

**Director's Office**  
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January 31, 2020

TO: The Honorable Tim Kapucian  
Senate Transportation Committee Chair

The Honorable Brian Best  
House Transportation Committee Chair

Glen Dickinson  
Director, Legislative Services Agency

FROM: Stuart Anderson, Interim Director 

RE: Annual County Structurally Deficient Bridges Summary Report for FY 2019

We respectfully submit this Annual Report of Structurally Deficient Bridges for work accomplished during the state fiscal year (FY) 2019. This report is submitted pursuant to section 307.32 of the Iowa Code, which states:

*On or before February 15 of each year, the department, in collaboration with the Iowa county engineers association, shall compile the annual reports received from counties pursuant to sections 309.22 and 309.22A into a cumulative report and submit the cumulative report in electronic format to the chairpersons of the senate and house of representatives standing committees on transportation and the legislative services agency.*

Contained within 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.



This report indicates progress increased slightly in the total number of county bridges rehabilitated or replaced. Additionally, there was a slight reduction in the number of county bridges closed. The following are some highlights of the FY 2019 report:

- 431 bridges were replaced or repaired so they are no longer structurally deficient (SD).
- 4,095 SD county bridges are open to traffic. Approximately 25 percent of these bridges are programmed for replacement or rehabilitation in the next five years.
- 365 bridges were closed to traffic at the time of reporting. 329 are not likely to reopen, either due to being permanently closed or due to the deficiencies not allowing for adequate repair.
- At the beginning of FY 2019, there were 4,580 SD county bridges. Several were replaced or repaired as noted above; however, 311 bridges became SD during FY 2019. After replacing/repairing 431 bridges, a total of 4460 SD bridges remain on the county system.
- The overall net improvement is 120 bridges in FY 2019. There was a net improvement of 119 bridges in FY 2018.

The number of bridges replaced in FY 2019 is similar to the number of bridges replaced in FY 2018.

In federal fiscal year 2018, additional money was set aside for bridges at the federal level via the Competitive Highway Bridge Program. In early fall of 2019, the Federal Highway Administration awarded a sum of \$33,442,000 through this grant to the Iowa Department of Transportation (DOT) to replace 77 bridges on state, city, and county system. The grant award includes four Iowa DOT bridges, five city owned bridges and 68 county bridges. These bridges will be funded at approximately 55 percent federal funds and 45 percent matching state bridge funds and will be replaced over the next two to three years.

In federal fiscal year 2019, additional money was designated for bridges at the federal level via the 2019 Bridge Replacement and Rehabilitation Program. These dollars were made available to states who met a certain maximum population density threshold and are being distributed based on square footage of deficient bridge deck area. Iowa was awarded approximately \$25 million of this funding, of which the counties will be receiving \$17,503,000.

## County Structurally Deficient Bridges Summary Report - Fiscal Year 2019

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						Total SD Remaining
	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)			
	SD at beginning of reporting period	Became SD during FY 2019	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	63	1	64	3	0	0	3	0	3	48	1	0	9	61
Adams	57	3	60	6	0	0	6	0	3	48	0	0	3	54
Allamakee	23	1	24	3	0	0	3	0	7	14	0	0	0	21
Appanoose	55	7	62	12	0	0	12	0	18	31	0	0	1	50
Audubon	32	2	34	3	0	0	3	0	5	19	1	0	6	31
Benton	68	1	69	2	0	0	2	0	32	32	0	0	3	67
Black Hawk	21	0	21	3	1	2	6	0	7	7	0	0	1	15
Boone	44	1	45	2	0	0	2	0	5	36	0	0	2	43
Bremer	40	1	41	4	0	0	4	0	11	23	0	1	2	37
Buchanan	28	3	31	2	1	0	3	1	14	12	0	2	0	28
Buena Vista	36	19	55	5	0	0	5	0	4	42	0	0	4	50
Butler	53	4	57	3	0	0	3	0	27	23	0	1	3	54
Calhoun	33	1	34	1	0	0	1	1	14	18	0	0	1	33
Carroll	14	2	16	0	0	0	0	0	6	10	0	0	0	16
Cass	71	18	89	2	0	1	3	0	21	62	0	1	2	86
Cedar	78	3	81	9	0	0	9	3	14	54	0	1	3	72
Cerro Gordo	26	2	28	4	2	3	9	0	6	13	0	0	0	19
Cherokee	66	0	66	1	0	0	1	0	1	58	0	0	6	65
Chickasaw	54	6	60	3	0	0	3	1	8	44	0	1	4	57
Clarke	52	3	55	3	0	0	3	0	11	34	0	0	7	52
Clay	18	1	19	2	0	0	2	0	6	11	0	0	0	17
Clayton	37	0	37	0	1	0	1	0	9	24	0	0	3	36
Clinton	9	2	11	2	0	0	2	0	3	4	0	0	2	9
Crawford	45	4	49	9	1	0	10	0	9	29	0	0	1	39
Dallas	13	0	13	2	1	0	3	0	3	5	0	0	2	10
Davis	67	5	72	13	2	1	16	0	13	40	0	2	1	56
Decatur	76	1	77	3	0	0	3	0	9	58	0	1	6	74
Delaware	21	1	22	4	0	0	4	0	1	16	0	0	1	18
Des Moines	30	0	30	6	0	0	6	0	5	16	0	0	3	24
Dickinson	13	0	13	1	0	0	1	0	5	7	0	0	0	12
Dubuque	48	2	50	9	0	0	9	0	1	36	0	0	4	41
Emmet	21	0	21	1	0	0	1	0	1	17	0	0	2	20
Fayette	61	8	69	4	0	0	4	0	10	53	0	1	1	65
Floyd	26	3	29	1	0	0	1	0	5	20	0	0	3	28
Franklin	32	5	37	3	0	0	3	1	11	20	0	1	2	34
Fremont	37	0	37	0	0	0	0	0	5	31	0	0	1	37
Greene	19	1	20	3	0	1	4	1	1	13	0	0	2	16
Grundy	62	9	71	4	1	0	5	2	27	36	0	1	2	66
Guthrie	71	13	84	2	0	0	2	2	3	75	0	0	4	82
Hamilton	30	3	33	3	0	0	3	0	10	20	0	0	0	30
Hancock	31	2	33	2	0	0	2	2	9	22	0	0	0	31
Hardin	44	4	48	2	0	0	2	5	13	28	0	0	5	46
Harrison	51	0	51	1	0	0	1	1	14	35	0	0	1	50
Henry	31	0	31	1	0	0	1	0	4	23	0	1	2	30
Howard	54	5	59	6	0	0	6	0	19	25	0	1	8	53
Humboldt	15	1	16	1	0	0	1	0	7	7	0	0	1	15
Ida	25	2	27	0	0	0	0	0	3	22	0	1	1	27
Iowa	31	19	50	3	0	0	3	0	7	35	0	1	4	47
Jackson	51	3	54	7	0	0	7	0	9	37	0	0	1	47
Jasper	134	4	138	11	0	0	11	0	22	94	0	1	10	127
Jefferson	47	2	49	10	0	0	10	0	21	18	0	0	0	39
Johnson	29	1	30	4	0	0	4	0	7	17	0	0	2	26
Jones	14	0	14	2	0	0	2	0	1	9	0	0	2	12
Keokuk	34	1	35	5	4	0	9	0	10	13	0	0	3	26
Kossuth	35	0	35	5	0	0	5	0	16	14	0	0	0	30
Lee	20	0	20	2	0	0	2	1	6	11	1	0	0	18
Linn	16	1	17	4	0	2	6	0	8	3	0	0	0	11
Louisa	16	5	21	0	0	0	0	0	6	14	0	0	1	21
Lucas	66	5	71	5	0	0	5	0	7	48	0	0	6	61
Lyon	57	0	57	7	0	0	7	0	8	32	0	0	15	55
Madison	89	10	99	6	1	0	7	1	19	59	0	1	3	82
Mahaska	75	0	75	4	0	0	4	1	9	66	0	0	6	81
Marion	53	14	67	9	0	1	10	0	12	28	0	1	2	43
Marshall	101	0	101	3	0	0	3	0	18	93	0	0	1	112
Mills	37	1	38	0	0	0	0	0	4	32	0	0	1	37
Mitchell	25	1	26	4	1	0	5	0	5	14	0	1	1	21
Monona	48	2	50	2	1	0	3	1	9	28	0	1	8	46
Monroe	42	2	44	1	0	0	1	0	6	33	0	0	4	43
Montgomery	58	1	59	6	0	0	6	0	11	37	0	0	6	54
Muscatine	30	0	30	1	0	0	1	0	8	20	0	0	2	30
O'Brien	11	7	18	4	0	0	4	0	4	3	0	0	0	7
Osceola	16	5	21	9	0	0	9	0	1	11	0	0	2	14
Page	56	0	56	0	0	0	0	0	8	49	0	0	4	61
Palo Alto	25	1	26	0	0	0	0	0	2	23	0	0	0	25
Plymouth	112	7	119	6	0	0	6	0	29	78	0	0	0	107
Pocahontas	50	1	51	7	0	0	7	0	5	36	1	0	8	50
Polk	23	2	25	0	0	0	0	0	8	15	0	0	1	24
Pottawattamie	59	13	72	5	0	0	5	0	20	32	0	0	4	56
Poweshiek	86	2	88	6	1	0	7	0	10	75	0	0	7	92

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 2019	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	
Ringgold	108	14	122	6	0	0	6	0	10	74	0	0	20	104
Sac	67	0	67	6	1	0	7	0	23	47	0	1	3	74
Scott	24	4	28	2	0	0	2	0	15	7	0	0	0	22
Shelby	30	0	30	5	0	0	5	0	9	19	1	0	0	29
Sioux	13	2	15	1	0	0	1	0	9	2	0	0	1	12
Story	49	13	62	8	0	0	8	0	9	31	0	0	3	43
Tama	109	1	110	8	0	1	9	4	13	89	0	0	11	113
Taylor	107	1	108	1	2	0	3	0	18	67	0	1	19	105
Union	60	0	60	4	0	0	4	0	5	42	0	1	9	57
Van Buren	58	2	60	4	0	0	4	0	7	42	0	0	5	54
Wapello	49	3	52	11	1	0	12	0	19	13	0	0	7	39
Warren	72	0	72	15	0	0	15	3	10	42	0	1	7	60
Washington	43	1	44	3	0	1	4	0	8	30	0	0	1	39
Wayne	41	3	44	4	0	0	4	0	17	14	0	1	6	38
Webster	49	0	49	5	0	0	5	0	33	12	0	0	2	47
Winnebago	25	3	28	4	0	0	4	0	16	5	0	0	0	21
Winneshiek	75	1	76	6	0	0	6	0	11	54	0	2	5	72
Woodbury	87	0	87	6	0	0	6	0	27	47	0	2	6	82
Worth	18	0	18	0	0	0	0	0	6	11	0	0	1	18
Wright	49	3	52	3	0	0	3	0	10	35	0	0	4	49
<b>Totals</b>	<b>4580</b>	<b>311</b>	<b>4891</b>	<b>396</b>	<b>22</b>	<b>13</b>	<b>431</b>	<b>31</b>	<b>1014</b>	<b>3081</b>	<b>5</b>	<b>31</b>	<b>329</b>	<b>4460</b>

SD Structures to account for:

Restored:   
 Still SD:

Still open:

Closed:

# **A Guide to the County Structurally Deficient Bridges Summary Report**

Prepared by the Iowa Department of Transportation  
January 2020

## **Background**

Unless criteria for lower inspection frequencies are met for individual structures, counties are required to 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 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?**

This classification does not mean a bridge is unsafe. SD bridges can safely remain in service (open to vehicular traffic) but often must be posted for weight limits that are less than the maximum allowed by law.

A bridge is classified as SD when significant load carrying elements are 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 is determined to be extremely insufficient to the point of causing intolerable traffic interruptions. This 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).

Please note, in accordance with the Pavement and Bridge Condition Performance Measures final rule recently published by FHWA, the definition of “structurally deficient” has been amended slightly. The new definition no longer includes the structural condition (Item 67) or waterway adequacy (Item 71) ratings in the criteria. This presentation continues use of the previous rule in order to allow valid comparisons within the State of Iowa. However, direct comparisons with other states may not be accurate because of the differing current use of the SD definition.

## **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 deficient 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 Remaining in SD Status at the End of the 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.