

National Bridge Inventory: Michigan

- The state has identified needed repairs on 2,737 bridges.
- This compares to 2,667 bridges that needed work in 2020.
- Over the life of the IIJA, Michigan will receive a total of \$608.2 million in bridge formula funds, which will help make needed repairs.
- Michigan currently has access to \$364.9 million of that total, and has committed \$196.5 million towards 143 projects as of June 2024.
- Of the 11,371 bridges in the state, 1,281, or 11.3 percent, are classified as structurally deficient. This means one of the key elements is in poor or worse condition.
- This is up from 1,219 bridges classified as structurally deficient in 2020.
- The deck area of structurally deficient bridges accounts for 7.8 percent of total deck area on all structures.

9

Compared to 9 in 2023

in the nation in % of
structurally deficient
bridges

1. Iowa	19.0%
8. Louisiana	12.0%
9. Michigan	11.0%
10. North Dakota	11.0%

12

Compared to 12 in 2023

in the nation in # of
structurally deficient
bridges

1. Iowa	4,544
11. North Carolina	1,298
12. Michigan	1,281
13. Ohio	1,267

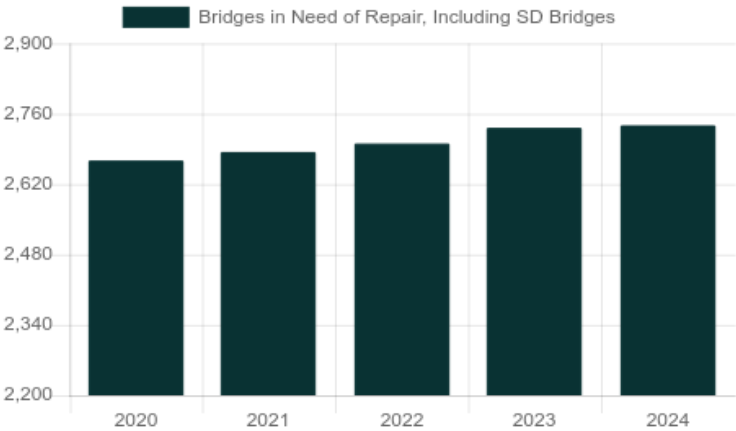
11

Compared to 10 in 2023

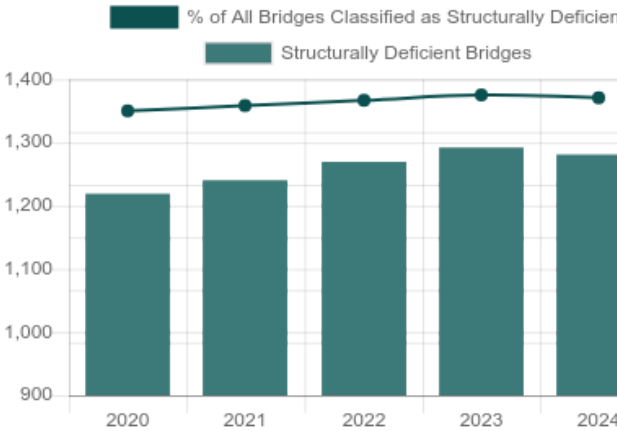
in the nation in % of structurally
deficient bridge deck area

1. Rhode Island	14.0%
10. Wyoming	8.0%
11. Michigan	8.0%
12. Missouri	8.0%

Number of Bridges in Need of Repair, Including Structurally Deficient Bridges



Number of Structurally Deficient Bridges



Top Most Traveled Structurally Deficient Bridges in Michigan

County	Year Built	Daily Crossings	Type of Bridge	Location
Oakland	1971	209,200	Urban Interstate	I-696 over I-75 & 4 Ramps
Wayne	1971	98,506	Urban Interstate	I-94 over Ent to Ford Plant
Wayne	1963	92,920	Urban freeway/expressway	M-39 over Ecorse Creek
Wayne	1970	78,863	Urban Interstate	I-96 WB Main Rdwy over M-39 (Southfield Expr)
Wayne	1962	74,175	Urban Interstate	I-94 WB over Ecorse Rd
Monroe	1955	67,800	Urban Interstate	I-75 over Conrail ,Raisin R, Front
Genesee	1976	63,400	Urban Interstate	I-475 over Davison - Broadway Aves
Genesee	1976	63,400	Urban Interstate	I-475 over Gilkey Creek
Genesee	1976	63,400	Urban Interstate	I-475 and Ramp B over Chavez Dr
Wayne	1953	63,154	Urban freeway/expressway	M-10 WB over I-94 Ramp from M-10
Livingston	1960	61,696	Rural arterial	US-23 over M-36
Oakland	1967	61,150	Urban Interstate	Ramp P to M-10 over I-696
Wayne	1969	60,400	Urban other principal arterial	M-102 8 mile Rd over I-75
Wayne	1962	60,077	Urban Interstate	I-94 EB over Beech-Daly Rd
Wayne	1955	59,083	Urban Interstate	I-94 EB over I-94 Ramp to M-10
Genesee	1971	59,000	Urban Interstate	I-475 over CSX RR & NB Serv Rd(Abn)
Wayne	1928	53,839	Urban other principal arterial	Allen & Pelham Rds over Sexton Kilfoil Drain
Kent	1961	50,972	Urban Interstate	I-296 (US-131) SB over US-131 Br (Leonard)
Kent	1961	50,972	Urban Interstate	I-296 (US-131) NB over US-131 Br (Leonard)
Livingston	1962	44,600	Urban Interstate	I-96 EB over Grand River Ave
Livingston	1962	44,600	Urban Interstate	I-96 WB over Grand River Ave
Kent	1961	42,978	Urban other principal arterial	M-44 (E Belt Line) over I-96
Wayne	1962	42,800	Urban minor arterial	Jefferson Ave over I-375
Kent	1964	41,000	Urban Interstate	I-196 WB over Gd R,I-296,Scrb,Trn,Monr
Wayne	1958	40,380	Urban other principal arterial	Wayne Road over Tonquish Creek

Bridge Inventory: Michigan

Type of Bridge	Number of Bridges	Area of All Bridges (sq. meters)	Daily Crossings on All Bridges	Number of Structurally Deficient Bridges	Area of Structurally Deficient Bridges (sq. meters)	Daily Crossings on Structurally Deficient Bridges
Rural Interstate	405	364,196	8,371,324	19	12,909	199,691
Rural arterial	643	406,185	5,736,271	39	21,592	391,396
Rural minor arterial	645	295,428	3,260,026	62	31,407	202,240
Rural major collector	2,100	684,521	4,459,985	242	56,849	482,652
Rural minor collector	548	139,114	475,104	53	9,172	30,267
Rural local road	3,211	549,713	1,539,002	511	56,476	138,930
Urban Interstate	846	1,416,200	30,891,355	62	105,278	2,082,721
Urban freeway/expressway	319	333,052	8,355,479	27	22,032	694,439
Urban other principal arterial	734	894,520	15,793,253	59	78,404	1,208,265
Urban minor arterial	829	748,504	9,542,671	89	67,382	939,500
Urban collector	489	284,715	3,372,060	49	23,426	243,799
Urban local road	602	296,832	2,426,717	69	18,113	134,864
Total	11,371	6,412,979	94,223,247	1,281	503,038	6,748,764

Proposed Bridge Work

Type of Work	Number of Bridges	Cost to Repair (in millions)	Daily Crossings	Area of Bridges (sq. meters)
Bridge replacement	661	\$544	1,874,955	146,432
Widening & rehabilitation	75	\$113	1,342,441	43,817
Rehabilitation	1,082	\$1,116	5,641,709	438,580
Deck rehabilitation/replacement	760	\$1,909	9,427,056	745,417
Other structural work	159	\$187	600,703	73,893
Total	2,737	\$3,869	18,886,864	1,448,138

About the data:

Data and cost estimates are from the Federal Highway Administration (FHWA) National Bridge Inventory (NBI), downloaded on August 20, 2024. Note that specific conditions on bridges may have changed as a result of recent work or updated inspections.

Effective January 1, 2018, FHWA changed the definition of structurally deficient as part of the final rule on highway and bridge performance measures, published May 20, 2017 pursuant to the 2012 federal aid highway bill Moving Ahead for Progress in the 21st Century Act (MAP-21). Two measures that were previously used to classify bridges as structurally deficient are no longer used. This includes bridges where the overall structural evaluation was rated in poor or worse condition, or where the adequacy of waterway openings was insufficient.

The new definition limits the classification to bridges where one of the key structural elements—the deck, superstructure, substructure or culverts, are rated in poor or worse condition. During inspection, the conditions of a variety of bridge elements are rated on a scale of 0 (failed condition) to 9 (excellent condition). A rating of 4 is considered "poor" condition.

Cost estimates have been derived by ARTBA, based on 2023 average bridge replacement costs for structures on and off the National Highway System, [published by FHWA](#). Bridge rehabilitation costs are estimated to be 68 percent of replacement costs. A bridge is considered to need repair if the structure has identified repairs as part of the NBI, a repair cost estimate is supplied by the bridge owner or the bridge is classified as structurally deficient. Please note that for a few states, the number of bridges needing to be repaired can vary significantly from year to year, and reflects the data entered by the state.

Bridges are classified by FHWA into types based on the functional classification of the roadway on the bridge. Interstates comprise routes officially designated by the Secretary of Transportation. Other principal arterials serve major centers of urban areas or provide mobility through rural areas. Freeways and expressways have directional lanes generally separated by a physical barrier, and access/egress points generally limited to on- and off-ramps. Minor arterials serve smaller areas and are used for trips of moderate length. Collectors funnel traffic from local roads to the arterial network; major collectors have higher speed limits and traffic volumes and are longer in length and spaced at greater intervals, while minor collectors are shorter and provide service to smaller communities. Local roads do not carry through traffic and are intended for short distance travel.
