



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

February 13, 2023

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 2022

Pursuant to Iowa Code 307.32, the Iowa Department of Transportation respectfully submits the subject report summarizing the progress made during Fiscal Year (FY) 2022 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:

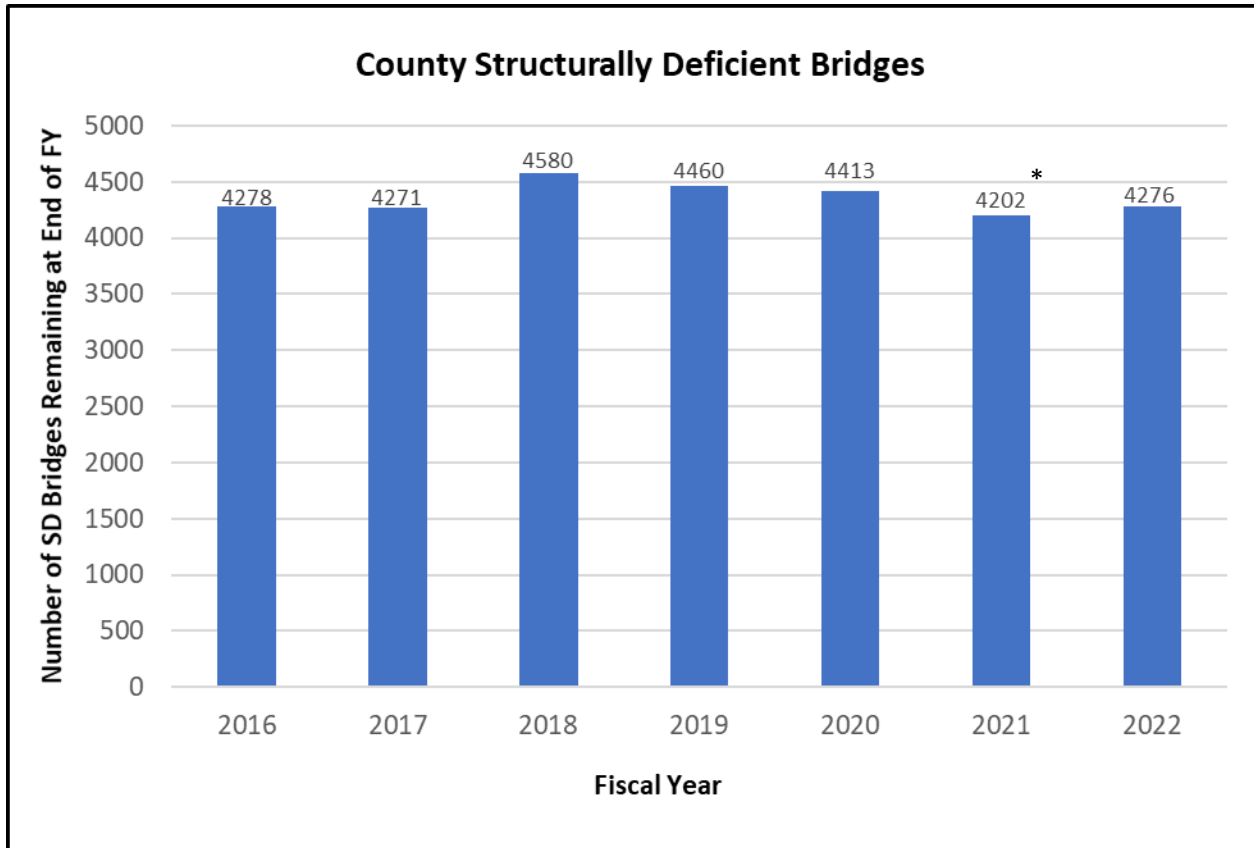
- At the beginning of the FY there were 4,202 SD county bridges. *
- During the FY an additional 365 bridges became SD, resulting in a total of 4,567 SD bridges. Of the 4,567 SD bridges, 291 bridges were repaired or replaced to remove their SD status. The end result was a net increase of 74 SD bridges.
- Of the 4,276 bridges that remained in SD status at the end of the FY, 3,960 are still open to traffic and 316 are closed.
- Of the 3,960 bridges that are still open to traffic, 864 (or about 22%) are programmed for replacement or rehabilitation in the next five years.
- Of the 316 bridges that are closed, 274 (or about 87%) 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, the number of SD bridges increased this past year. There are two primary reasons for this. First, due to additional dedicated federal funding over the past several years, counties have been aggressively developing projects to address their SD bridges. Given project development and overall funding constraints, the pace of work slowed in FY 2022. Second, according to the Iowa DOT's highway construction price index, the cost of bridges and structures has increased 22 percent over the past year. As a result, the buying power of the available dollars has been significantly reduced, reducing the number of SD bridges that can be addressed. However, with additional increases in dedicated federal bridge funding and, hopefully, improvement in bridge construction prices, counties may again be able to make progress in reducing the number of SD bridges. In addition, counties have been cooperatively and aggressively pursuing additional federal discretionary bridge funding opportunities.

The chart on the following page shows the trend of county SD bridges over the past several years.



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*The number of Structurally Deficient bridges shown for 2021 is slightly different from what was reported in last year's 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 2022

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 2022	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	2	49	2	0	0	2	0	1	41	0	1	4	47
Adams	71	9	80	5	0	0	5	0	3	67	0	0	5	75
Allamakee	22	0	22	4	1	1	6	0	5	11	0	0	0	16
Appanoose	54	5	59	3	0	0	3	0	16	36	0	2	2	56
Audubon	25	24	49	5	0	0	5	0	12	21	0	3	8	44
Benton	72	6	78	2	0	0	2	0	34	39	0	1	2	76
Black Hawk	20	3	23	4	0	0	4	0	9	8	0	1	1	19
Boone	40	0	40	2	0	0	2	0	7	28	0	0	3	38
Bremer	34	0	34	1	0	0	1	0	13	18	0	1	1	33
Buchanan	22	2	24	1	0	0	1	0	10	11	0	2	0	23
Buena Vista	49	0	49	0	0	0	0	0	5	40	0	1	3	49
Butler	44	2	46	1	0	0	1	0	26	17	1	0	1	45
Calhoun	40	10	50	2	0	0	2	0	14	32	0	2	0	48
Carroll	13	2	15	1	0	0	1	0	4	10	0	0	0	14
Cass	99	2	101	3	0	0	3	0	16	80	1	0	1	98
Cedar	66	4	70	3	0	0	3	1	10	51	0	2	3	67
Cerro Gordo	14	0	14	2	0	0	2	0	4	8	0	0	0	12
Cherokee	66	9	75	3	0	0	3	0	12	54	0	0	6	72
Chickasaw	69	16	85	3	0	0	3	0	6	74	2	0	0	82
Clarke	54	0	54	3	0	0	3	1	10	31	0	0	9	51
Clay	16	3	19	2	0	0	2	0	2	13	0	0	2	17
Clayton	21	0	21	0	0	0	0	0	4	17	0	0	0	21
Clinton	8	0	8	0	0	0	0	0	3	3	0	0	2	8
Crawford	28	0	28	4	0	0	4	0	7	17	0	0	0	24
Dallas	12	0	12	0	0	0	0	0	5	5	0	0	2	12
Davis	48	6	54	12	0	0	12	0	11	31	0	0	0	42
Decatur	69	14	83	1	1	0	2	0	5	69	0	0	7	81
Delaware	15	4	19	0	0	0	0	0	3	16	0	0	0	19
Des Moines	21	2	23	2	0	0	2	0	8	13	0	0	0	21
Dickinson	20	1	21	0	0	1	1	0	11	6	1	0	2	20
Dubuque	31	3	34	7	0	0	7	0	1	22	0	1	3	27
Emmet	12	0	12	0	0	0	0	0	2	8	0	0	2	12
Fayette	64	9	73	8	0	0	8	0	10	54	0	0	1	65
Floyd	31	3	34	2	0	0	2	0	5	25	0	0	2	32
Franklin	27	5	32	3	0	0	3	0	12	16	0	0	1	29
Fremont	31	4	35	1	0	1	2	0	3	27	0	0	3	33
Greene	12	0	12	0	0	0	0	0	0	12	0	0	0	12
Grundy	68	1	69	4	1	0	5	0	26	35	0	1	2	64
Guthrie	92	6	98	7	0	2	9	0	6	79	0	0	4	89
Hamilton	31	2	33	0	0	0	0	0	3	28	0	0	2	33
Hancock	28	2	30	2	0	0	2	0	0	28	0	0	0	28
Hardin	41	8	49	3	0	0	3	0	5	36	2	0	3	46
Harrison	48	1	49	1	0	0	1	0	10	35	0	1	2	48
Henry	30	4	34	0	0	0	0	0	7	27	0	0	0	34
Howard	48	6	54	7	0	1	8	0	22	20	0	0	4	46
Humboldt	12	0	12	0	0	0	0	0	9	3	0	0	0	12
Ida	26	2	28	1	0	0	1	0	3	23	0	0	1	27
Iowa	51	3	54	3	0	1	4	0	11	35	0	1	3	50
Jackson	44	8	52	7	0	0	7	0	9	35	0	0	1	45
Jasper	113	8	121	5	0	0	5	0	27	78	0	1	10	116
Jefferson	31	2	33	1	0	0	1	0	2	29	0	0	1	32
Johnson	20	10	30	2	0	0	2	0	12	13	0	1	2	28
Jones	10	0	10	3	0	0	3	0	2	4	0	0	1	7
Keokuk	28	1	29	0	0	0	0	0	7	21	0	0	1	29
Kossuth	28	13	41	1	0	0	1	0	12	28	0	0	0	40
Lee	20	1	21	2	1	0	3	0	7	10	0	0	1	18
Linn	22	0	22	1	0	1	2	0	11	9	0	0	0	20
Louisa	18	3	21	2	0	0	2	2	7	8	0	0	2	19
Lucas	63	4	67	2	0	0	2	0	5	54	0	1	5	65
Lyon	50	7	57	5	0	0	5	0	3	35	0	1	13	52
Madison	87	9	96	9	0	1	10	2	5	74	0	1	4	86
Mahaska	83	6	89	3	4	0	7	0	35	38	0	0	9	82
Marion	30	2	32	5	0	0	5	0	4	22	0	0	1	27
Marshall	117	7	124	6	0	0	6	0	16	102	0	0	0	118
Mills	35	0	35	0	0	0	0	0	2	31	0	0	2	35
Mitchell	18	1	19	1	0	0	1	0	5	11	0	0	2	18
Monona	41	1	42	2	0	0	2	0	6	25	0	0	9	40
Monroe	36	1	37	5	0	0	5	0	6	25	0	1	0	32
Montgomery	50	1	51	0	0	0	0	0	1	44	0	0	6	51
Muscatine	29	3	32	0	0	0	0	0	10	22	0	0	0	32
O'Brien	1	8	9	0	0	0	0	0	2	6	0	0	1	9
Osceola	14	0	14	0	0	0	0	0	1	11	0	0	2	14
Page	58	0	58	2	1	0	3	1	9	37	0	0	8	55
Palo Alto	22	2	24	1	0	0	1	0	6	16	0	0	1	23
Plymouth	96	0	96	7	0	0	7	0	9	80	0	0	0	89
Pocahontas	53	2	55	2	4	0	6	0	4	35	0	1	9	49
Polk	16	3	19	0	0	0	0	0	6	12	0	0	1	19
Pottawattamie	45	3	48	4	0	0	4	0	17	26	0	0	1	44
Poweshiek	95	7	102	4	1	0	5	0	7	87	0	0	3	97

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 2022	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	99	2	101	4	0	0	4	0	22	62	0	1	12	97
Sac	69	2	71	2	0	0	2	0	19	46	0	1	3	69
Scott	18	2	20	2	0	0	2	0	7	9	0	0	2	18
Shelby	23	0	23	4	0	0	4	0	0	18	0	0	1	19
Sioux	11	3	14	1	1	0	2	0	8	3	0	0	1	12
Story	42	0	42	2	0	0	2	0	3	31	0	0	6	40
Tama	109	3	112	3	1	0	4	0	8	89	0	0	11	108
Taylor	77	11	88	3	0	0	3	0	17	56	0	0	12	85
Union	52	4	56	2	0	0	2	0	7	39	0	0	8	54
Van Buren	46	3	49	3	0	0	3	0	5	37	0	0	4	46
Wapello	36	0	36	2	1	2	5	0	14	16	0	0	1	31
Warren	56	4	60	6	0	1	7	4	5	37	1	0	6	53
Washington	32	4	36	2	1	0	3	0	8	24	0	0	1	33
Wayne	32	1	33	1	0	0	1	0	12	14	2	1	3	32
Webster	42	11	53	8	0	0	8	0	22	23	0	0	0	45
Winnebago	14	5	19	1	0	0	1	0	8	10	0	0	0	18
Winneshiek	65	0	65	4	0	0	4	0	16	43	0	1	1	61
Woodbury	75	7	82	5	0	0	5	1	3	68	0	1	4	77
Worth	17	1	18	3	0	0	3	0	8	6	0	0	1	15
Wright	52	4	56	1	0	0	1	0	6	45	0	0	4	55
Totals	4202	365	4567	261	18	12	291	12	864	3084	10	32	274	4276

SD Structures to account for:

Restored:
Still SD:

Still open:

Closed:
Net Improvement:

SD definition includes only "Poor" bridges

A Guide to the County Structurally Deficient Bridges Summary Report

Prepared by the Iowa Department of Transportation

January 2023

Background

Except when more frequent inspection cycles are required, 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.

Last year, 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. 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.