

The State of Michigan Transportation



2018 Pavement Condition Report For Cass County, Michigan



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

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Overview of the PASER Rating System

Each year the Southwest Michigan Planning Commission collaborates with MDOT and county road agencies to assess the pavement conditions on 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. PASER is a system to visually assess pavement condition while driving (windshield survey), and assign a value of 1 thru 10 based on the observed defects.



Good Condition

PASER Rating 8-10
Requires Routine Maintenance



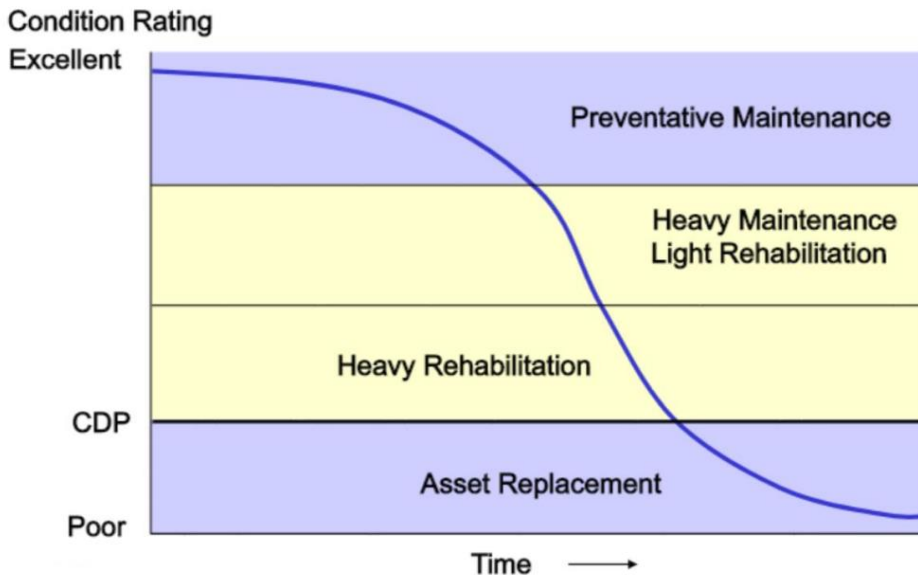
Fair Condition

PASER Rating 5-7
Requires Capital Preventative Maintenance



Poor Condition

PASER Rating 1-4
Requires Structural Improvements or Reconstruction

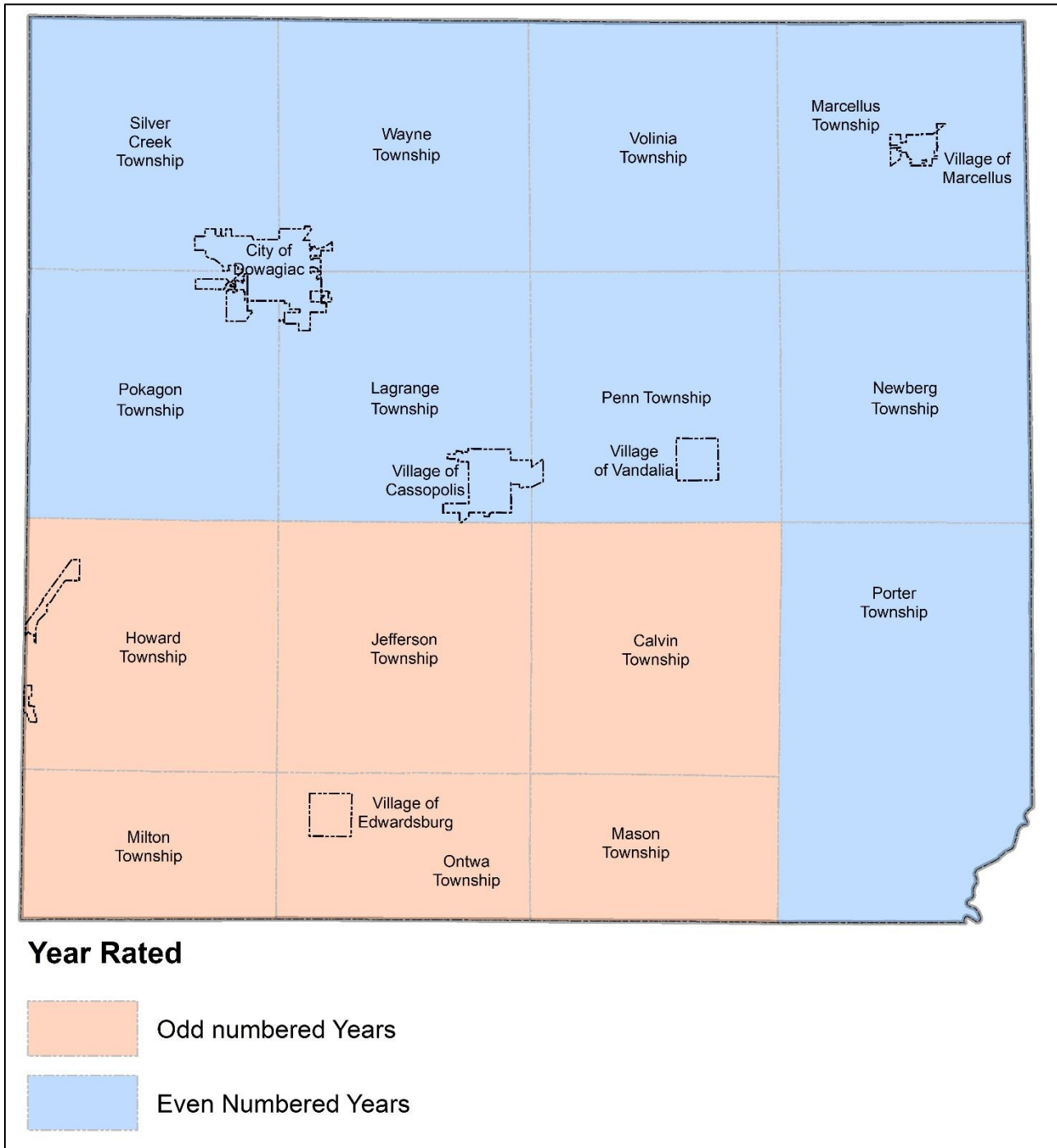


The costs for rehabilitation are exponentially higher than the cost to perform preventative maintenance, and a full reconstruction is the most expensive treatment option. Asset management best practices encourage preventative maintenance to slow decay and save money.

It is vital to know pavement condition to monitor when a road is close to reaching a point where treatments that are more expensive become necessary and to ensure fewer roads cross the critical distress point (CDP) at which maintenance is no longer effective.

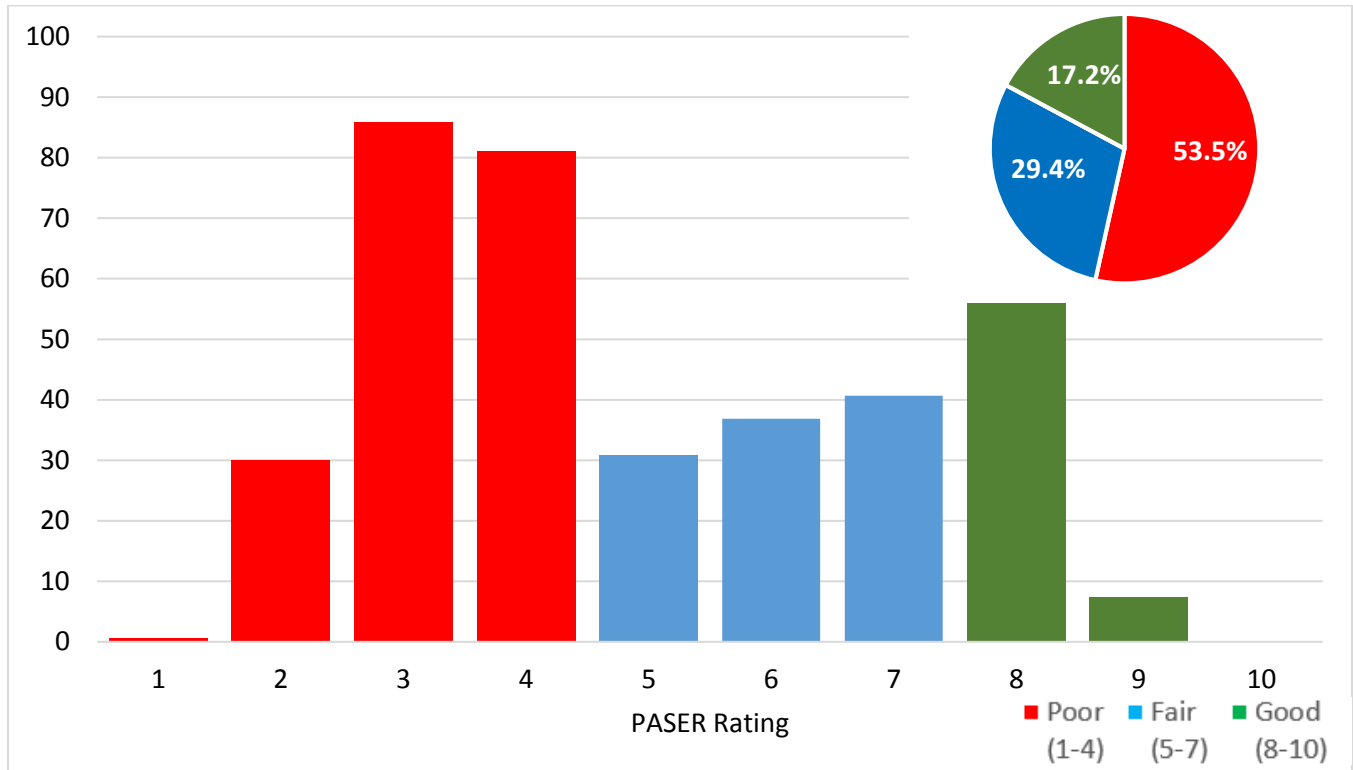
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Each year half of the federal aid eligible road network in Cass County is rated using the PASER system. In 2018, the northern portion of the county was completed. Therefore, this report combines two-years worth of ratings to present ratings for the entire county. The 2018 and 2017 ratings are the most recent full county rating pair.



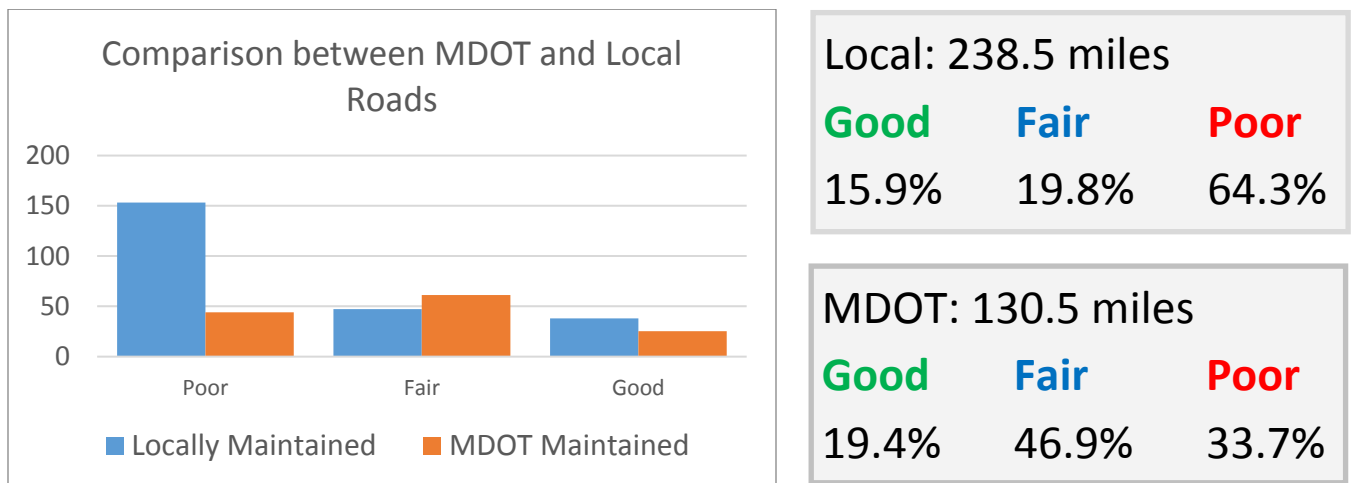
Summary of Cass County 2017-2018 Ratings

2017/2018 All Federal Aid Miles by PASER Rating



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

2017/2018 Local and MDOT Maintained Federal Aid Miles by PASER

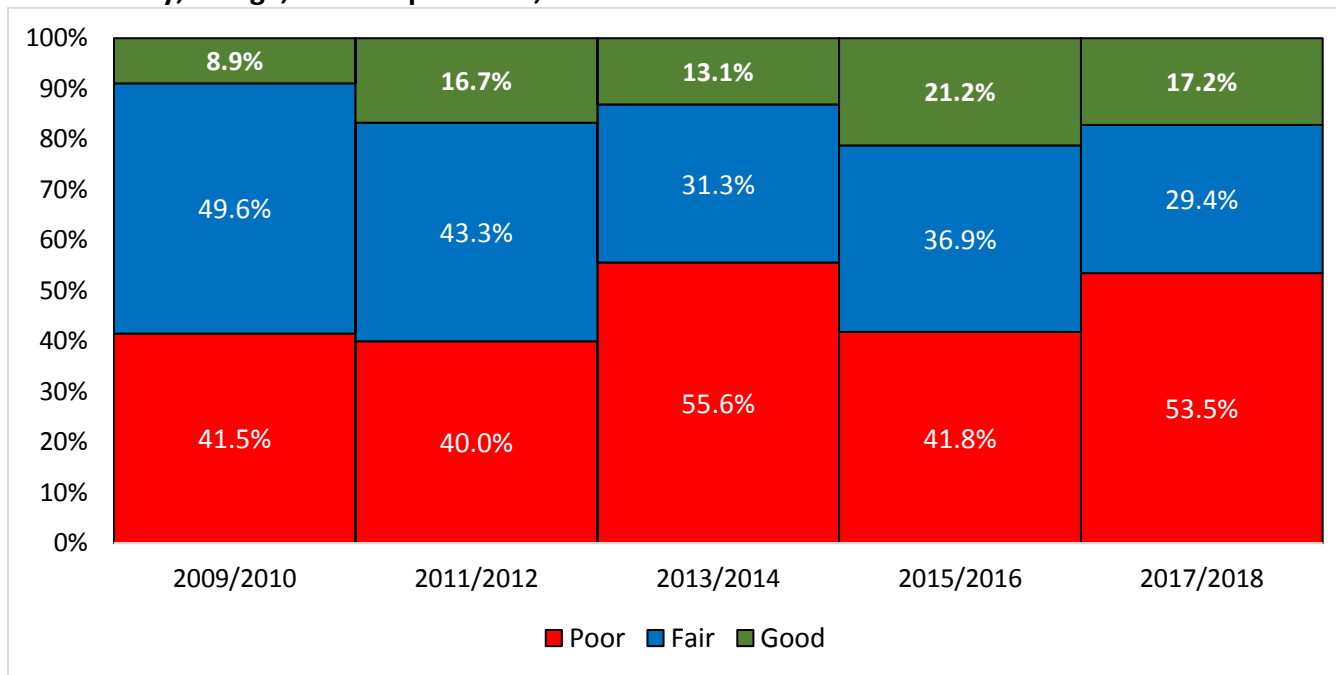


Locally maintained roads are in overall in far worse condition that MDOT maintained roads. Among the reasons is that far more federal and state funding is applied to the Interstate followed by other highways and major arterials, which are mostly maintained by MDOT (the National Highway System).

Countywide Trends in Pavement Conditions

Ten-Year Trend in Countywide PASER Ratings 2009-2018

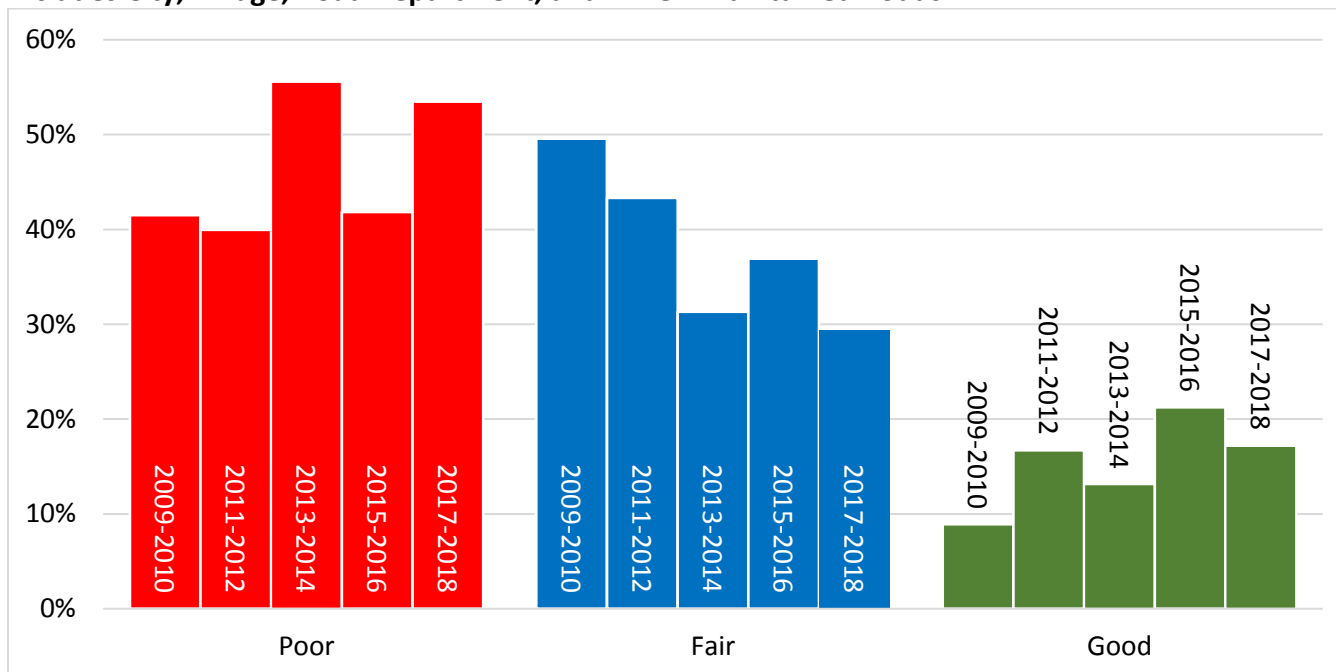
Includes City, Village, Road Department, and MDOT Maintained Roads



Ratings are presented as two-year grouping because only 50% of the federal aid roads are rated each year. The two-year grouping represents one full rating for the entire county

2009-2018 Trends in Roads Rated Good, Fair, and Poor

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



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Road Miles within Cass County

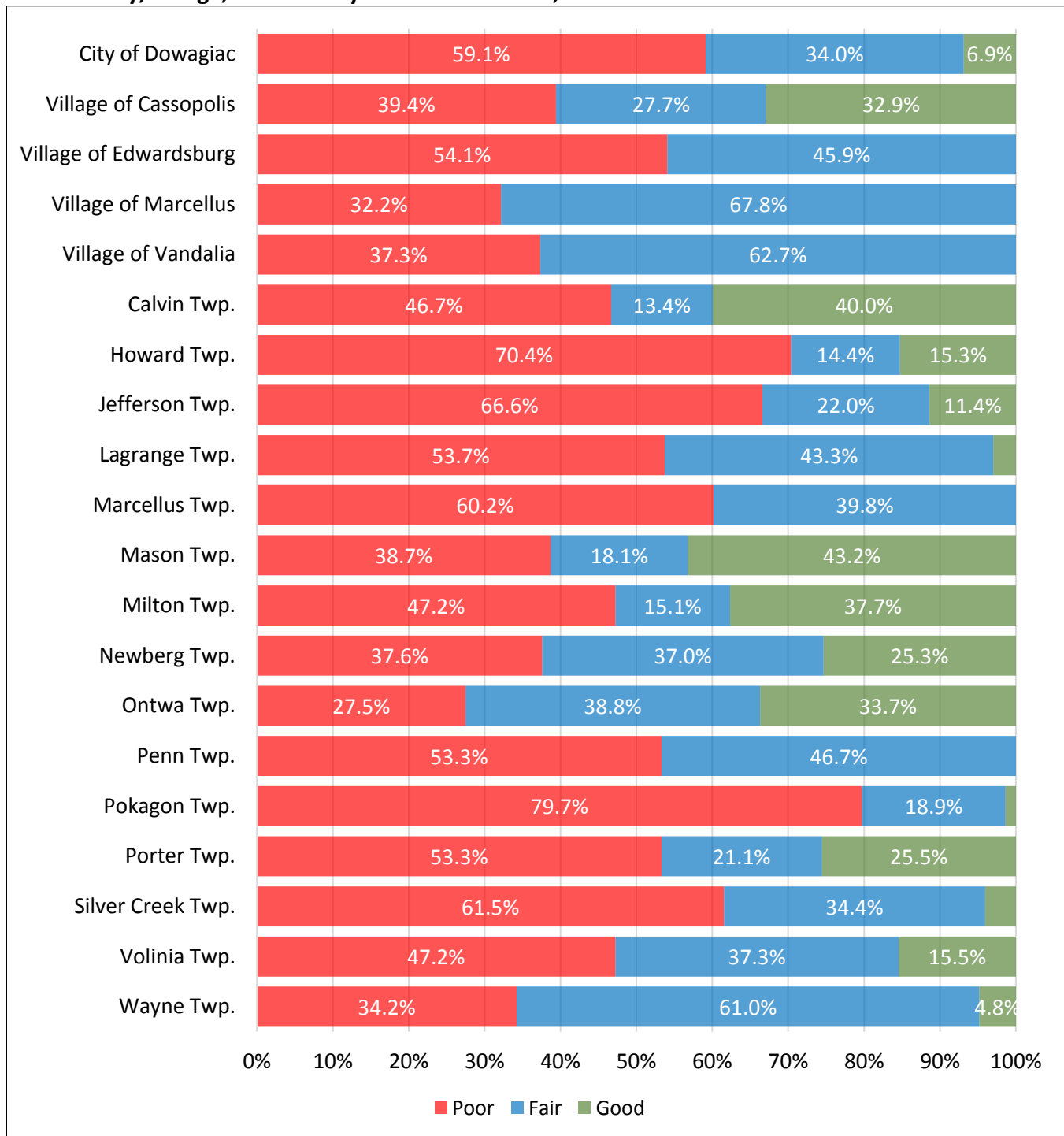
Jurisdiction	Total Miles	Non Federal Aid	Federal Aid		
			Total	Locally Owned	MDOT Owned
City of Dowagiac	42.2	26.9	15.3	12.7	2.6
Village of Cassopolis	15.6	10.9	4.8	1.3	3.5
Village of Edwardsburg	7.9	4.8	3.1	0.9	2.2
Village of Marcellus	8.0	6.4	1.6	0.3	1.4
Village of Vandalia	5.8	4.8	1.0	0.0	1.0
Calvin Twp.	76.8	52.9	23.9	23.9	0.0
Howard Twp.	93.6	61.6	32.0	19.1	12.9
Jefferson Twp.	76.9	45.6	31.3	19.5	11.7
Lagrange Twp.	67.8	38.6	29.2	21.9	7.2
Marcellus Twp.	62.8	47.9	14.8	6.9	7.9
Mason Twp.	51.5	36.3	15.1	8.7	6.5
Milton Twp.	49.4	21.7	27.7	16.9	10.8
Newberg Twp.	86.6	64.8	21.8	9.6	12.2
Ontwa Twp.	63.1	41.2	21.9	13.9	8.0
Penn Twp.	77.8	59.7	18.1	13.3	4.8
Pokagon Twp.	68.6	43.7	24.9	15.8	9.1
Porter Twp.	127.2	96.0	31.2	16.7	14.5
Silver Creek Twp.	76.0	53.1	22.9	13.8	9.0
Volinia Twp.	67.3	54.6	12.7	12.7	0.0
Wayne Twp.	81.9	66.2	15.7	10.6	5.1
Total	1,206.6	837.6	369.0	238.5	130.6

Roads within cities and villages are maintained by that city or village, excluding MDOT owned roads. Roads within townships are maintained by the Cass County Road Commission, excluding the MDOT maintained roads. MDOT maintains all Interstates (e.g. I-94), US routes (e.g. US 12), and M-routes (e.g. M-60). Federal Aid roads are a classification from the Federal Highway Administration (FHWA) for roads that serve through traffic as opposed to only accessing properties (similar and in many cases the same as the state designated primary roads). All MDOT maintained roads are classified as federal aid roads.

Summary of Ratings by Jurisdiction

2017/2018 All Federal Aid Road Ratings

Includes City, Village, Cass County Road Commission, and MDOT Maintained Roads



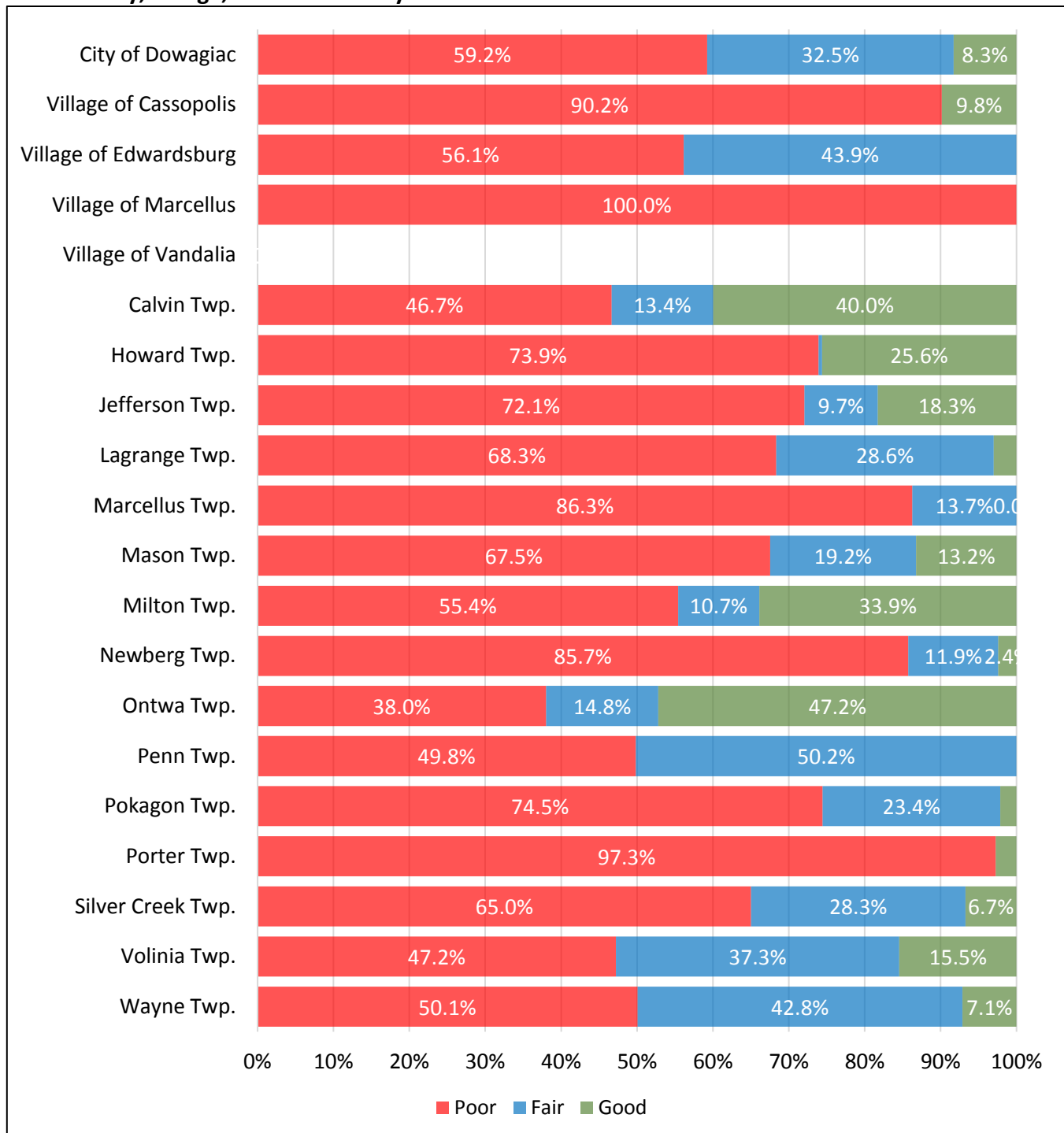
An interactive map showing rating for all federal aid roads can be found at: www.michigan.gov/tamc

Total Miles Rated: 369

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2017/2018 Locally Maintained Federal Aid Road Ratings

Includes City, Village, and Cass County Road Commission Maintained Roads



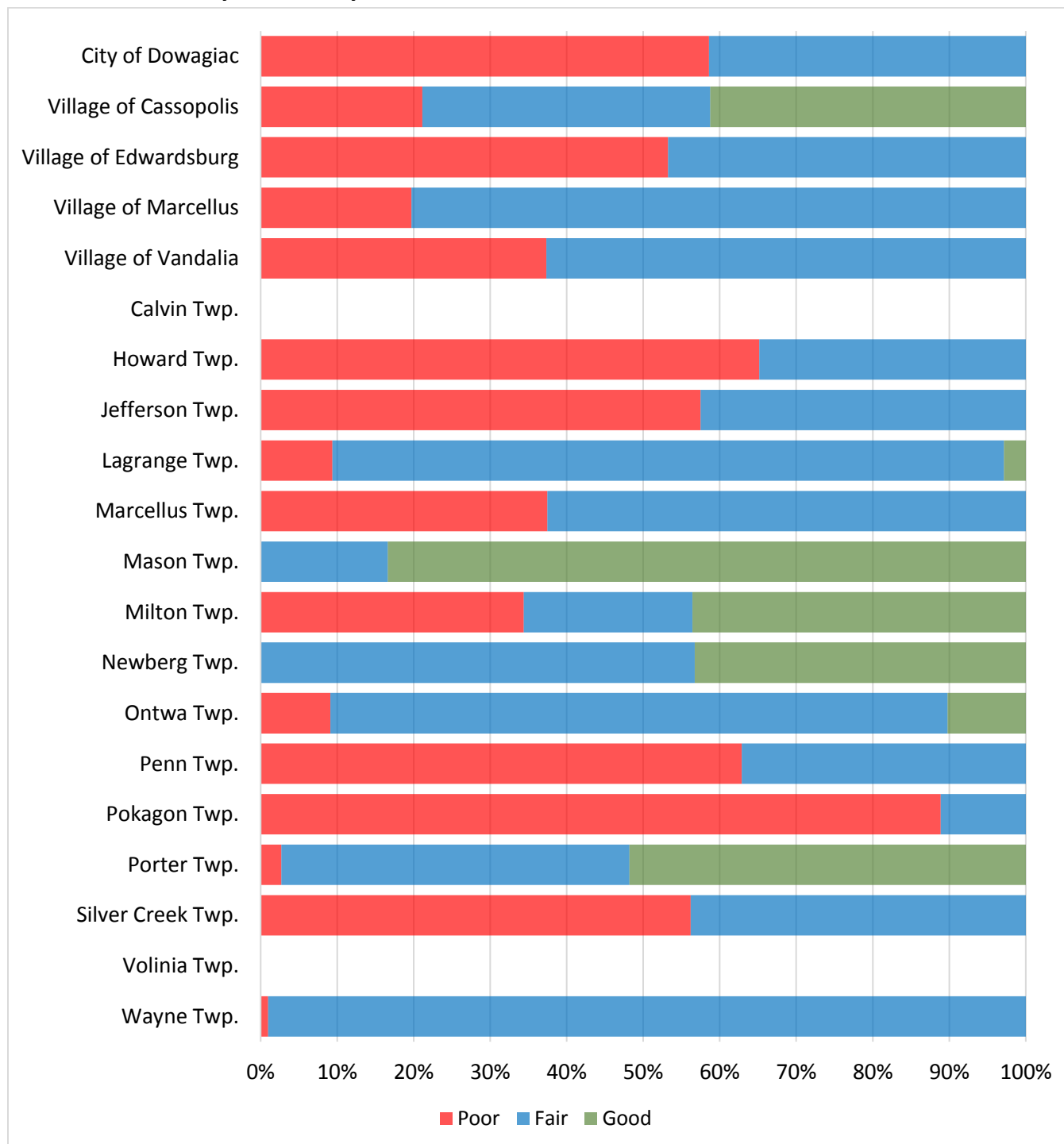
Total Miles of Locally Maintained Roads Rated: 238.5

Note: The Village of Vandalia does not have any locally maintained federal aid roads. All federal aid roads in the Village are maintained by MDOT.

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2017/2018 MDOT Maintained Federal Aid Road Ratings

Roads Maintained by MDOT Only



Total Miles of MDOT Maintained Roads Rated: 130.6

Note: Calvin Township and Volina Township do not contain any MDOT maintained federal aid Roads. All federal aid roads in these two townships are maintained by the Cass County Road commission

2018 Cass County 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.