



Kim Reynolds, Governor
Adam Gregg, Lt. Governor
Scott Marler, Iowa DOT Director

February 2, 2024

The Honorable Mike Klimesh, Chair, Senate Transportation Committee
The Honorable Brian Best, Chair, House Transportation Committee
Timothy McDermott, Director, Legislative Services Agency
Ground Floor, State Capitol Building
Des Moines, Iowa 50319

Re: County Structurally Deficient Bridges Report for FY 2023

Pursuant to Iowa Code Section 307.32, the Iowa Department of Transportation respectfully submits the subject report summarizing the progress made during Fiscal Year (FY) 2023 to reduce the number of Structurally Deficient (SD) county bridges in Iowa. Included with the report is "A Guide to the County Structurally Deficient Bridges Summary Report," which provides background information, definitions, and other information related to the report.

Highlights from this year's report include the following:

- At the beginning of the FY there were 4,276 SD county bridges.*
- During the FY an additional 336 bridges became SD, resulting in a total of 4,612 SD bridges. Of the 4,612 SD bridges, 299 bridges were repaired or replaced to remove their SD status. The end result was a net increase of 37 SD bridges.
- Of the 4,313 bridges that remained in SD status at the end of the FY, 4,006 are still open to traffic and 307 are closed.
- Of the 4,006 bridges that are still open to traffic, 746 (or about 19 percent) are programmed for replacement or rehabilitation in the next five years.
- Of the 307 bridges that are closed, 274 (or about 89 percent) are not likely to reopen due to lack of funding for rehabilitation or replacement or due to the structure no longer being necessary.

As a result of increased state and federal funding, in recent years counties had made steady improvement by reducing the number of SD bridges each year. However, even though counties spent more money on bridges in FY 23 than they have since this report was initiated, the number of SD bridges increased both this past year and the prior year. Several factors have likely contributed to the increase in SD structures over the past two fiscal years. First, in calendar year 2022, Iowa's construction price index increased about 23 percent, significantly reducing buying power. The construction cost dropped slightly in calendar year 2023, but the buying power is still significantly lower than previous years. This has reduced the number of SD bridges that can be addressed in a year.

A second reason there's been an increase in SD bridges is related to the greater use of federal funding for county bridge projects. While there has been an increase in federal bridge funding from the federal Infrastructure Investment and Jobs Act (IIJA), this has resulted in almost all bridge projects being administered as Federal-aid projects, which means those projects take longer to develop than previous years when counties could utilize tools, such as Federal-aid Swap, to streamline the project

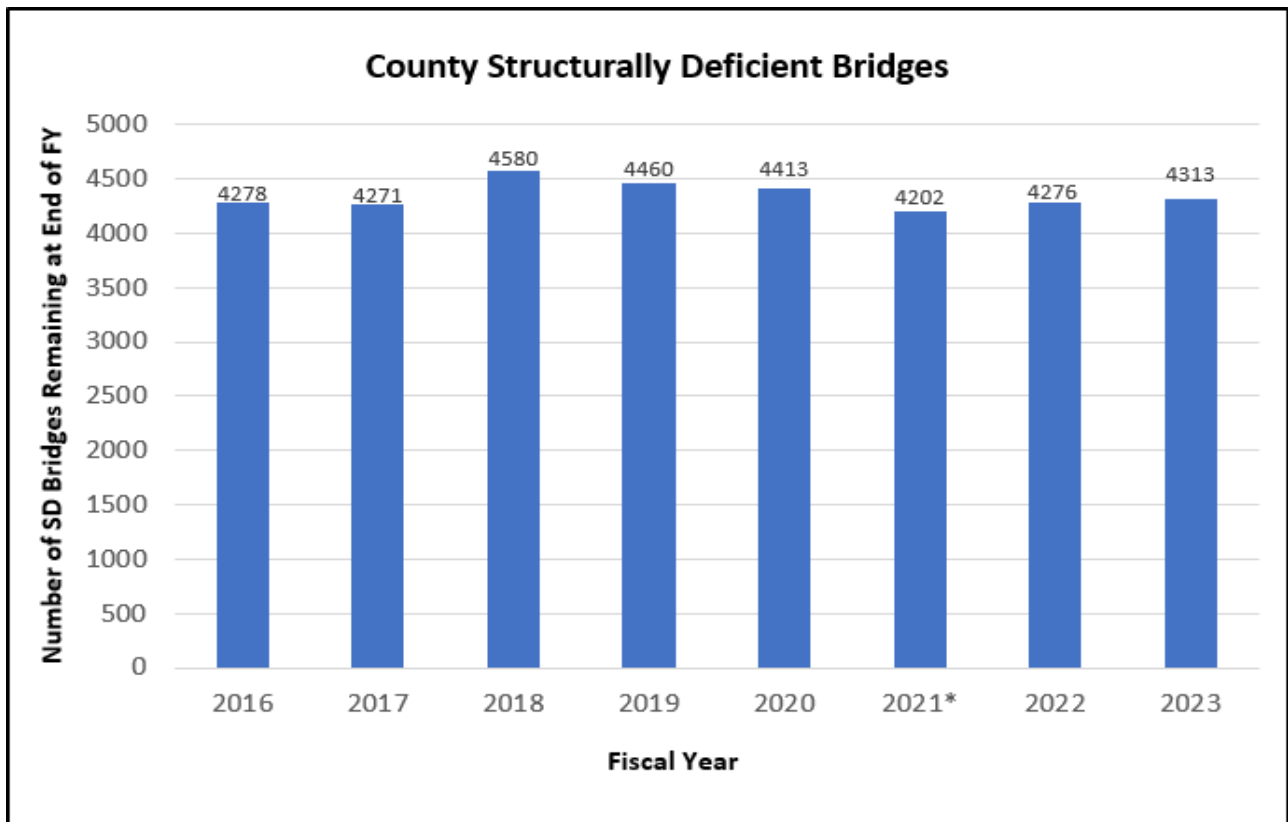


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development process. This has resulted in a slowdown of bridge project development as counties are still transitioning to utilizing more Federal-aid.

To help address these challenges, counties have been cooperatively and aggressively pursuing additional federal discretionary bridge funding opportunities and were awarded a \$24.76M RAISE grant for nine large bridges in FY'23. Counties will continue to pursue other discretionary grant opportunities to increase investment in county bridges and reduce the number of county SD bridges.

The chart below shows the trend of county SD bridges over the past several years.



*The number of Structurally Deficient bridges shown for 2021 is slightly different from what was reported in the FY'21 report due to a change in the federal definition. Additional information can be found in the attached guide.

If you have any questions concerning this report, please feel free to contact me using the phone number or e-mail shown below.

Sincerely,

Scott C. Marler, Director

County Structurally Deficient Bridges Summary Report - Fiscal Year 2023

In accordance with Iowa Code 309.22A, this report details the manner in which counties use their road use tax funds to replace or repair structurally deficient bridges.

County	Beginning Status			Structures taken off SD status				Structures that remained in SD status at end of year						
	Carry over and newly designated SD			Bridges removed from structurally deficient status: restored to full legal load capacity				In Service (Open) - Still SD			Out of Service (Closed)			Total SD Remaining
	SD at beginning of reporting period	Became SD during FY 2023	Total SD during this FY	via Replacement	via Major Rehabilitation	via Light Rehabilitation	Total Restored	Partially Rehabed	Programmed for Replace or Rehab	Not yet Programmed	Closed: plan to replace	Closed: programmed to replace	Closed: Not likely to reopen	
Adair	47	3	50	2	1	0	3	0	1	41	0	0	5	47
Adams	75	6	81	3	0	0	3	0	1	71	0	0	6	78
Allamakee	16	2	18	2	0	0	2	0	6	10	0	0	0	16
Appanoose	56	5	61	3	0	0	3	0	5	49	0	0	4	58
Audubon	44	1	45	5	0	0	5	0	4	27	0	2	7	40
Benton	76	1	77	6	1	0	7	0	8	62	0	0	0	70
Black Hawk	19	3	22	2	0	0	2	2	8	8	0	0	2	20
Boone	38	3	41	1	0	0	1	0	6	32	0	0	2	40
Bremer	33	2	35	3	0	0	3	0	6	22	0	1	3	32
Buchanan	23	1	24	0	0	0	0	4	3	15	0	2	0	24
Buena Vista	49	3	52	2	0	2	4	0	5	41	0	1	1	48
Butler	45	2	47	6	0	0	6	0	20	19	0	0	2	41
Calhoun	48	5	53	3	0	0	3	0	16	31	0	2	1	50
Carroll	14	3	17	1	0	0	1	0	5	11	0	0	0	16
Cass	98	9	107	5	0	0	5	1	13	85	0	0	3	102
Cedar	67	1	68	3	0	0	3	0	8	54	0	0	3	65
Cerro Gordo	12	1	13	1	0	0	1	0	2	10	0	0	0	12
Cherokee	72	4	76	0	0	0	0	0	11	56	0	1	8	76
Chickasaw	82	5	87	5	0	0	5	0	11	69	0	0	2	82
Clarke	51	3	54	2	0	0	2	0	10	33	0	0	9	52
Clay	17	0	17	3	0	0	3	0	2	10	0	0	2	14
Clayton	21	8	29	4	0	0	4	0	9	16	0	0	0	25
Clinton	8	1	9	1	1	0	2	0	4	1	0	0	2	7
Crawford	24	7	31	4	0	0	4	0	1	26	0	0	0	27
Dallas	12	0	12	1	0	0	1	0	6	3	0	0	2	11
Davis	42	4	46	2	0	1	3	0	4	39	0	0	0	43
Decatur	81	3	84	2	0	0	2	0	4	71	0	0	7	82
Delaware	19	1	20	3	0	0	3	0	4	13	0	0	0	17
Des Moines	21	1	22	0	0	0	0	0	11	11	0	0	0	22
Dickinson	20	1	21	1	0	0	1	0	11	6	0	0	3	20
Dubuque	27	0	27	0	0	0	0	0	7	16	0	0	4	27
Emmet	12	0	12	0	0	0	0	0	2	8	0	0	2	12
Fayette	65	6	71	3	0	0	3	0	6	61	0	0	1	68
Floyd	32	1	33	3	0	0	3	0	5	23	0	0	2	30
Franklin	29	9	38	2	0	0	2	0	10	26	0	0	0	36
Fremont	33	0	33	0	0	0	0	2	4	24	0	0	3	33
Greene	12	13	25	0	0	0	0	0	4	21	0	0	0	25
Grundy	64	12	76	5	0	0	5	0	5	64	0	1	1	71
Guthrie	89	4	93	2	0	0	2	0	9	76	0	1	5	91
Hamilton	33	3	36	2	0	0	2	0	12	19	0	0	3	34
Hancock	28	2	30	1	0	0	1	0	8	21	0	0	0	29
Hardin	46	9	55	5	0	0	5	0	9	38	3	0	0	50
Harrison	48	3	51	8	1	0	9	1	3	36	0	1	1	42
Henry	34	2	36	2	0	0	2	1	6	27	0	0	0	34
Howard	46	2	48	5	0	0	5	0	27	14	0	0	2	43
Humboldt	12	0	12	2	0	0	2	0	5	5	0	0	0	10
Ida	27	2	29	1	0	0	1	2	7	17	0	0	2	28
Iowa	50	4	54	6	0	0	6	0	9	35	0	1	3	48
Jackson	45	0	45	5	0	0	5	0	5	34	0	0	1	40
Jasper	116	4	120	8	0	0	8	0	23	78	0	0	11	112
Jefferson	32	0	32	2	0	0	2	0	7	21	0	0	2	30
Johnson	28	0	28	2	0	0	2	0	7	17	0	0	2	26
Jones	7	2	9	2	0	0	2	0	0	5	0	1	1	7
Keokuk	29	10	39	3	0	0	3	1	0	35	0	0	0	36
Kossuth	40	0	40	4	0	0	4	0	5	31	0	0	0	36
Lee	18	5	23	0	0	0	0	0	11	11	0	0	1	23
Linn	20	2	22	4	0	0	4	0	12	6	0	0	0	18
Louisa	19	6	25	0	0	0	0	1	5	17	1	0	1	25
Lucas	65	2	67	2	0	0	2	0	1	58	0	1	5	65
Lyon	52	7	59	2	0	0	2	0	10	33	0	1	13	57
Madison	86	0	86	1	0	0	1	0	5	72	1	2	5	85
Mahaska	82	5	87	6	3	0	9	0	32	40	0	0	6	78
Marion	27	1	28	1	0	0	1	0	3	23	0	0	1	27
Marshall	118	7	125	0	0	0	0	15	110	0	0	0	0	125
Mills	35	0	35	0	0	0	0	0	1	32	0	0	2	35
Mitchell	18	0	18	1	0	0	1	0	0	15	0	0	2	17
Monona	40	4	44	6	0	0	6	0	6	26	0	0	6	38
Monroe	32	1	33	4	0	0	4	0	7	21	0	1	0	29
Montgomery	51	1	52	3	1	0	4	0	1	38	0	1	8	48
Muscatine	32	0	32	2	0	0	2	0	9	21	0	0	0	30
O'Brien	9	4	13	3	0	0	3	0	2	7	0	0	1	10
Osceola	14	7	21	4	1	0	5	0	2	12	0	0	2	16
Page	55	9	64	2	0	0	2	0	7	49	0	0	6	62
Palo Alto	23	1	24	0	0	0	0	0	6	17	0	0	1	24
Plymouth	89	14	103	5	0	0	5	0	45	53	0	0	0	98
Pocahontas	49	4	53	4	0	0	4	0	4	35	0	1	9	49
Polk	19	2	21	0	0	0	0	0	7	13	0	0	1	21
Pottawattamie	44	3	47	4	0	0	4	0	15	27	0	0	1	43
Poweshiek	97	3	100	0	0	0	0	0	2	92	0	0	6	100

County	Beginning Status Carry over and newly designated SD			Structures taken off SD status Bridges removed from structurally deficient status: restored to full legal load capacity				Structures that remained in SD status at end of year						
	SD at beginning of reporting period	Became SD during FY 2023	Total SD during this FY	via Replacement	via Major Rehabilitation	via Light Rehabilitation	Total Restored	In Service (Open) - Still SD			Out of Service (Closed)			Total SD Remaining
								Partially Rehabed	Programmed for Replace or Rehab	Not yet Programmed	Closed: plan to replace	Closed: programmed to replace	Closed: Not likely to reopen	
Ringgold	97	3	100	5	0	0	5	0	25	55	0	1	14	95
Sac	69	9	78	4	0	0	4	0	16	55	0	0	3	74
Scott	18	1	19	3	0	0	3	0	3	13	0	0	0	16
Shelby	19	1	20	1	0	0	1	0	0	17	1	0	1	19
Sioux	12	0	12	2	0	0	2	0	7	2	0	0	1	10
Story	40	7	47	6	0	0	6	0	4	31	0	0	6	41
Tama	108	13	121	3	2	0	5	0	7	97	0	0	12	116
Taylor	85	6	91	10	0	0	10	1	10	59	0	0	11	81
Union	54	5	59	5	0	0	5	0	7	40	0	0	7	54
Van Buren	46	1	47	1	0	0	1	0	0	43	0	0	3	46
Wapello	31	2	33	5	0	1	6	1	13	12	0	0	1	27
Warren	53	2	55	4	0	0	4	2	9	34	0	0	6	51
Washington	33	1	34	9	0	0	9	0	6	19	0	0	0	25
Wayne	32	1	33	2	1	0	3	0	1	25	0	0	4	30
Webster	45	3	48	5	0	0	5	0	3	39	0	1	0	43
Winnebago	18	0	18	6	0	0	6	0	4	8	0	0	0	12
Winneshek	61	1	62	1	0	0	1	0	14	45	1	1	0	61
Woodbury	77	11	88	3	0	0	3	0	17	62	0	2	4	85
Worth	15	2	17	0	0	0	0	1	1	14	0	0	1	17
Wright	55	2	57	5	0	0	5	0	1	48	0	0	3	52
Totals	4276	336	4612	283	12	4	299	20	746	3240	7	26	274	4313

SD Structures to account for:

Restored:
Still SD:

Still open:

Closed:

Net Improvement:

SD definition including only "Poor" bridges

A Guide to the County Structurally Deficient Bridges Summary Report

Prepared by the Iowa Department of Transportation

January 2024

Background

Except when more frequent inspection cycles are required or when less frequent inspection cycles are allowed due to low-risk characteristics of the structure, counties must inspect all bridges at least every 24 months for structural integrity and overall condition. Some counties inspect all of their bridges every other year while others inspect roughly one-half of their bridges each year.

In accordance with Iowa Code 309.22A, this report summarizes the manner in which counties used their road use tax funds, along with state and federal funds, to replace or repair structurally deficient bridges. Each year the county engineers submit this information to the Iowa DOT as part of the county annual report of road and bridge expenditures required by Iowa Code 309.22. Additionally, more detailed information is available from the Iowa DOT upon request.

What is a “structurally deficient” (SD) bridge?

A structurally deficient bridge is a bridge having deterioration, cracks, or other flaws that reduce its load carrying capacity. This classification does not mean a bridge is unsafe. Most SD bridges can continue to serve traffic safely if they are properly inspected and maintained, but they must often be posted for weight limits that are less than the maximum legal (non-permit) weights allowed by law.

In accordance with the Pavement and Bridge Condition Performance Measures final rule published by FHWA in January of 2017, the definition of the term of “structurally deficient” has been changed by the FHWA, and the use of the terms “Good”, “Fair” and “Poor” has been implemented. The new classification of “Poor” is most equivalent to the previous classification of “SD”. Under the previous definition, a bridge was classified as SD when significant load carrying components were found to be in poor or worse condition due to deterioration and/or damage or when the adequacy of the waterway opening provided by the bridge was determined to be extremely insufficient to the point of causing intolerable traffic interruptions. Under the new definition, a bridge still qualifies as SD when significant load carrying components are found to be in poor or worse condition, but it no longer qualifies as structurally deficient via the structural condition (NBI Item 67) or the waterway adequacy (NBI Item 71) rating criteria. Therefore, some bridges that qualified as “SD” under the previous definition do not qualify as “Poor” under the new definition.

In FY 2021, this report continued the use of the previous rule/definition in order to allow valid historic comparisons within the State of Iowa; however, a column on the right side of the report was added that showed the number of bridges classified as “Poor” using the new definition. In FY 2022 and this year, the report has fully transitioned to the use of the new SD definition.

The SD classification is determined based on the latest bridge inspection data and criteria prescribed by the National Bridge Inspection Standards (NBIS) published by the Federal Highway Administration (FHWA).

What do each of the columns of this report mean?

Beginning Status – This section shows how the starting total of SD bridges for the reporting period are calculated.

SD at the beginning of the reporting period – This is the number of bridges which were classified as SD at the beginning of the reporting period.

Became SD during this FY – This is the number of bridges which moved into SD status during the reporting period.

Total SD during this FY – This is the sum of the previous two columns, which provides the total of SD bridges to be accounted for during the reporting period.

Structures Taken Off SD Status – This section shows the number of bridges that were restored to full legal load capacity, thereby removing the SD classifications. It also provides a breakdown of how these bridges were fixed.

Replacement – This is the number of SD bridges which were replaced by a new bridge or culvert.

Major Rehabilitation – This is the number of SD bridges which were not completely reconstructed but which had repairs made that were substantial enough to improve the condition enough to remove the SD condition designation. Examples might include complete deck replacements, beam replacements, or major repairs to the bridge piers or abutments (substructure supports).

Light Rehabilitation – This is the number of SD bridges for which only minor repairs were needed to improve the condition enough to remove the SD condition designation. Examples might include deck patching, beam strengthening, or less substantial repairs to the bridge piers (substructure supports).

Total Restored – This is the sum of the previous three columns, representing the total number of SD bridges replaced or repaired during the reporting period so that they no longer have a SD condition designation.

Structures that remained in SD Status at end of year – This section describes the status of bridges that did not have their SD status removed through the work accomplished during the year. These bridges are grouped into two main categories and several subcategories, as shown below:

In Service (open) Still SD – These bridges are still open to traffic while remaining in SD condition.

Partial Rehabilitation – This is the number of SD bridges on which minor repairs were made but not enough to remove the SD condition. Examples might include limited deck patching, bridge approach pavement repairs, bridge railing repairs, or joint replacements.

Programmed for Rehab or Replace – This is the number of SD bridges included in the county's five-year program which are scheduled for repair or replacement.

Not yet programmed – This is the number of SD bridges not yet included in the county's five-year program for repair or replacement.

Out of Service (Closed) – These bridges are closed to vehicular traffic and remain in SD condition.

Closed: Plan to Replace – This is the number of SD bridges that had an inspection which revealed issues that were serious enough to warrant closing the structure.

Closed: Programmed to Replace – This is the number of SD bridges which are closed to traffic and which will be replaced with an upcoming project. These structures may or may not be in the county's five-year plan.

Closed: Not Likely to Reopen – This is the number of SD bridges which are closed to traffic and for which the county has no current plans for repair or replacement.

Total SD Remaining – This is the total number of bridges that remain in SD status at the close of the reporting period.

Net Improvement – This is the difference between the number of SD bridges at the beginning of the reporting period and the number of SD bridges remaining at the end of the reporting period.