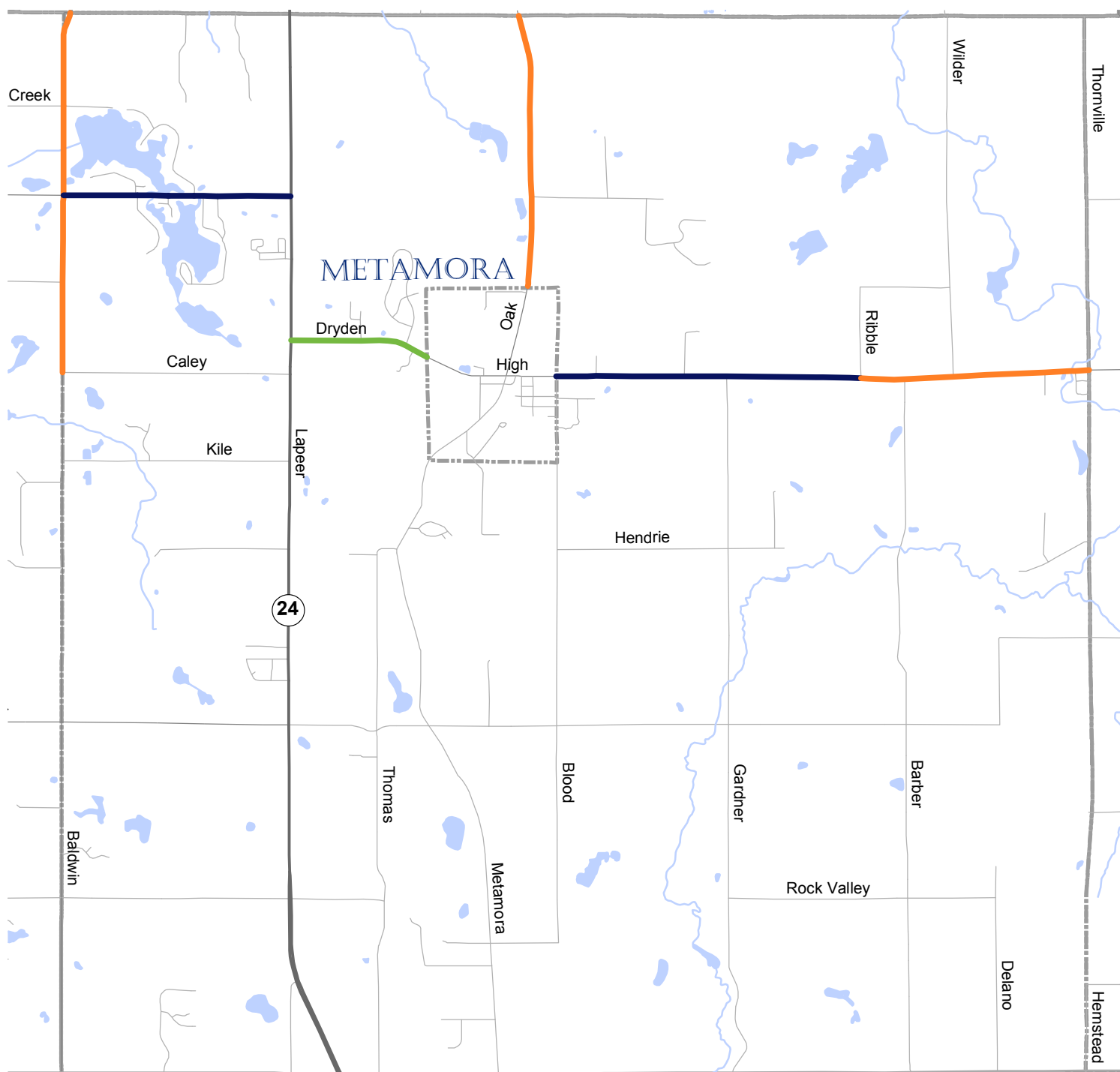
Michigan ranked **#4** in the U.S. by comparing percentage of poor roads, #1 being the worst (2015 *TRIP* Report)

Metamora Township  
Average PASER Rating (APR)Metamora Township  
Trend 2012-2016

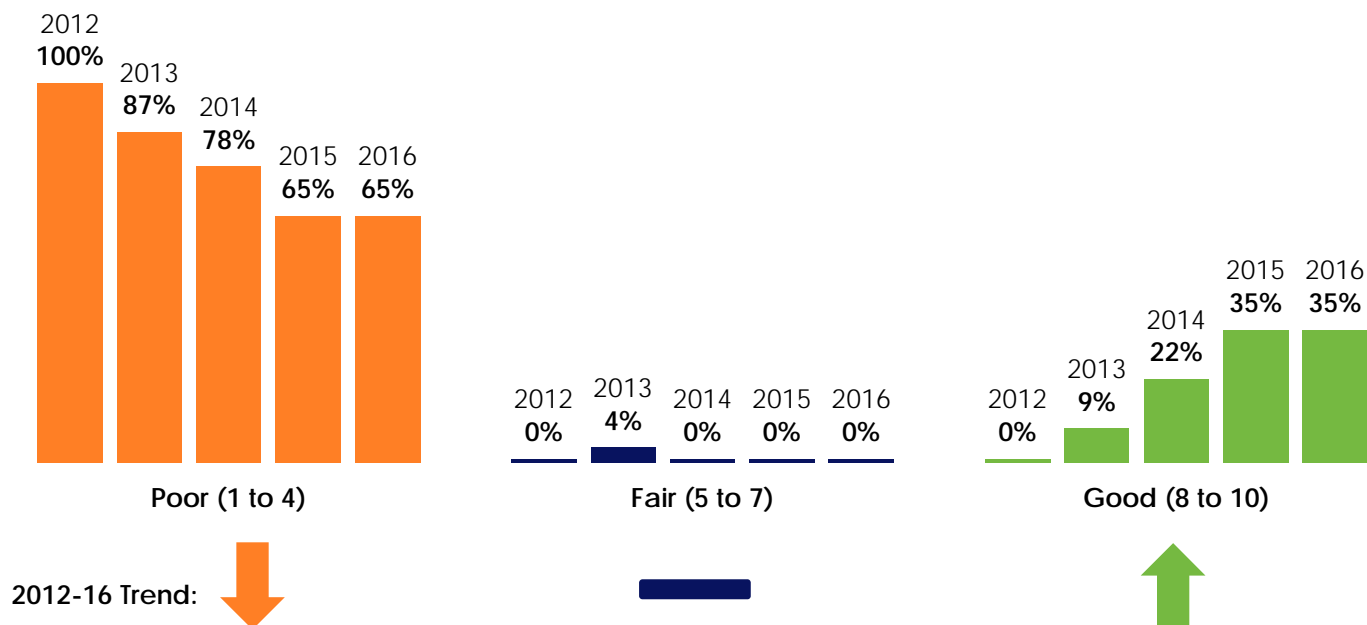
**Lapeer County** allocates an average of **\$795,000** in federal funds per year to improve the local federal aid network. **Lapeer County Road Agencies** spend an additional **\$3.4 million** per year on road surface improvements using state Act 51 and local funds.

According to the 2040 Genesee County Long Range Transportation Plan, **2** times the current funding is needed to maintain existing conditions; **3** times the current funding is needed to see improvement. This trend is seen statewide, and can be reasonably applied to Lapeer County.

# Metamora Township



## PASER Ratings 2012-2016



Ranked **#6** out of 18 townships in Lapeer County by Average PASER Rating, #18 being the worst

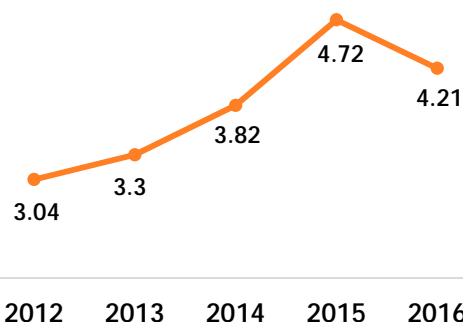
**23.1** lane miles of Federal Aid roads;

ranked **#17** out of 18 townships, #1 having highest lane mileage

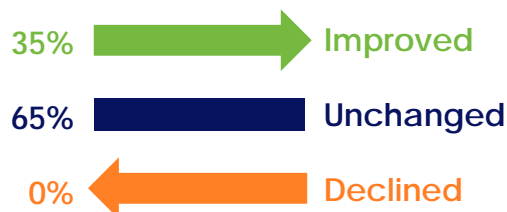
Lapeer County ranked **#14** out of 83 counties in the state by percentage of poor roads, with #1 being the worst (*Michigan TAMC*)

Michigan ranked **#4** in the U.S. by comparing percentage of poor roads, #1 being the worst (2015 *TRIP* Report)

### North Branch Township Average PASER Rating (APR)



### North Branch Township Trend 2012-2016

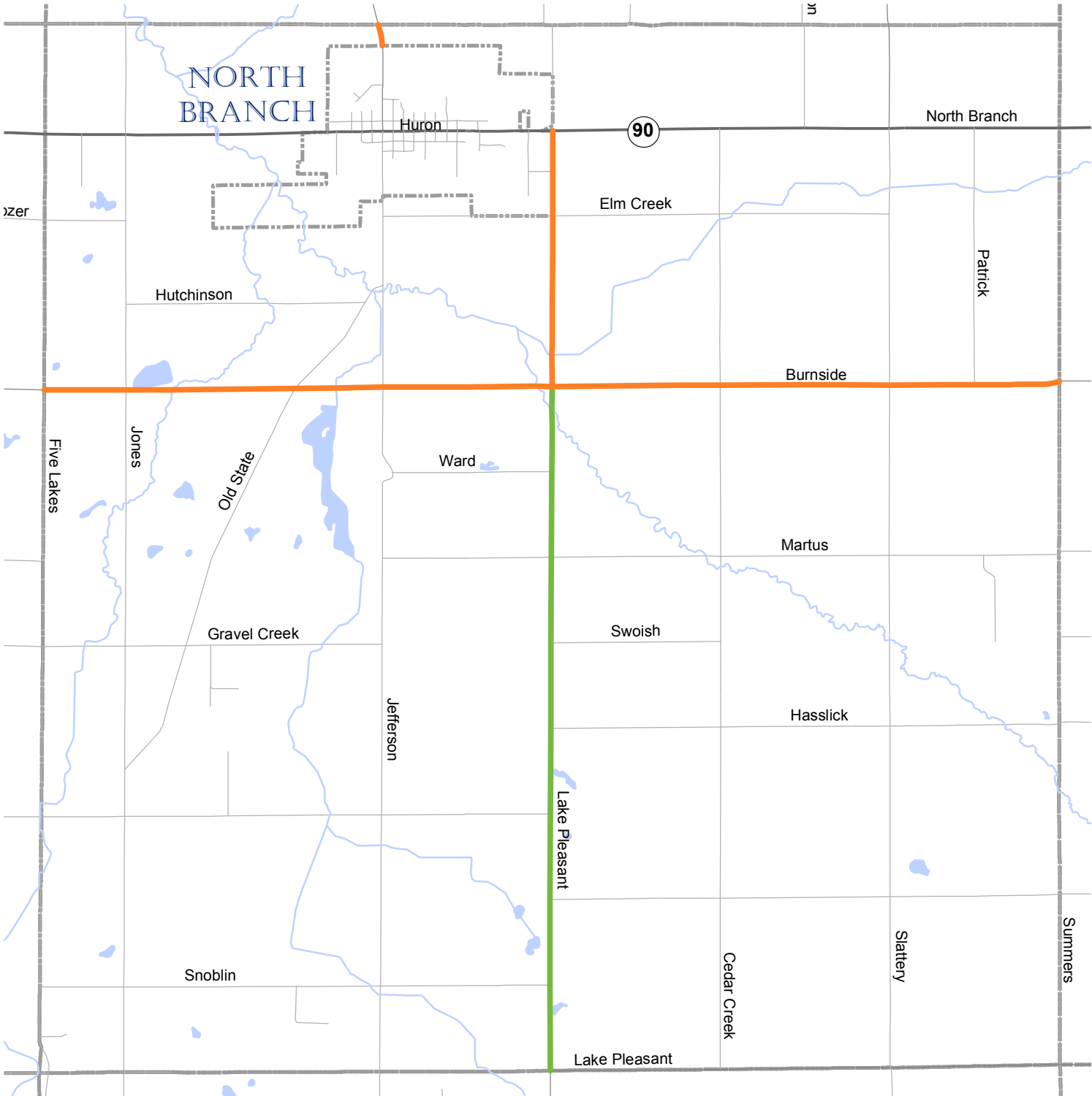


**Lapeer County** allocates an average of **\$795,000** in federal funds per year to improve the local federal aid network. **Lapeer County Road Agencies** spend an additional **\$3.4 million** per year on road surface improvements using state Act 51 and local funds.

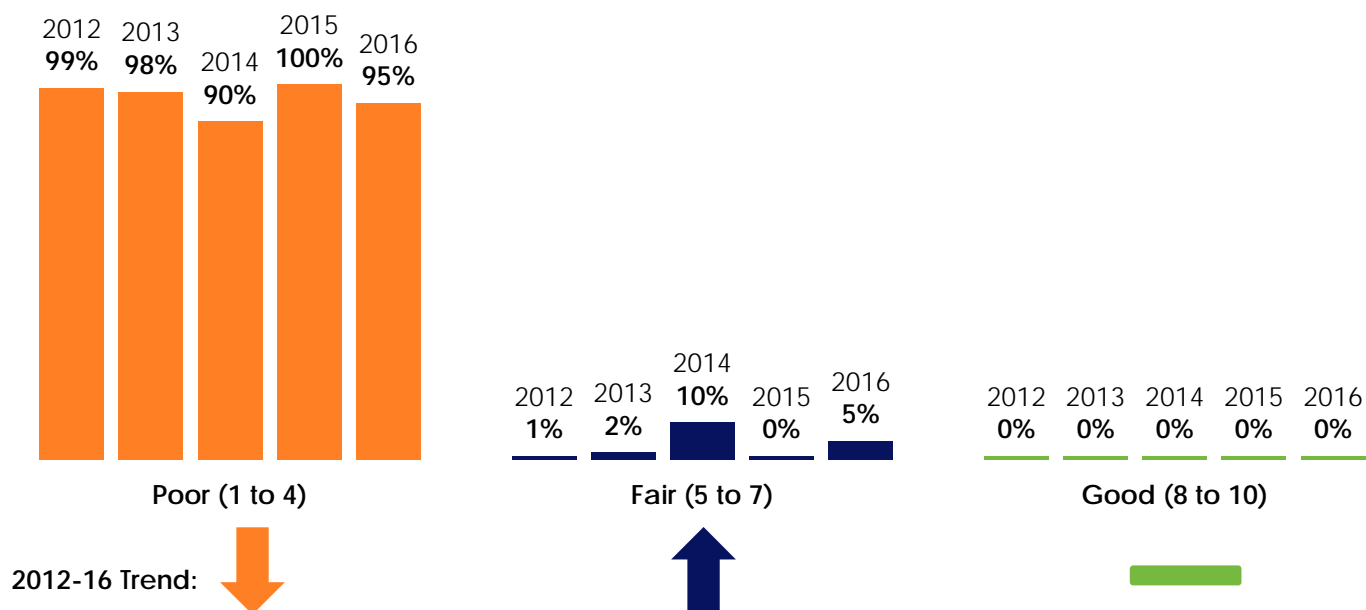
Although conditions have improved in the short term, additional funding is needed to maintain roads in the long term. According to the 2040 Genesee County Long Range Transportation Plan, **2** times the current funding is needed to maintain existing conditions; **3** times the current funding is needed to see improvement. This trend is seen statewide, and can be reasonably applied to Lapeer County.

# North Branch Township

- Rating 8-10 (Good, 35%, 8.01 lane miles)
- Rating 5-7 (Fair, 0%, 0.0 lane miles)
- Rating 1-4 (Poor, 65%, 15.12 lane miles)
- Roads Under State Jurisdiction
- Local Road (Not Rated)



## PASER Ratings 2012-2016



Ranked **#17** out of 18 townships in Lapeer County by Average PASER Rating, #18 being the worst

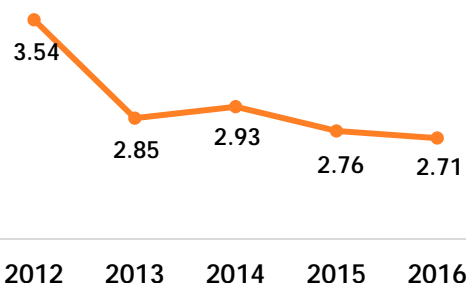
**39.3** lane miles of Federal Aid roads;

ranked **#4** out of 18 townships, #1 having highest lane mileage

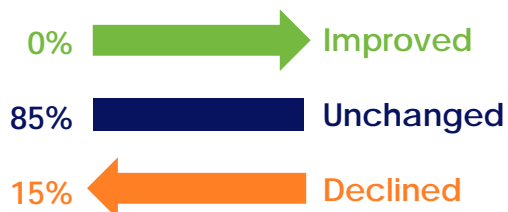
Lapeer County ranked **#14** out of 83 counties in the state by percentage of poor roads, with #1 being the worst (*Michigan TAMC*)

Michigan ranked **#4** in the U.S. by comparing percentage of poor roads, #1 being the worst (2015 *TRIP* Report)

## Oregon Township Average PASER Rating (APR)



## Oregon Township Trend 2012-2016

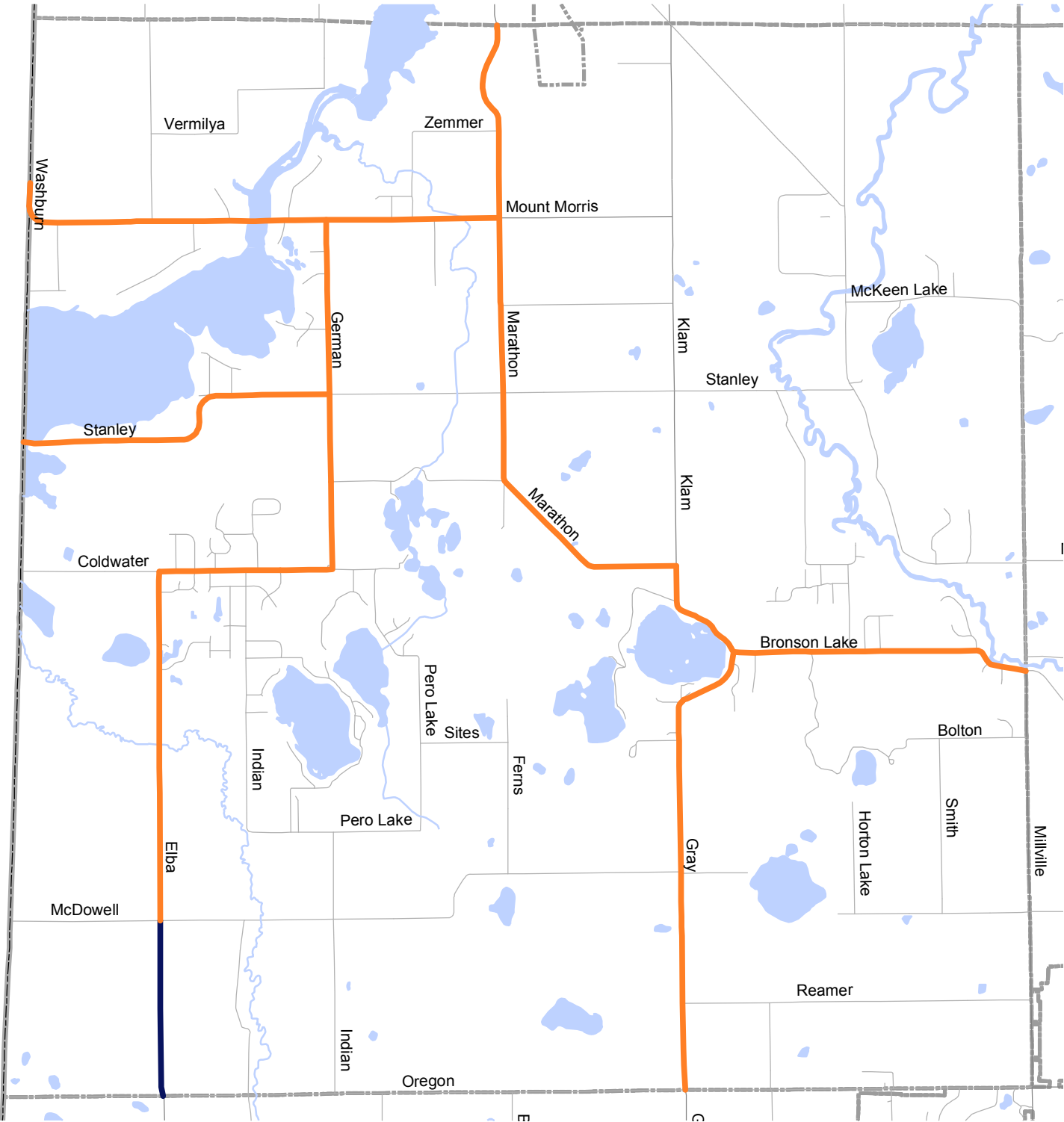


**Lapeer County** allocates an average of **\$795,000** in federal funds per year to improve the local federal aid network. **Lapeer County Road Agencies** spend an additional **\$3.4 million** per year on road surface improvements using state Act 51 and local funds.

According to the 2040 Genesee County Long Range Transportation Plan, **2** times the current funding is needed to maintain existing conditions; **3** times the current funding is needed to see improvement. This trend is seen statewide, and can be reasonably applied to Lapeer County.

# Oregon Township

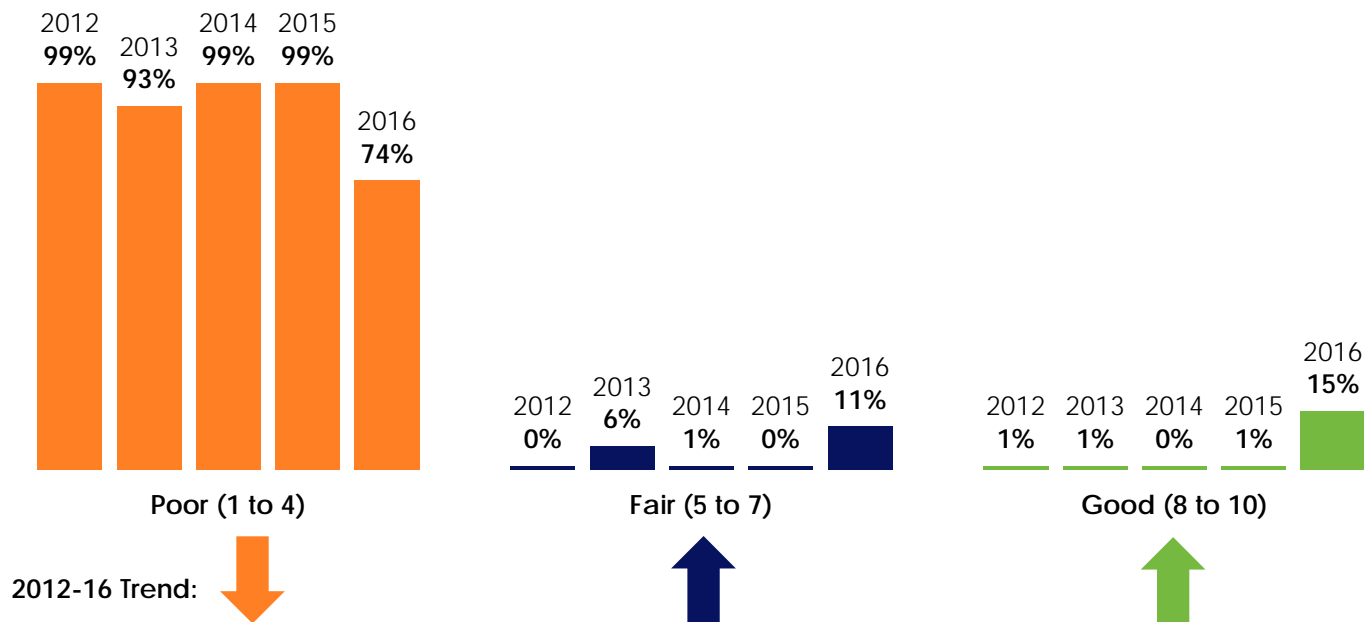
- Rating 8-10 (Good, 0%, 0.0 lane miles)
- Rating 5-7 (Fair, 5%, 2.00 lane miles)
- Rating 1-4 (Poor, 95%, 37.33 lane miles)
-  Roads Under State Jurisdiction
- Local Road (Not Rated)



# 2016 PASER Survey Rich Township



## PASER Ratings 2012-2016



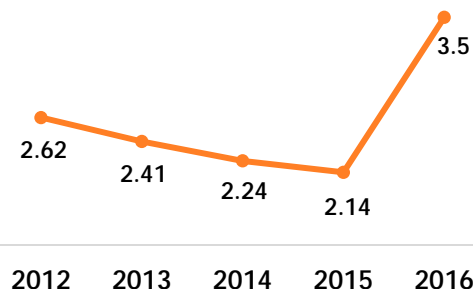
Ranked **#11** out of 18 townships in Lapeer County by Average PASER Rating, #18 being the worst

**25.4** lane miles of Federal Aid roads; ranked **#15** out of 18 townships, #1 having highest lane mileage

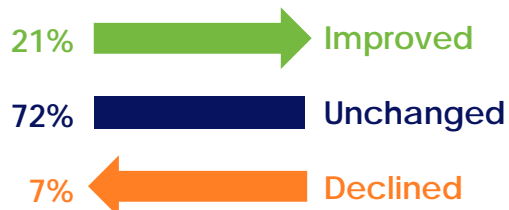
Lapeer County ranked **#14** out of 83 counties in the state by percentage of poor roads, with #1 being the worst (*Michigan TAMC*)

Michigan ranked **#4** in the U.S. by comparing percentage of poor roads, #1 being the worst (2015 *TRIP* Report)

## Rich Township Average PASER Rating (APR)




## Rich Township Trend 2012-2016

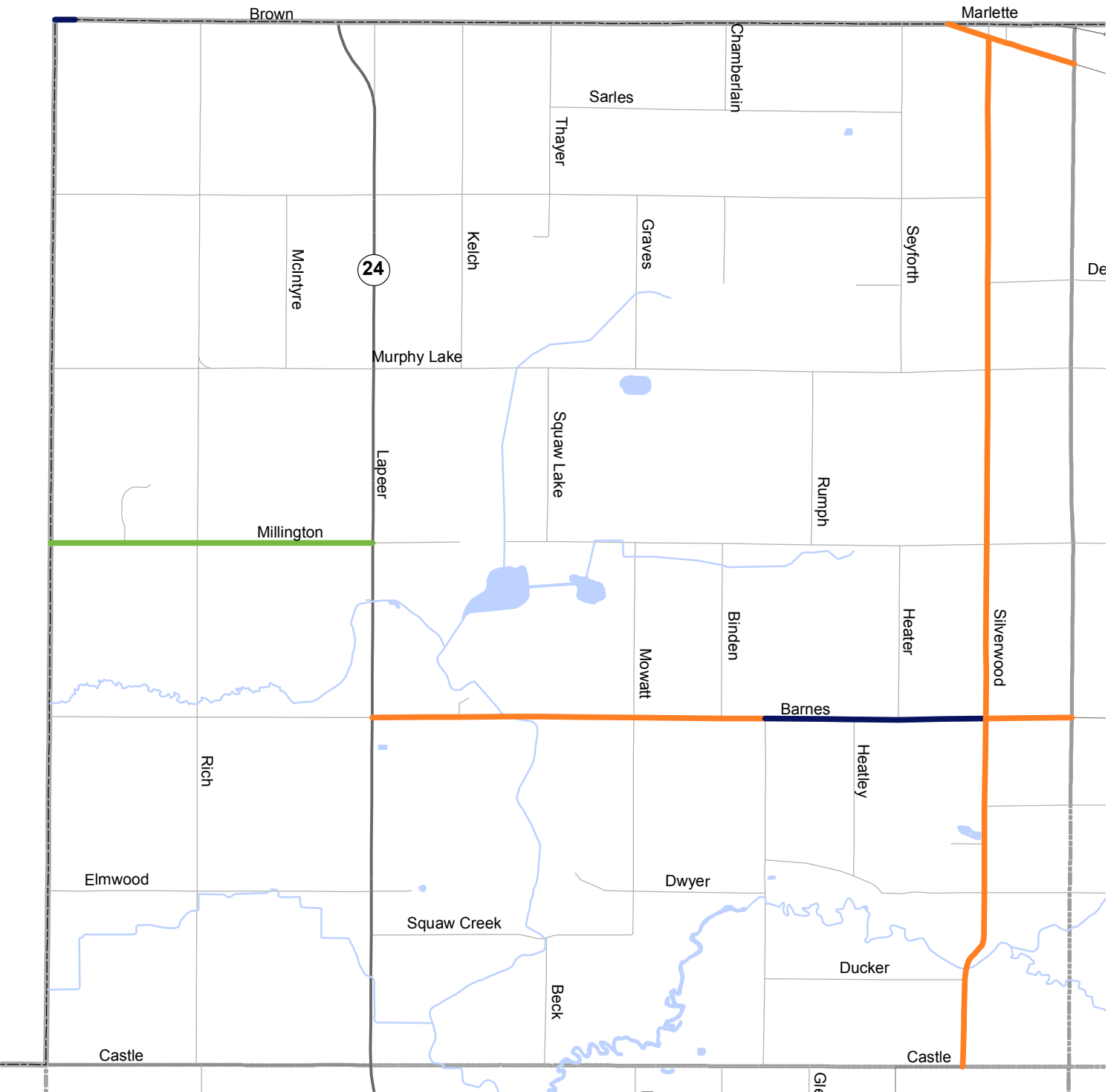


**Lapeer County** allocates an average of **\$795,000** in federal funds per year to improve the local federal aid network. **Lapeer County Road Agencies** spend an additional **\$3.4 million** per year on road surface improvements using state Act 51 and local funds.

Although conditions have improved in the short term, additional funding is needed to maintain roads in the long term. According to the 2040 Genesee County Long Range Transportation Plan, **2** times the current funding is needed to maintain existing conditions; **3** times the current funding is needed to see improvement. This trend is seen statewide, and can be reasonably applied to Lapeer County.

# Rich Township

- Rating 8-10 (Good, 15%, 3.70 lane miles)
- Rating 5-7 (Fair, 11%, 2.76 lane miles)
- Rating 1-4 (Poor, 74%, 18.94 lane miles)
-  Roads Under State Jurisdiction
- Local Road (Not Rated)





## Asset Management Plans

An Asset Management process allows public agencies to make strategic decisions based on in-depth understanding of the relationship between cost and performance. A Pavement Asset Management Plan allows the most cost-effective projects to be selected for the right place at the right time. Having such a plan in place allows an agency to be more accountable and better communicate with the public and elected officials with regards to investments and performance. MDOT uses the following fundamental components of asset management:

1. **Performance Based** – Performance measures and targets based on policy objectives.
2. **Quality Information** – Know what you own and what condition it is in. Make use of analytical tools.
3. **Policy Driven** – Resource allocation decisions based on well-defined policy goals and objectives. Alternatives are examined.
4. **Options Evaluated** – Conduct tradeoff analysis between types of fixes and among various priorities within your program.
5. **Clear Accountability** – Monitor and report results. Feedback loop to influence goals and decisions. Transparent decision making.

While this report includes an inventory and rating of federal aid roads, this is only one element of a comprehensive asset management plan. A general pavement management plan might include the following elements:

1. **Inventory**
2. **Rating**
3. **Predict Future Conditions**
4. **Set Goals / Performance Management**
5. **Policy for Selecting Projects**
6. **List of Potential Projects That Meet Criteria / Costs / Benefits**
7. **Report Results**

An Asset Management process for pavement management focuses on a “Mix of Fixes”, rather than the “Worst First” approach. Rather than rehabilitating only roads in the worst conditions as funding allows, a “Mix of Fixes” approach uses a range of preventative maintenance treatments on roads already in good condition.

Below are some additional online resources provided by the Michigan Transportation Asset Management Council to assist local agencies in creating an Asset Management Plan:

Sample Asset Management Plan:

<http://www.mcgi.state.mi.us/MITRP/document.aspx?id=513>

Local Agency Guidelines for Developing an Asset Management Process and Plan:

<http://www.mcgi.state.mi.us/MITRP/document.aspx?id=491>

## Summary Charts

2016 PASER Rating by Jurisdiction					
Description	Poor	Fair	Good	Total Lane Miles	Percentage of PASER Lane Miles
Cities/Villages	43.40	9.80	9.19	62.39	7%
LCRC	475.13	68.09	51.8	595.02	62%
MDOT	133.79	84.46	77.56	295.81	31%
Lapeer Total	652.32	162.35	138.55	953.22	100%
Total %	68%	17%	15%	100%	

2016 PASER Ratings by Surface Type					
Description	Poor	Fair	Good	Total Lane Miles	Percentage of PASER Lane Miles
Asphalt	573.98	156.93	107.27	838.18	88%
Concrete	78.34	5.42	31.28	115.04	12%
Lapeer Total	652.32	162.35	138.55	953.22	100%
Total %	68%	17%	15%	100%	

2016 PASER Ratings - Cities and Villages (in lane miles)				
Description	Poor	Fair	Good	Total Lane Miles
Almont	2.24	0.00	0.00	2.24
Clifford	4.90	0.45	0.00	5.35
Columbiaville	2.98	0.34	0.00	3.32
Dryden	1.26	0.27	0.65	2.18
Imlay City	4.16	0.00	0.00	4.16
Lapeer	25.92	6.05	7.66	39.63
Metamora	1.05	1.52	0.00	2.57
North Branch	0.12	0.00	0.88	1.00
Otter Lake	0.77	1.17	0.00	1.94
City/Village Total	43.40	9.80	9.19	62.39
Total %	69%	16%	15%	100%

2016 PASER Ratings - Townships (in lane miles)				
Description	Poor	Fair	Good	Total Lane Miles
Almont Twp	30.26	0.00	0.00	30.26
Arcadia Twp	23.14	3.94	5.22	32.30
Attica Twp	22.80	4.16	9.25	36.21
Burlington Twp	37.45	0.38	0.00	37.83
Burnside Twp	15.94	8.02	0.00	23.96
Deerfield Twp	17.85	5.97	4.78	28.60
Dryden Twp	26.81	0.00	1.00	27.81
Elba Twp	40.34	6.07	3.98	50.39
Goodland Twp	25.53	0.00	1.81	27.34
Hadley Twp	28.57	3.22	0.81	32.60
Imlay Twp	30.07	0.00	3.51	33.58
Lapeer Twp	35.70	16.08	2.95	54.73
Marathon Twp	29.42	3.76	0.00	33.18
Mayfield Twp	30.05	5.67	5.19	40.91
Metamora Twp	9.81	6.06	1.59	17.46
North Branch Twp	15.12	0.00	8.01	23.13
Oregon Twp	37.33	2.00	0.00	39.33
Rich Twp	18.94	2.76	3.70	25.40
LCRC Total	475.13	68.09	51.80	595.02
Total %	80%	11%	9%	100%

# Concrete - PASER Rating System Manual

## Rating system

Surface rating	Visible distress*	General condition/ treatment measures
<b>10</b> Excellent	None.	New pavement. No maintenance required.
<b>9</b> Excellent	Traffic wear in wheelpath. Slight map cracking or pop-outs.	Recent concrete overlay or joint rehabilitation. Like new condition. No maintenance required.
<b>8</b> 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.
<b>7</b> 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.
<b>6</b> 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.
<b>5</b> 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.
<b>4</b> 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.
<b>3</b> 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.
<b>2</b> 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.
<b>1</b> Failed	Restricted speed. Extensive potholes. Almost total loss of pavement integrity.	Total reconstruction.

\* Individual pavements will not have all of the types of distress listed for any particular rating. They may have only one or two types.

# **Asphalt - PASER Rating System Manual**

## Rating system

Surface rating	Visible distress*	General condition/ treatment measures
<b>10</b> Excellent	None.	New construction.
<b>9</b> Excellent	None.	Recent overlay. Like new.
<b>8</b> Very Good	No longitudinal cracks except reflection of paving joints. Occasional transverse cracks, widely spaced (40' or greater). All cracks sealed or tight (open less than 1/4").	Recent sealcoat or new cold mix. Little or no maintenance required.
<b>7</b> Good	Very slight or no raveling, surface shows some traffic wear. Longitudinal cracks (open 1/4") due to reflection or paving joints. Transverse cracks (open 1/4") spaced 10' 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.
<b>6</b> Good	Slight raveling (loss of fines) and traffic wear. Longitudinal cracks (open 1/4"–1/2"), some spaced less than 10'. First sign of block cracking. Slight to moderate flushing or polishing. Occasional patching in good condition.	Shows signs of aging. Sound structural condition. Could extend life with sealcoat.
<b>5</b> Fair	Moderate to severe raveling (loss of fine and coarse aggregate). Longitudinal and transverse cracks (open 1/2") show first signs of slight raveling and secondary cracks. First signs of longitudinal cracks near pavement edge. Block cracking up to 50% of surface. Extensive to severe flushing or polishing. Some patching or edge wedging in good condition.	Surface aging. Sound structural condition. Needs sealcoat or thin non-structural overlay (less than 2")
<b>4</b> Fair	Severe surface raveling. Multiple longitudinal and transverse cracking with slight raveling. Longitudinal cracking in wheel path. Block cracking (over 50% of surface). Patching in fair condition. Slight rutting or distortions (1/2" deep or less).	Significant aging and first signs of need for strengthening. Would benefit from a structural overlay (2" or more).
<b>3</b> Poor	Closely spaced longitudinal and transverse cracks often showing raveling and crack erosion. Severe block cracking. Some alligator cracking (less than 25% of surface). Patches in fair to poor condition. Moderate rutting or distortion (1" or 2" deep). Occasional potholes.	Needs patching and repair prior to major overlay. Milling and removal of deterioration extends the life of overlay.
<b>2</b> Very Poor	Alligator cracking (over 25% of surface). Severe distortions (over 2" deep) Extensive patching in poor condition. Potholes.	Severe deterioration. Needs reconstruction with extensive base repair. Pulverization of old pavement is effective.
<b>1</b> Failed	Severe distress with extensive loss of surface integrity.	Failed. Needs total reconstruction.

\* Individual pavements will not have all of the types of distress listed for any particular rating. They may have only one or two types.

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GENESEE COUNTY METROPOLITAN  
PLANNING COMMISSION

