

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. Each year half of the federal aid eligible road network in Berrien and Cass Counties are rated using the PASER system. In 2017, the southern portions of Berrien and Cass Counties were completed, which includes the entire NATS area.



Good Condition

PASER RATING 8-10
Requires Routine Maintenance



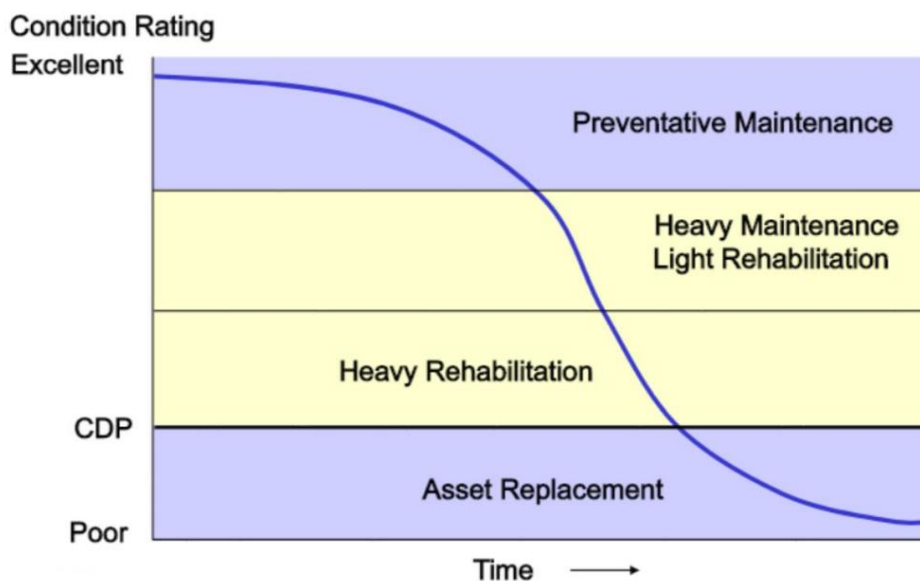
Fair Condition

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.

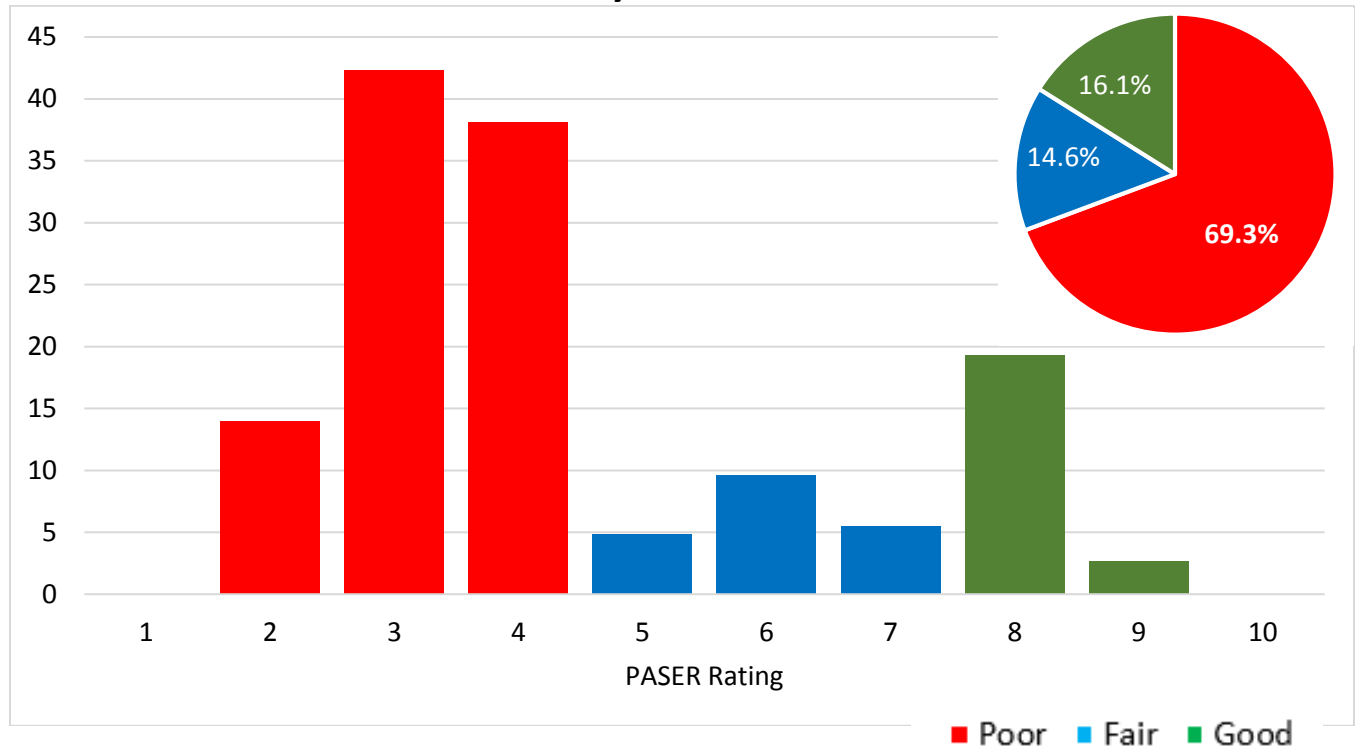
It is vital to know pavement condition to monitor when a road is close to reaching a point where treatments that are more expensive become necessary and to ensure fewer roads cross the critical distress point (CDP) at which maintenance is no longer effective.

2017 Pavement Condition Report for the NATS Area

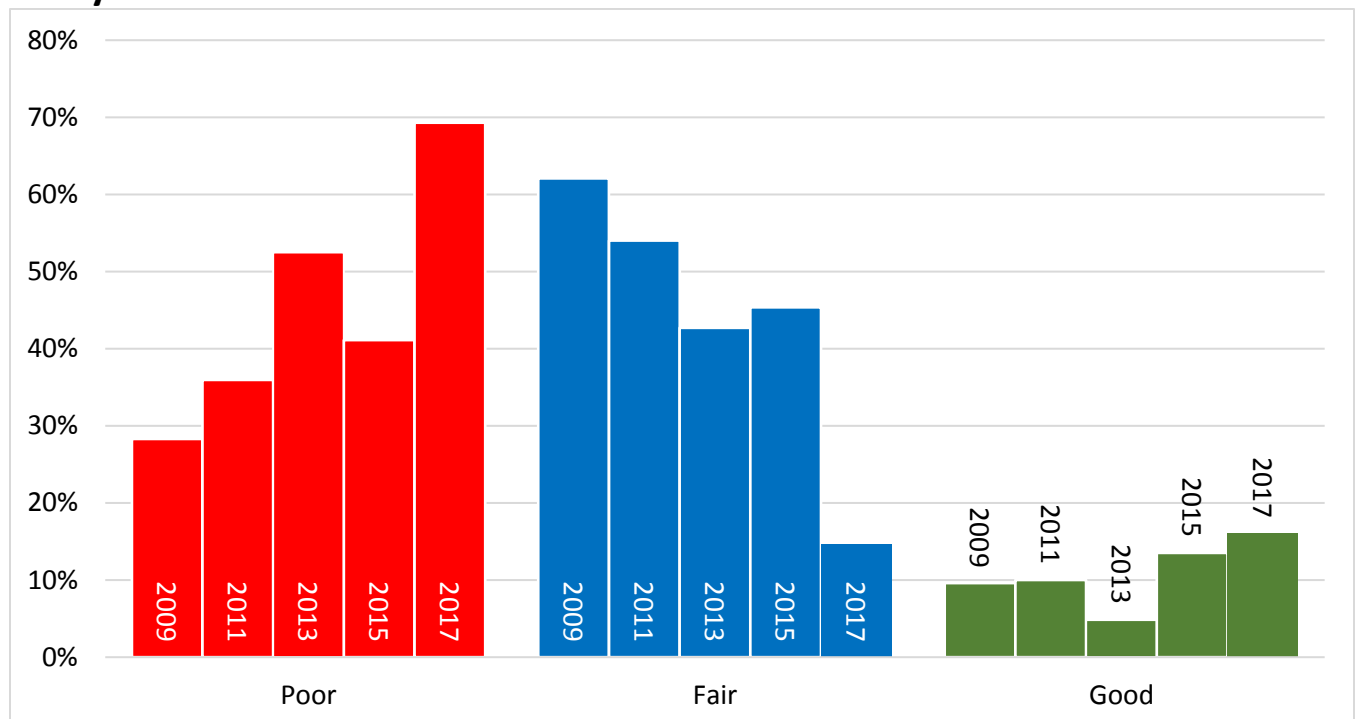
NATS Pavement Condition Summary

For federal aid roads maintained by cities, villages, the Berrien County Road Department, or the Cass County Road Commission – does not include MDOT maintained roads.

2017 Miles of Federal Aid Roads by Pavement Condition



Ten-year Trends in Pavement Condition



2017 Pavement Condition Report for the NATS Area

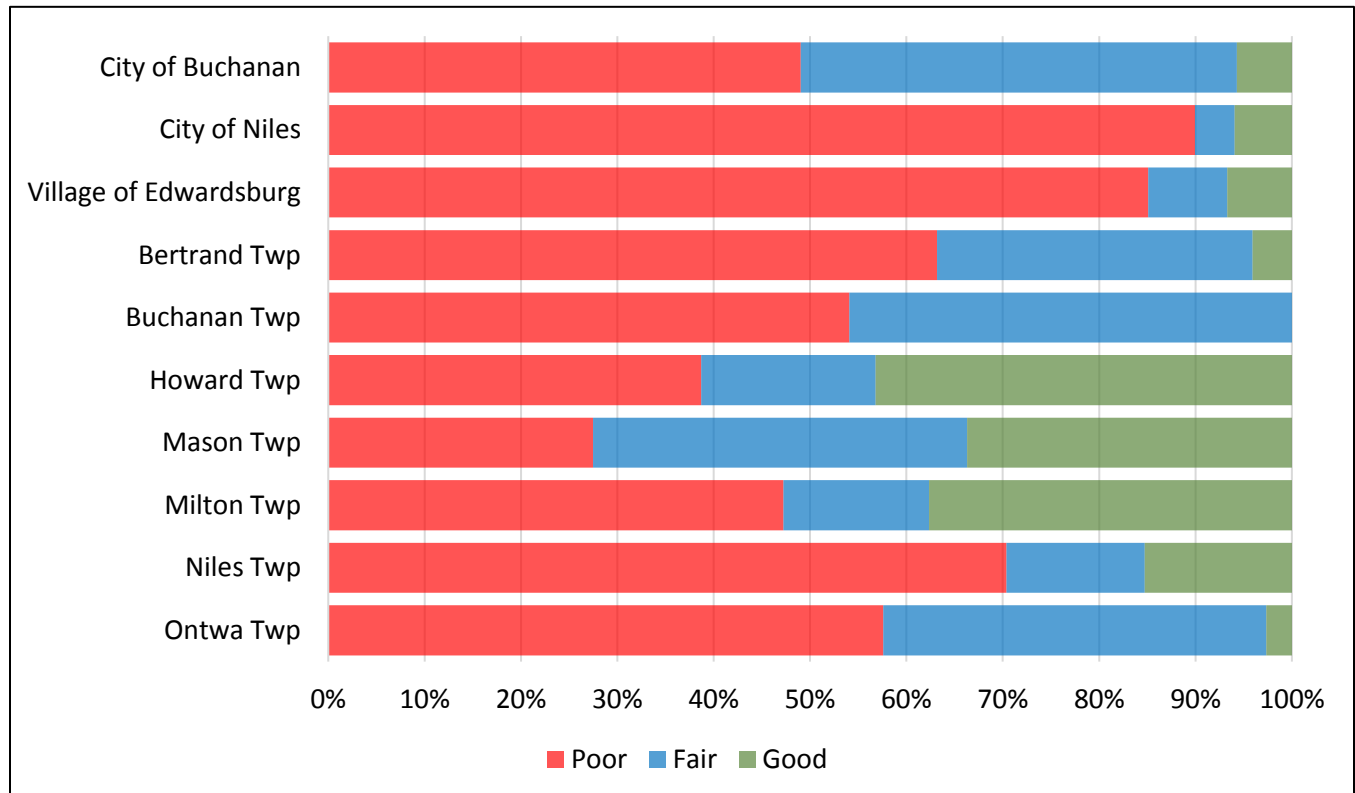
NATS 2017 Pavement Condition by Jurisdiction

Miles of Road within Each Jurisdiction

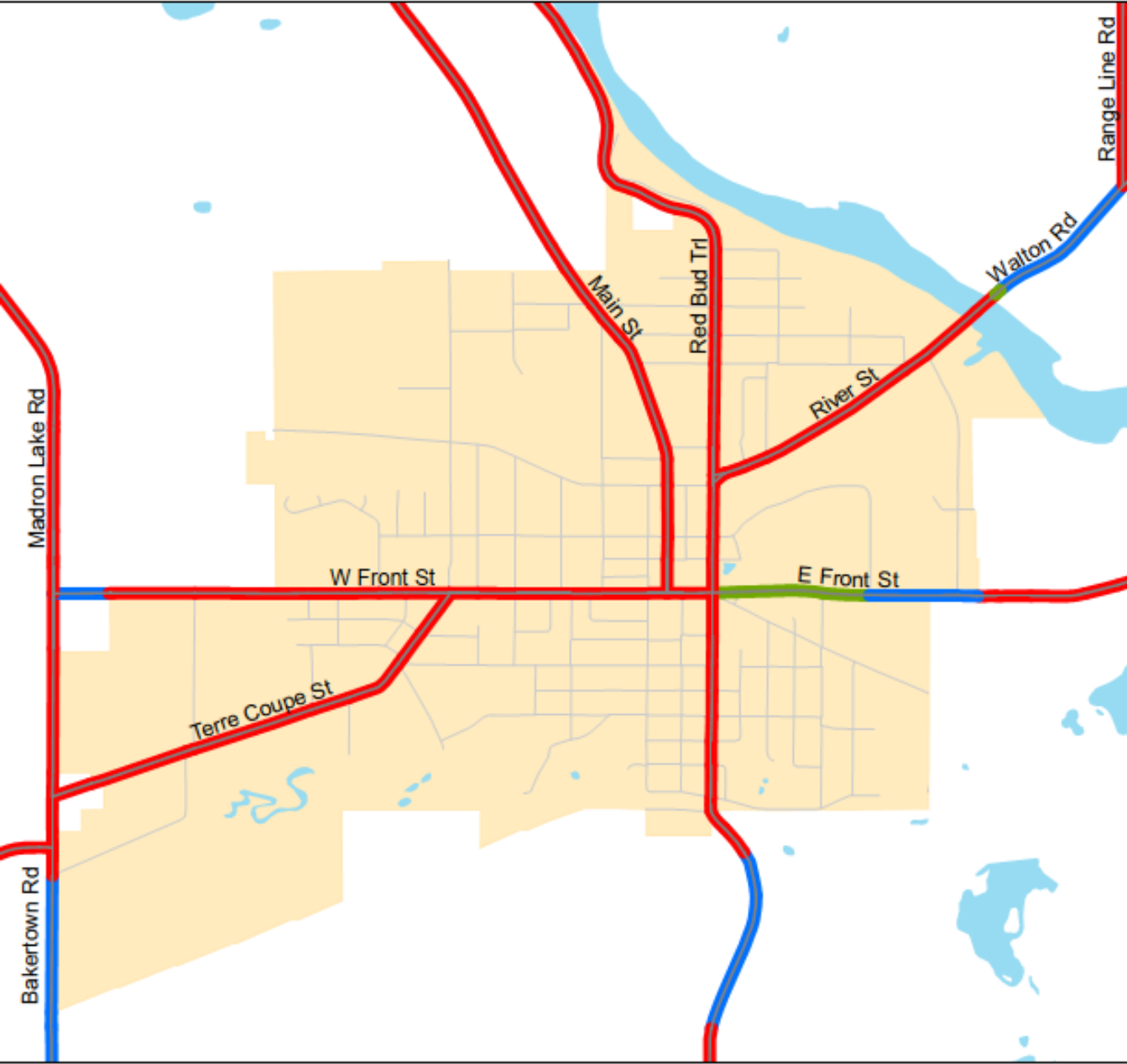
Jurisdiction	Total Miles	Non Federal Aid	Federal Aid		
			Total	Locally Maintained	MDOT Maintained
City of Buchanan	28.7	22.6	6.1	6.1	0.0
City of Niles	71.6	54.8	16.7	10.7	6.1
Village of Edwardsburg	7.9	4.8	3.1	0.9	2.2
Bertrand Twp.	96.6	55.0	41.7	17.5	24.2
Buchanan Twp.	76.9	58.0	18.8	18.8	0.0
Howard Twp.	93.6	61.6	32.0	19.1	12.9
Mason Twp.	51.5	36.3	15.1	8.7	6.5
Milton Twp.	49.4	21.7	27.7	16.9	10.8
Niles Twp.	154.6	94.3	60.3	23.7	36.7
Ontwa Twp.	63.1	41.2	21.9	13.9	8.0
Berrien County Road Department total	328.1	207.3	120.8	60.0	60.9
Cass County Road Commission Total	257.5	160.8	96.7	58.6	38.2
Grand total	1,279.4	456.7	310.6	167.1	143.7

Percent of Roads Rated Good, Fair, or Poor by Jurisdiction

Excludes MDOT maintained Roads



City of Buchanan



MDOT Maintained

Locally Maintained

PASER Ratings
(On Federal Aid Eligible Roads Only)

Good (8-10)

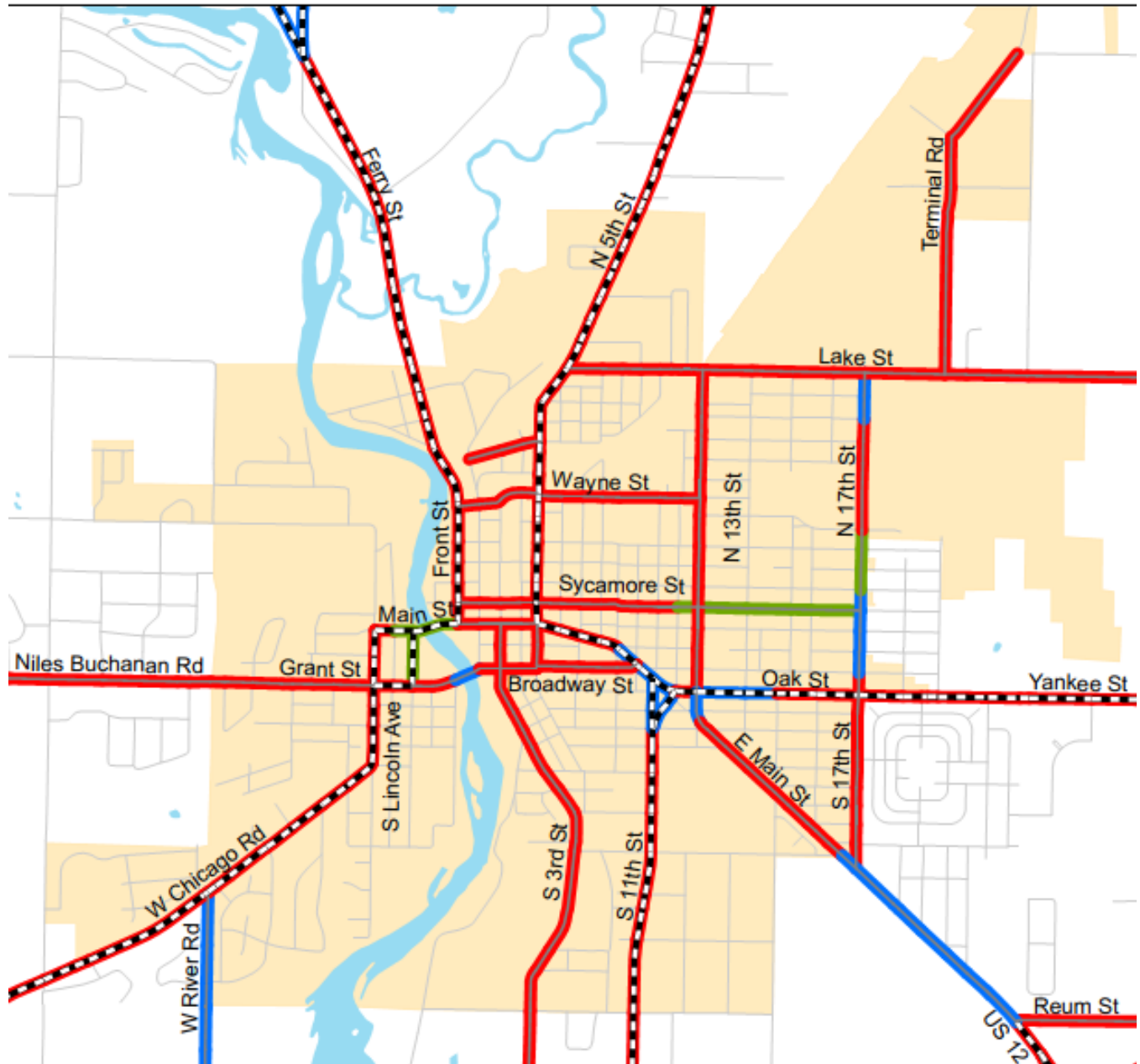
Fair (5-7)

Poor (1-4)



0 0.3 0.6 Miles 1 in = 0.3 mile

City of Niles



--- MDOT Maintained

— Locally Maintained

PASER Ratings
(On Federal Aid Eligible Roads Only)

— Good (8-10)

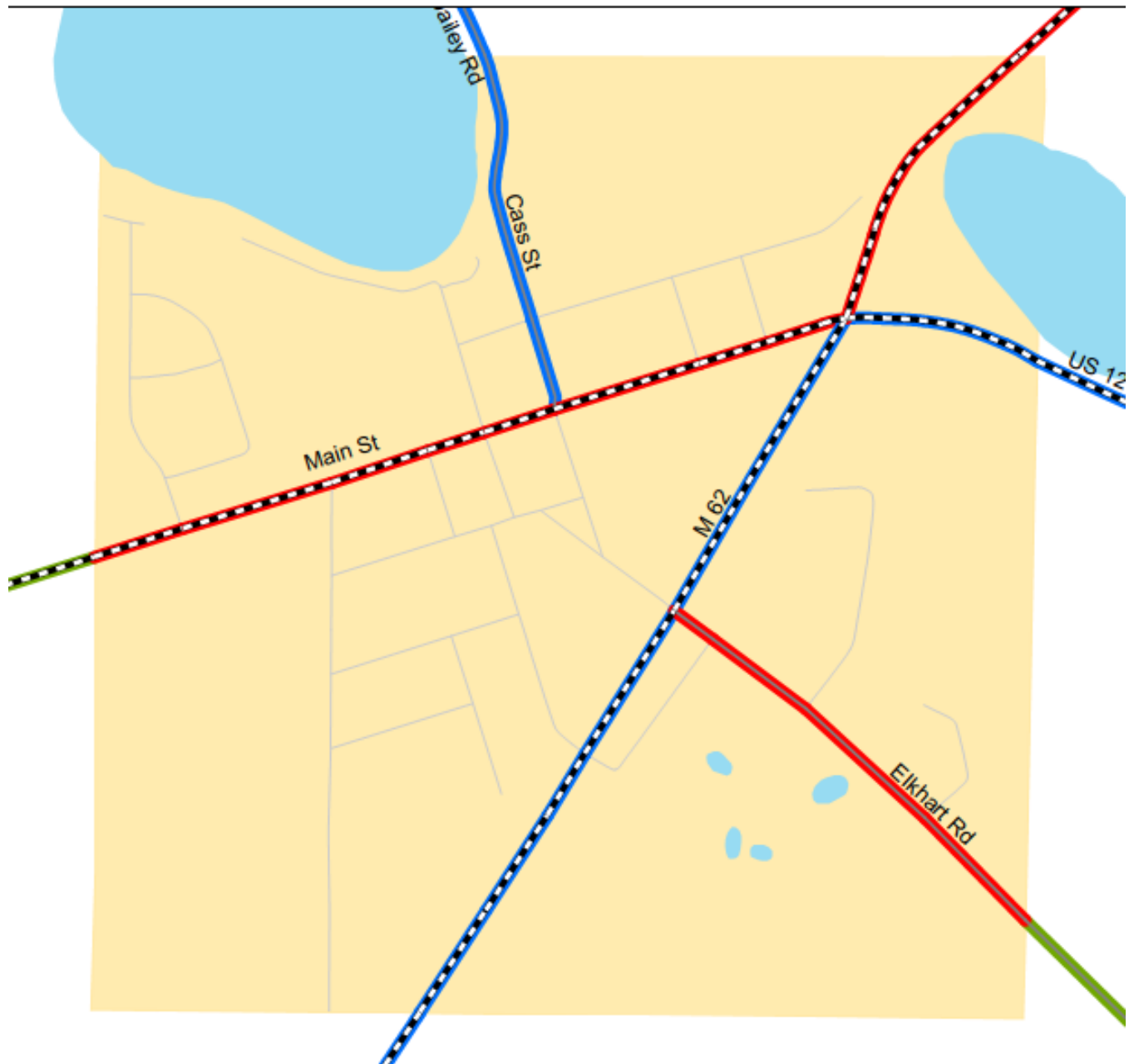
— Fair (5-7)

— Poor (1-4)



0 0.4 0.8 Miles 1 in = 0.41 mile

Village of Edwardsburg



MDOT Maintained

Locally Maintained

PASER Ratings
(On Federal Aid Eligible Roads Only)

Good (8-10)

Fair (5-7)

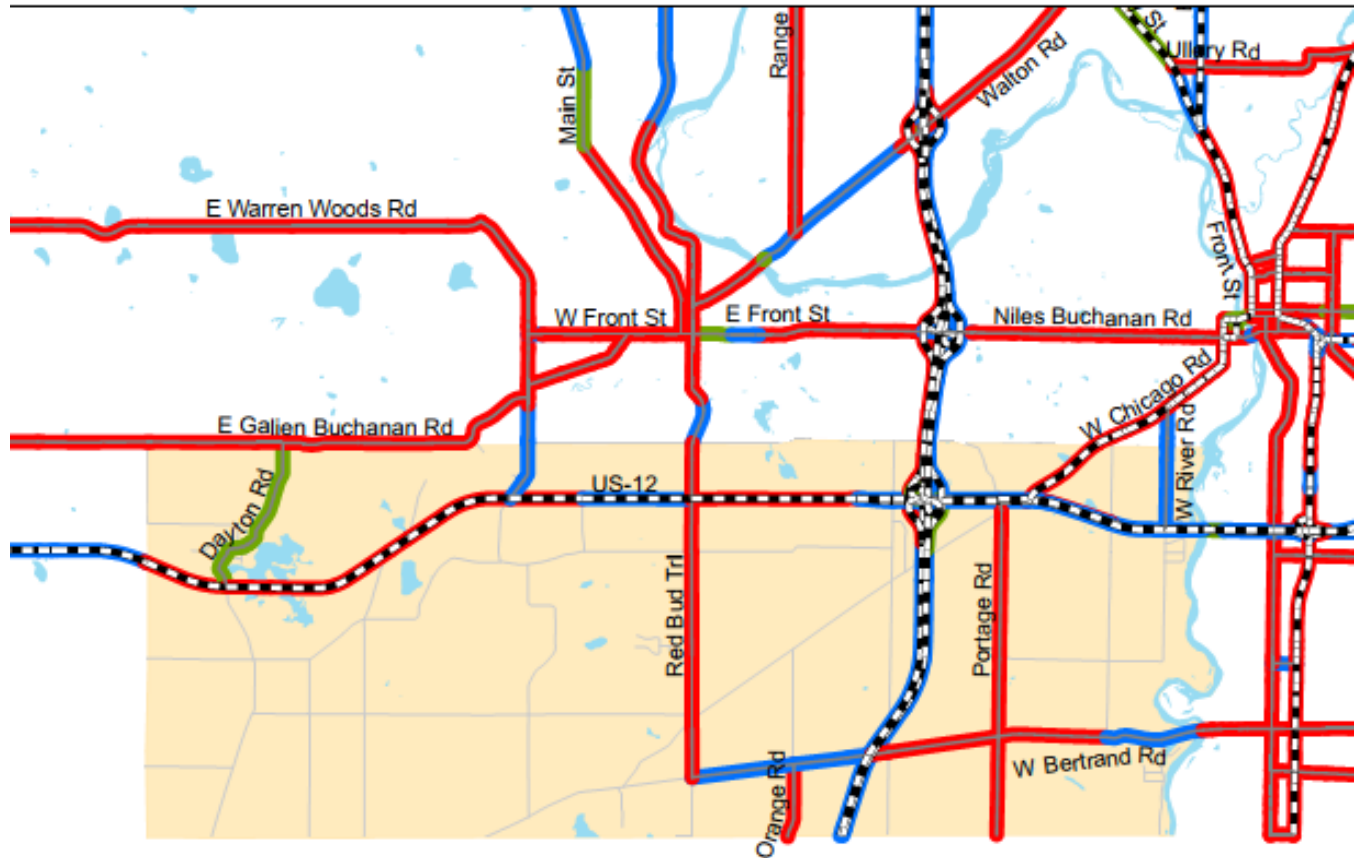
Poor (1-4)



0 0.1 0.2
Miles

1 in = 0.14 mile

Bertrand Township



MDOT Maintained

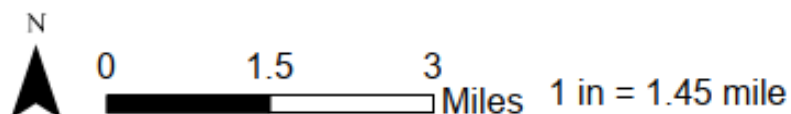
Locally Maintained

PASER Ratings
(On Federal Aid Eligible Roads Only)

Good (8-10)

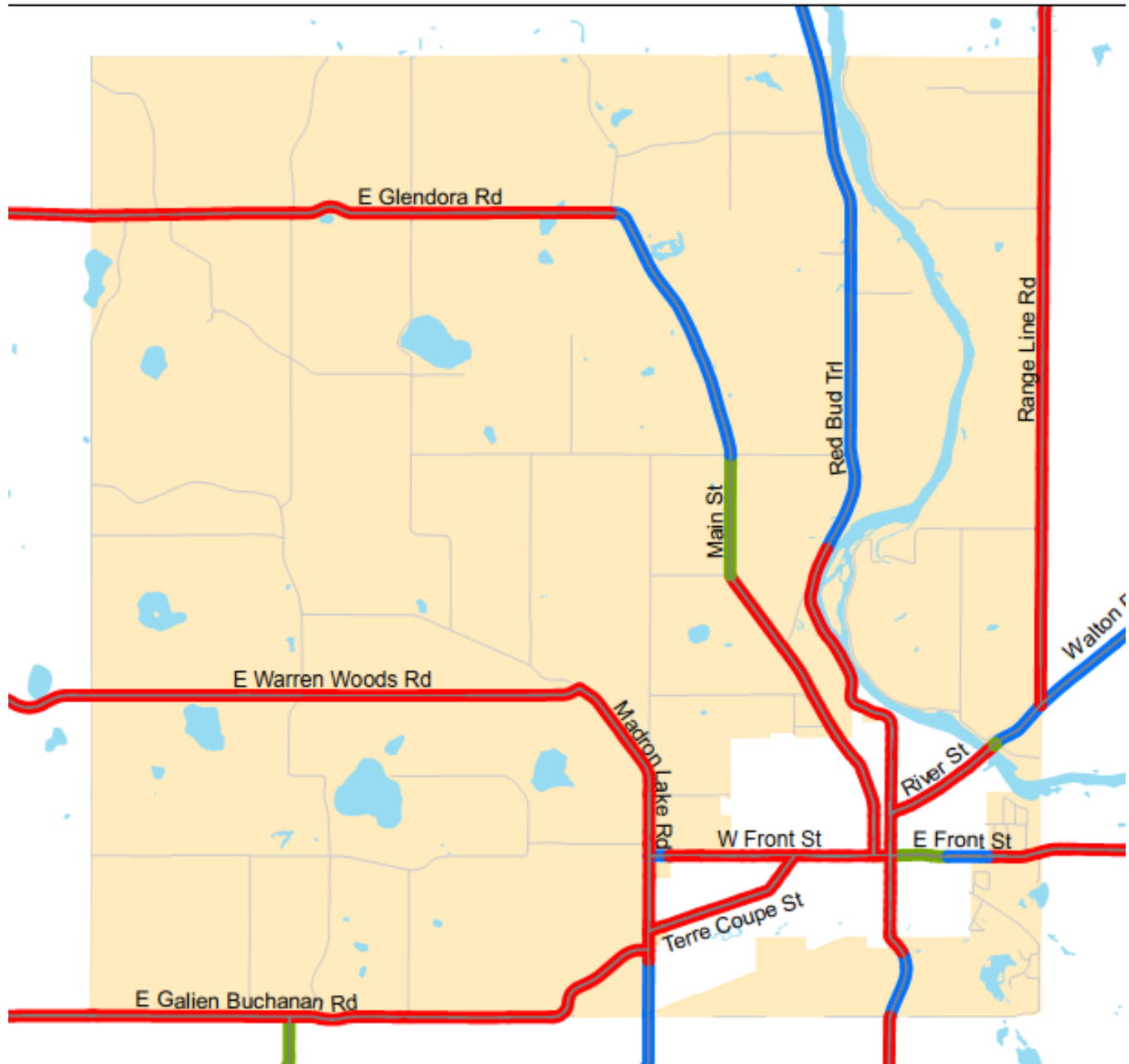
Fair (5-7)

Poor (1-4)



2017 Pavement Condition Report for the NATS Area

Buchanan Township



MDOT Maintained

Locally Maintained

PASER Ratings
(On Federal Aid Eligible Roads Only)

Good (8-10)

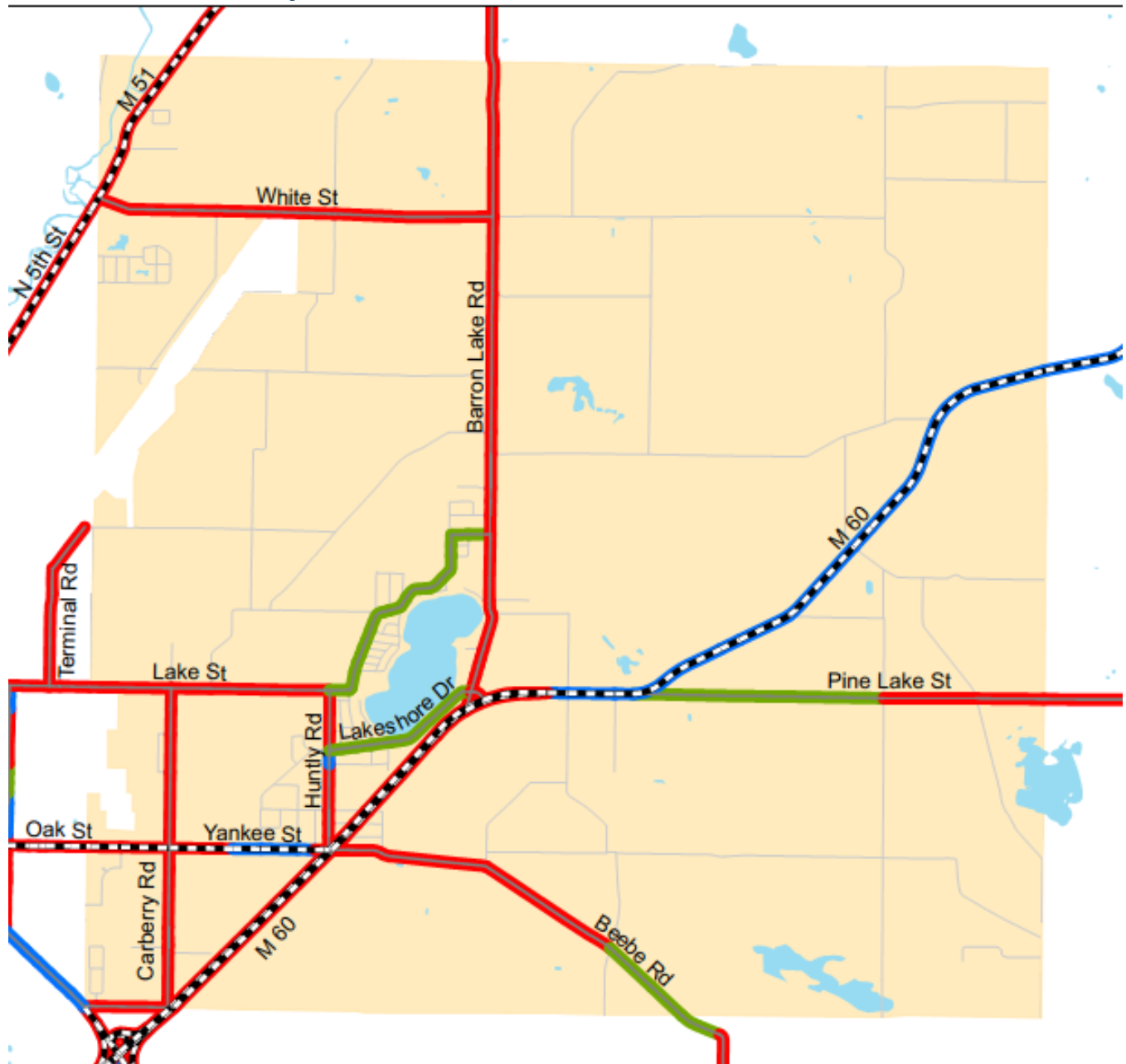
Fair (5-7)

Poor (1-4)



0 0.85 1.7 Miles 1 in = 0.82 mile

Howard Township



MDOT Maintained

Locally Maintained

PASER Ratings
(On Federal Aid Eligible Roads Only)

Good (8-10)

Fair (5-7)

Poor (1-4)

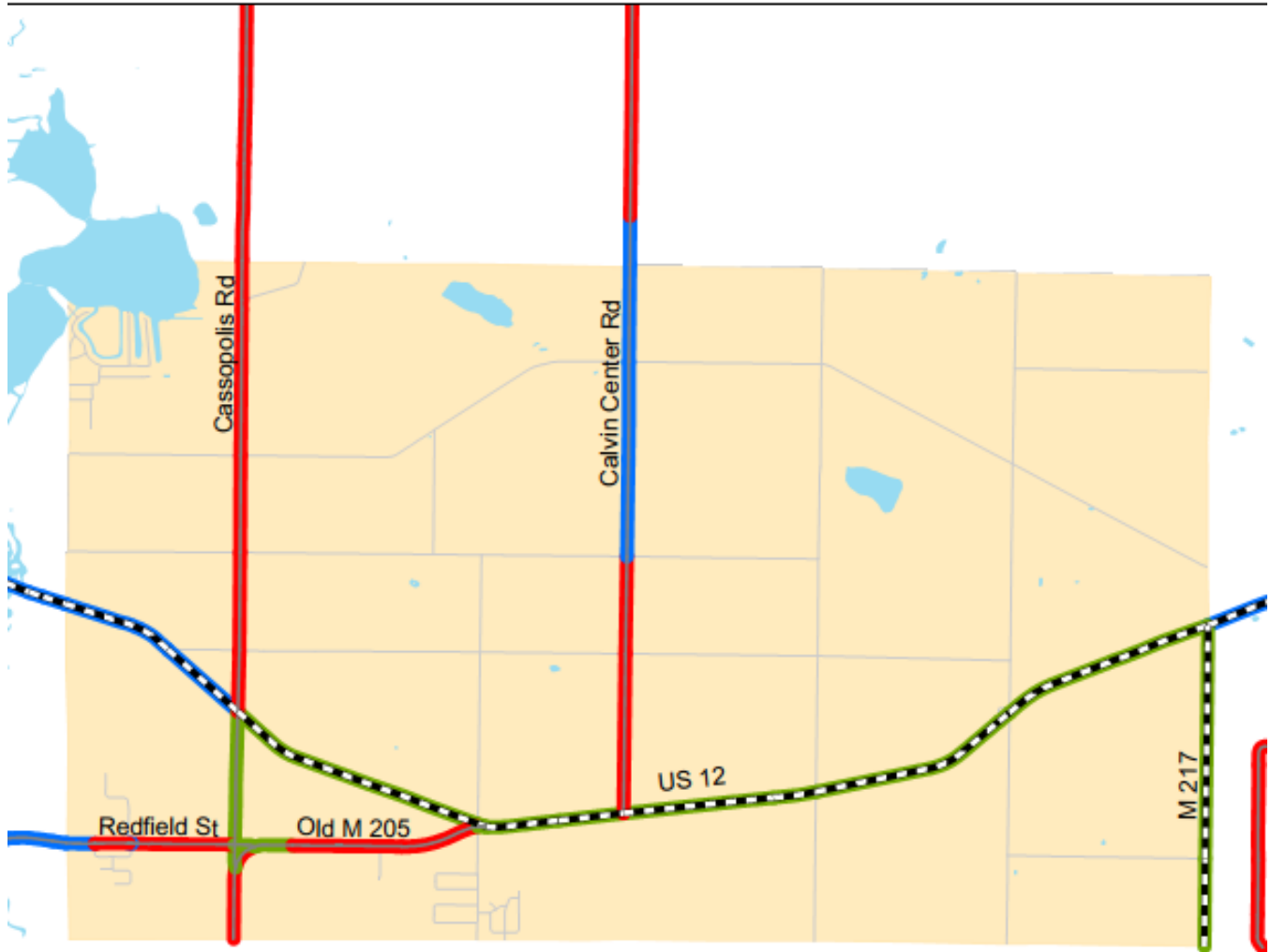


0 0.15 0.3 Miles

1 in = 0.17 mile

2017 Pavement Condition Report for the NATS Area

Mason Township



MDOT Maintained

Locally Maintained

PASER Ratings
(On Federal Aid Eligible Roads Only)

Good (8-10)

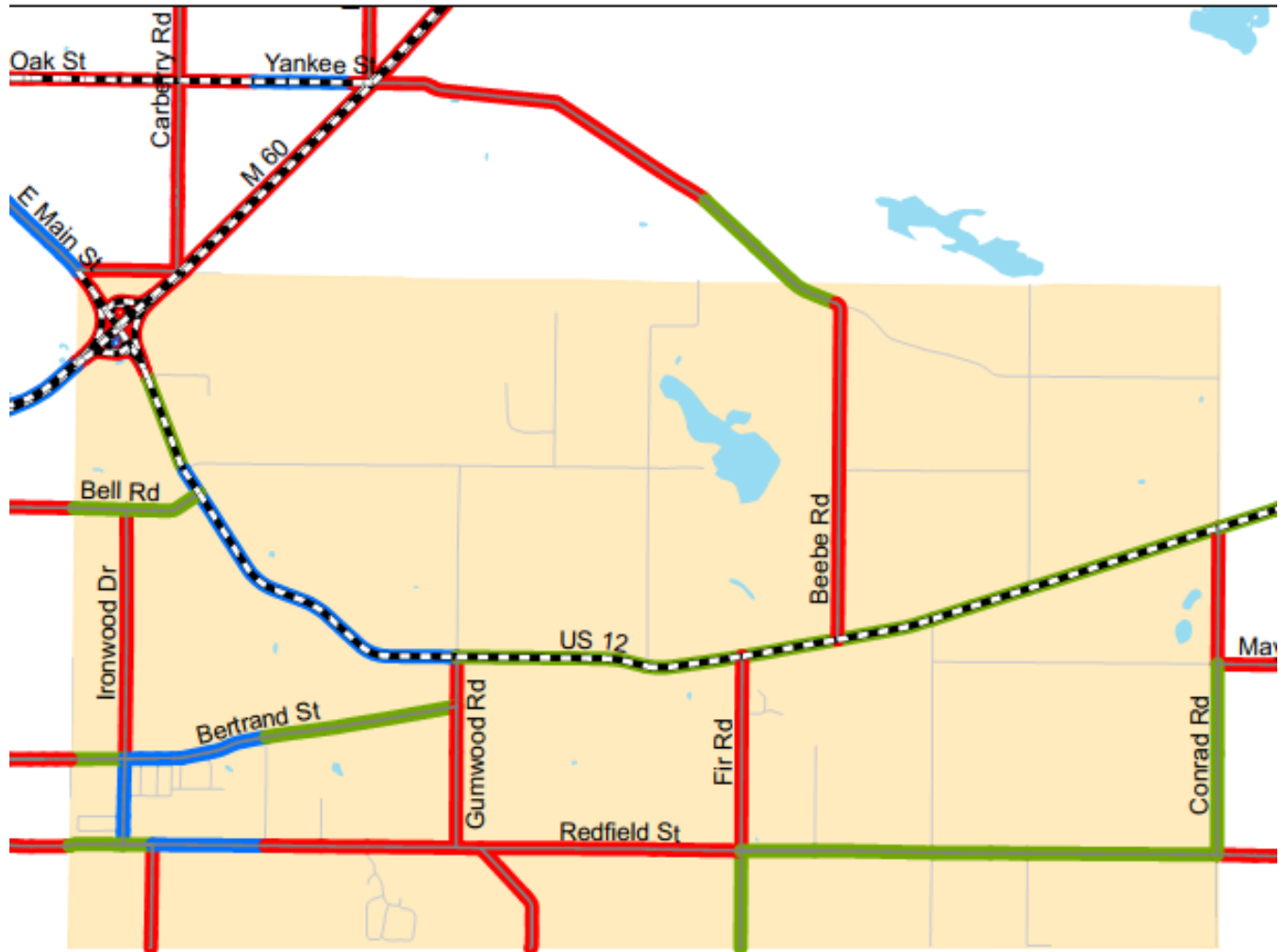
Fair (5-7)

Poor (1-4)



0 0.8 1.6 Miles 1 in = 0.77 mile

Milton Township



 MDOT Maintained

 Locally Maintained

PASER Ratings
(On Federal Aid Eligible Roads Only)

 Good (8-10)

 Fair (5-7)

 Poor (1-4)

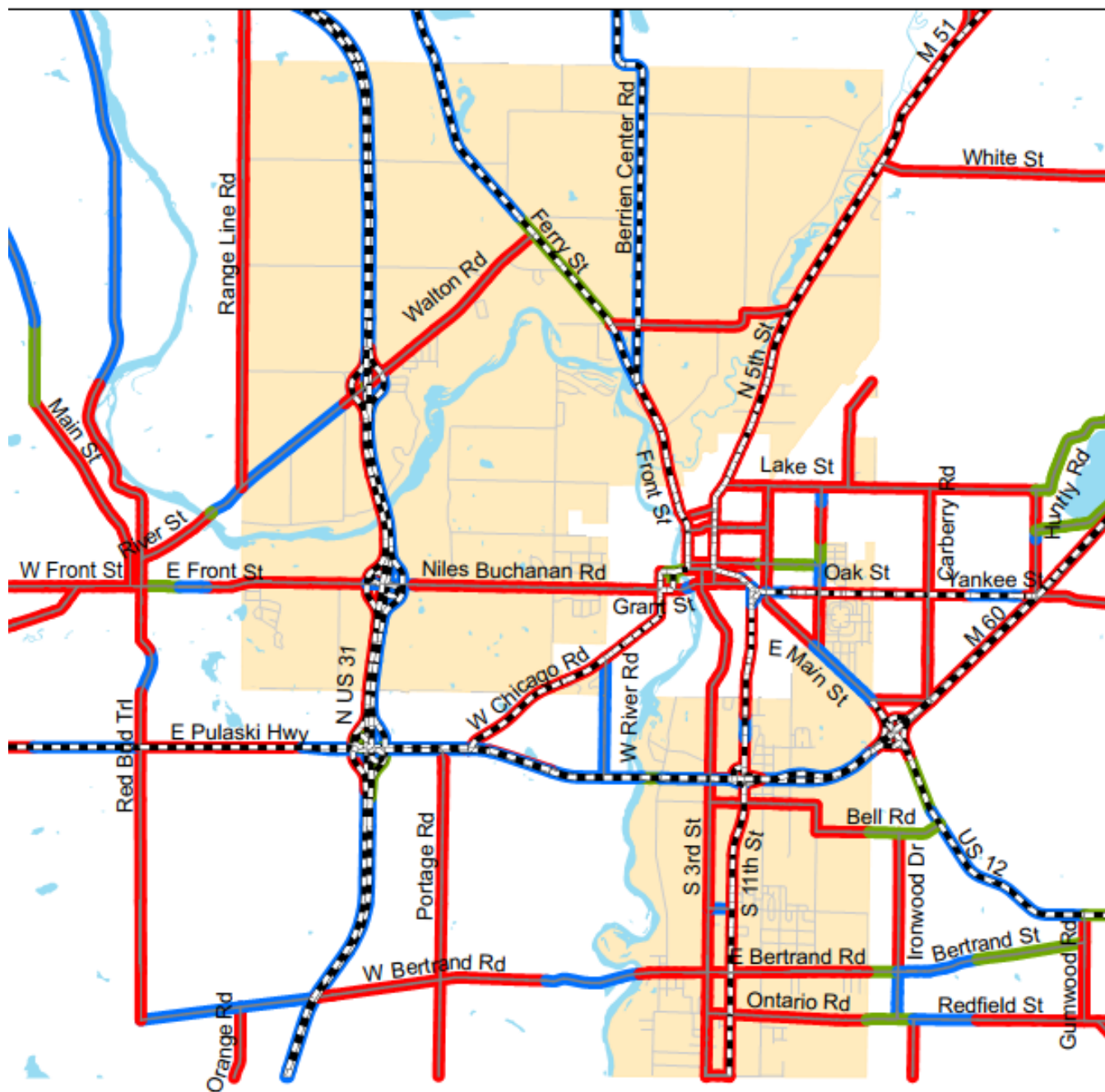


0 0.15 0.3
Miles

1 in = 0.17 mile

2017 Pavement Condition Report for the NATS Area

Niles Township

 MDOT Maintained

Locally Maintained



A horizontal scale bar with markings at 0, 1, and 2. The word "Miles" is written at the end of the bar.

1 in = 1.22 mile

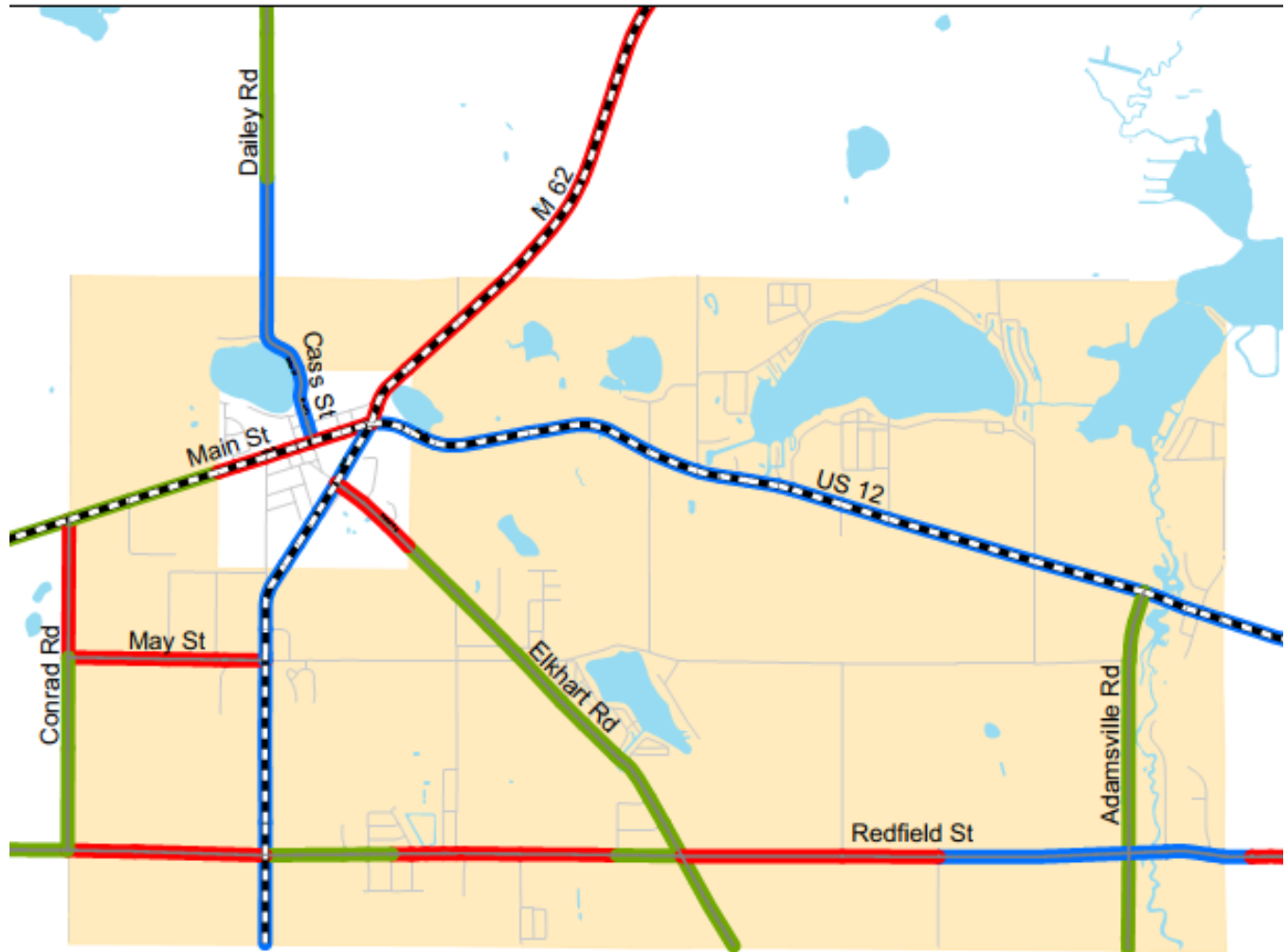
PASER Ratings
(On Federal Aid Eligible Roads Only)

Good (8-10)

— Fair (5-7)

 Poor (1-4)

Ontwa Township



MDOT Maintained

Locally Maintained

PASER Ratings
(On Federal Aid Eligible Roads Only)

Good (8-10)

Fair (5-7)

Poor (1-4)



0 0.8 1.6 Miles 1 in = 0.78 mile

2017 Pavement Condition Report for the NATS Area

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.

2017 Pavement Condition Report for the NATS Area

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.

2017 Pavement Condition Report for the NATS Area

2017-2020 Federally Funded Projects

For Federal Aid Roads Maintained by Cities, Villages, Berrien County, or Cass County

Year	Location	Project/Road	Limits	Work	Federal cost	Local Cost	Total Cost
2017	Bertrand Twp.	Dayton, Orange, Third, Fulkerson and Ontario	Various	Hot Patching and Seal, Single Chip	\$69,210	\$24,742	\$93,952
2017	Buchanan Twp.	Red Bud Trail and Niles Buchanan Road	City of Buchanan to US 12 AND Niles Buchanan Road Niles to Buchanan	Hot mix asphalt and seal coat	\$69,210	\$24,742	\$93,952
2017	City of Niles	Sycamore St	13th to 17th	Mill existing pavement 1.5 deep & resurface with HMA	\$100,100	\$35,785	\$135,885
2017	Ontwa Twp.	Redfield St	Brande Creek to Oak	Mill and structural overlay with shoulders, signs and striping	\$276,300	\$98,700	\$375,000
2018	City of Buchanan	River Road Signal Project	at Red Bud Trail	Signal replacement and video detection equipment	\$203,200	\$50,800	\$254,000
2018	City of Niles	17th St	Broadway to Main	Mill 1.5" deep and repave	\$183,894	\$66,106	\$250,000
2018	Mason Twp.	Mason St	Cassopolis Road to Calvin Center Road	HMA overlay, shoulders, signage, pavement markings	\$175,637	\$38,947	\$214,584
2019	Buchanan Twp.	N Main St	City limits to 400 feet South of Reed	2" HMA overlay	\$153,268	\$79,732	\$233,000
2019	Bertrand Twp.	Bertrand Rd	Portage to Copp	2" HMA overlay and gravel shoulders	\$191,000	\$43,000	\$234,000
2019	Ontwa Twp.	Redfield St	Conrad Road to M-62	Mill and replace HMA	\$174,340	\$38,660	\$213,000
2020	Niles Twp.	3rd St	US-12 to Fulkerson Road	2" HMA overlay with gravel shoulders	\$231,800	\$51,401	\$283,201
2020	Howard Twp.	Lake St	Airport Road to Huntly	Mill and Fill	\$220,995	\$49,005	\$270,000