

The State of Michigan Transportation



2019 Pavement Condition Report For Berrien County, Michigan



Prepared by the Southwest Michigan Planning Commission
376 W Main St
Benton Harbor, MI 49022
(269) 925-1137

Berrien County 2019 Pavement Condition Report

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For more information visit: www.michigan.gov/tamc

Questions about this report can be sent to:

Brandon Kovnat, SWMPC Associate Planner

kovnatb@swmpc.org

(269) 925-1137 x 1524

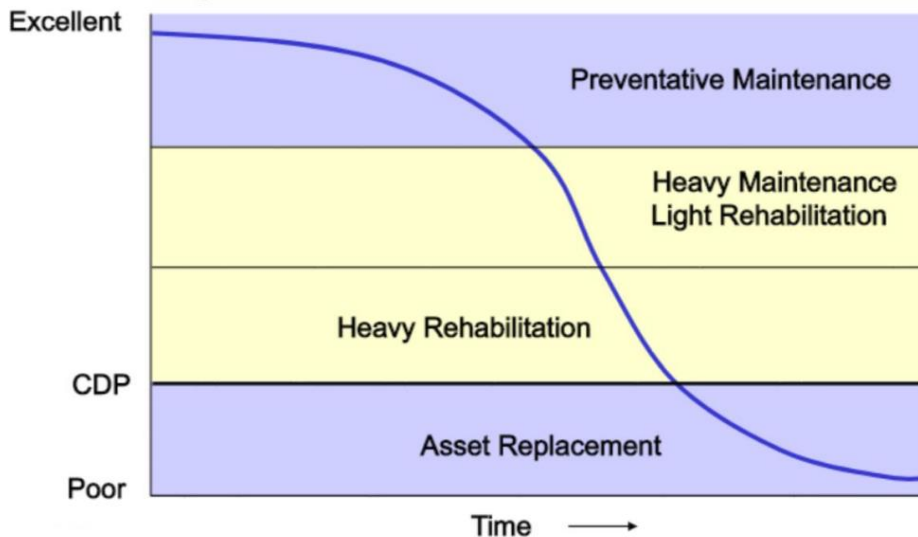
Overview of the PASER Rating System

Each year, the Southwest Michigan Planning Commission collaborates with MDOT and local county road agencies to assess the pavement conditions of the federal aid eligible roads in Berrien, Cass, and Van Buren Counties. Staff members from each of the agencies are trained and certified annually to use the Pavement Surface Evaluation and Rating system (PASER) by the Transportation Asset Management Council (TAMC). PASER is a system designed to visually assess pavement condition while driving (known as a windshield survey) and assign a value of 1 thru 10 based on the observed defects.



Good Condition	Fair Condition	Poor Condition
PASER Rating 8-10 Requires Routine Maintenance	PASER Rating 5-7 Requires Capital Preventative Maintenance	PASER Rating 1-4 Requires Structural Improvements or Reconstruction

Condition Rating

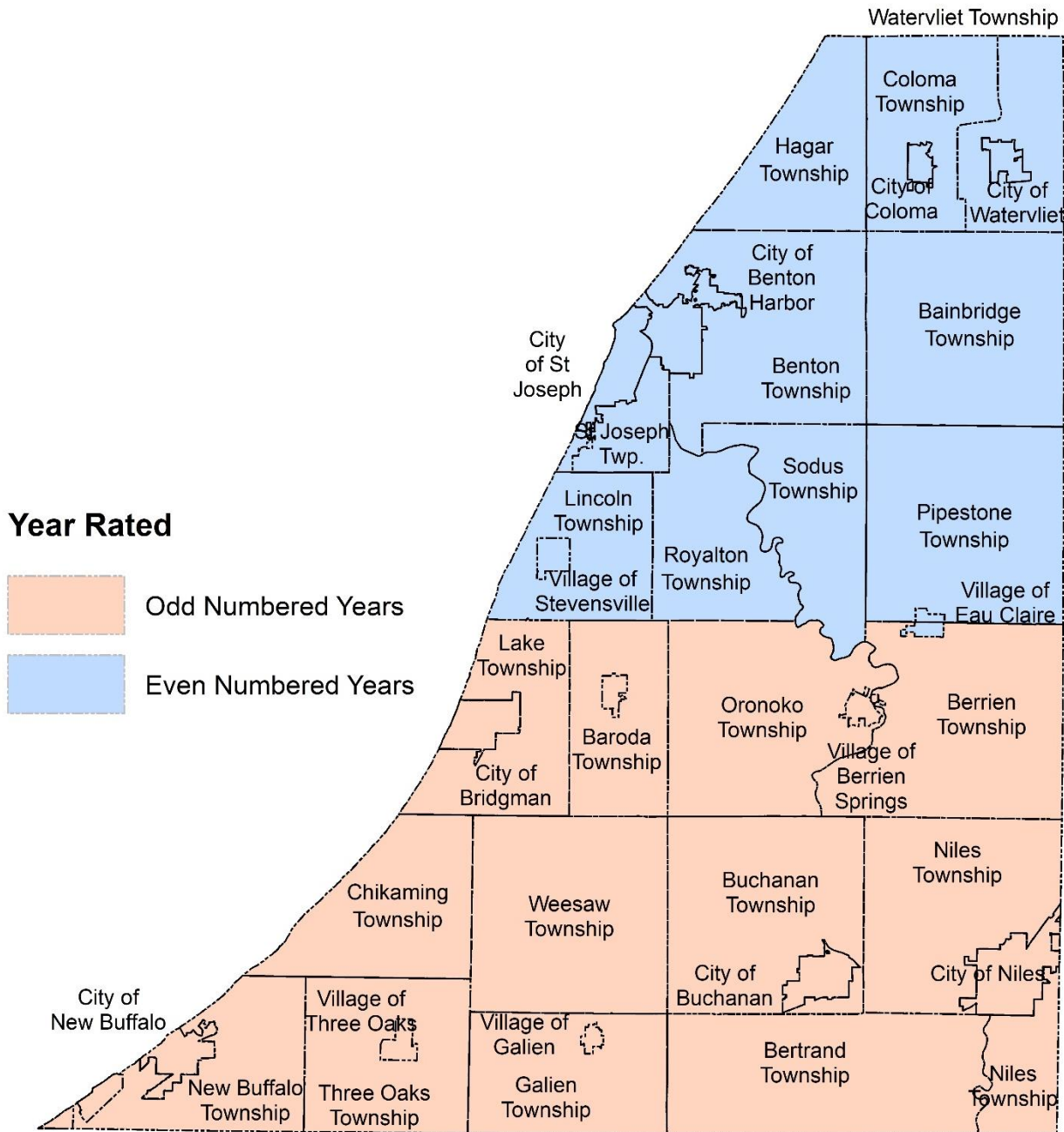


The costs of rehabilitation are exponentially higher than the costs of preventative maintenance, a full reconstruction being the most expensive treatment option. Asset management best practices encourage preventative maintenance to slow decay and reduce costs.

It is necessary to know the pavement condition of roads when monitoring them; this allows for more accurate estimates of the treatment costs and ensures fewer roads reach the critical distress point (CDP) – the point at which maintenance is no longer effective.

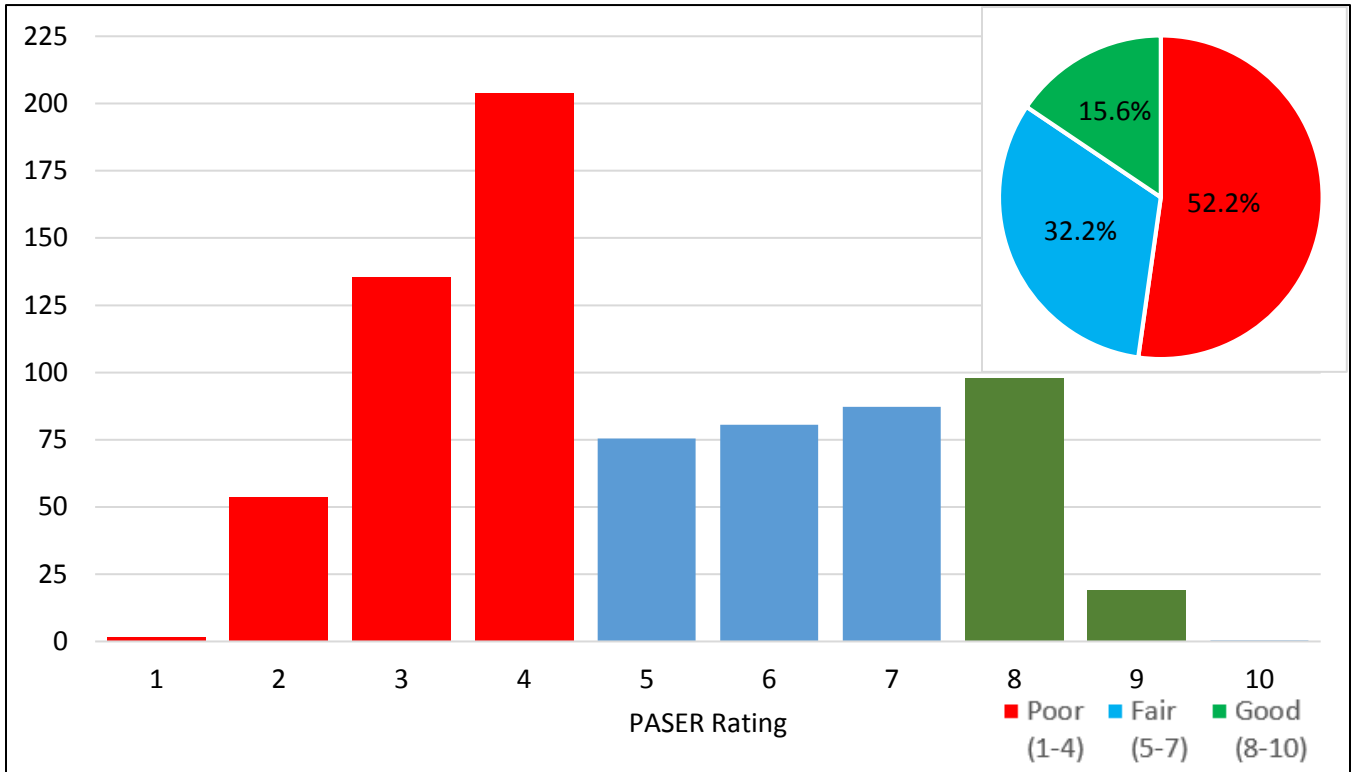
Berrien County 2019 Pavement Condition Report

Each year, SWMPC, MDOT, and Berrien County work as a team to rate half of the federal aid eligible roads in the county using the PASER system. In 2019, the southern portion of the county was completed, while the northern portion was completed in 2018. This report, therefore, combines two years of ratings to show the ratings for the entire county.



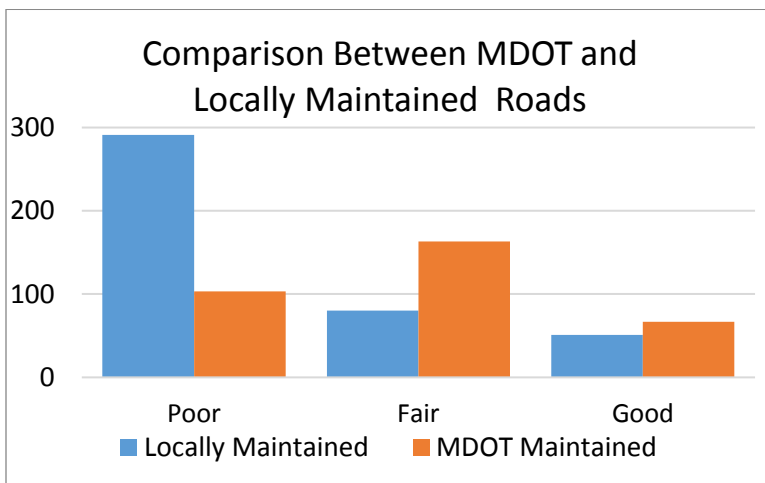
Summary of Berrien County 2018-2019 Ratings

2018/2019 All Federal Aid Miles by PASER Rating



Just over half of the rated roads are in poor condition (PASER rating of 1-4), many rated as a four. At a rating of four, a structural overlay is recommended, but certain capital preventative maintenance (CPM) treatments can still be performed. Once a road deteriorates below a four, more costly treatments, such as full reconstruction, are required.

2018/2019 Local and MDOT Maintained Federal Aid Miles by PASER



Local: 422 miles		
Good	Fair	Poor
12.1%	19.0%	68.9%

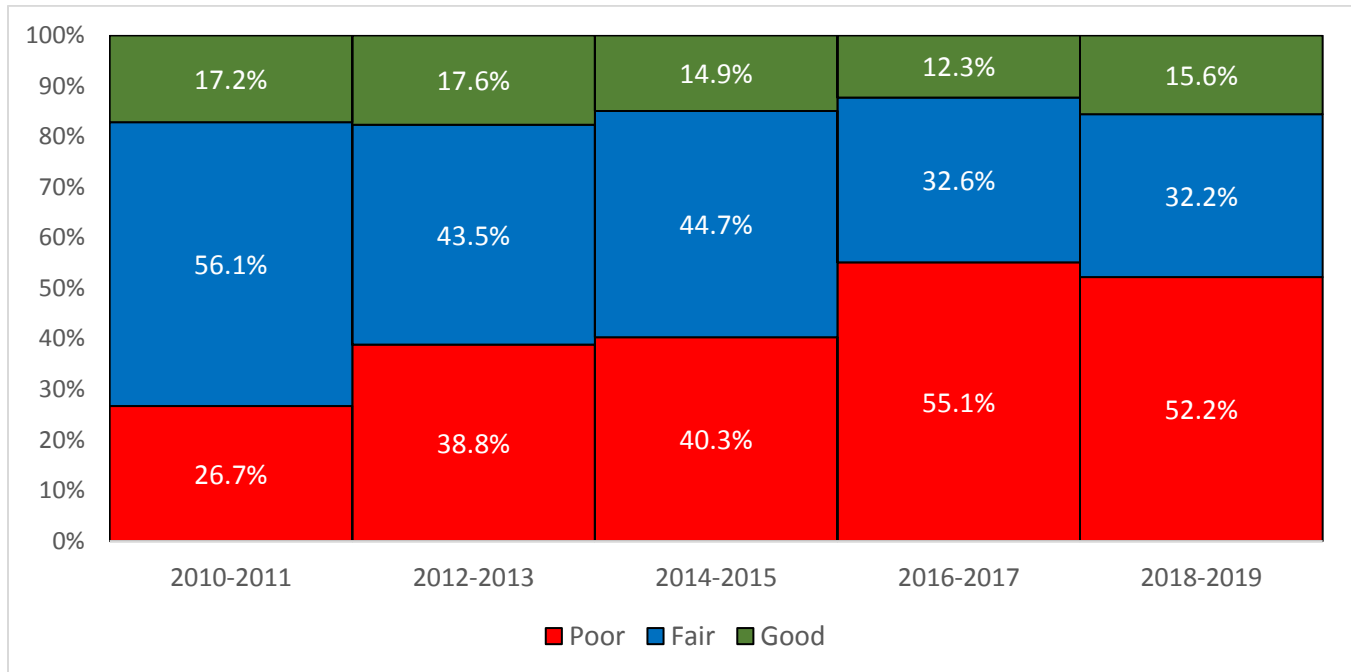
MDOT: 333 miles		
Good	Fair	Poor
20.0%	49.0%	31.0%

Locally maintained roads are, in general, in far worse condition than MDOT maintained roads. This is largely because more federal and state funding goes first, toward interstate maintenance and then, to the other highways and major arterials, which make up the National Highway System. These roads are maintained primarily by MDOT.

Countywide Trends in Pavement Conditions

Ten-Year Trend in Countywide PASER Ratings 2010-2019

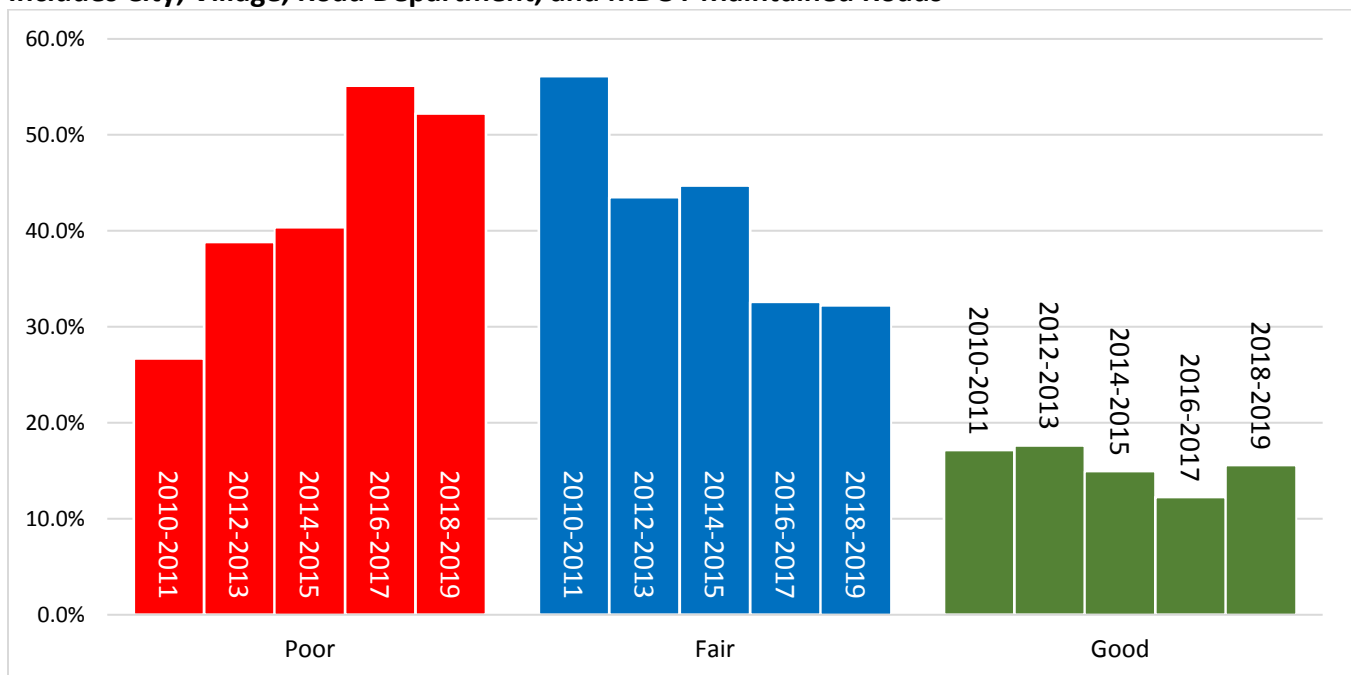
Includes City, Village, Road Department, and MDOT Maintained Roads



Because only half the county is rated per year, the 2018 and 2019 ratings are paired to show the trends for the entire county.

2010-2019 Trends in Roads Rated Good, Fair, and Poor

Includes City, Village, Road Department, and MDOT Maintained Roads



Berrien County 2019 Pavement Condition Report

Road Miles within Berrien County

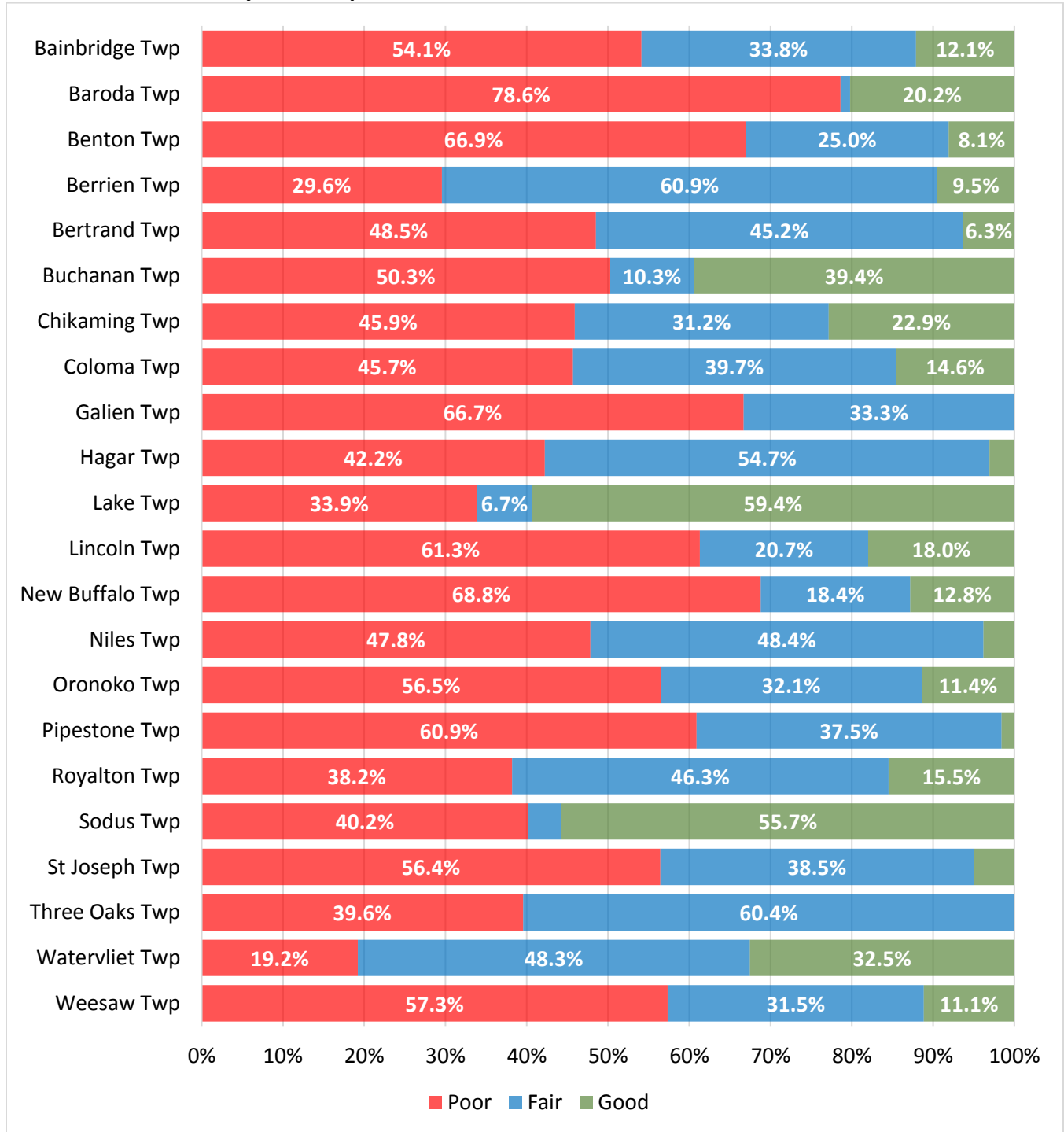
Jurisdiction	Total Miles	Non Federal Aid	Federal Aid		
			Total	Locally Owned	MDOT Owned
Village of Baroda	4.7	4.2	0.6	0.6	-
City of Benton Harbor	59.7	41.8	17.9	15.5	2.4
Village of Berrien Springs	12.3	9	3.2	2.3	1
City of Bridgman	18.4	10.2	8.1	3.8	4.4
City of Buchanan	28.7	22.6	6.1	6.1	-
City of Coloma	11.8	8.1	3.6	3.6	-
Village of Eau Claire	5.8	4.1	1.8	1.8	-
Village of Galien	5.9	4.6	1.3	1	0.3
Village of Grand Beach	11.3	11.3	-	-	-
Village of Michiana	8.4	8.4	-	-	-
City of New Buffalo	26.1	23.5	2.6	0.8	1.9
City of Niles	71.2	54.5	16.7	10.7	6.1
Village of Shoreham	4.2	2.3	1.8	0.5	1.4
City of St, Joseph	49.8	30.5	19.3	12.1	7.2
Village of Stevensville	12	4.8	7.2	4.6	2.6
Village of Three Oaks	11.4	9.2	2.2	1.3	0.9
City of Watervliet	12.9	9.2	3.7	2.5	1.2
Bainbridge Twp	77.7	49.6	28.1	21.7	6.4
Baroda Twp	51.5	36.5	15	15	-
Benton Twp	193.6	99.7	93.9	46.2	47.7
Berrien Twp	89.7	55.7	34	15.8	18.3
Bertrand Twp	95.4	53.7	41.7	17.5	24.2
Buchanan Twp	76.9	58	18.8	18.8	-
Chikaming Twp	83.8	48.6	35.2	20.2	15.1
Coloma Twp	66.2	42.6	23.6	16.1	7.5
Galien Twp	52.5	41.9	10.5	4.8	5.7
Hagar Twp	84	52.5	31.5	9.7	21.8
Lake Twp	57.1	33.1	24	14	10
Lincoln Twp	105.1	68.4	36.7	23.8	13
New Buffalo Twp	68.4	34.3	34.1	9.3	24.8
Niles Twp	154.5	94.2	60.3	23.7	36.7
Oronoko Twp	89.3	55.6	33.7	18.2	15.5
Pipestone Twp	83	66.2	16.8	9.4	7.4
Royalton Twp	53.9	35.5	18.4	10.3	8.1
Sodus Twp	67.4	31.1	36.4	18.3	18.1
St Joseph Twp	62.2	46.8	15.4	8.3	7
Three Oaks Twp	42.3	31.7	10.6	6.5	4.1
Watervliet Twp	41.6	21.1	20.5	8.1	12.5
Weesaw Twp	68.2	48.4	19.8	19.8	-
Total	2,118.90	1,363.60	755.3	422.2	333.1

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Summary of Ratings by Jurisdiction

2018/2019 All Federal Aid Road Ratings within Townships

Includes Berrien County Road Department, and MDOT Maintained Roads

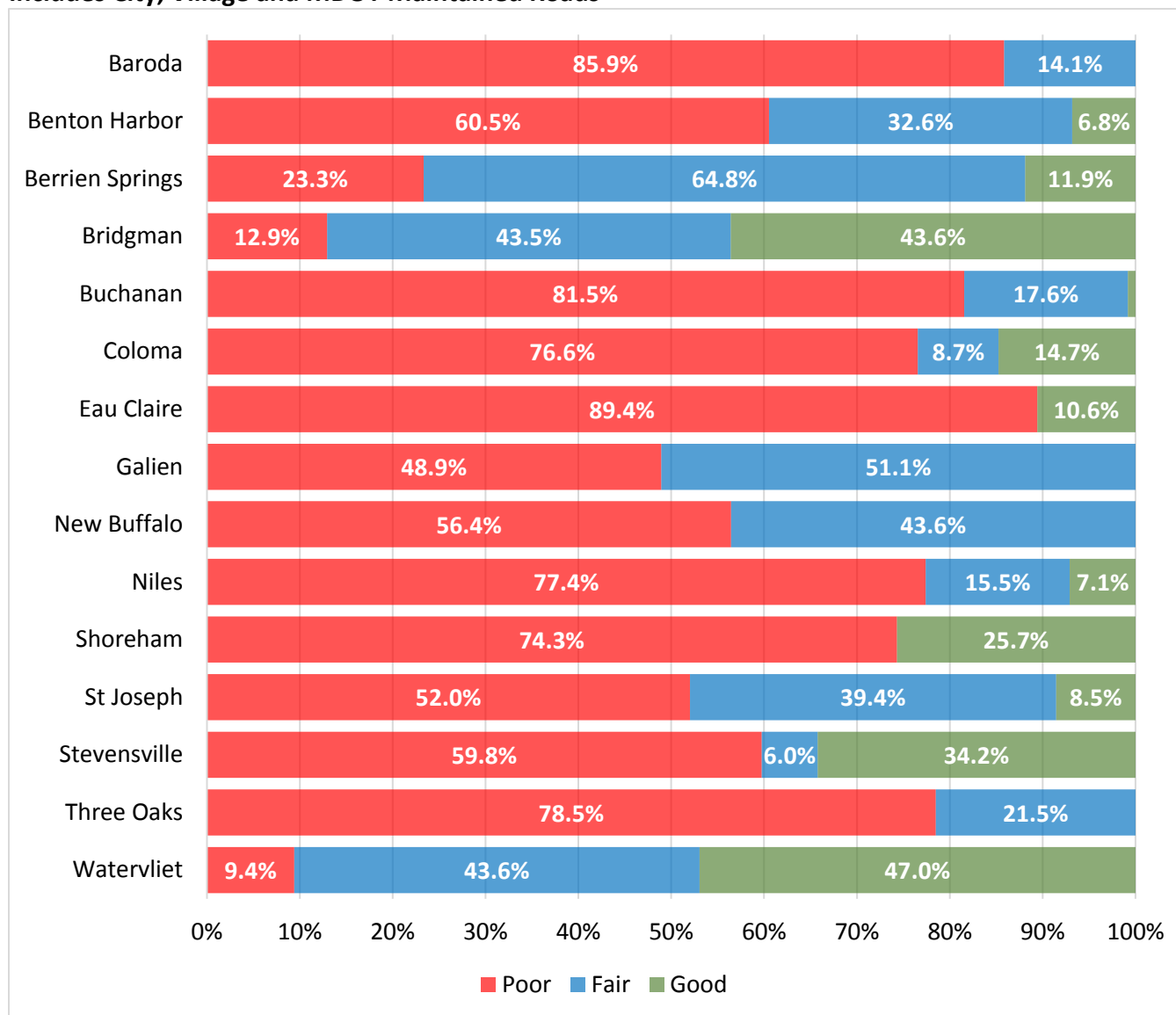


An interactive map showing ratings for all federal aid roads can be found at: www.michigan.gov/tamc

Total Miles Rated: 659

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2018/2019 All Federal Aid Road Ratings for Cities & Villages Includes City, Village and MDOT Maintained Roads

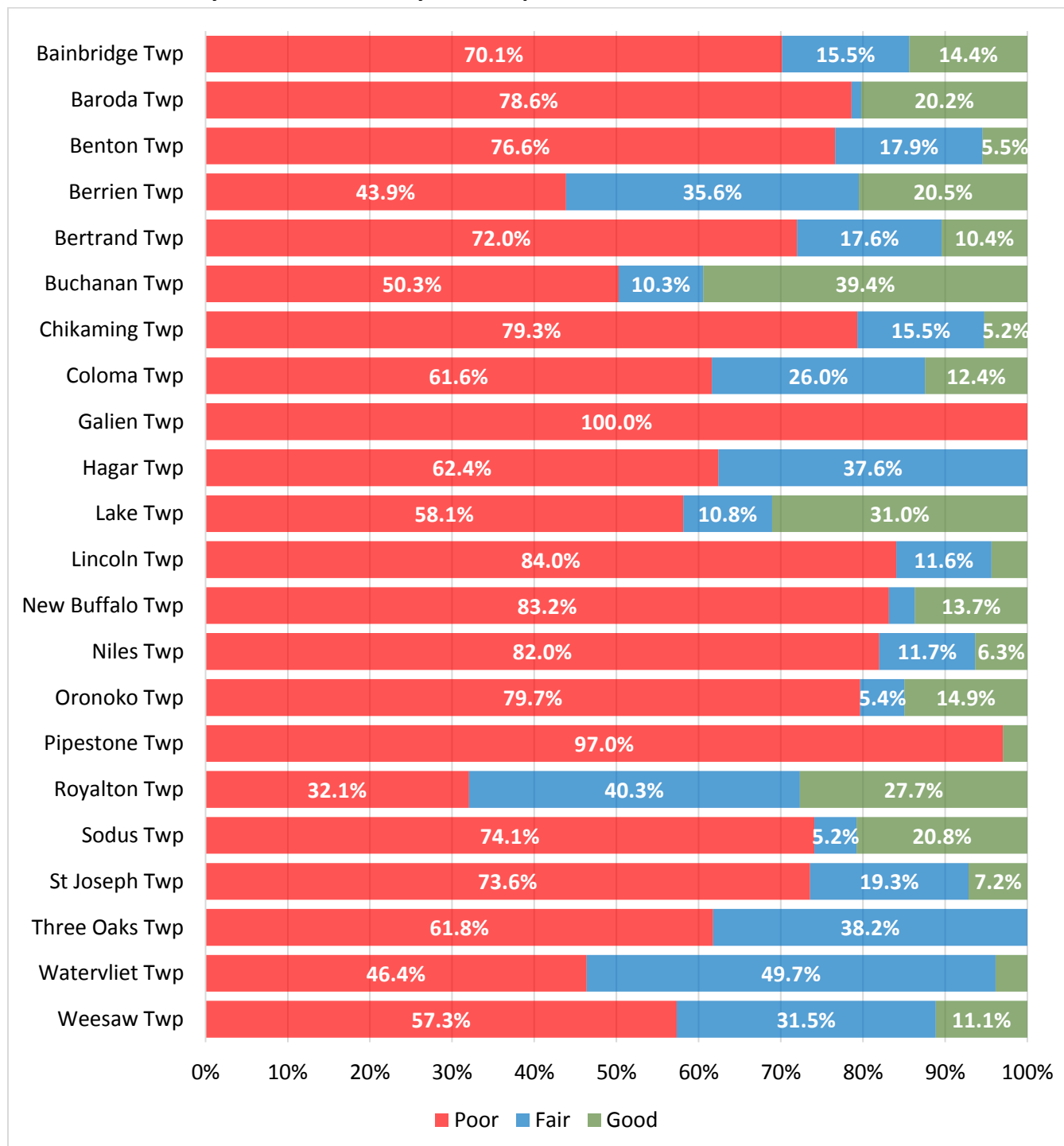


Total Miles of Locally Maintained Roads Rated: 96

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2018/2019 Locally Maintained Federal Aid Road Ratings for Townships

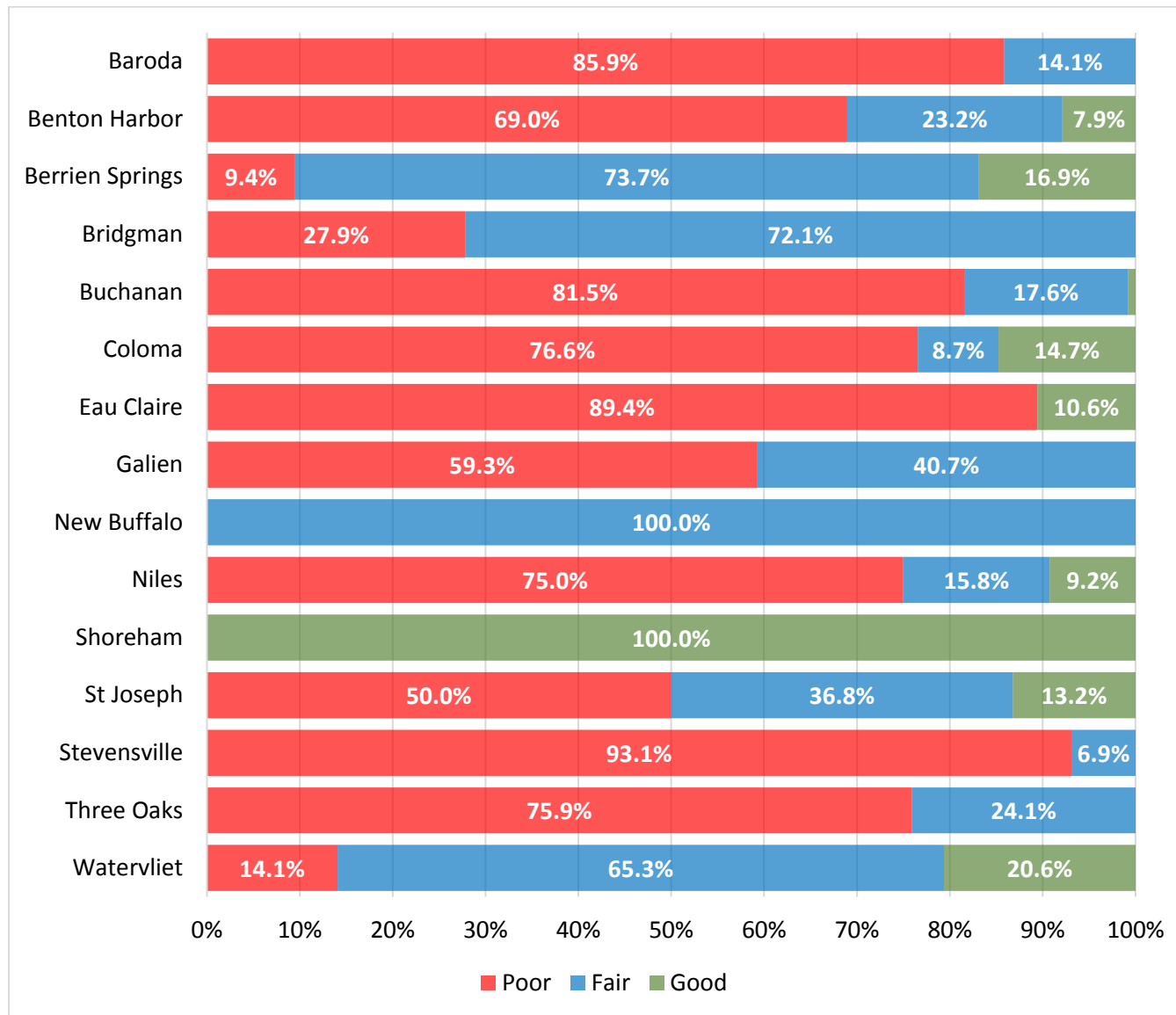
Road Maintained by the Berrien County Road Department



Total miles of Berrien County Road Department roads rated: 355.5

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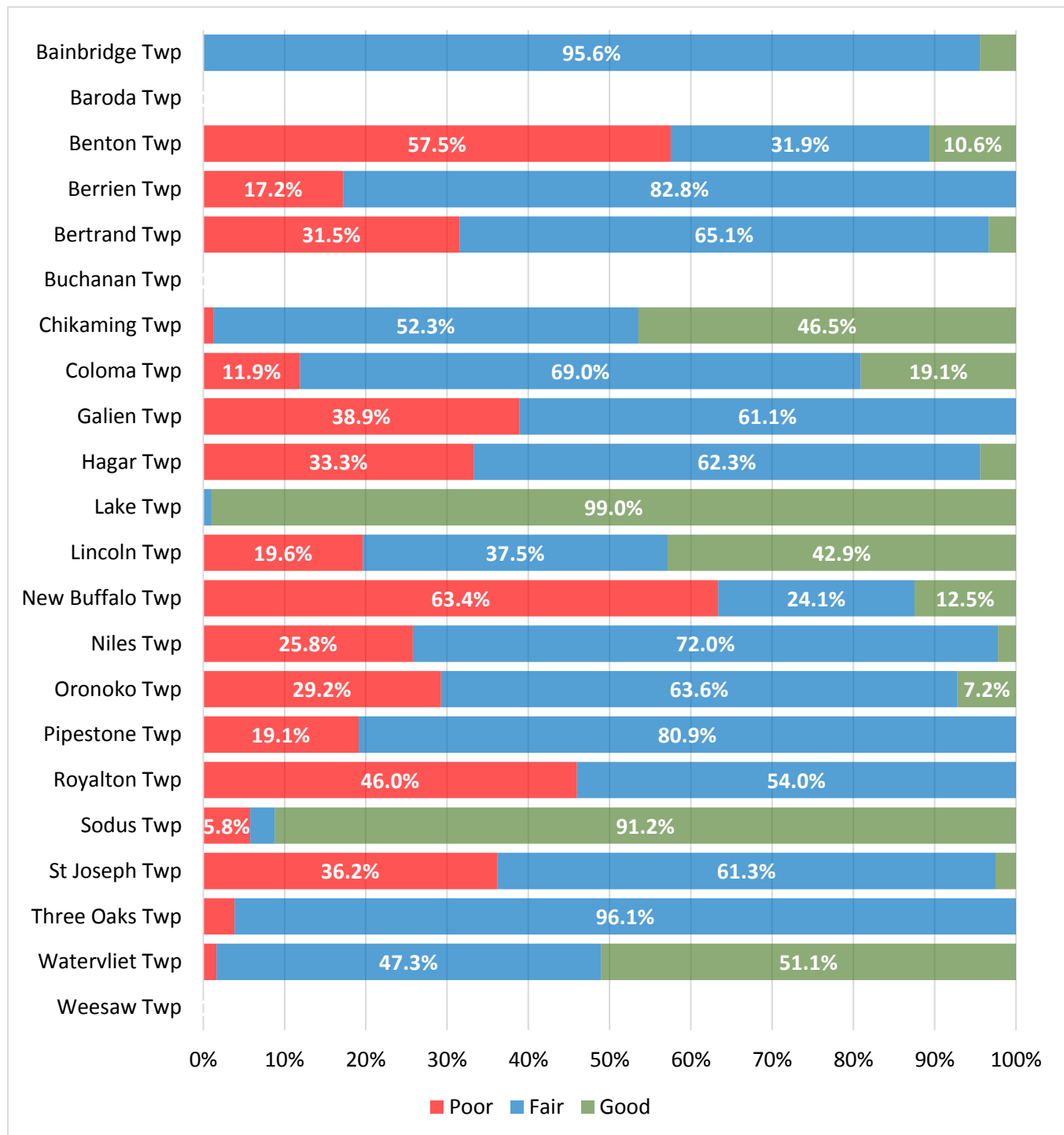
2018/2019 Locally Maintained Federal Aid Road Ratings for Cities & Villages Roads Maintained by City and Village Public Works Departments



Total miles of locally maintained city and village roads rated: 67

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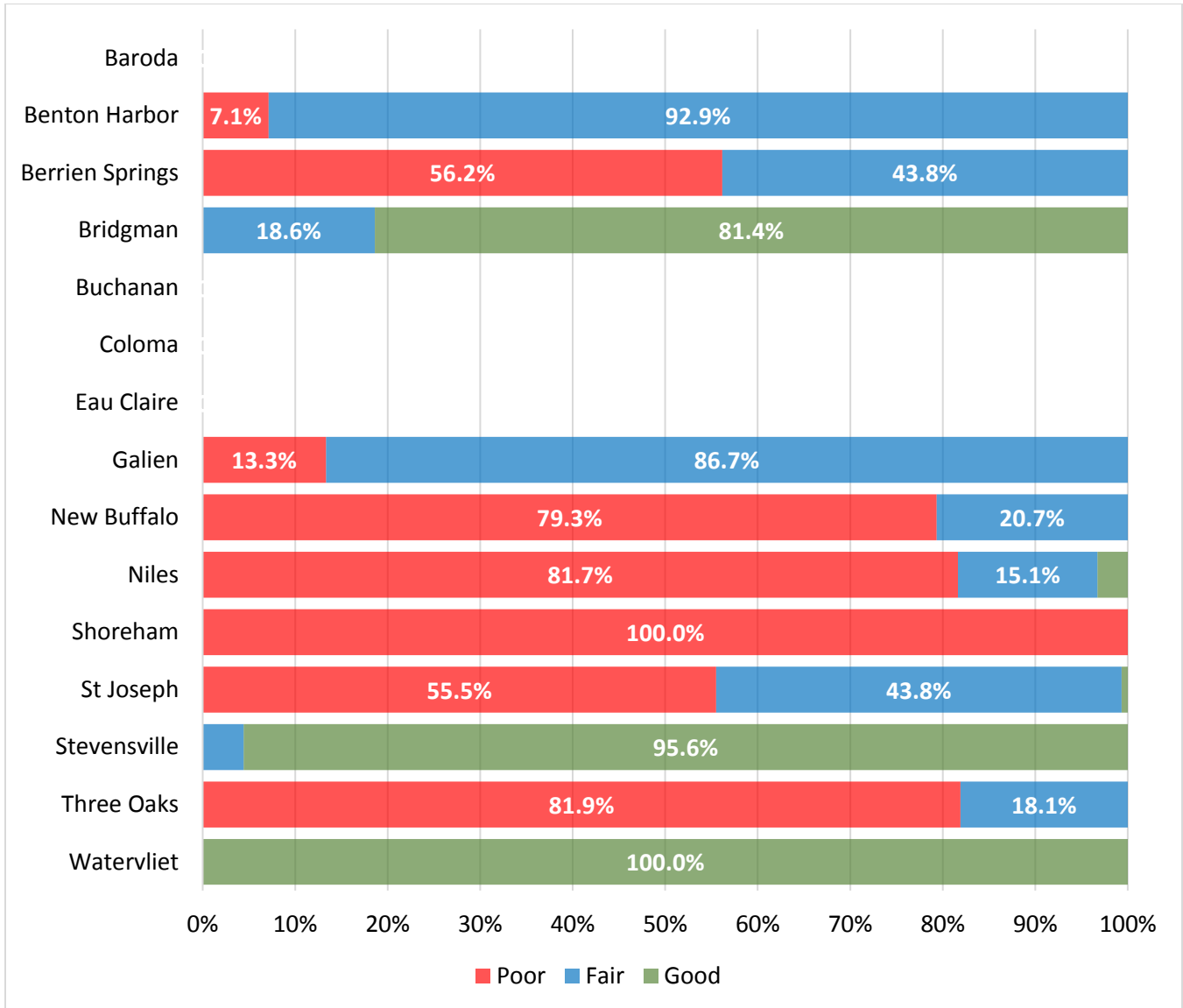
2018/2019 MDOT Maintained Federal Aid Road Ratings within Townships



Note: Baroda, Buchanan, and Weesaw Township do not contain any MDOT maintained roads. MDOT maintains all Interstates (e.g. I-94), US routes (e.g. US-31), and M-routes (e.g. M-60). All MDOT maintained roads are classified as federal aid roads.

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2018/2019 MDOT Maintained Federal Aid Road Ratings for Cities & Villages



Note: The Village of Baroda, city of Buchanan, City of Coloma, and Village of Eau Claire do not contain any MDOT maintained roads.

MDOT maintains all Interstates (e.g. I-94), US routes (e.g. US-31), and M-routes (e.g. M-60). All MDOT maintained roads are classified as federal aid roads.

Total miles of MDOT maintained roads within Berrien County: 333

Berrien County 2019 Pavement Condition Report

PASER Asphalt Rating Chart		
Surface Rating	Visible Distress *	General Condition/ Treatment Measures
10	None	New construction.
9	None	Recent overlay; like new.
8	<ul style="list-style-type: none"> • No longitudinal cracks except reflection of paving joints. • Occasional transverse cracks, widely spaced (40' or greater). 	Recent sealcoat or new road mix. Little or no maintenance required.
7	<ul style="list-style-type: none"> • Very slight or no raveling, surface shows some traffic wear. • Longitudinal cracks (open ¼") due to reflection or paving joints. • Transverse cracks (open ¼") 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	<ul style="list-style-type: none"> • Slight raveling (loss of lines) and traffic wear. • Longitudinal cracks (open ¼" – ½") due to reflection and paving joints. • Transverse cracking (open ¼" to ½") some spaced less than 10 ft. • First sign of block cracking Slight to moderate flushing or polishing. 	Shows signs of aging, sound structural condition. Could extend life with sealcoat.
5	<ul style="list-style-type: none"> • Moderate to severe raveling (loss of fine and coarse aggregate). • Longitudinal and transverse cracks (open ½") show first signs of slight raveling and secondary cracks. • 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 nonstructural overlay.
4	<ul style="list-style-type: none"> • 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 (½" deep or less). 	Significant aging and first signs of need for strengthening. Would benefit from recycling or overlay.
3	<ul style="list-style-type: none"> • 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 major overlay or complete recycling.
2	<ul style="list-style-type: none"> • 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.
1	<ul style="list-style-type: none"> • Severe distress with extensive loss of surface integrity. 	Failed. Needs total reconstruction.

* Note: 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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PASER Concrete Rating Chart		
Surface Rating	Visible Distress*	General Condition/ Treatment Measures
10	<ul style="list-style-type: none"> • None 	New construction.
9	<ul style="list-style-type: none"> • Traffic wear in wheel path. • Slight map cracking or pop-outs. 	Recent concrete overlay or joint rehabilitation, like new
8	<ul style="list-style-type: none"> • Pop-outs, map cracking, or minor surface defects. • Slight surface scaling. • Partial loss of joint sealant. • Isolated meander cracks and cracks at manholes, well-sealed. 	More surface wear or slight defects. Recent asphalt overlay. Little or no maintenance required.
7	<ul style="list-style-type: none"> • 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) or utility patch. More extensive surface scaling. Seal open joints and other routine maintenance.
6	<ul style="list-style-type: none"> • Moderate scaling in several locations. • A few isolated surface spalls. • Shallow reinforcement causing cracks. • Several corner cracks, tight or well-sealed. • Open (¼" wide) longitudinal or transverse joints and more frequent transverse cracks (some open ¼"). 	First signs of shallow reinforcement or corner cracking. Needs general joint and crack sealing. Scaled areas could be overlaid.
5	<ul style="list-style-type: none"> • 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. 	First signs of joint or crack spalling or faulting. Grind to repair surface defects. Some partial depth joint repairs needed.
4	<ul style="list-style-type: none"> • Severe polishing, scaling, map cracking or spalling, > 50% of 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 	Needs some full depth repairs, grinding, and/or asphalt overlay to correct surface defects.
3	<ul style="list-style-type: none"> • 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.
2	<ul style="list-style-type: none"> • Extensive slab cracking, severely spalled and patched. • Joints failed. • Patching in very poor condition. • Severe and extensive settlements or front heaves. 	Recycle and/or rebuild pavement.
1	<ul style="list-style-type: none"> • Restricted speed. • Extensive potholes. • Almost total loss of pavement integrity. 	Total reconstruction.

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