

National Bridge Inventory: Massachusetts

- The state has identified needed repairs on 4,962 bridges.
- This compares to 4,843 bridges that needed work in 2020.
- Over the life of the IIJA, Massachusetts will receive a total of \$1.2 billion in bridge formula funds, which will help make needed repairs.
- Massachusetts currently has access to \$730.6 million of that total, and has committed \$317.0 million towards 14 projects as of June 2024.
- Of the 5,296 bridges in the state, 470, or 8.9 percent, are classified as structurally deficient. This means one of the key elements is in poor or worse condition.
- This is down from 472 bridges classified as structurally deficient in 2020.
- The deck area of structurally deficient bridges accounts for 11.3 percent of total deck area on all structures.

14

Compared to 14 in 2023

in the nation in % of structurally deficient bridges

1. Iowa	19.0%
13. Missouri	9.0%
14. Massachusetts	9.0%
15. Nebraska	8.0%

27

Compared to 29 in 2023

in the nation in # of structurally deficient bridges

1. Iowa	4,544
26. Virginia	478
27. Massachusetts	470
28. North Dakota	467

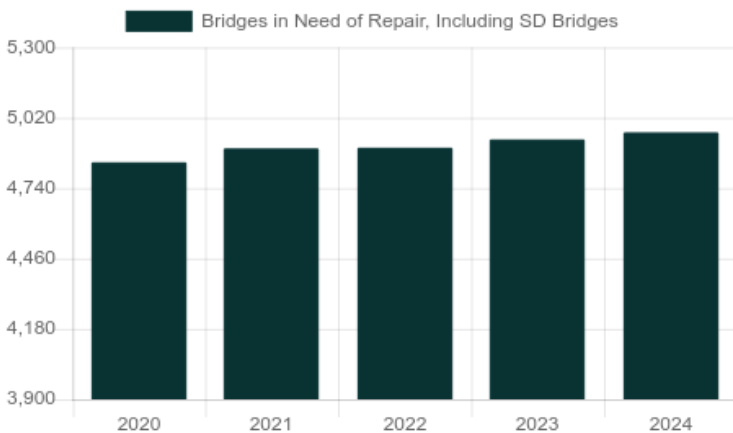
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Compared to 4 in 2023

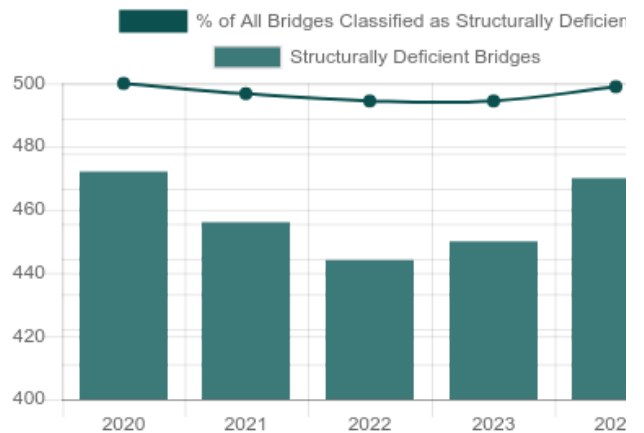
in the nation in % of structurally deficient bridge deck area

1. Rhode Island	14.0%
5. Illinois	11.0%
6. Massachusetts	11.0%
7. Maine	11.0%

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



Number of Structurally Deficient Bridges



Top Most Traveled Structurally Deficient Bridges in Massachusetts

County	Year Built	Daily Crossings	Type of Bridge	Location
Middlesex	1957	200,824	Urban Interstate	I 93 over I 95 /St128
Norfolk	1958	199,278	Urban Interstate	I 93 NB/US1SB over St 24 NB
Middlesex	1950	192,672	Urban Interstate	I 95 /St128 over RR MBTA/BMRR
Middlesex	1960	182,420	Urban Interstate	I 93 over St 16 Myst Val Pky
Middlesex	1959	168,392	Urban minor arterial	St 28 Fellsway W over I 93
Middlesex	1950	142,579	Urban Interstate	I 95 St128 over Hwy Quinobequin Rd
Essex	1963	128,520	Urban other principal arterial	US 1 Newbrprt Tpk over I 95 /St128
Essex	1959	119,818	Urban Interstate	I 93 over Water Merrimack River
Essex	1963	113,400	Urban Interstate	I 495 over Hwy Massachusetts Ave
Essex	1962	106,800	Urban Interstate	I 495 NB & On-Ramp over RR MBTA/BMRR
Essex	1962	104,295	Urban Interstate	I 495 Upper Level over I 495 Lower Level
Middlesex	1961	97,289	Urban Interstate	I 495 NB over Hwy Tadmuck Rd
Middlesex	1905	96,206	Urban other principal arterial	St 9 Boylston St over Tr Green Line D
Essex	1962	95,100	Urban Interstate	I 495 SB over St 28 SB/N Main St
Essex	1962	95,100	Urban Interstate	I 495 NB over St 28 SB/N Main St
Middlesex	1950	93,600	Urban freeway/expressway	I 95 SB/St128 SB over St 3 A/Cambridge St
Essex	1961	93,469	Urban Interstate	I 495 NB over Comb BMRR & Little Riv
Essex	1961	93,469	Urban Interstate	I 495 SB over Comb BMRR & Little Riv
Middlesex	1950	92,706	Urban Interstate	I 95 SB/St128 SB over Hwy S Bedford St
Middlesex	1965	86,300	Urban freeway/expressway	St 2 EB over Hwy Pleasant St
Essex	1934	85,600	Urban other principal arterial	St 1 A/Lynnway over Water Saugus River
Middlesex	1962	84,000	Urban other principal arterial	St 3 A/Gorham St over I 495
Middlesex	1957	80,100	Urban Interstate	I 90 Ramps A & B over Water Charles River
Essex	1964	79,962	Urban Interstate	I 495 NB over St110 Amesbury Rd
Essex	1962	79,000	Urban minor arterial	I 495 & Access Rps over Water Merrimack River

Bridge Inventory: Massachusetts

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	87	53,225	2,346,758	2	1,780	49,181
Rural arterial	50	46,833	557,475	4	12,843	58,153
Rural minor arterial	109	41,419	588,161	9	1,733	51,855
Rural major collector	229	59,412	583,601	27	7,240	73,278
Rural minor collector	121	28,060	164,241	6	1,007	7,672
Rural local road	464	63,037	193,451	29	4,175	16,491
Urban Interstate	933	1,478,906	50,081,237	79	144,070	4,954,366
Urban freeway/expressway	463	474,487	18,604,660	44	72,957	1,403,299
Urban other principal arterial	721	808,134	17,076,394	88	106,427	2,338,129
Urban minor arterial	975	616,580	13,792,361	90	71,128	1,237,359
Urban collector	529	261,860	3,462,918	46	25,731	371,133
Urban local road	615	227,335	1,922,163	46	19,839	78,788
Total	5,296	4,159,287	109,373,420	470	468,931	10,639,704

Proposed Bridge Work

Type of Work	Number of Bridges	Cost to Repair (in millions)	Daily Crossings	Area of Bridges (sq. meters)
Bridge replacement	464	\$2,284	5,657,333	331,278
Widening & rehabilitation	1,811	\$4,679	29,896,816	996,653
Rehabilitation	2,375	\$9,888	55,792,024	2,133,544
Deck rehabilitation/replacement	26	\$145	1,152,793	31,980
Other structural work	286	\$1,244	9,522,081	272,821
Total	4,962	\$18,239	102,021,047	3,766,277

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.
