

Existing Structure: SN 016-0251 was widened in 1984. Superstructure
abutments were widened in 1984. Length is 147'-8"
concrete piers on timber piles. Traffic is to be maintained using stage construction
No Salvage.

Exist. metal guardrail
& posts, typ.

Debris Removal

Replace Expansion Joints at piers
with Strip Seal Expansion, typ. bot

Exist. 2"Ø
galv. conduit

Stage 2 Construction
34'-1½"
Centre Pier 2 (Exist.)
Sta. 39+01.05

Exist.

Stage 1 Construction
33'-10½"
Centre E. Brg.
(Exist.)

39'-9"

Parapet

68'-0" Out to Out

2026



BRIDGE PRESERVATION GUIDE



Illinois Department
of Transportation

Bridge Preservation Guide

Prepared and Published By

Office of Highways Project Implementation Bureau of Bridges & Structures

Illinois Department of Transportation

Springfield, Illinois

Date of Publication: March 25, 2026

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Document Control and Revision History

The Bridge Preservation Guide is reviewed during use for adequacy and updated by the Bureau of Bridges and Structures as necessary to reflect current policy. The approval process for changes to this manual is conducted in accordance with the document control standards outlined in Departmental Order 01-01: Policy Administration Program and in this manual.

This manual is intended to be used electronically as it includes hyperlinks within and resources external to the document. Portable Document Format (PDF) has been selected as the primary distribution format and the official version of this manual is available on the Policy Center on inside IDOT.

The information contained in this manual is current as the date of issuance. Employees are responsible for ensuring use of the most current version of any document. All current policy documents are available on the Policy Center on inside IDOT.

Date	Description	Approval
11/1/2019	New manual	Loete
3/25/2026	Revision	

Revisions from the previous version:

- Entire Guide: Updated instances of "NBI" and "NBI Rating" to "Condition Rating" in line with current terminology.
- Introduction
 - Paragraph 2
 - Updated facts and statistics.
 - Removed references to Appendices A and B.
 - Paragraph 5: Added new paragraph to discuss Deighton Total Infrastructure Management System (dTIMS) .
- Definitions
 - Acceptable Condition
 - Include SNBI item codes for Condition Ratings.
 - Minor edits to capitalize certain terms and clarify "Good", "Fair", and "Poor" conditions.
- Objective and Performance Measures
 - Paragraph 1: Removed last sentence regarding the development of the BPG with "input from IDOT Bridge Maintenance Engineers".
 - Paragraph 2: Edited last sentence to include the NBIS Bridge Length term and SNBI code.
- Figure 1: Goals and Current Performance of Bridges: *Removed*
- Table 1 Objectives and Performance Measures
 - Performance Measure column
 - Clarified "condition state 2 or better" to "Condition States 1 and 2".
 - Changed the Performance Measure of three Objectives that specified "condition state 1" to include "Condition States 1 and 2".
- Table 2 Recommended Activities Schedule
 - Removed the "Criteria" column. Condition triggers for specific work activities are already listed in the table for each item under "Work Activities".
 - Added a comment above the table to specify that all items are schedule based unless dictated by condition.
Replace instances of "hard overlay" with "flexible/semi-rigid/rigid overlay".

- Eligibility Criteria: Paragraph 1: Removed last sentence referencing the Bridge Management and Inspection Unit's responsibility to generate the eligibility list.

Introduction

The Illinois Department of Transportation (IDOT) Bridge Preservation Guide provides goals, measures, and strategies for the preservation of bridges within the State of Illinois. This document contains criteria used to identify condition based and non-condition based cyclical preservation, maintenance, and improvement work actions for bridges. These actions maximize system-wide life expectancy and performance of bridges.

Bridges are key components of our highway infrastructure. The term "bridge" as used here denotes structures that have National Bridge Inspection Standards (NBIS) Bridge Length (B.G.01) > 20 feet as defined in the NBIS. As of March 2025, Illinois had 26,903 bridges, of which 4,835 were on the National Highway Systems. While IDOT maintains 29.3 % of the total bridge inventory by count, it maintains the largest percentage of the National Highway System at 84.6%. The aging infrastructure is expected to deteriorate faster in the coming decades with increased maintenance demands unless concerted efforts are taken to preserve and extend its life. In addition, the state's bridge infrastructure will likely see an increased funding competition among various highway assets. As a result, IDOT must emphasize a concerted effort to preserve and extend the life of its bridge infrastructure while minimizing long-term maintenance costs.

This guide will provide IDOT and other bridge owners with a framework for developing preservation programs and projects using a systematic process reflecting the environment and conditions of bridges, as well as the priorities and strategies of the Department.

A well-defined Bridge Preservation program will enable IDOT to use federal funding for Preventative Maintenance (PM) activities by using a systematic process of identifying bridge preservation needs and its qualifying parameters as identified in FHWA's Bridge Preservation Guide, Spring 2018. The IDOT Bridge Preservation Guide will promote timely preservation actions to extend and optimize the service life of bridges in the state.

Currently, IDOT is integrating its asset management system, dTIMS, into its programming processes. For the FY 2025 to 2030 MYP and the soon-to-be-released FY 2026 to 2031 MYP, dTIMS has been used to identify pavement preservation projects and additionally, to analyze the completed MYP to project the conditions of IDOT's pavements and bridges once the programmed projects have been completed.

Definitions:

Acceptable Condition: The state of structures in "Good" or "Fair" conditions. This is determined by the lowest of the major component Condition Ratings for the Deck (B.C.01), Superstructure (B.C.02), Substructure (B.C.03), or Culvert (B.C.04). Bridges having Condition Ratings ≥ 7 are considered "Good", Condition Ratings of 5 or 6 are considered "Fair", and Condition Ratings ≤ 4 are considered "Poor".

Bridge Preservation: Actions or strategies that prevent, delay or reduce deterioration of bridges or bridge elements, restore the function of existing bridges, keep bridges in "Good" or "Fair" condition and extend the service life. Preservation actions may be scheduled or condition based.

Preventive Maintenance (PM): A means of proactively extending the service life of highway bridges by applying cost-effective treatments to bridge elements. PM activities delay future deterioration and minimize large expenses in bridge rehabilitation or replacements.

Routine Maintenance: Any maintenance work performed in reaction to an event, season, or activity that are done for short-term operational need and do not have preservation value. This work usually requires regular

reoccurring attention. Examples include snow removal, trash/dead animal removal, asphalt patching, storm damage and accident damage such as bridge hits. These activities are not eligible for federal-aid funding.

Goals of the Department's Bridge Preservation Program

The main goal of a bridge preservation program is to maximize the useful life of bridges in a cost-effective way. To meet this goal, many of the strategies are aimed at applying the appropriate preventive maintenance treatments and activities at the proper time, resulting in longer service lives at an optimal life cycle cost. Federal Transportation Legislation (MAP-21 and subsequently, the FAST Act) promotes the goal of maintaining or preserving infrastructure assets "in a state of good repair". Preservation of assets is one of the tools that will be used to achieve an overall transportation investment strategy. There are several related goals that have been developed to address the priorities of the department and our stakeholders.

- Maintain bridges in a "state of acceptable condition" using cost effective strategies.
- Implement timely PM treatments on structurally sound bridges to promote optimal life cycle cost and extend service life. This will delay the need for costly major rehabilitation and replacement.
- Limit adverse impacts to traffic operations and various stakeholders.
- Promote and support budgeting of preventive maintenance and preservation activities.
- Establish performance goals and monitor progress related to preservation of bridges.
- Optimize the benefits and effectiveness of long-term maintenance investment in achieving bridges in acceptable condition.

To achieve the goals of the bridge preservation program, IDOT will use data driven strategies. This approach is intended to apply the appropriate bridge preservation treatments and activities at the proper time. These strategies also intend to maximize the efficiency and effectiveness of the program. The Strategies include:

1. Regular analysis of the bridge inventory data to establish conditions and trends related to performance.
2. Develop and maintain criteria for eligible preservation activities.
3. Define preservation program and project needs.
4. Develop estimates of needed financial resources at the Project/Program level.
5. Identify preservation needs that can be performed in coordination with maintenance, repair and rehabilitation actions and timelines.
6. Prioritize, plan, and perform preservation treatments.
7. Bundle preservation maintenance projects to promote economy and minimize the inconvenience to the public.
8. Secure approval and support from key stakeholders in the use of Federal and State funding for systematic preventive maintenance and preservation activities.
9. Consider preservation and long-term durability at the bridge planning and design stages.

Objectives and Performance Measures

Performance measures in the IDOT Bridge Preservation Guide are consistent with the objectives of the program and reflect the goals of the IDOT Transportation Asset Management Plan (TAMP).

IDOT's targets, based on deck area, are to maintain 93% of the bridges on the National Highway System and 90% of the IDOT-owned bridges NOT on the National Highway System in acceptable condition. These targets may be extended to non-IDOT owned structures, and to structures with an NBIS Bridge Length (B.G.01) $\leq$ 20 feet.

The following table shows the objectives and performance measures used to evaluate the success of the Bridge Preservation program.

Table 1 Objectives and Performance Measures

Objective	Target/Goals	Performance Measure
Maintain bridges in “Good” or “Fair” condition	93% of bridge deck area on NHS 90% of bridge deck area Not on NHS	Percentage of bridge in “Good” or “Fair” condition
Maintain bridge decks in Condition States 1 and 2	90% of bridge deck area	Percentage of bridge decks in Condition States 1 and 2
Maintain expansion joints in Condition States 1 and 2	90% of the overall length of expansion joints	Percentage of expansion joints in Condition States 1 and 2
Maintain paint coatings in Condition States 1 and 2	90% of paint coatings	Percentage of paint coatings in Condition States 1 and 2
Maintain beam ends in Condition States 1 and 2	90% of beam ends	Percentage of beam ends in Condition States 1 and 2
Maintain bearings in Condition States 1 and 2	90% of bearings	Percentage of bearings in Condition States 1 and 2
Seal concrete decks in Condition States 1 and 2 with sealant every 4 years	Maintain sealing of concrete deck in “Good” or “Fair” condition.	Number of decks sealed (sq. ft. of deck area) each year during a 4-year period

Bridges with a major component Condition Rating of “Poor” and are open for operations are safe. However, these structures may need corrective action to ensure current and future operation. Maintaining safe and dependable operations is a high priority for the Department. These bridges, while typically not eligible for Preventive Maintenance funding, might be eligible if localized deterioration is driving the condition rating. Preventive Maintenance funding might be authorized on an individual basis after prior FHWA approval.

Bridge Preservation Activities

Bridge preservation activities are both condition-based and schedule-based, defined as follows:

- Condition-based Activities Objectives

Condition based preventive maintenance activities are performed on bridge elements as needed and identified through the bridge Element Level Inspection process. This typically involves elements that have deteriorated to Condition States of 3 or 4. There are several performance objectives for the bridge elements that will promote this goal.

- Schedule-based Activities Objectives

Schedule-based activities are typically preventive maintenance activities which are performed on a set pre-determined intervals and aimed at preserving existing bridge element or component conditions. These types of activities may not improve the condition of the bridge element or component directly but will delay their deterioration.

Both types of activities will be employed in the preservation program. The ultimate objective is to increase a new structure's life expectancy to 100 years. To achieve this objective, bridges should have activities completed on the following schedule:

Table 2 Recommended Activities Schedule

Activities listed in this table are schedule-based unless dictated by condition.

Year	Work Activities
0	New Bridge (Includes deck sealing within 1 year)
Every 1 to 2 years throughout the structure's life	Sweeping, power washing, and cleaning of the deck (Condition States 1 and 2 and Condition Ratings ≥ 5) and drains, steel or concrete elements below deck joints, abutment and pier seats below deck joints and other areas of the bridge that collect debris and animal droppings.
Every 4 years throughout the structure's life	Seal the deck (Condition States 1 and 2 and Condition Ratings ≥ 5)*, cracks, concrete superstructure, and substructure elements below deck joints, using a penetrating sealer.
12	Replace expansion joint gland seal (Condition States 3 and 4 $\geq 25\%$) Spot painting of coated steel elements (Condition States 2 and 3 $> 5\%$) Zone painting of coated steel elements (Condition States 2 and 3 $> 25\%$)** Repair/replace moveable bearings as needed (Condition States 3 or 4)
25	Patch deck with flexible/semi-rigid/rigid overlay (waterproofing membrane required for flexible overlay) Replace expansion joints Zone painting of coated steel elements Repair/replace moveable bearings as needed (Condition States 3 or 4)

37	Replace expansion joint gland seal (Condition States 3 and 4 $\geq$ 25%) Spot painting of coated steel elements (Condition States 2 and 3 $>$ 5%) Zone painting of coated steel elements (Condition States 2 and 3 $>$ 25%)** Repair/replace moveable bearings as needed (Condition States 3 or 4)
50	New deck/second generation flexible/semi-rigid/rigid overlay (waterproofing membrane required for flexible overlay, includes expansion joint replacement) Full painting of coated steel elements Replace moveable bearings
62	Replace expansion joint gland seal (Condition States 3 and 4 $\geq$ 25%) Spot painting of coated steel elements (Condition States 2 and 3 $>$ 5%) Zone painting of coated steel elements (Condition States 2 and 3 $>$ 25%)** Repair/replace moveable bearings as needed (Condition States 3 or 4)
75	Patch deck with flexible/semi-rigid/rigid overlay (waterproofing membrane required for flexible overlay) Replace expansion joint Zone painting of coated steel elements Repair/replace moveable bearings as needed (Condition States 3 or 4)
87	Replace expansion joint gland seal (Condition States 3 and 4 $\geq$ 25%) Spot painting of coated steel elements (Condition States 2 and 3 $>$ 5%) Zone painting of coated steel elements (Condition States 2 and 3 $>$ 25%)** Repair/replace moveable bearings as needed (Condition States 3 or 4)
100	Replace bridge

Reset bearings and scour mitigation as needed throughout the life of the structure.

* In-Service bridges with a Deck Condition Rating (B.C.01) $\leq$ 4 are not preservation candidates and should be maintained as needed to promote traffic safety. In-Service bridges with a Deck Condition Rating (B.C.01) of 4 can remain in the deck sealing program on a discretionary basis. After the next deck or superstructure replacement project, the new deck will fall within these preservation activities schedule.

** Based on amount of work to be done, either spot painting or zone painting can be done at these age milestones. In-house forces can be used for spot painting.

Eligibility Criteria

The preservation activities listed above will form a basis to generate an eligibility list of bridges that are candidates for schedule-based and condition-based actions. It applies to both new and in-service bridges.

Bridge inspection information and data stored in the Illinois Structures Information System (ISIS) will be used to develop reports quantifying needs at the program and project level.

Sound engineering judgment is needed to decide if the recommended action is best suited for extending the life of the bridge. Other factors may need to be considered in the decision-making process such as deck age, size, deck design, and type of reinforcement, functional class, ADT, design load, detour lengths, corridor plans, and operation issues including traffic control. Specific deck/slab actions should be matched to the condition of the existing deck, deck material, age, and anticipated service life. Preservation projects may include some repair work that will raise the Superstructure Condition Rating (B.C.02) or Substructure Condition Rating (B.C.03) to ≥ 5 (Condition States 1 and/or 2) as long as the preservation work is $\geq 60\%$ of the total cost of the project.

Requirements for Use of Federal Funds for Preventive Maintenance

The list of Federally eligible preventive maintenance activities is contained in the TAMP work activities table of the IDOT's Transportation Asset Management Plan. Reference the Agreement for the Use of Federal Funds for Preventive Maintenance of Structures on the next page.

AGREEMENT FOR THE USE OF FEDERAL FUNDS FOR PREVENTIVE MAINTENANCE OF STRUCTURES

This agreement between the Illinois Department of Transportation (IDOT) and the Illinois Division of the Federal Highway Administration (FHWA), is intended to further implement the use of Federal Aid Highway Funding for Preventive Maintenance (PM) and Preservation activities as authorized in 23 USC 116 (e), and the FHWA Memorandum dated February 25th, 2016 titled "Guidance on Highway Preservation and Maintenance" on all eligible Federal Aid Highways in the State of Illinois.

The criteria used to develop this agreement is based on the FHWA Bridge Preservation Guide (FHWA-HIF-18-022) published in Spring 2018, which is the basis for the IDOT Bridge Preservation Guide. The IDOT Bridge Preservation Guide documents consistent and systematic criteria to identify Structure Preventive maintenance and Preservation activities that are eligible for the use of Federal-aid Highway Funded Projects.

This agreement is limited to PM and Preservation activities on Structures. This agreement includes inspection and training activities to support data driven application of Preventative Maintenance and Preservation.

By signing this agreement, IDOT and the FHWA incorporate by reference the laws, regulations, policies, standards, and procedures which govern or are applicable to Federal-Aid projects. IDOT certifies that it will comply with all provisions of 23 USC 133(b), "Surface Transportation Block Grant Program" and 23 USC 119(d) "National Highway Performance Program".

Nothing in this agreement shall be construed to relieve IDOT from ultimate accountability for compliance with Federal Laws and regulations with respect to the expenditure of Federal-Aid highway funds for PM activities in the State of Illinois, including those funds used for local government projects.

This agreement shall become effective March 12, 2026. It may be canceled or modified at any time by mutual agreement of IDOT and the FHWA.

Illinois Department of Transportation

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