

The State of Michigan Transportation



2019 Pavement Condition Report For The Niles-Buchanan-Cass Area Transportation Study



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

NATS Area 2019 Pavement Condition Report

Overview of The PASER Rating System	2
Summary of NATS 2019 Ratings.....	3
Trends in Pavement Conditions	4
Road Miles Within the NATS Area.....	5
Summary of Ratings by Jurisdiction	5
Pavement Condition Maps.....	7
PASER Rating Charts.....	17

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

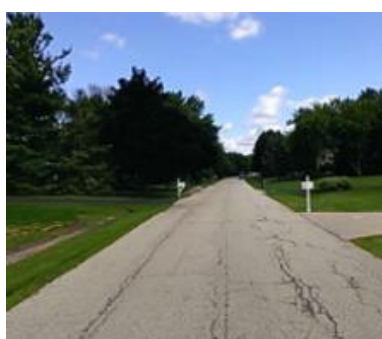
Overview of the PASER Rating System

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 agency 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 through 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 2019, the southern portions of Berrien and Cass Counties were completed, which includes the entire NATS area.



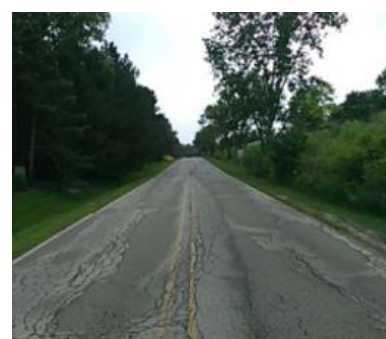
Good Condition

PASER Rating 8-10
Requires Routine Maintenance



Fair Condition

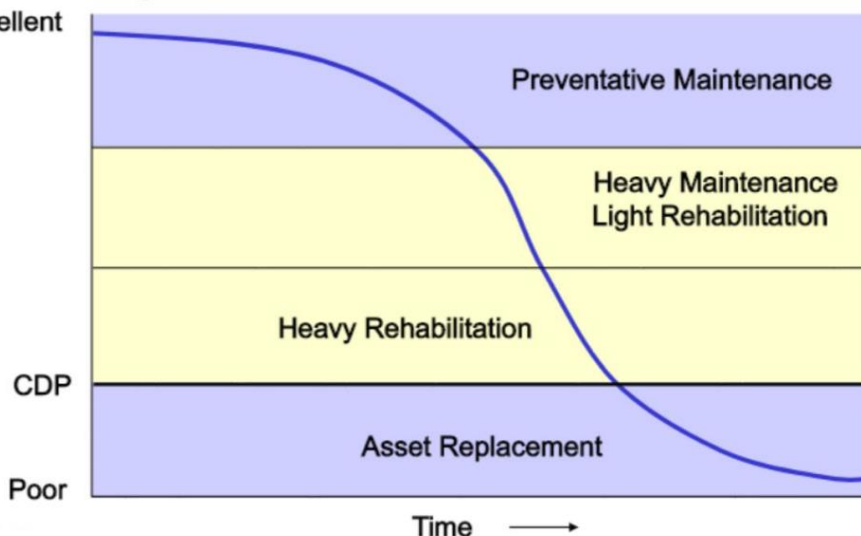
PASER Rating 5-7
Requires Capital Preventative Maintenance



Poor Condition

PASER Rating 1-4
Requires Structural Improvements or Reconstruction

Condition Rating
Excellent

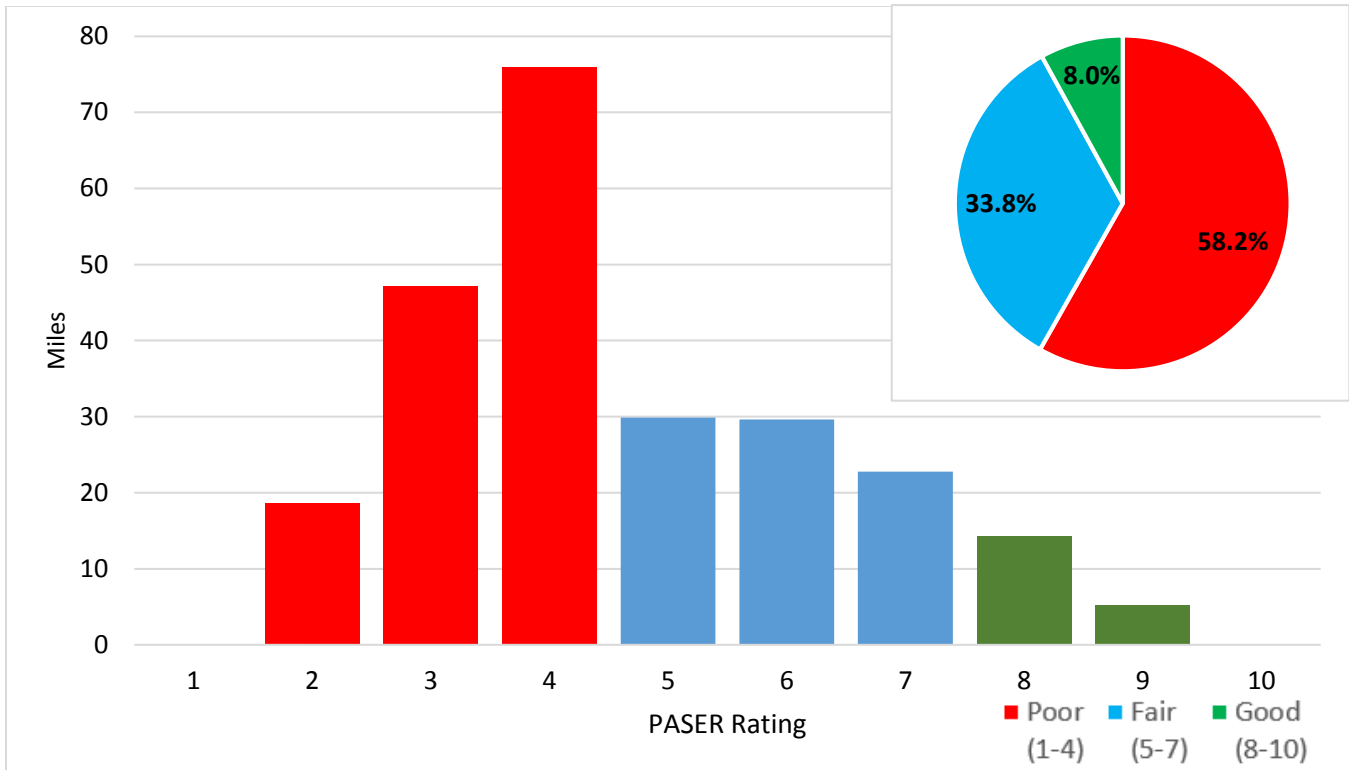


The cost of rehabilitation is exponentially higher than the costs of preventative maintenance, a full reconstruction being the most expensive treatment option. Asset management best practices encourage preventative maintenance to slow decay and reduce costs.

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.

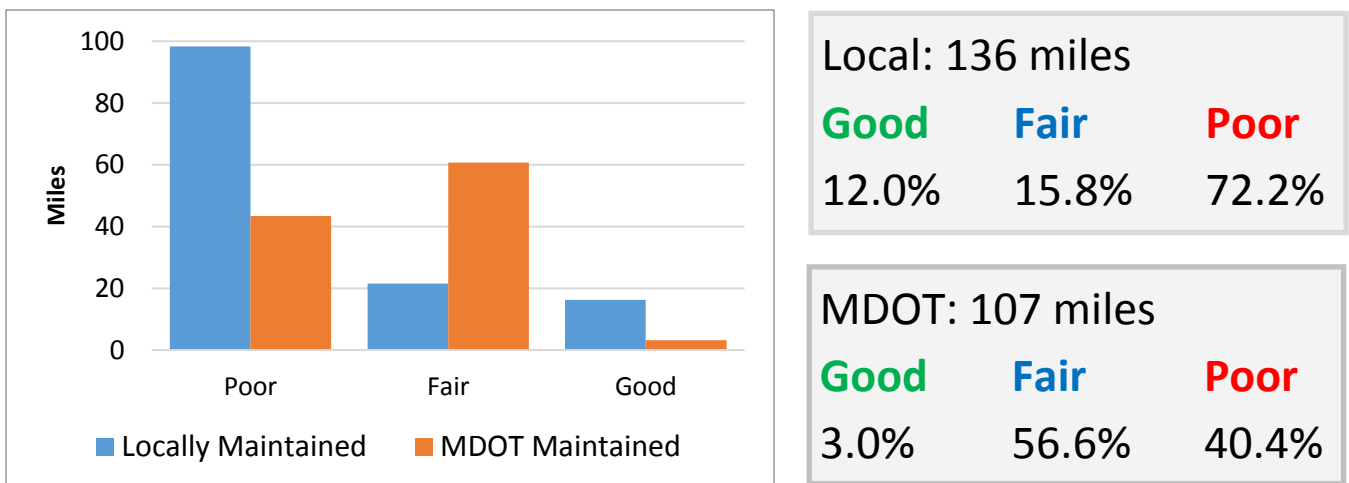
NATS Pavement Condition Summary

2019 All Federal Aid Miles by PASER Rating



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.

Comparison between Local and MDOT Maintained Federal Aid Roads

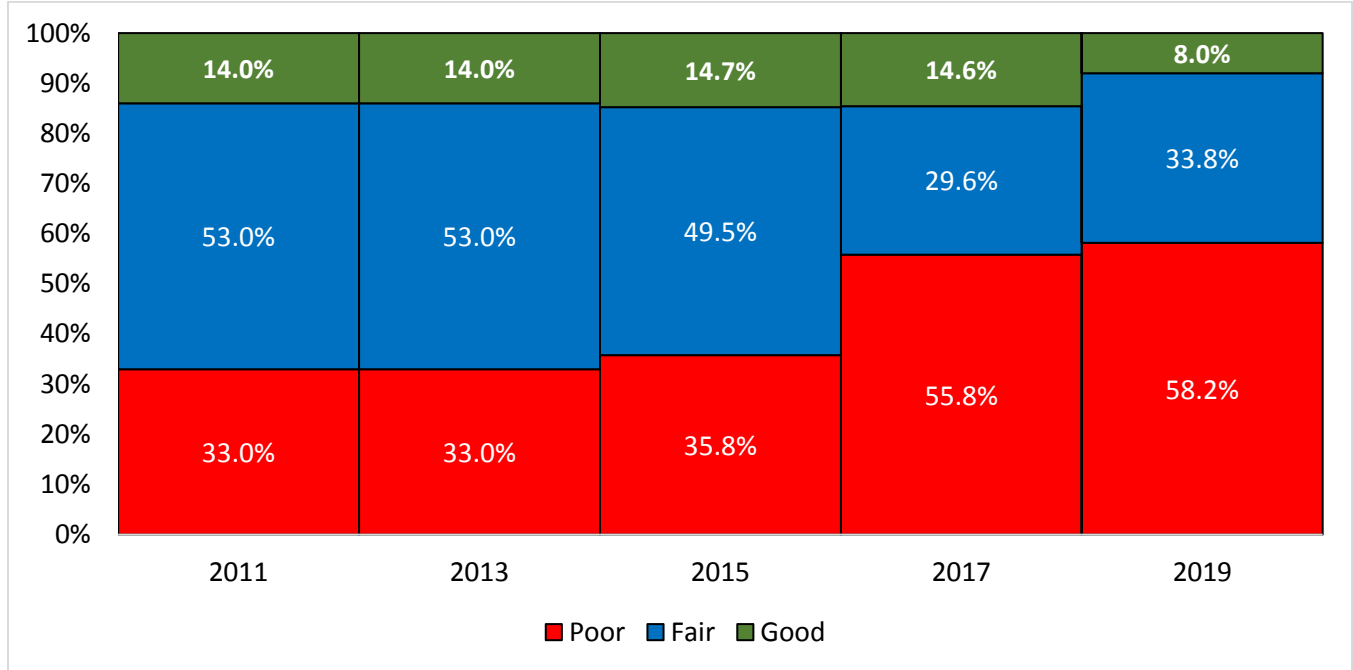


Locally maintained roads are, in general, in far worse condition than MDOT maintained roads. This is largely because more federal and state funding goes first, toward interstate maintenance and then, to the other highways and major arterials, which make up the National Highway System. These roads are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

Trends in Pavement Conditions

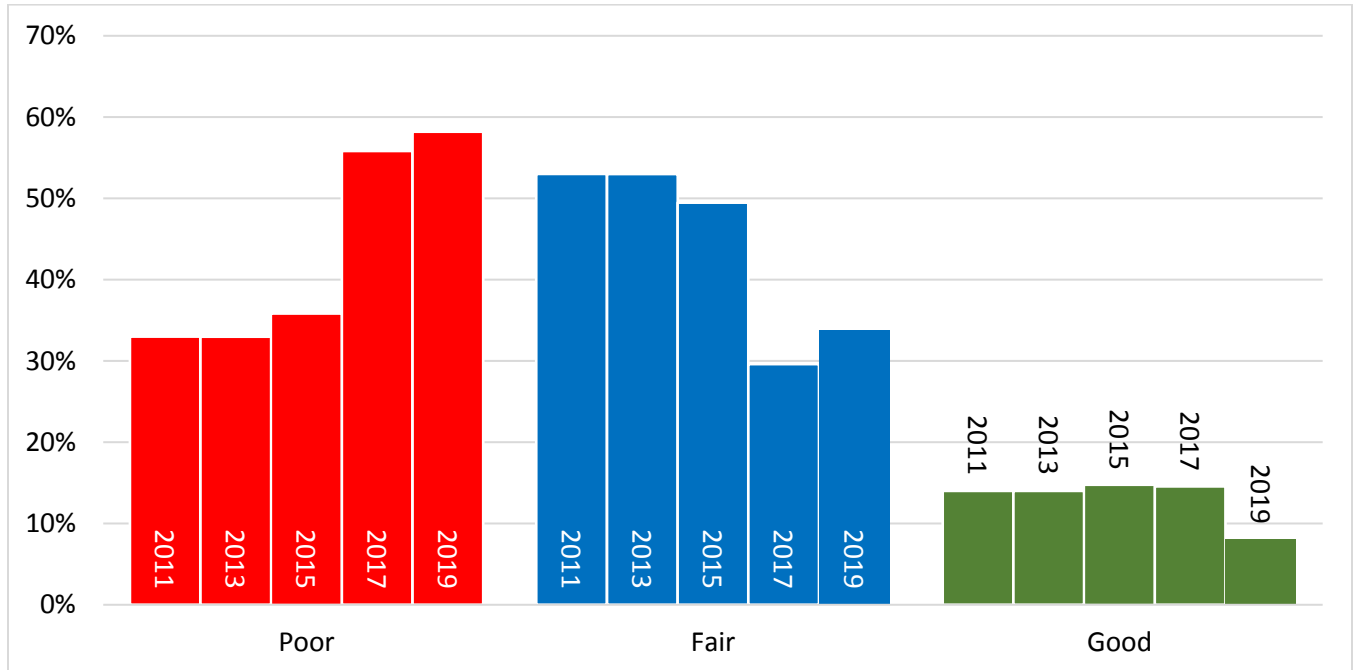
Ten-Year Trend in Countywide PASER Ratings 2011-2019

Includes City, Village, Berrien County Road Department, Cass County Road Department and MDOT Maintained Roads



2011-2019 Trends in Roads Rated Good, Fair, and Poor

Includes City, Village, Berrien County Road Department, Cass County Road Department and MDOT Maintained Roads



NATS Area 2019 Pavement Condition Report

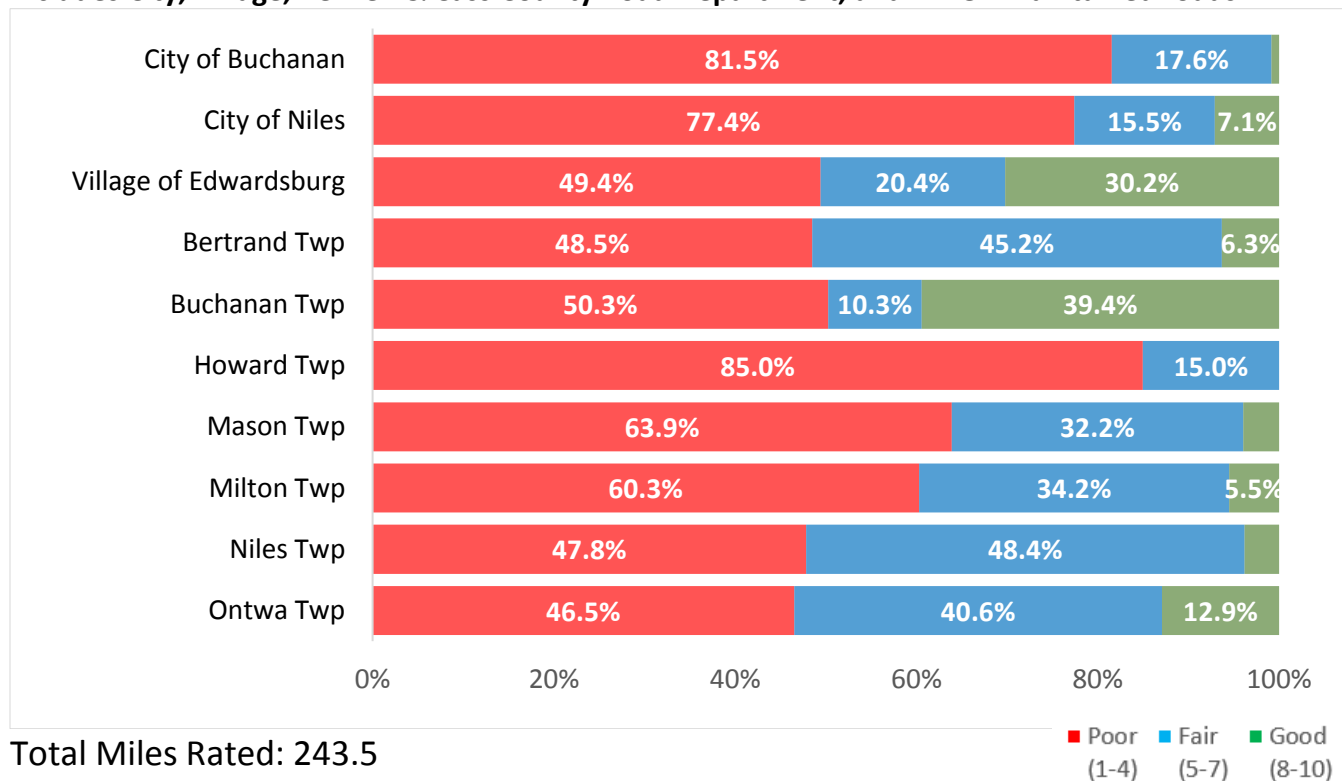
NATS 2019 Pavement Condition by Jurisdiction

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	325.1	204.2	120.8	60.0	60.9
Cass County Road Commission Total	164.9	68.2	96.7	58.6	38.2
Grand total	598.1	354.6	243.5	136.2	107.3

All Federal Aid Eligible Road Ratings by Jurisdiction

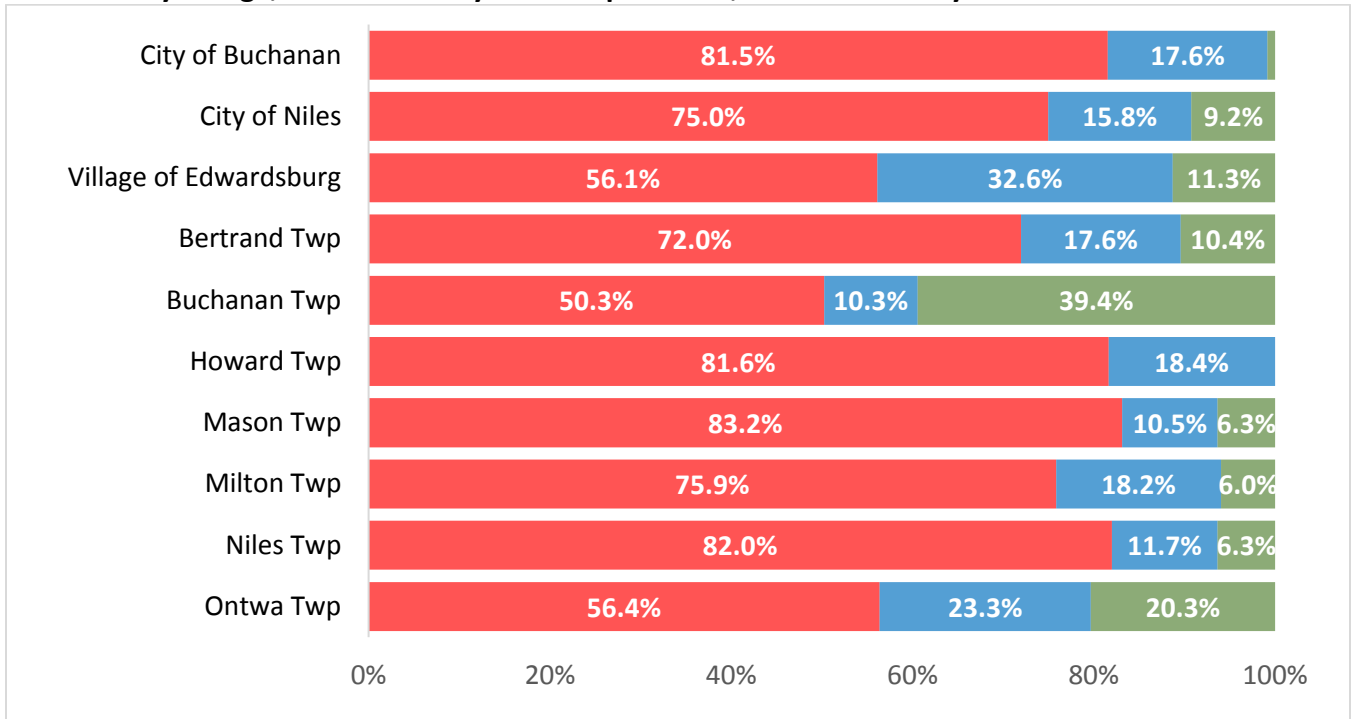
Includes City, Village, Berrien & Cass County Road Department, and MDOT maintained roads



NATS Area 2019 Pavement Condition Report

Locally Maintained Federal Aid Eligible Road Ratings by Jurisdiction

Includes City Village, Berrien County Road Department, and Cass County Road Commission roads.

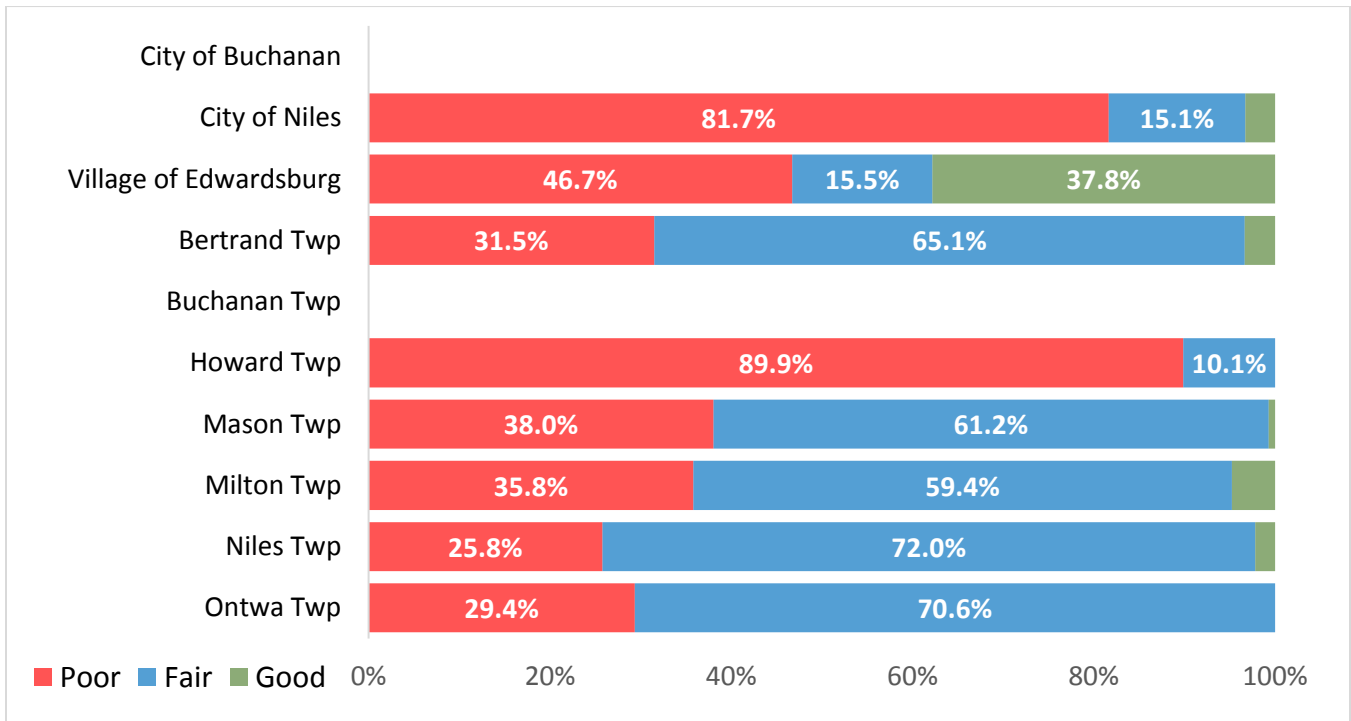


Total Miles Rated: 136.2

■ Poor (1-4)
 ■ Fair (5-7)
 ■ Good (8-10)

MDOT Maintained Federal Aid Eligible Road Ratings by Jurisdiction

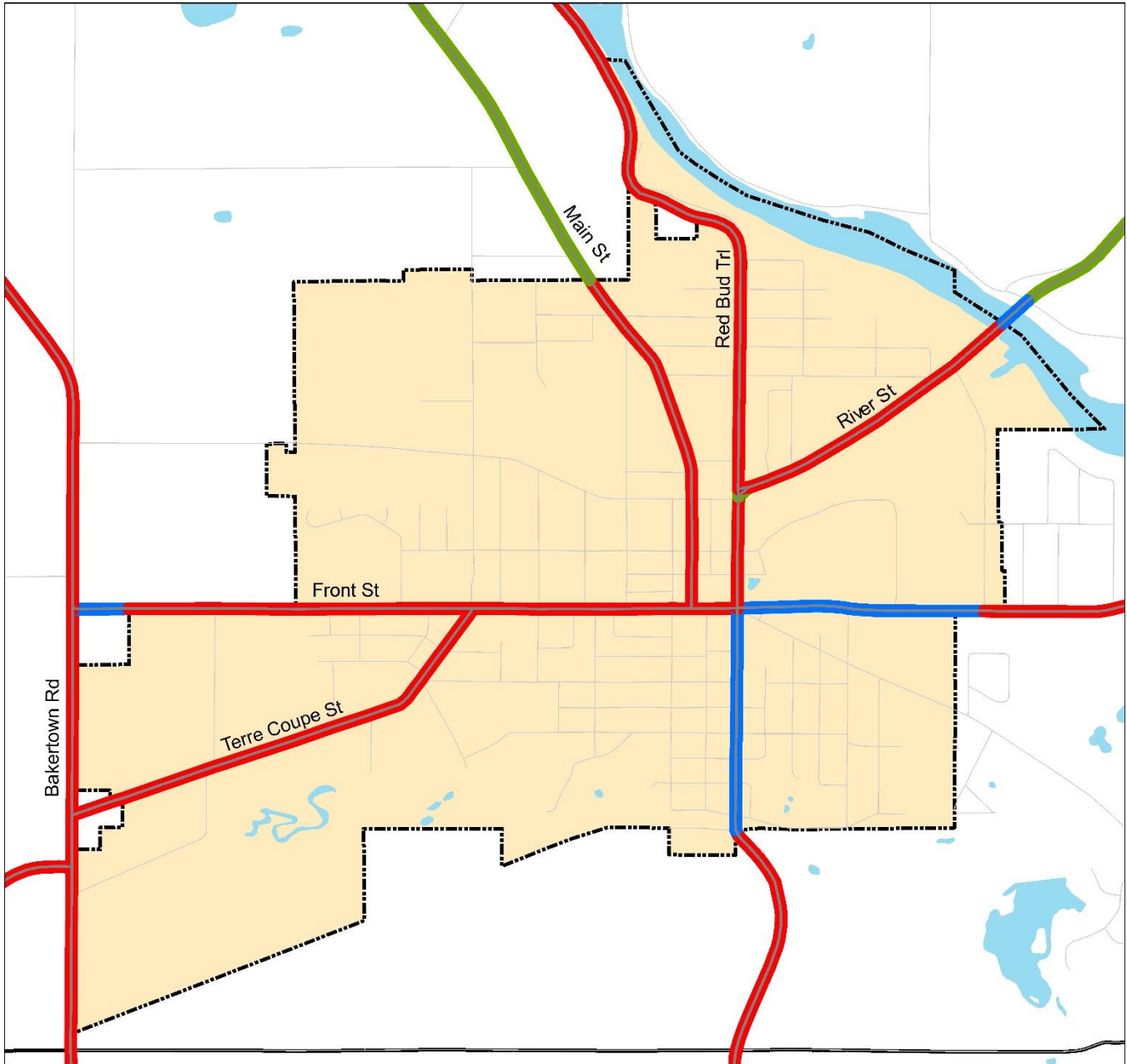
Roads Maintained by MDOT Only



Total Miles of MDOT Maintained Roads Rated: 107.3

■ Poor (1-4)
 ■ Fair (5-7)
 ■ Good (8-10)

City of Buchanan



--- MDOT Maintained

— Locally Maintained



0 0.3 0.6 Miles 1 in = 0.3 mile

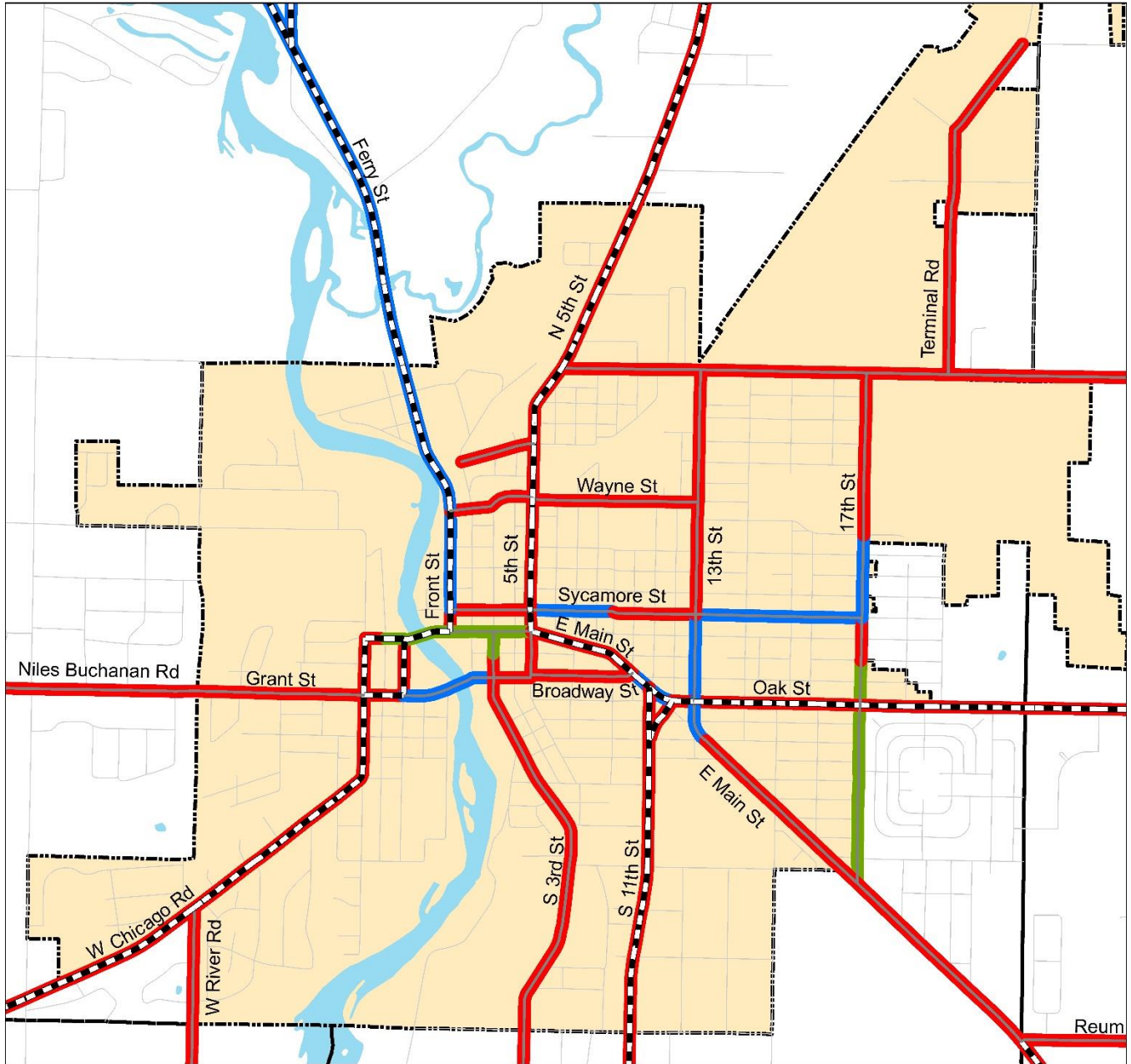
PASER Ratings
(On Federal Aid Eligible Roads Only)

— Good (8-10)

— Fair (5-7)

— Poor (1-4)

City of Niles



--- MDOT Maintained

— Locally Maintained

PASER Ratings
(On Federal Aid Eligible Roads Only)

— Good (8-10)

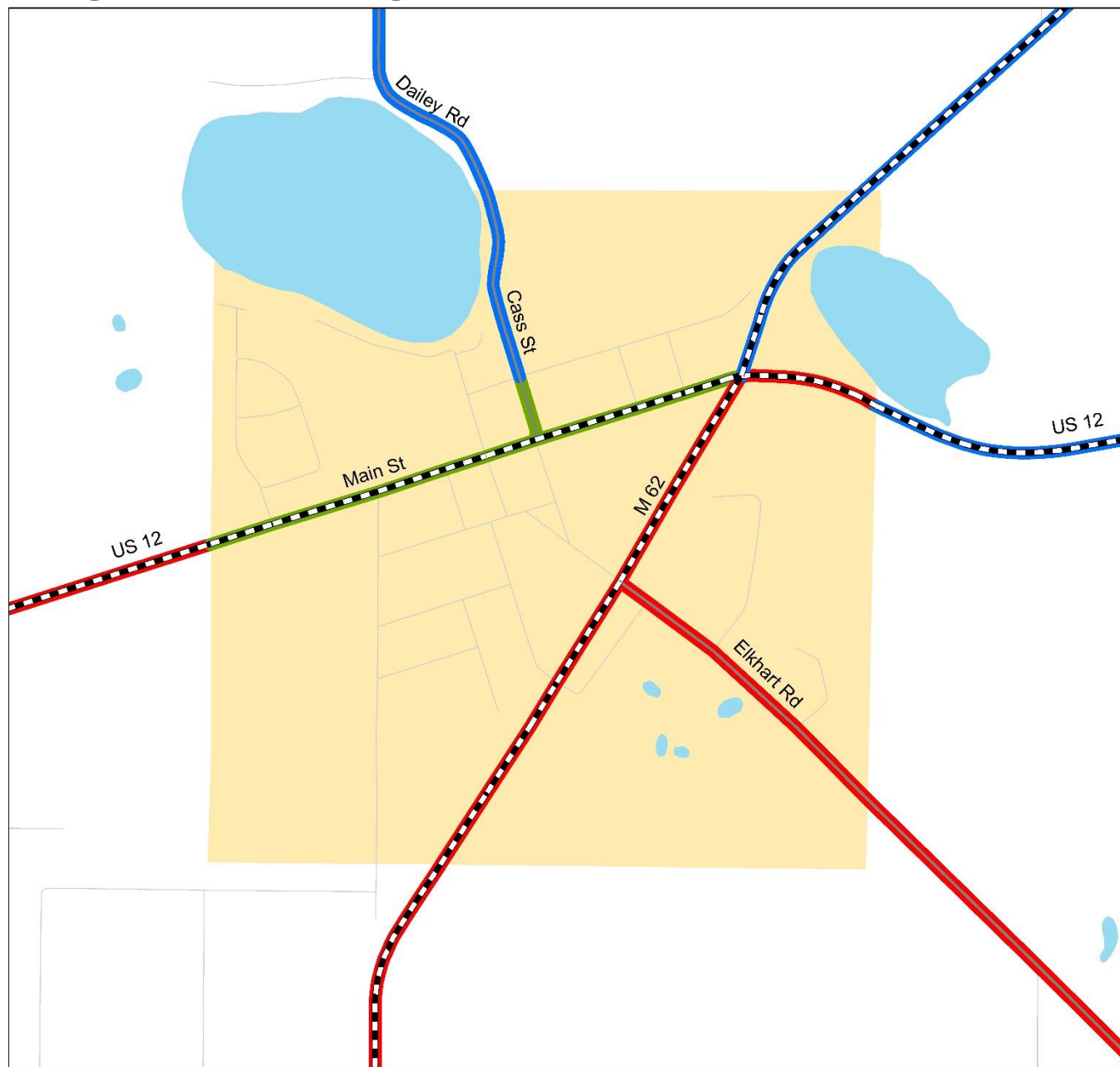
— Fair (5-7)

— Poor (1-4)



0 0.4 0.8 Miles 1 in = 0.4 mile

Village of Edwardsburg



--- MDOT Maintained

— Locally Maintained

PASER Ratings
(On Federal Aid Eligible Roads Only)

— Good (8-10)

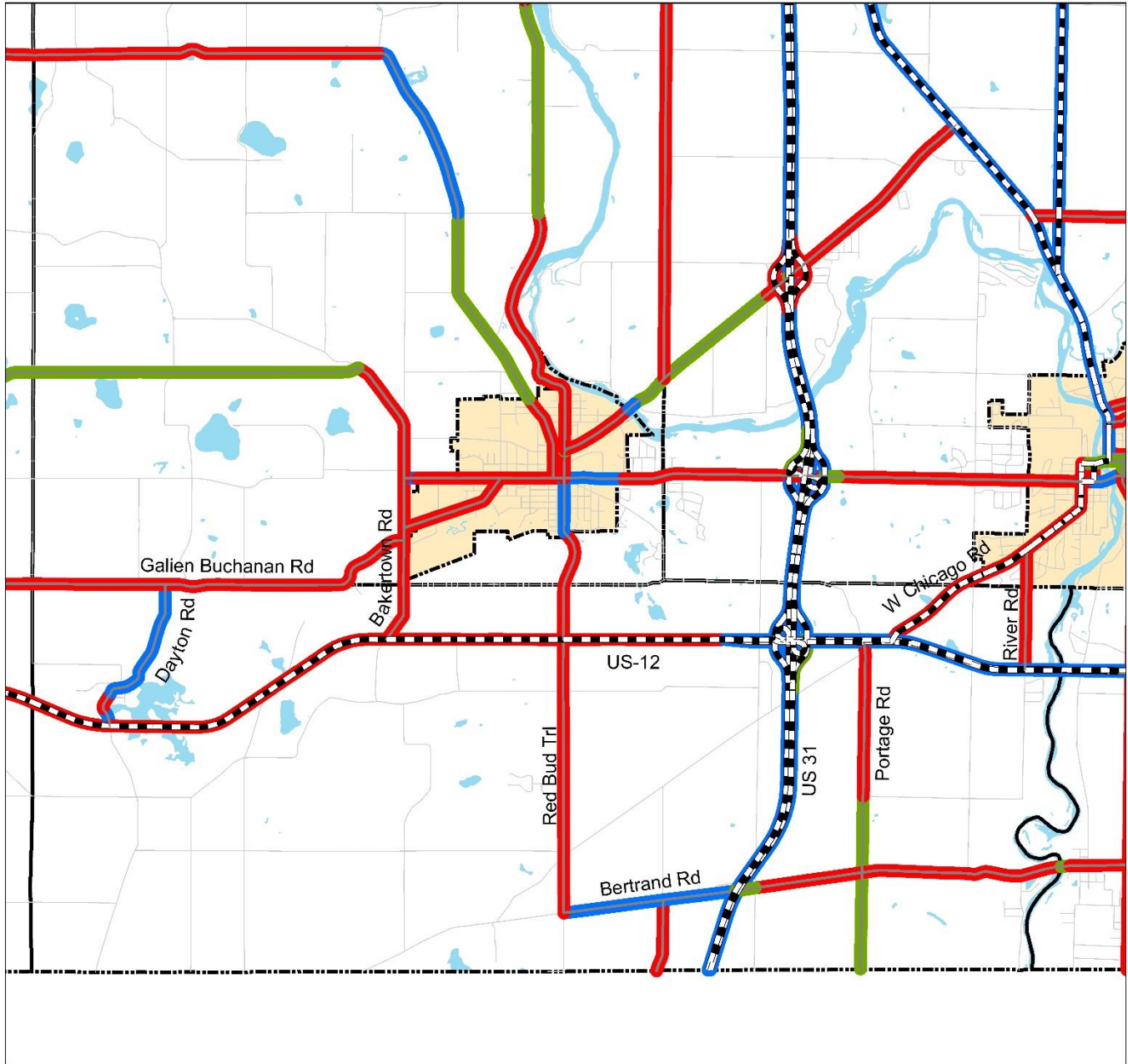
— Fair (5-7)

— Poor (1-4)



0 0.2 0.4 Miles 1 in = 0.2 mile

Bertrand Township



— MDOT Maintained

— Locally Maintained

PASER Ratings
(On Federal Aid Eligible Roads Only)

— Good (8-10)

— Fair (5-7)

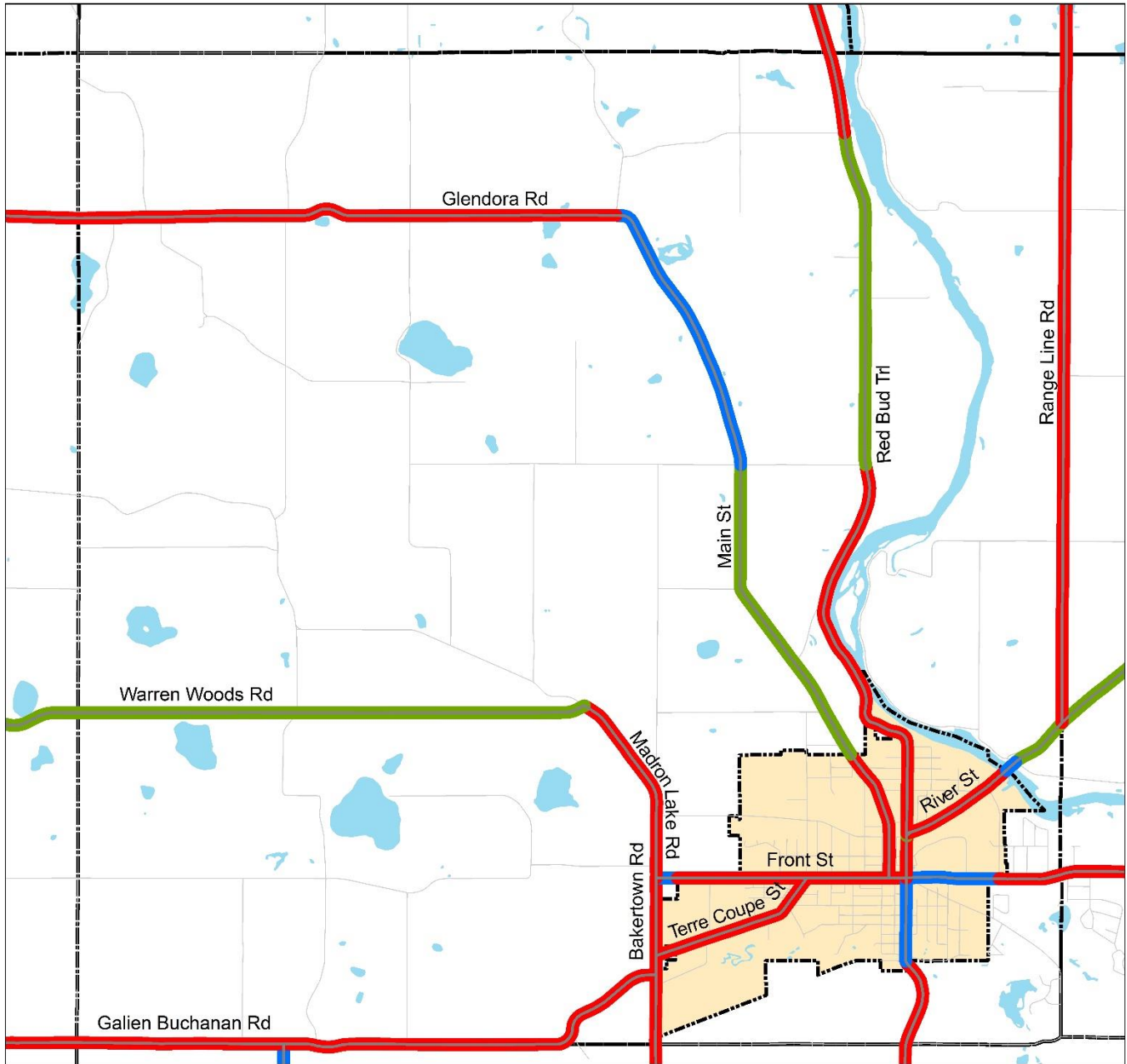
— Poor (1-4)



0 1 2 Miles

1 in = 1.25 mile

Buchanan Township



--- MDOT Maintained

— Locally Maintained

PASER Ratings
(On Federal Aid Eligible Roads Only)

— Good (8-10)

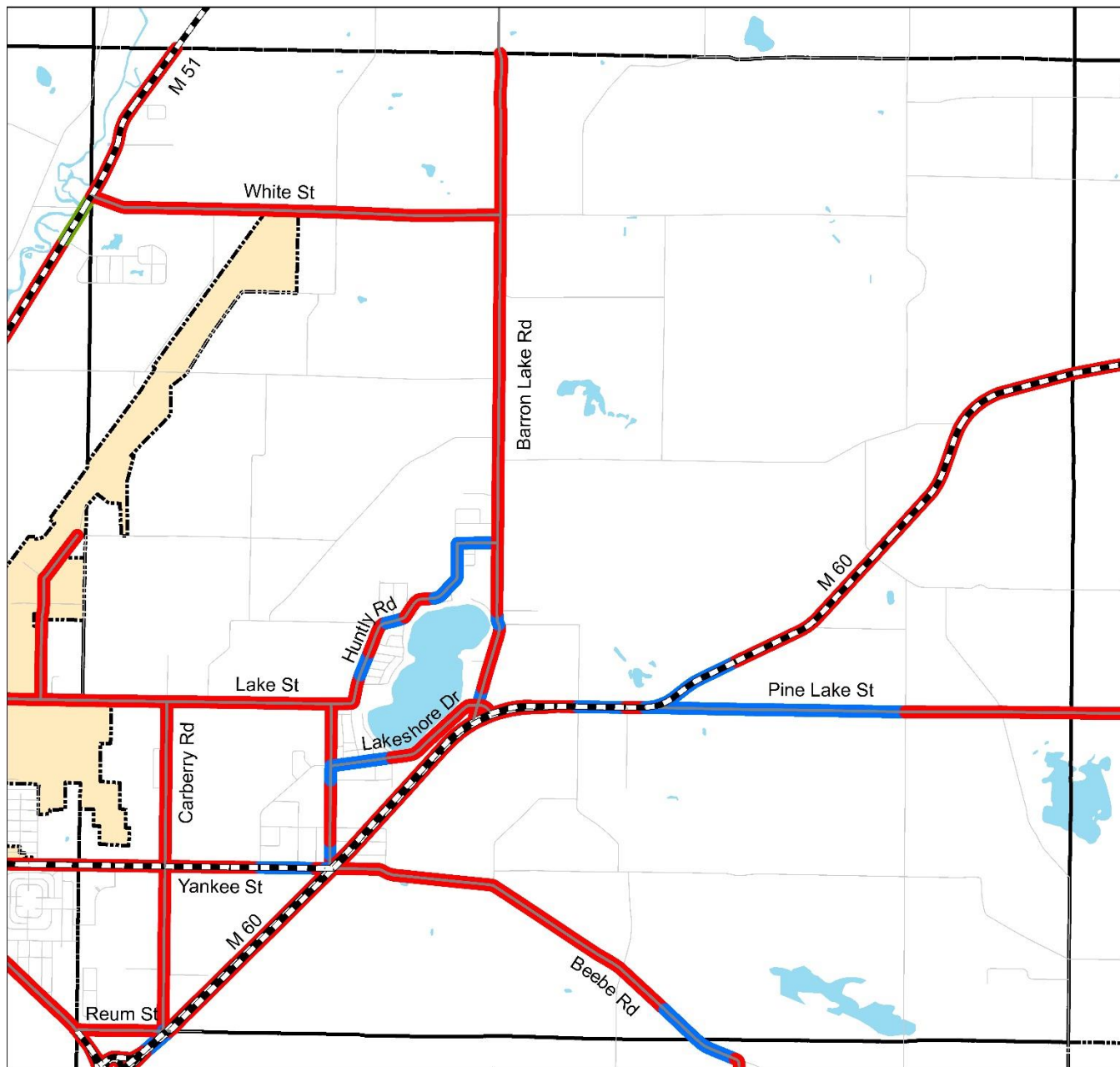
— Fair (5-7)

— Poor (1-4)



0 0.8 1.6 Miles 1 in = 0.8 mile

Howard Township



--- MDOT Maintained

— Locally Maintained

PASER Ratings
(On Federal Aid Eligible Roads Only)

— Good (8-10)

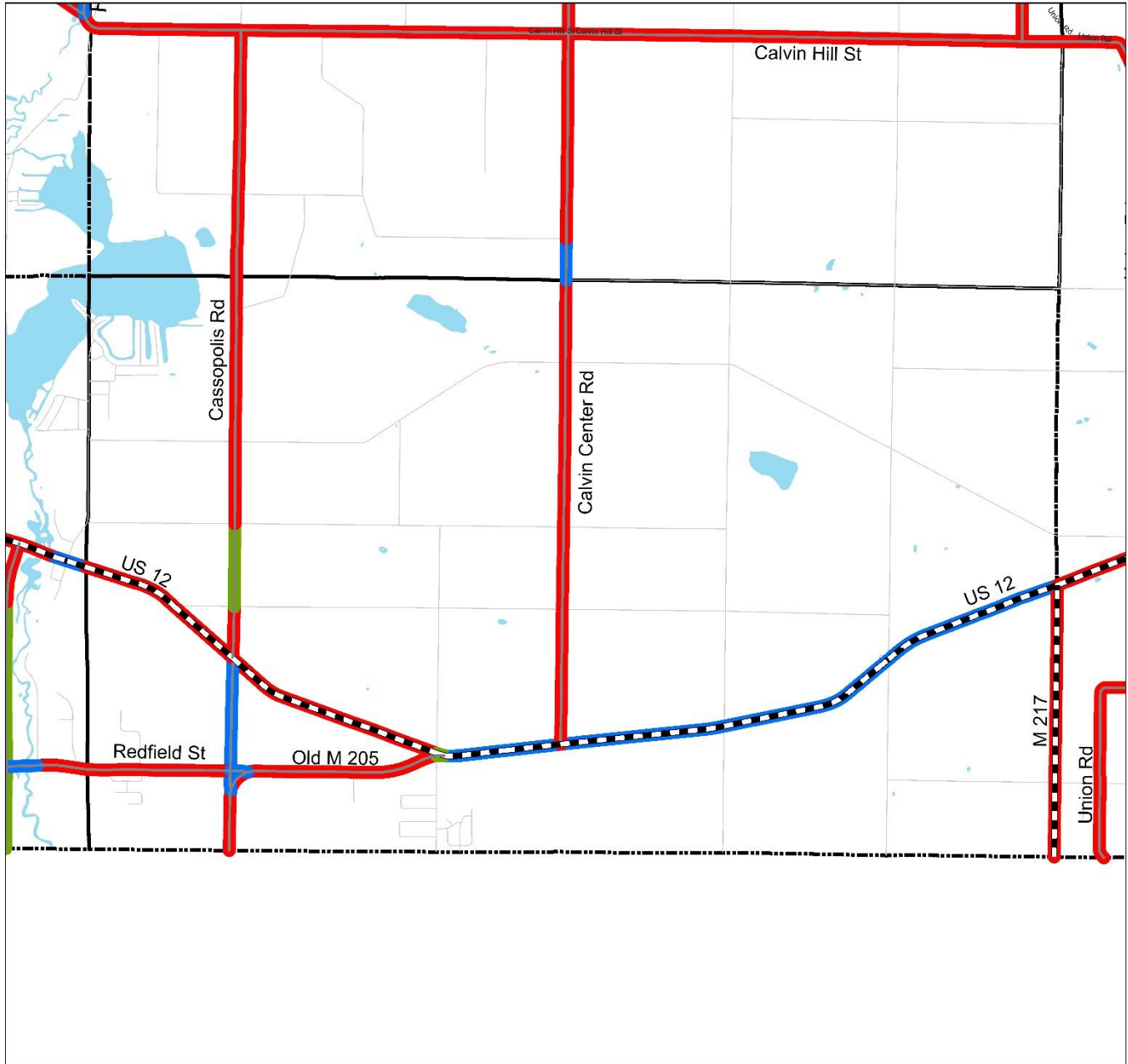
— Fair (5-7)

— Poor (1-4)



0 0.8 1.6 Miles 1 in = 0.8 mile

Mason Township



--- MDOT Maintained

— Locally Maintained

PASER Ratings
(On Federal Aid Eligible Roads Only)

— Good (8-10)

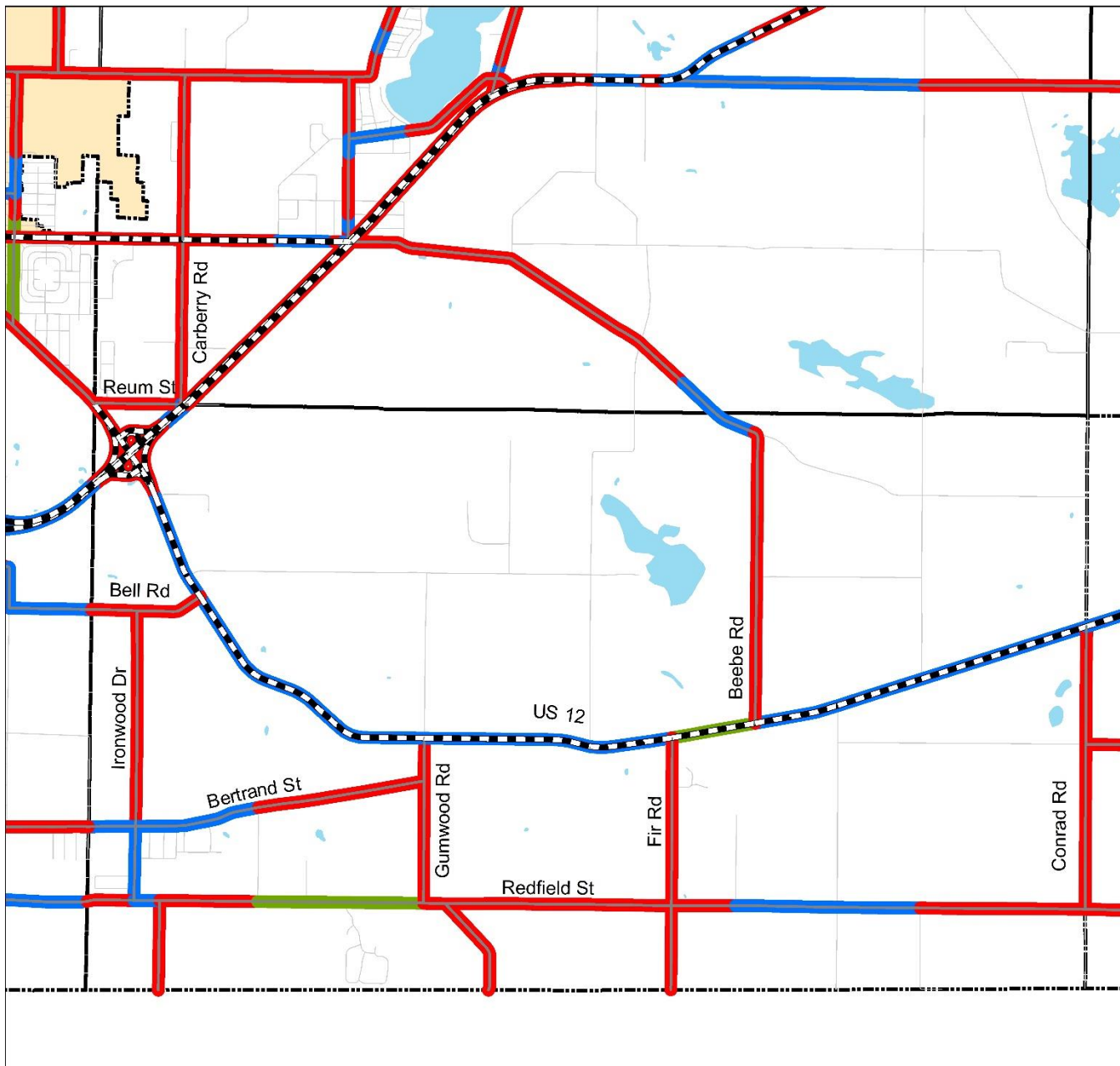
— Fair (5-7)

— Poor (1-4)



0 0.8 1.6 Miles 1 in = 0.8 mile

Milton Township



--- MDOT Maintained

— Locally Maintained

PASER Ratings
(On Federal Aid Eligible Roads Only)

— Good (8-10)

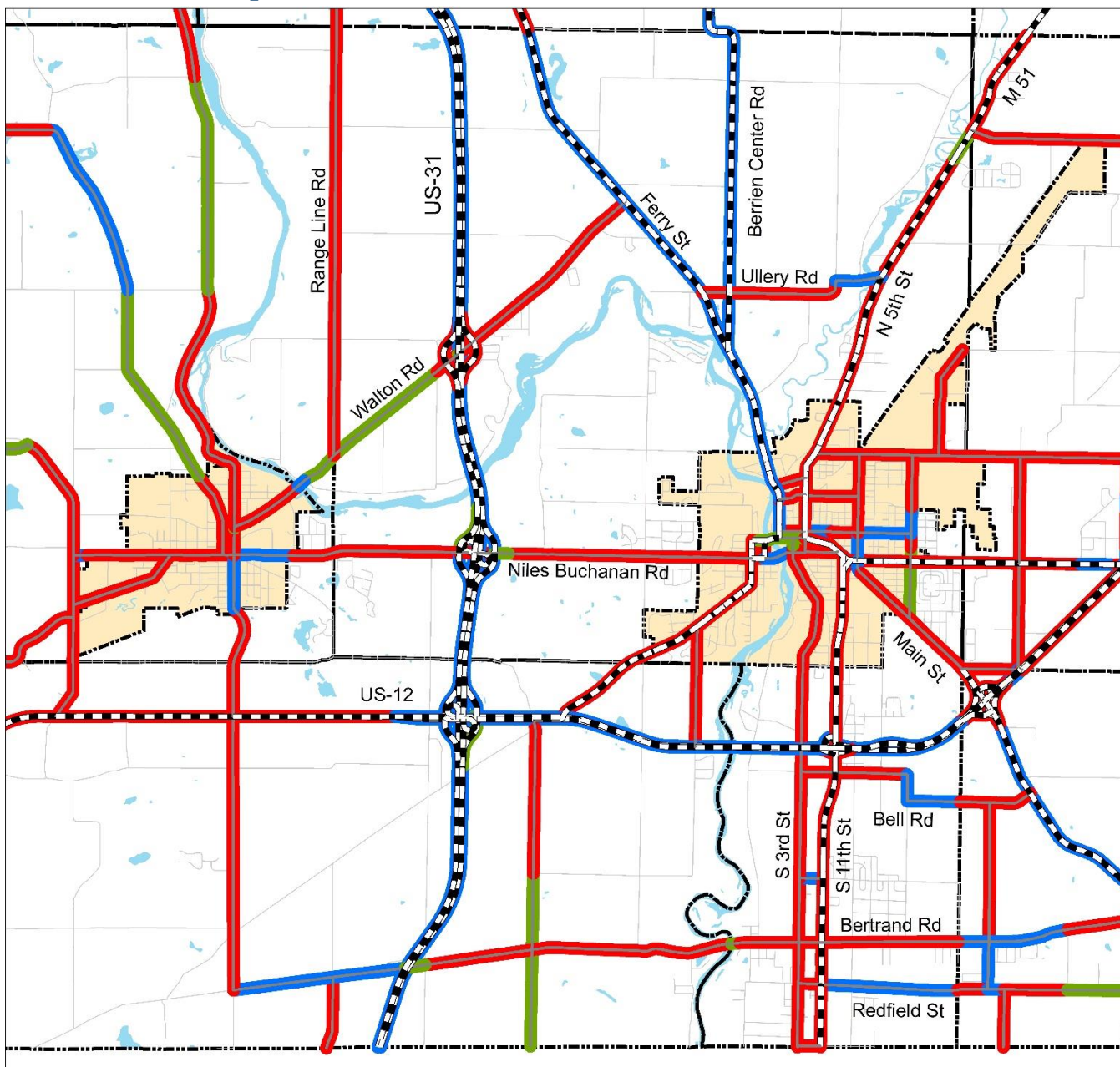
— Fair (5-7)

— Poor (1-4)



0 0.8 1.6 Miles 1 in = 0.8 mile

Niles Township



--- MDOT Maintained

— Locally Maintained



0 1 2 Miles

1 in = 1.25 mile

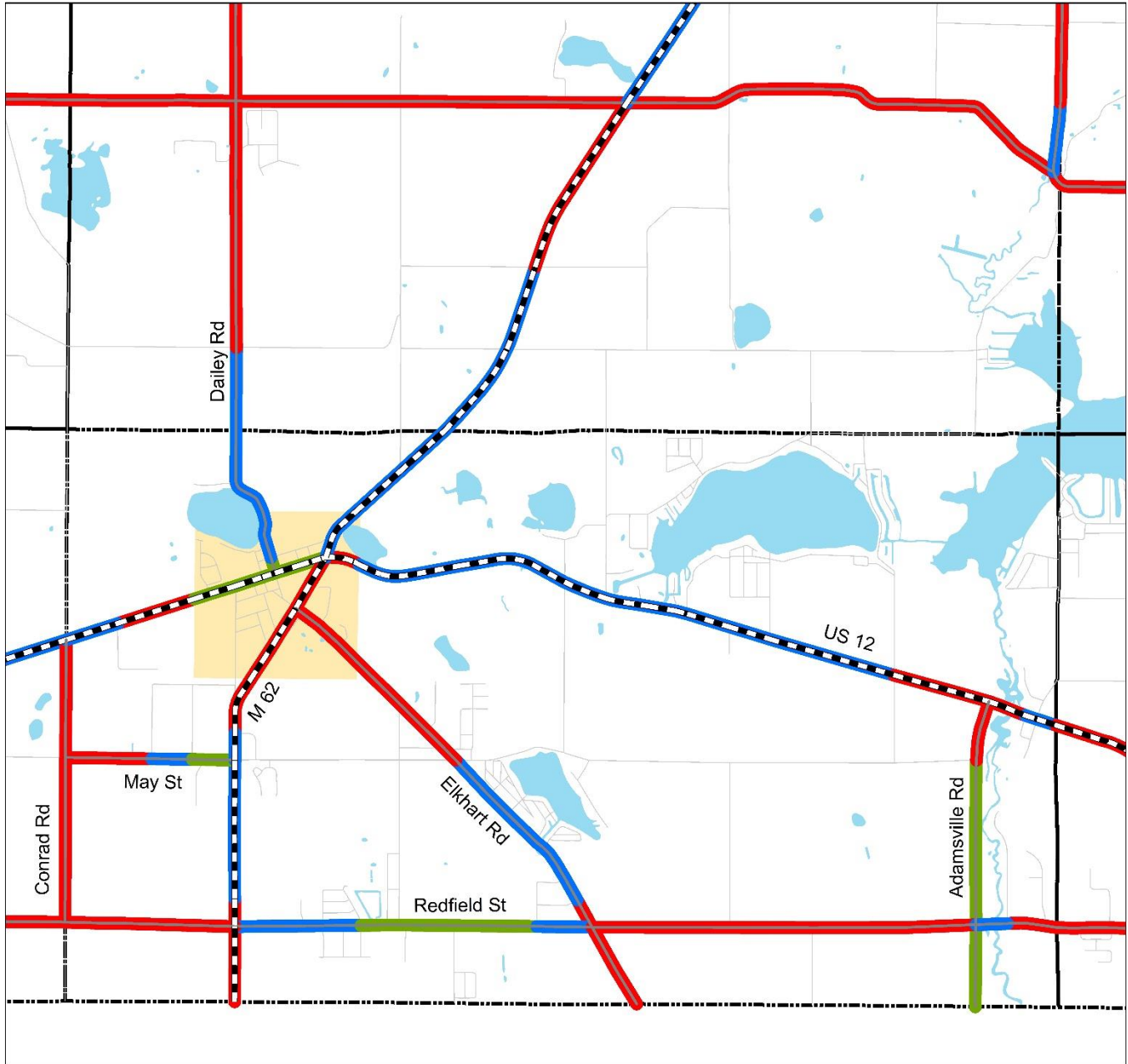
PASER Ratings
(On Federal Aid Eligible Roads Only)

— 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 = 0.8 mile

NATS Area 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 <p style="margin-left: 20px;">Slight to moderate flushing or polishing</p>	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.

NATS Area 2019 Pavement Condition Report

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.