

TWIN CITIES AREA TRANSPORTATION STUDY
TECHNICAL ADVISORY and POLICY COMMITTEES MEETING
Monday, March 20, 2023
9:30 am

In Person: Kinexus (Michigan Works!) **Anchor Room A**
499 W Main St, Benton Harbor, MI 49022

Web: <https://us06web.zoom.us/j/9489277047?pwd=RzkydlFacGFHNkVWeURpak1kSEcxUT09>

Audio: Call in Number: 1 (312) 626-6799
Meeting ID: 948 927 7047
Passcode: 000619

AGENDA

1. Call to Order and Roll Call
2. Changes to the Agenda
3. Public Comment
4. Approval of January 17, 2023 Meeting Minutes *Action* pg. 2
5. SWMPC Staff Report
6. Local Road Agency Updates pg. 5
7. Transit Updates
8. MDOT Project Updates pg. 6
9. Amendment Requests *Action*
 - 1 Local Agency Road pg. 2
 - 5 MDOT pg. 7
 - 3 Transit pg. 8
10. Road & Bridge Condition Performance Targets *Action* pg. 9
11. Privilege of the Floor or Public Comment
12. Adjournment

Comments can be sent prior to the meeting to Brandon Kovnat at kovnatb@swmpc.org or calling (269) 925-1137 x 1524. For questions about accessibility or to request accommodations, please contact Kim Gallagher at (269) 925-1137 x 1518 or by email at gallagherk@swmpc.org

TWIN CITIES AREA TRANSPORTATION STUDY
TECHNICAL ADVISORY COMMITTEE AND POLICY COMMITTEE
January 17, 2023 Meeting Attendance

TWINCATS MEMBER ORG./POSITION	MEMBERS	TAC	POL	J	F	M	A	M	J	J	A	S	O	N	D
Benton Charter Township	Richard Royal	x	x	V											
Berrien Co. Board of Commissioners	Ray Bell		x	V											
Berrien Co. Community Dev. Dept.	(Vacant / Dan Fette)	x		A											
Berrien Co. Planning Commission	Eric Lester, M.D.		x	A											
Berrien Co. Road Dept.	(Vacant)		x	A											
Berrien Co. Road Dept.	Kevin Stack	x		IP											
City of Benton Harbor	Ellis Mitchel		x	A											
City of Benton Harbor	Tim Drews	x	Alt	A											
City of Bridgman	Juan Ganum	Alt	x	IP											
City of Bridgman	(Vacant)	x	Alt												
City of St. Joseph	John Hodgson		x	A											
City of St. Joseph	Tim Zebell (TAC V. Ch.)	x		A											
Cornerstone Alliance	Sue Wyman	x	x	A											
Disability Network of SW Mich.	Cindy gray	x		A											
Hagar Township	(Vacant)	x	x												
Kinexus	(Vacant)	x													
Lake Charter Township	Gloria Payne	x	x	A											
Lincoln Charter Township	Dick Stauffer (Pol. Ch.)		x	IP											
Lincoln Charter Township	Terrie Smith	x		IP											
MDOT – Bureau of Trans. Planning	Jim Sturdevant	x	x	IP											
MDOT – Bureau of Trans. Planning	Richard Bayus	Alt	Alt	A											
MDOT – Southwest Region	Josh Grab	x	x	V											
MDOT – Southwest Region	(Vacant)	Alt	Alt												
MDOT – Trans. Service Center	Jonathon Smith	x	x	V											
Royalton Township	Steve Tilly	x	x												
Sodus Township	David Chandler	x	x												
Southwest Mich. Regional Airport	Vince Desjardins	x	x												
St. Joseph Charter Township	Denise Cook		x	IP											
St. Joseph Charter Township	Roger Seeley	x		IP											
	Jonathan Fisk	Alt		IP											
Twin Cities Area Trans. Authority	Angel Crayton	x	x												
Village of Grand Beach	(Vacant)	x	x												
Village of Shoreham	Mike Schnable	x	x	IP											
Village of Stevensville	Kacey Dominguez		x	IP											
Village of Stevensville	Tim Drews	x	Alt	A											
Federal Highway Administration	Andy Pickard	x	x	A											
Federal Transit Administration	Susan Webber	x	x	A											
MDOT - Modeling	Katie Beck	x		A											
MDOT - Passenger Division	Fred Featherly	x		A											
Northwestern Ind. Reg. Plan. Comm.	Scott Weber	x	x	A											
Southwest Michigan Planning Comm.	Kim Gallagher	x	x	IP											
Southwest Michigan Planning Comm.	Brandon Kovnat			IP											
Pol. Ch. - Policy Chair; TAC Ch. - TAC Chair; Alt – Alternate; IP – Present in person; V – Participating remotely; A – Absent; A blank spot means the position is vacant.															

Minutes
TWIN CITIES AREA TRANSPORTATION STUDY
JOINT TECHNICAL ADVISORY COMMITTEE AND POLICY COMMITTEE MEETING
Tuesday, January 17, 2023

1. Call to Order and Roll Call

Policy Committee Chair, Dick Stauffer, called the meeting to order at 9:35 am. Kim Gallagher took roll call.

2. Changes to the Agenda

Gallagher asked to remove the staff report. Since the report is related to transit and Gallagher said she would give it as part of the transit updates.

3. Public Comment

None

4. Approve Minutes from the December 19, 2022 Meeting

Motion to approve the minutes from the December 19, 2022, TwinCATS combined Policy and Technical Advisory Committee meeting. Made by Jim Sturdevant and seconded by Juan Ganum. **Motion approved.**

5. Local Agency Updates

Kovnat announced that all amendments voted on by TwinCATS in December were approved, including moving the Lake Street project in St. Joseph & the Pipestone Project in Benton Harbor forward to FY 2023.

Juan Ganum said that MDOT had approved the final specs for the Lake Street project.

6. Transit Updates

Gallagher reminded the attendees about the temporary relocation of the 93 residents of the Lakeview Terrace apartments. Ten residents were moved to Stevensville. The location is served by the Red Route, but not served by the Dial A Ride service. This means there is no door-to-door service that mobility-impaired riders require. The ADA requires transit agencies to provide para-transit service to any area served by a fixed route, but TCATA is not providing this service.

The Benton Harbor Housing Commission is also planning to temporarily relocate the City's 141 residents who live in public housing, to do repairs which will take 4-6 months.

7. MDOT Updates

Sturdevant said that the 2020 Census urban area populations were released. Traverse City area has officially reached the 50,000 population to form an MPO. Sturdevant explained that MDOT and the MPOs were discussing updating the formula for distributing planning funds, to account for the addition of Traverse City, and to give agencies a cost-of-living increase.

8. Amendment Request

An amendment is required to add an improvement to the CSX rail crossing at Kerlikowske Rd., (near the Columa exit of I-196). CSX, Coloma Township, and the Berrien County Road department discussed that that crossing was considered deficient, and the option was either to close the road at the crossing or upgrade the crossing. Similar upgrades have been occurring at multiple crossings in Berrien County.

Motion for the Technical Advisory Committee to recommend that the Policy Committee approve the Amendment to the TwinCATS 2023-2026 Transportation Improvement Program (TIP) as presented. Made by Terri Smith and seconded by Kevin Stack. **Motion approved.**

Motion for the Policy Committee to approve the recommendation from the Technical Advisory Committee. Made by Denise Cook and seconded by Jim Sturdevant. **Motion approved.**

9. TwinCATS 2050 Long Range Plan Approval

Gallagher said that SWMPC received two comments on the LRP. No comments were received for the Air Quality Conformity Analysis.

One of the comments was to ask for greater inclusion of electric vehicles into the plan. Kovnat reminded attendees of a presentation at the October meeting on funding programs for EV charging stations. Gallagher added that EVs would be brought up more as further information and funding opportunities become available.

The other comment was related to the non-motorized section, complementing the areas that were covered and asking for more details about the Berrien Springs area.

Sturdevant said that MDOT had made positive comments, especially regarding the incorporation of performance measures.

Motion for the Technical Advisory Committee to recommend that the Policy Committee approve the resolution approving *Principles in Motion 2050*, the TwinCATS 2050 Long Range Transportation Plan, and to submit the plan to the Southwest Michigan Planning Commission Board for their approval. Made by Kevin Stack and seconded by Roger Seeley. **Motion approved.**

Motion for the Policy Committee to approve the recommendation from the Technical Advisory Committee. Made by Jim Sturdevant and seconded by Denise Cook. **Motion approved.**

10. Privilege of the Floor or Public Comment

None.

11. Adjournment

Kovnat explained that the third Monday in February (Feb. 20th), was President's Day. Because Michigan Works and many other agencies are closed, the meeting would not be held on that date. It is possible that the meeting would be canceled since it is not an Amendment month. If there is a need to hold a meeting staff will work with the Committee to select an Alternate date.

The meeting was adjourned at 10:20 AM.

Minutes compiled by Brandon Kovnat, SWMPC Transportation Planner

TwinCATS 2023 Project Status and Amendment Requests

March 2023

Local Road Agency Updates

City of Bridgman

Contact: Juan Ganum, City Manager – jganum@bridgman.org

Lake Street Reconstruction: The project was Let in February, with an accepted bid of \$661,648. This is about 5.9% higher than the Engineers Estimate of \$625,000. Construction is on schedule to begin in June 2023.

City of Benton Harbor

Contact: Tim Drews, Abonmarche consultant – tdrews@abonmarche.com

Pipestone Rd Resurfacing: NEPA and SHPO were submitted in January and awaiting approval. The GI package was submitted on March 13. Expected to have the complete biddable packed submitted by end of May, to be obligated in June, Let in December, and constructed in Spring 2024.

Pipestone St. Signal: The Complete biddable package was submitted in February. The final Engineers Estimate was much lower than initially programmed requiring the following amendment:

	Programed	Revised
Total	\$360,917	\$189,860
CRP	\$135,856	\$135,856
STBG	\$156,413	\$19,332
Local	\$68,648	\$34,672

Note: this results in STBG “savings” of 137,081 which can be programmed to another FY 2023 Project

City of St. Joseph

Contact: Tim Drews, Abonmarche consultant – tdrews@abonmarche.com

Lake Boulevard & Broad Street Rehabilitation: NEPA and SHPO were submitted in January and awaiting approval. The GI package was submitted on March 13. Expected to have the complete biddable packed submitted by end of May, to be obligated in June, Let in December, and constructed in Spring 2024.

Berrien County Road Department

Contact: Kevin Stack, Engineering Supervisor – kstack@bcroad.org

Napier Avenue from Plaza Dr to Crystal Ave: Obligated at the end of January with the Final Engineers Estimate of \$984,541 which is about 5.9% higher than the programmed amount of \$930,070

E. John Beers Rd. from Eidson to M-139: Obligated in Late December with the Final Engineers Estimate of \$314,585 which is about 1.3% less than the programmed amount of \$318,625

MDOT 2023 Project Updates

Contact: Jon Smith, MDOT Engineer SmithJ29@michigan.gov

FY 2023 MDOT Projects

Project	Phase	Estimated Cost	Update
Reconstruction of I-94 from exit 23 to Britain Ave.	CON	\$178,554,293	Design in progress. Plan completion in Feb. 2023 for Jun. 2023 letting. The main construction years will be 2024-2026 with additional pre-work in 2023.
Replacement of 17 dynamic messaging signs and adding CCTV cameras I-94 and I-196.	CON	\$95,959	Let in Dec. 2022 with the accepted bid 2.83% over Engineer's Estimate. Construction begins in January 2023.
Culvert Replacement on M-139 over Big Meadow Drian (north of Tanglewood Trl.)	CON	\$3,534,048	Let in Jan. 2023 with the accepted bid 10.35% over Engineer's Estimate. Construction begins in January 2024.
Signal/intersection upgrades of I-94 BL (Lakeshore Dr.) at Maiden Ln.	ROW	\$2,000	Design in progress. Plan completion Jun. 2023 for Dec 2023 letting. Construction in 2024.
Wrong Way movement prevention at the I-94, Exit 16 freeway ramps	CON	\$163,482	Design in progress. Plan completion May 2023 for Oct. 2023 letting. Construction in 2024.
Reconstruction of M-139 from the south of I-94 to I-94BL (Main St.).	PE	\$1,581,000	Early design (EPE) phase in progress. Fieldwork (survey, geotechnical, drainage, etc.) and stakeholder engagement are being performed as part of the EPE phase. The design (PE) phase will begin in FY 2023 for Oct. 2025 letting.
Bridge repairs for overpassed on I-94 at M-139, Nickerson, & Rosyln. US-31 at Napier.	PE	\$25,000	The design will begin in 2023 with construction in 2026
New Project: Preventative Maintenance on I-94 BL and I196 SB segments*	PE	\$14,963	Design starting soon. Plan Completion in Oct. 2023 for Jan. 2024 letting. Construction in 2024.

MDOT Amendment Requests

1. Add CON phase in FY 2024 for a Preventative Maintenance project on I-94 BL & I-196 (JN 216908).
This is part of a \$3.8 million multi-area preventative maintenance project, which includes chip seals and crack fills on multiple roads throughout southwest Michigan. The Estimated cost for the CON phase within the TwinCATS area which needs to be approved by the TwinCATS Policy Committee is:

Federal- STBG	\$446,457
<u>State</u>	<u>\$ 99,001</u>
Total CON cost	\$545,458

The PE phase, in FY 2023 is 100% state funded and does not need to be added to the TIP.

2. Add CON Phase in FY 2024 for A resurfacing of I-96 from Coloma Rd. to Central Ave. (JN216907).
This project will be approx. 2.25 miles of milling and a 2in. asphalt overlay for an estimated construction cost of:

Federal- STBG	\$446,457
<u>State</u>	<u>\$ 99,001</u>
Total CON cost	\$545,458

The PE phase, in FY 2023 is 100% state funded and does not need to be added to the TIP.

3. Cost Increase for FY 2023 Pavement Marking retroreflectivity readings (JN207378)
The low Bid came in 25% above the last programmed amount

	Programmed	Revised
Federal HSIP (90%)	\$1,099	\$1,409
<u>State (10%)</u>	<u>\$ 122</u>	<u>\$ 157</u>
Total	\$1,221	\$1,565

4. Cost Increase in FY 2025 of the CON phase for the Resurfacing of I-94 from the Pavement change east of I-196 to Benton and Bainbridge Township Line (JN 128907).
The cost increase, due to inflation, has meant that the project, which was originally programmed for FY 2023 had to be delayed until FY 2025 due to insufficient FY 2023 funds.

	Programmed	Revised
Federal IM (90%)	\$3,888,000	\$5,220,000
<u>State (10%)</u>	<u>\$ 432,000</u>	<u>\$ 580,000</u>
Total	\$4,320,000	\$5,800,000

5. Add a ROW Phase in FY 2025 and a CON phase in FY 2026 for the Reconstruction of M-63 (Main St.) from Hoyt St. to St. Joseph River (JN 213168).

	ROW-2025	CON-2026
Federal- NH	\$163,700	\$13,969,595
State	\$ 36,300	\$ 2,338,601
<u>Local</u>	<u>\$ 0</u>	<u>\$ 187,680</u>
Total	\$200,000	\$22,800,146

March 10, 2023

Ms. Kimberly Gallagher
Senior Transportation Planner
Southwest Michigan Planning Commission
376 W. Main St.
Suite 301
Benton Harbor, MI 49022

Dear Ms. Gallagher,

Please see the below for the following amendments and administrative changes :

TIP YEAR	PROJECT	FEDERAL FUND SOURCE	FEDERAL AMOUNT	STATE MATCH	LOCAL MATCH	TOTAL COST	FTA GRANT YEAR	JOB NUMBER
2023	Add Contract for Project Management	5307	\$100,000	\$25,000	0	\$125,000	2019	Pending
2023	Add Rolling Stock	5307	\$180,000	\$45,000	0	\$225,000	2022	Pending
2023	Add Preventative Maintenance	5307	\$320,000	\$80,000	0	\$400,000	2022	Pending
2023	Add funds to Facility Improvements	5339	\$67,792	\$16,792	0	\$83,959	2020	207278
2023	Add funds to Facility Improvements	5339	\$76,248	\$19,062	0	\$95,310	2021	207278
2023	Add funds to Facility Improvements	5339	\$67,221	\$16,026	0	\$84,026	2022	207278

Sincerely,

Mark Epps
Twin Cities Area Transportation Authority
Grants/Procurement Manager

2022 - 2025 National Performance Programs: NHPP/NHFP/CMAQ

Michigan Department of Transportation – State Performance Targets

National Highway Performance Program (NHPP) – NHS Pavement Condition

Performance Measure	Existing Performance targets 2018-2021			New Performance Targets 2022-2025		
	Baseline Values 2017	2 yr. mid Cycle values 2019	2021 Target	Baseline Values 2021	2-yr. target - 2023	4 yr. Target - 2025
Percentage of pavement on the Interstate System in good condition.	56.80%	63.10%	47.80%	70.40%	59.20%	56.70%
Percentage of pavement on the Interstate System in poor condition.	5.20%	4.90%	10.00%	1.80%	5.00%	5.00%
Percentage of pavement on the non-Interstate National Highway System in good condition.	49.70%	48.30%	43.70%	41.60%	33.10%	33.10%
Percentage of pavement on the non-Interstate National Highway System in poor condition.	18.60%	19.20%	24.60%	8.90%	10.00%	10.00%

The pavement condition is measured using the Pavement Condition Metric (PCM) which is a composite metric using the International Roughness Index (IRI), Cracking, and Rutting for asphalt or faulting for joined concrete. The State exceed the targets it set for the Interstate but did not meet the targets set for the non-interstate NHS.

National Highway Performance Program (NHPP) – NHS Bridge Condition

Performance Measure	Existing Performance targets 2018-2021			New Performance Targets 2022-2025		
	Baseline Values 2017	2 yr. mid Cycle values 2019	2021 Target	Baseline Values 2021	2-yr. target - 2023	4 yr. Target - 2025
Percentage of NHS Bridges in <u>Good Condition</u>	56.80%	63.10%	47.80%	70.40%	59.20%	56.70%
Percentage of pavement on the Interstate System in poor condition.	5.20%	4.90%	10.00%	1.80%	5.00%	5.00%

Bridge Condition is measured using the National Bridge Inspection Standards, where FHWA required each bridge to be assessed on its substructure, superstructure, deck, and culverts. Condition ratings of 0-9 (0-4 poor, 5-6 Fair, & 7-9 good) ARE assigned for each element or with the lowest rated element determining the overall condition Percentages are based on the total bridge deck area in the state.

The State of Michigan Transportation



2022 Pavement Condition Report For the Twin Cities Area Transportation Study



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

Pavement Surface Evaluation and Rating System

The Pavement Surface Evaluation and Rating (PASER) system is a visual survey method for evaluating the condition of roads on a scale of 1 to 10, with 1 being a pavement in a failed condition and 10 being a pavement in excellent condition. Guidelines for rating the pavement surface using the PASER system in Michigan have been developed by the Michigan Transportation Asset Management Council (TAMC). The TAMC groups the 1-to-10 rating scale into three categories (Good 8-10, Fair 5-7, Poor 1-4) based on the type of work that is typically required for each rating grouping (routine maintenance, preventive maintenance, or reconstruction).



Good Condition

PASER Rating 8-10
Requires Routine Maintenance



Fair Condition

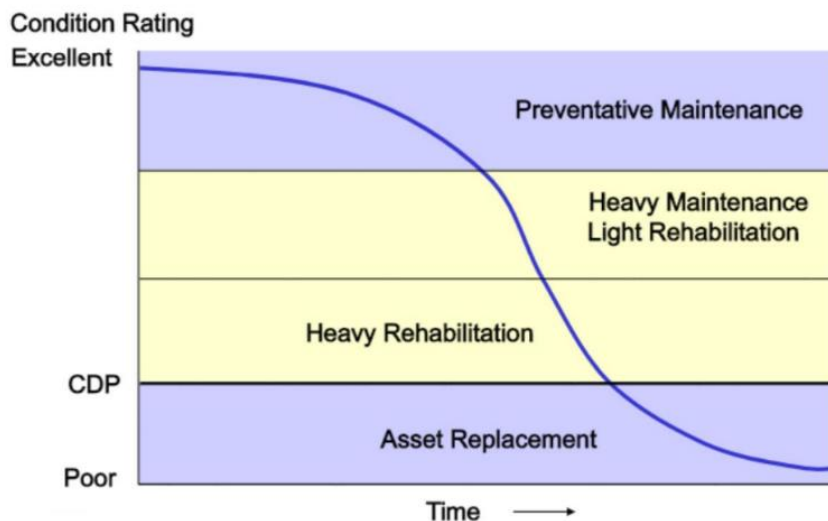
PASER Rating 5-7
Requires Capital Preventative Maintenance



Poor Condition

PASER Rating 1-4
Requires Structural Improvements or Reconstruction

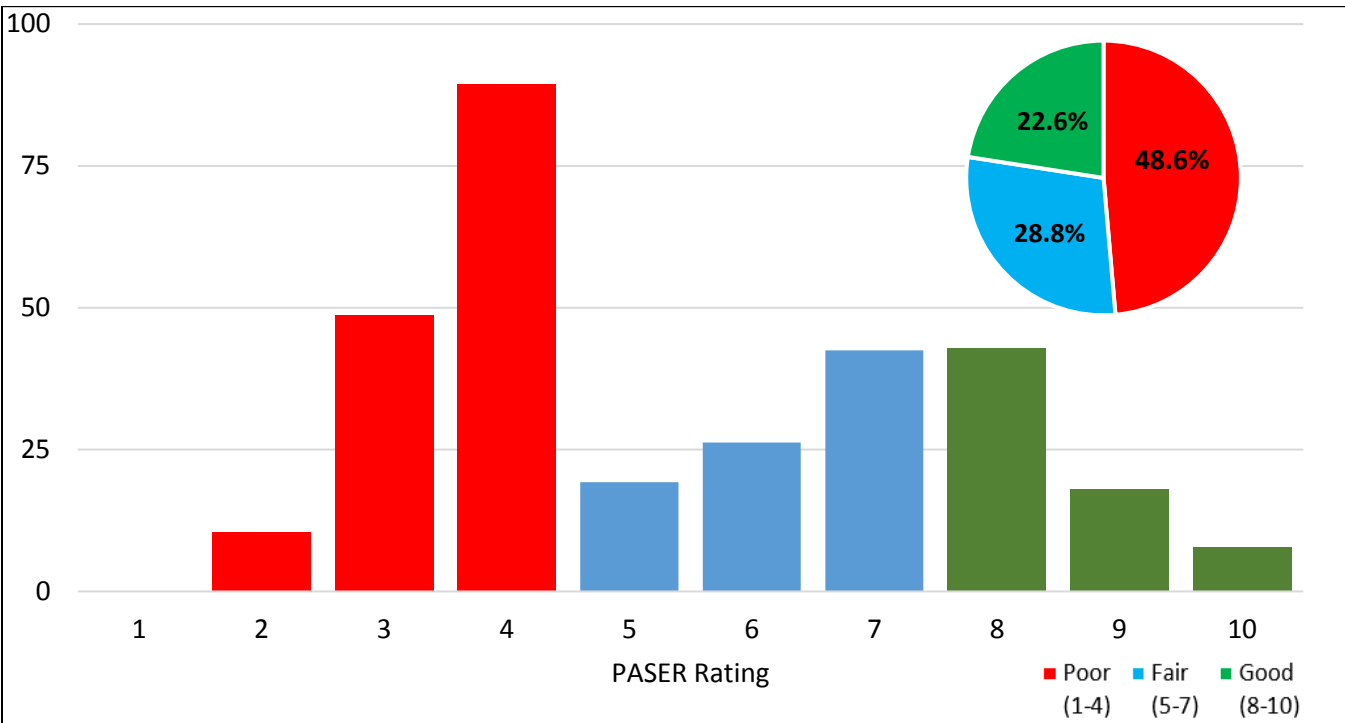
The costs of rehabilitation are exponentially higher than the costs of preventative maintenance, a full reconstruction being the most expensive treatment option. Asset management best practices encourage preventative maintenance to slow decay and reduce costs.



It Is necessary to know the pavement condition of roads when planning for future maintenance ; 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.

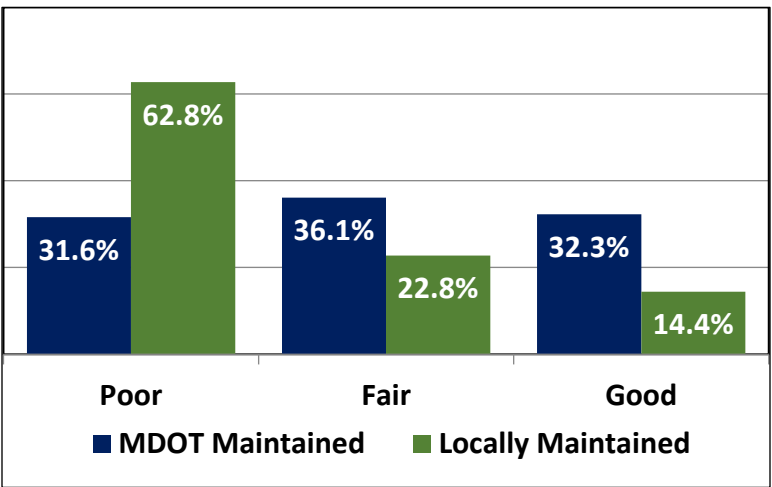
Summary of TwinCATS 2022 Ratings

2022 All Federal Aid Miles by PASER Rating



The most common PASER was four, which accounts for approximately 30% of all roads. 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, much more costly treatments, such as full reconstruction, are required.

2022 Local and MDOT Maintained Federal Aid Miles by PASER



MDOT: 139 miles

Good	Fair	Poor
45	50	44

Local: 167 miles

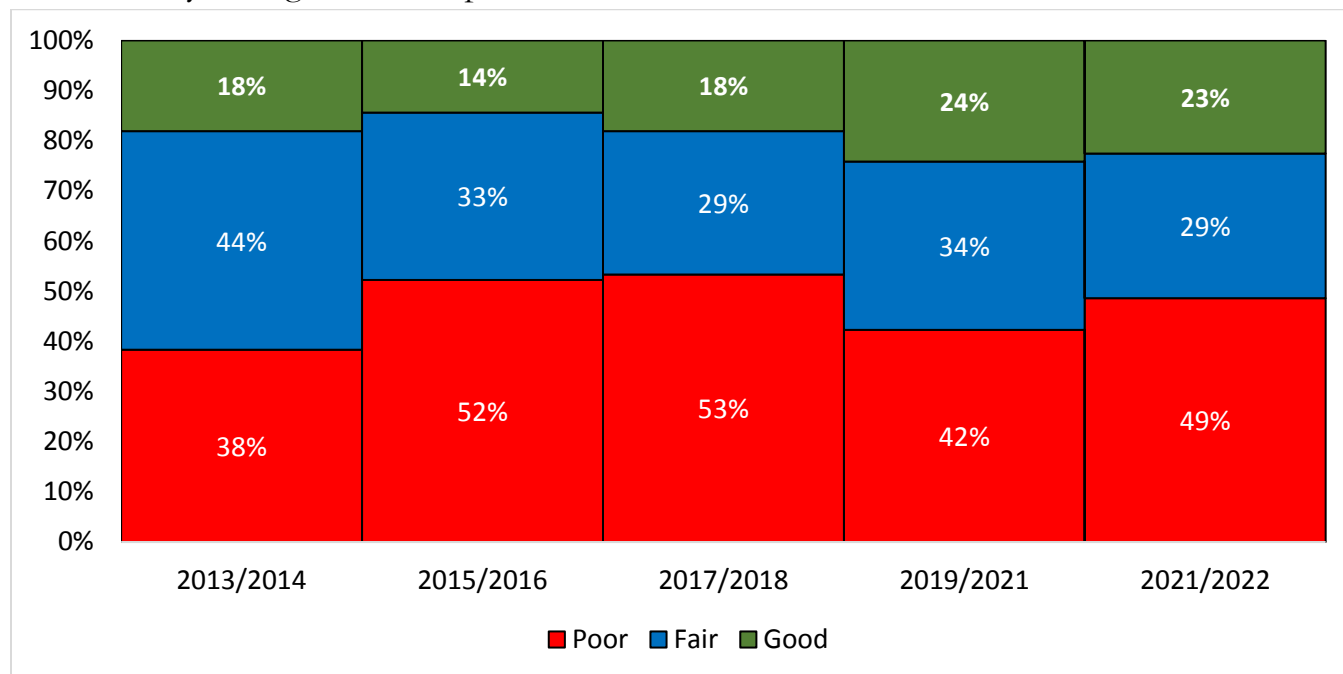
Good	Fair	Poor
24	38	104

Locally maintained roads are, in general, in worse condition than MDOT maintained roads. This is largely due to federal and state funding being prioritized first for interstate maintenance and then for the other highways and major arterials. These higher traffic roads are primarily maintained by MDOT, compared to the roads classified as minor arterials and collects which are maintained primarily by local road agencies.

Trends in Pavement Conditions

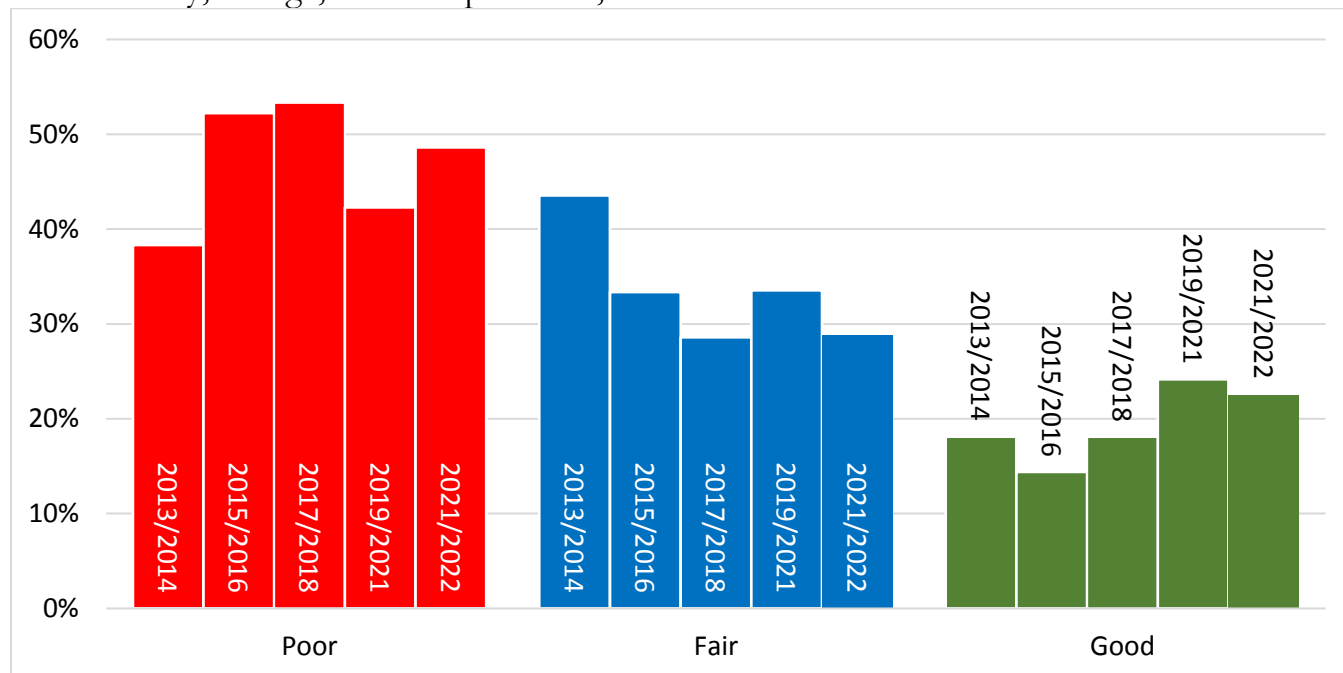
Ten-Year Trend in TwinCATS PASER Ratings 2013-2022

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



Changes in Good, Fair, and Poor Ratings Over the Last Ten Years

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



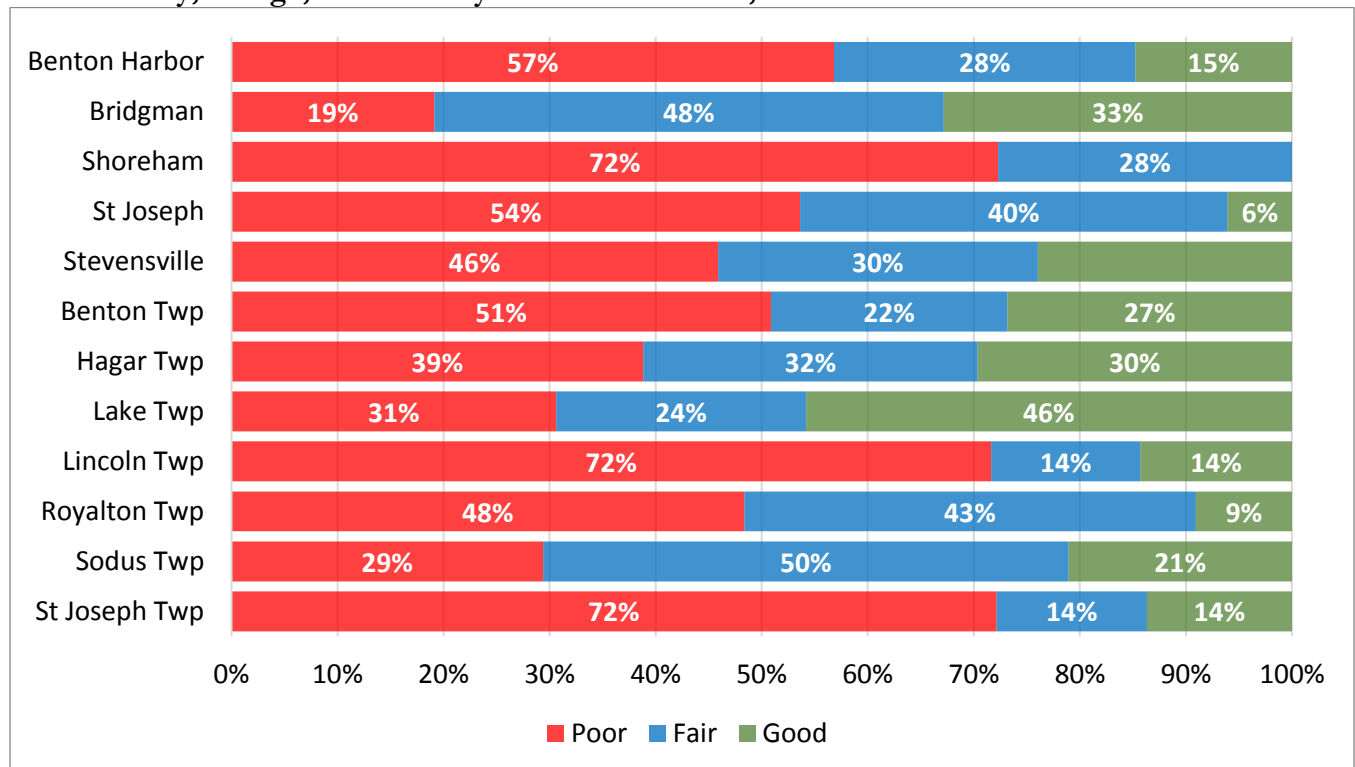
Pavement Condition by Jurisdiction

Road Miles within TwinCATS

Jurisdiction	Total Miles	Non Federal Aid	Federal Aid		
			Total	Locally Maintained	MDOT Maintained
City of Benton Harbor	59.7	41.8	17.9	15.5	2.4
City of Bridgman	18.4	10.2	8.1	3.8	4.4
City of St Joseph	49.8	30.5	19.3	12.1	7.2
Village of Shoreham	4.2	2.3	1.8	0.5	1.4
Village of Stevensville	12	4.8	7.2	4.6	2.6
Benton Charter Township	193.6	99.7	93.9	46.2	47.7
Hagar Township	84	52.5	31.5	9.7	21.8
Lake Charter Township	57.1	33.1	24	14	10
Lincoln Charter Township	105.1	68.4	36.7	23.8	13
Royalton Township	53.9	35.5	18.4	10.3	8.1
Sodus Township	67.4	31.1	36.4	18.3	18.1
St. Joseph Charter Township	62.2	46.8	15.4	8.3	7
City and Village total	144.1	89.6	54.3	36.5	18.0
Township Total	623.3	367.1	256.3	130.6	125.7
Grand total	767.4	456.7	310.6	167.1	143.7

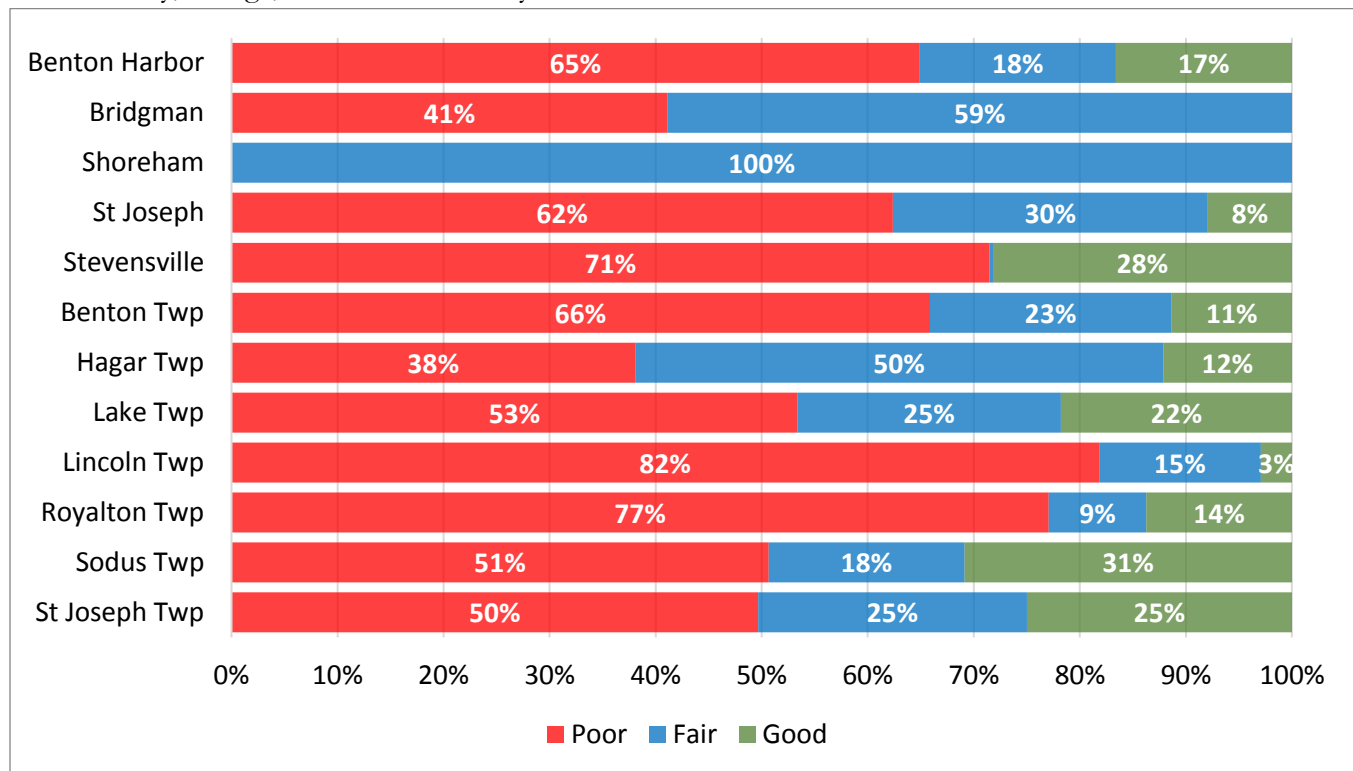
2021/2022 All Federal Aid Road Ratings

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

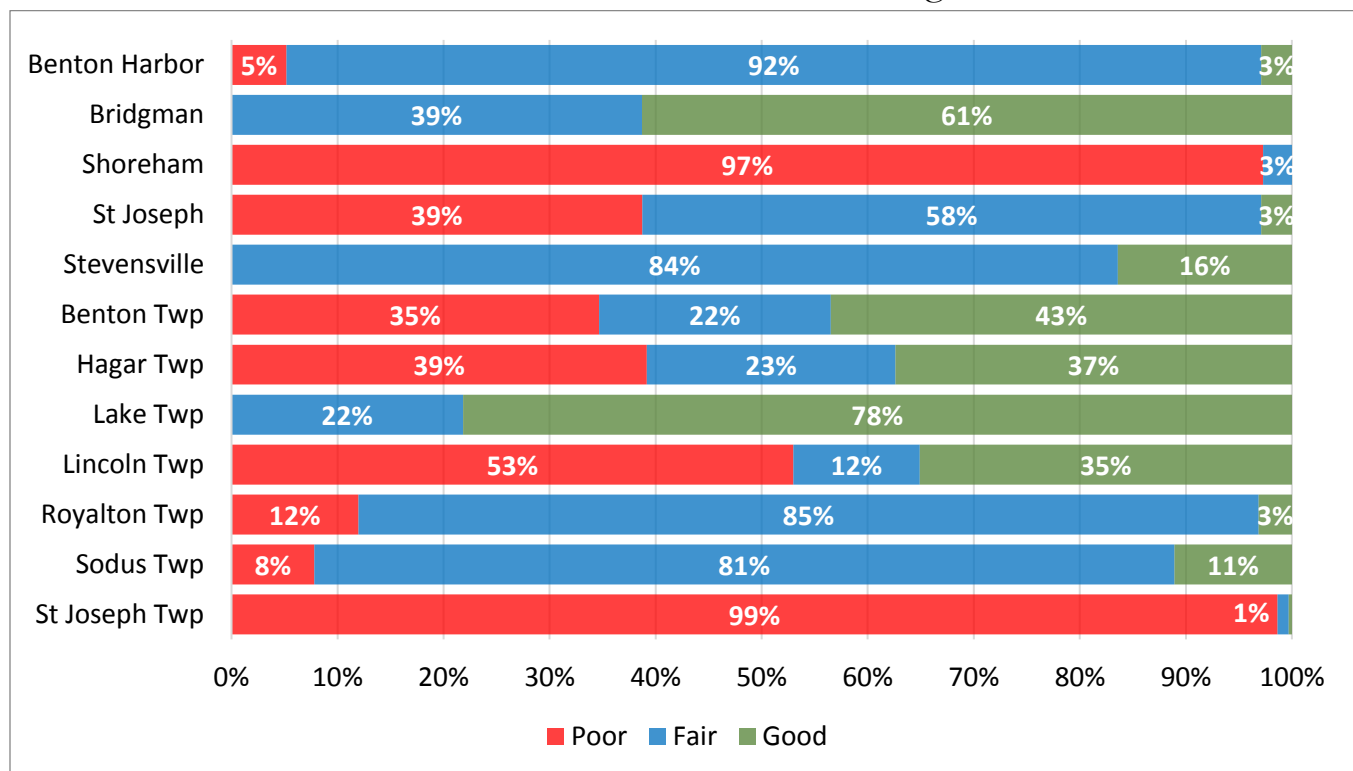


2021/2022 Locally Maintained Federal Aid Road Ratings

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



2021/2022 MDOT Maintained Federal Aid Road Ratings



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 1/4") due to reflection or paving joints. • Transverse cracks (open 1/4") 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 1/4" – 1/2") due to reflection and paving joints. • Transverse cracking (open 1/4" to 1/2") 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 1/2") 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 (1/2" 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.

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 (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.
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.