

Reporting on Michigan bridge conditions

2020 Transportation Asset Management Conference



“Right now, we have crumbling bridges with hundreds of temporary supports holding them up. Buses of school kids and families travel over them — and under them. Chunks of concrete have slammed through windshields.”

– Gov. Gretchen Whitmer



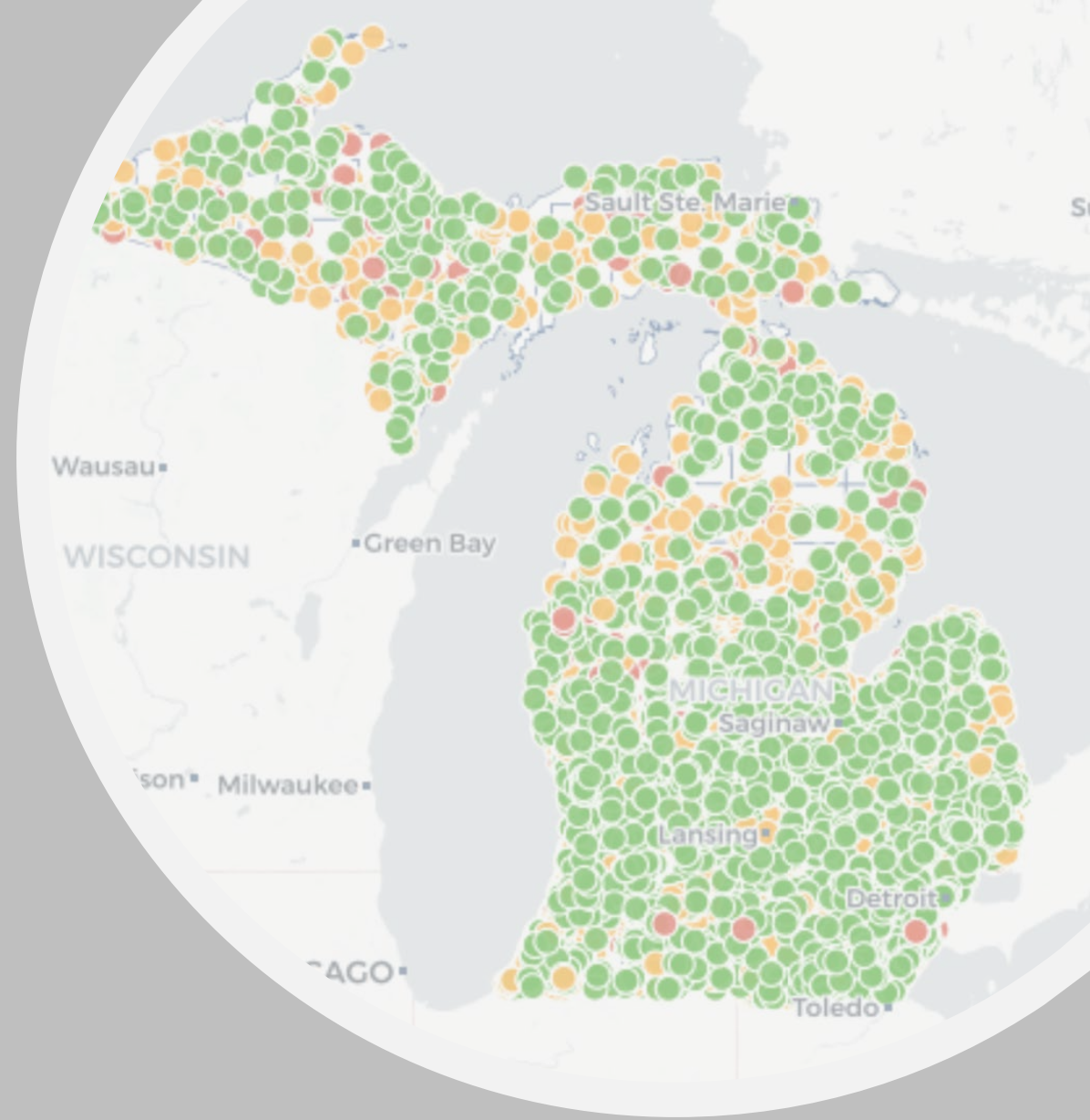
PHOTOS BY ERIC SEALS AND RYAN GARZA/DETROIT FREE PRESS

■ **Left:** Damage on the East River Road Bridge over N. Hickory Canal. ■ **Center:** Steel mesh underneath a bridge on Second Avenue above I-94. ■ **Right:** Crumbled concrete on the closed bridge on Trowbridge Court in Bloomfield Hills. ■ **Bottom:** A school bus crosses Dearborn's Miller Road Bridge.

How we did this

The Free Press obtained and analyzed data from the Michigan Department of Transportation, Federal Highway Administration and the Transportation Asset Management Council on bridge conditions, projects, spending and funding. We went out with a state inspector to better understand how bridges are inspected. We also visited bridges independently and talked with residents and businesses about local bridge conditions and their impacts.

Bridge inspection (video): Slide 3

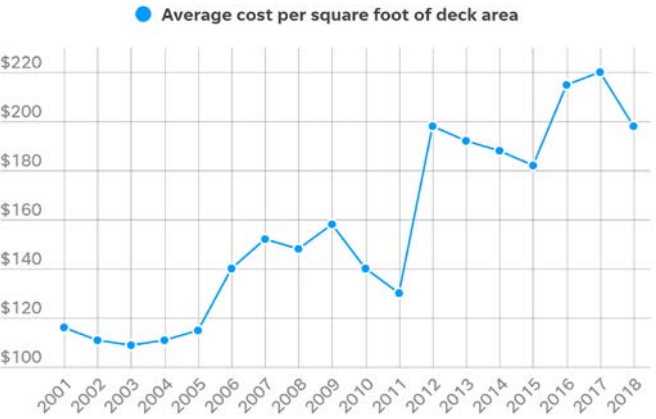


Bridge condition ratings

GOOD		ROUTINE MAINTENANCE
9		EXCELLENT
8		VERY GOOD - No problems noted.
7		GOOD - Some minor problems.
FAIR		PREVENTIVE MAINTENANCE OR MINOR REHABILITATION
6		SATISFACTORY - Structural elements show minor deterioration.
5		FAIR - All primary structural elements are sound but may have minor corrosion, cracking or chipping.
POOR		MAJOR REHABILITATION OR REPLACEMENT
4		POOR CONDITION - Advanced corrosion, deterioration, cracking or chipping.
3		SERIOUS - Erosion of concrete bridge piers has seriously affected deck, superstructure or substructure.
2		CRITICAL - Advanced deterioration of deck, superstructure, or substructure. May be necessary to close the bridge until action is taken.
1		"IMMINENT" FAILURE - Major deterioration or corrosion in deck, superstructure, substructure or structure stability. Bridge is closed to traffic.
0		FAILED - Out of service - beyond corrective action.

SOURCE Michigan Department of Transportation and the U.S. Federal Highway Administration, National Bridge Inventory database

The average cost of building bridges has increased over time.

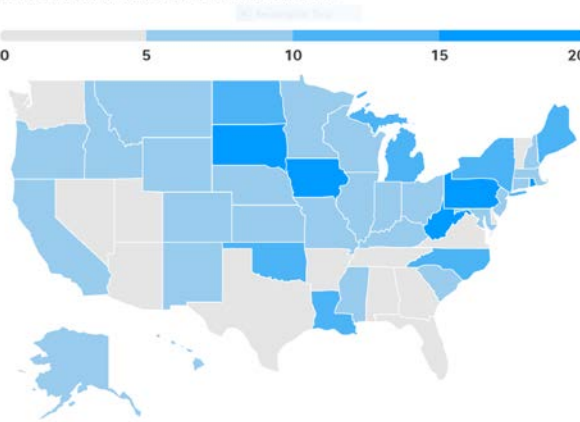


NOTE Bridge costs are weighted averages for 2001-11. Costs are limited to the physical parts of the bridge and do not include a long list of other items. Averages may not include all local bridge projects.

SOURCE Michigan Department of Transportation

Michigan's percentage of bridges in poor condition slightly higher than national rate

Nationwide, about 8% of bridges were in poor condition or worse. Michigan was slightly higher at 11% in 2018. Hover or select a state to see the data:



SOURCE U.S. Department of Transportation, Federal Highway Administration

Michigan bridge conditions

The gap between bridges in good and fair condition is widening and the percentage of bridges in poor condition is increasing statewide.



SOURCE Michigan Department of Transportation

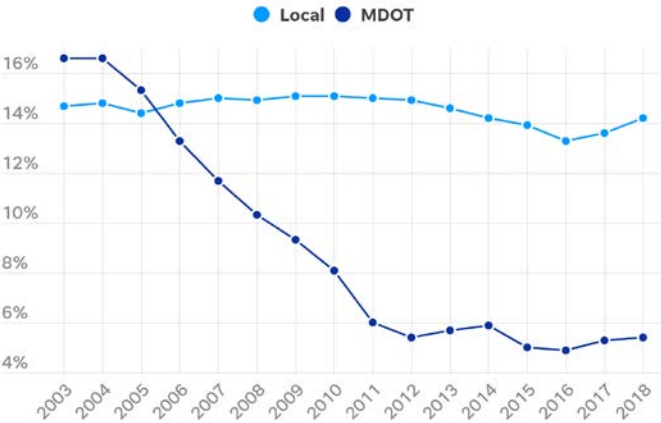
Michigan bridges projected to get worse

Bridge conditions 2015-18 are based on inspection data, 2019-29 are state projections.

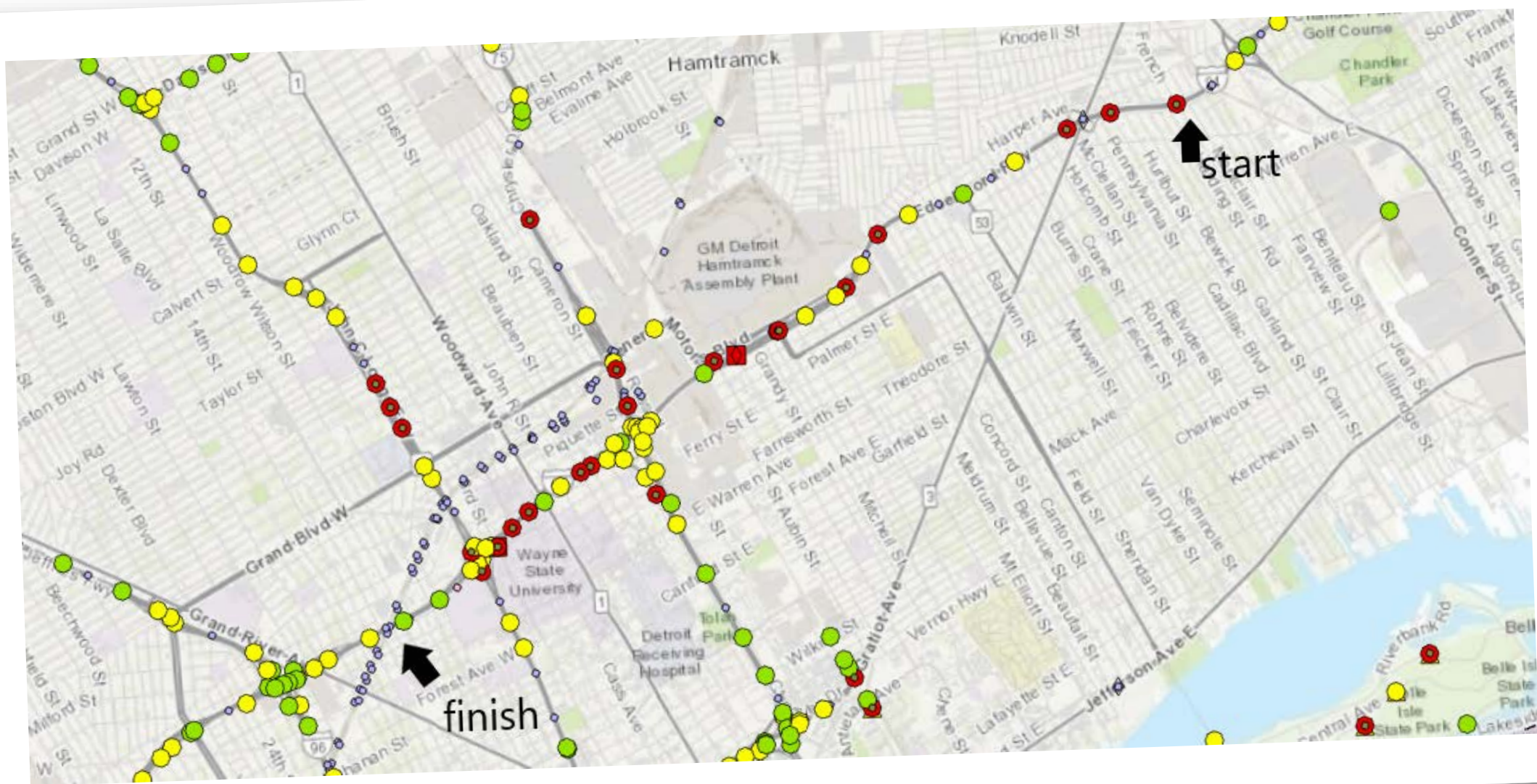


NOTE State estimates are based on current bridge conditions, deterioration rates, inflation, project costs, funding and strategies used to fix bridges.

A higher percentage of locally owned bridges are in poor shape compared with state-owned bridges.



SOURCE Michigan Department of Transportation





MICHIGAN DEPARTMENT OF TRANSPORTATION

STR 11246	BRIDGE SAFETY INSPECTION REPORT			S02-82025
Facility	Latitude / Longitude	MDOT Structure ID	Structure Condition	
CADILLAC AVE	42.3919 / -83.0032	82182025000S020	Serious Condition(3)	
Feature	Length / Width / Spans	Owner		
I-94	185.2 / 67.9 / 4	Region: Metro(7)		
Location	Built / Recon. / Paint / Ovly.	TSC	Operational Status	
IN DETROIT	1957 / / 1957 / 2007	Detroit(9)	D Open, temp shored(D)	
Region / County	Material / Design	Last NBI Inspection	Scour Evaluation	
Metro(7) / Wayne(82)	3 Steel / 02 Multi Str Non Comp	06/26/2018 / Q5TA	N Not Over Waterway	

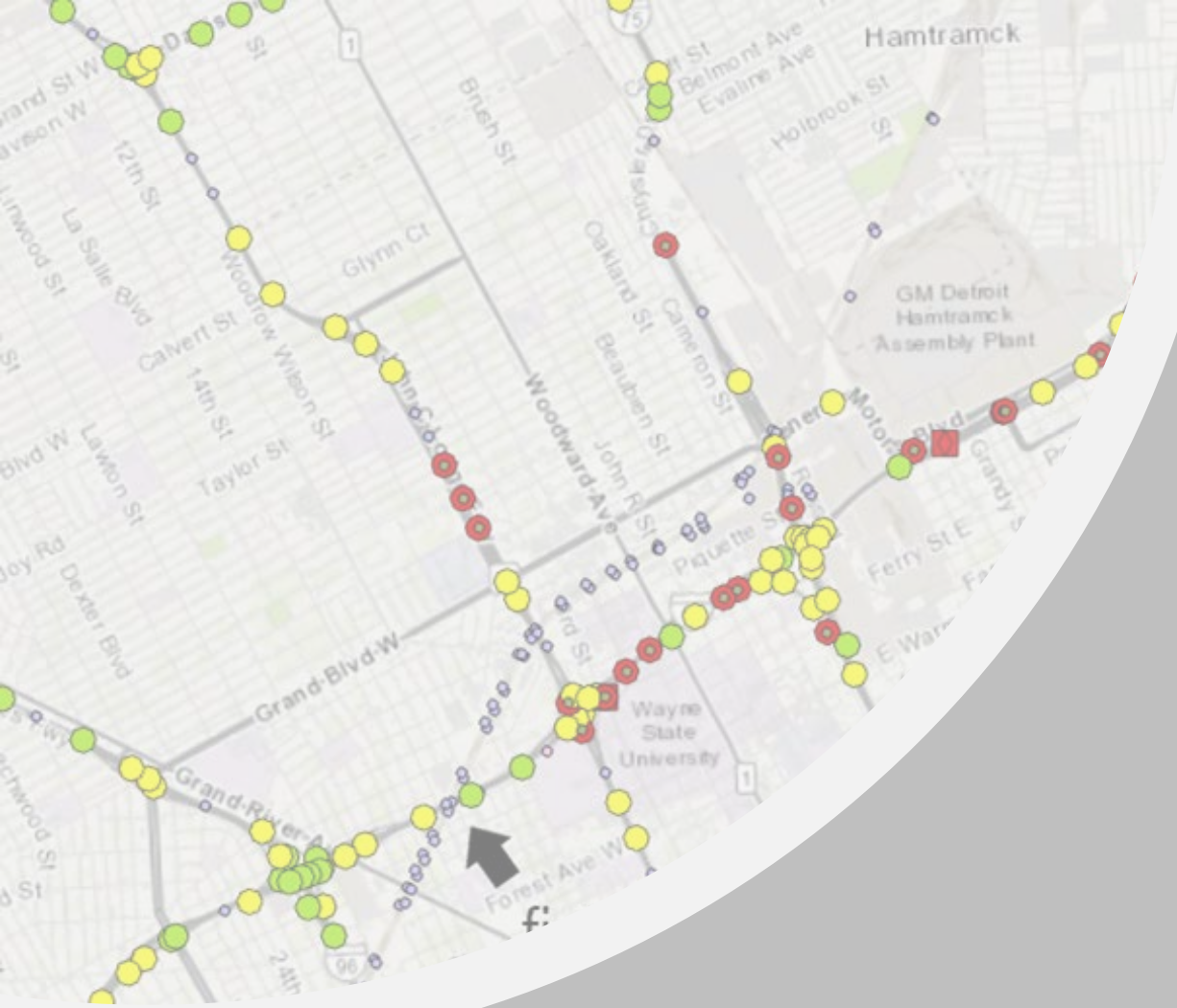
NBI INSPECTION			Q5TA
Inspector Name	Agency / Company Name	Insp. Freq.	Insp. Date
Chaudhary Mahmood	MDOT Metro Region	12	06/26/2018

GENERAL NOTES

Frequency less than 24 months due to: Deck rated 3, Beams rated 5 and LOSS

The purpose of the inspection is to look for safety hazards, major changes to element states and to update element quantities where possible. All element defects have been entered and minor changes are hard to discern without detailed measurement. Bridge was scheduled for replacement in 2017 under JN 113126, but the project has been suspended.





I-94 Bridge drive (video): Slide 7



A person with dark hair, seen from the back, is holding a camera up to take a photograph. They are standing on a metal structure with large rivets, possibly a bridge or overpass. In the background, there is a large parking lot filled with cars, a highway with a bridge, and industrial buildings under a grey, overcast sky. Bare tree branches frame the top and right sides of the image.

Questions?

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