

The SNBI and How We Got Here

MINK 2026

St. Joseph, Missouri

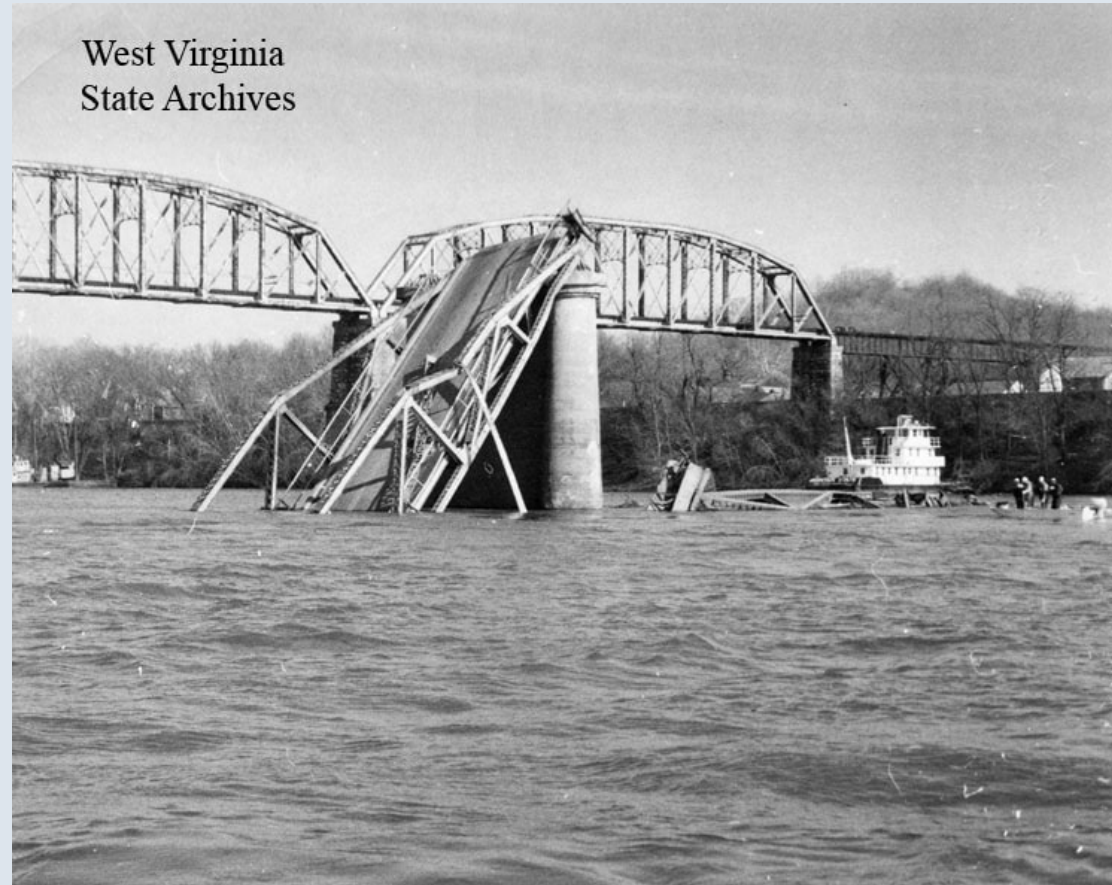
Randy Leonard, P.E., Local Engineer Liaison

September 17, 2026



History

- The Silver Bridge Point Pleasant, WV December 15, 1967



History

- 1968 Federal Highway Act
 - National Bridge Inspection Standards Title 23 CFR Part 650 Subpart C (NBIS) 1971
 - National Bridge Inventory (NBI)
 - Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges (Coding Guide)

History

Coding Guide



U.S. Department
of Transportation
**Federal Highway
Administration**

Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges

Report No. FHWA-PD-96-001



Office of Engineering
Bridge Division

December 1995

History

- Major Changes to the NBIS
 - 1978 Local Bridges
 - 1983 Fracture Critical Bridges Mianus River
 - 1987 Scour Schoharie Creek
 - 2005 Training Requirements
 - 2007-2010 Internal FHWA Changes following I-35W

History

- I-35W Over the Mississippi River Minneapolis, MN
 - FHWA Oversight
 - 23 Metrics
 - Data Driven Review
 - Compliance and Plans of Corrective Action
 - More proactive
 - Recognition of misunderstood terms and communication with the public

History

Legislative Changes

- 2013 Moving Ahead for Progress Act (MAP21)
 - Eliminated the Highway Bridge Program
 - SD/FO and SR
 - National Highway Performance Measures (NHPP)
 - Required establishment of performance measures and target goals
 - Increased flexibility for states use of federal highway funding

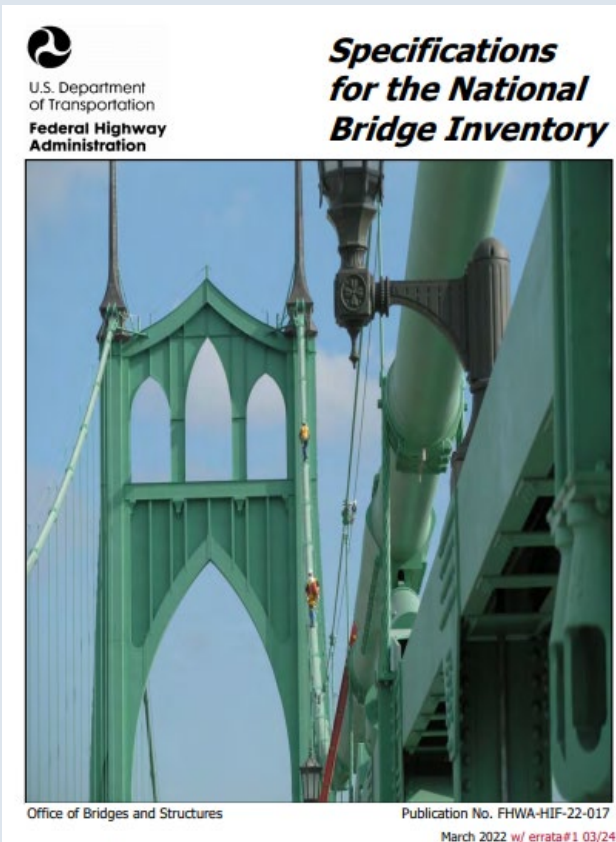
History

Legislative Changes

- 2015 Fixing America's Surface Transportation Act (FAST Act)
 - Required revisions to the NBIS
 - Development of the Specifications for Nation Bridge Inventory (SNBI)
 - Database Changes
 - Added Data Items
 - Changes to Data Items

Specifications for the National Bridge Inventory

- SNBI published 2022
- March 2025 was last Coding Guide submittal
- inspectX will be converted to SNBI in January 2026
- SNBI data must be completed and checked in 2026 and 2027 inspections
- Required to be fully implemented for March 2028 submittal



Data Changes

Coding Guide

120 data items per bridge

SNBI

154 data items per bridge

20 old items discontinued

54 new items

33 existing items are not direct transition

Discontinued Data Items

- FHWA Region Code (1B)
- Base Highway Network (12)
- Structure Flared (35)
- Approach Guardrail (36C)
- Approach Guardrail Ends (36D)
- Structural Evaluation (67)
- Deck Geometry (68)
- Underclearances, Vert. & Horz. (69)
- Work Done By (75B)
- Length of Structure Improvement (76)
- Bridge Improvement Cost (94)
- Roadway Improvement Cost (95)
- Total Project Cost (96)
- Year of Improvement Cost Estimate (97)
- Parallel Structure Designation (101)
- Future Average Daily Traffic (114)
- Year of Future Average Daily Traffic (115)
- Sufficiency Rating Asterisk
- **Status (SD, FO, Not deficient)**
- **Sufficiency Rating**

SNBI Items- New Roadside Hardware

Bridge Railings crash testing method
Bridge Railing Condition Rating

Rail Transition crash testing method
Bridge Railing Transition Condition
Rating

- State Standards
- NCHRP
- AASHTO MASH



SNBI Items- New Condition Ratings

Bridge Joints Condition Rating
Bridge Bearing Condition Rating



SNBI Items – New Super and Sub

SUPERSTRUCTURE

- Number of Beam Lines
- Span Protective System
- Deck Interaction
- Deck Stay-In-Place Forms

SUBSTRUCTURE

- Substructure Configuration Designation
- Number of Substructure Units
- Substructure Material
- Substructure Type
- Substructure Protective System
- Foundation Type
- Foundation Protective System

Example Superstructure



Concrete slab bridge widened with steel beams

Example Superstructure

Concrete slab widened with steel beams on both sides

Coding Guide: Item 43A and B - Structure Type, Main

1. Structure Type Kind of Material –Concrete
2. Structure Type of Design – Slab
3. Deck Structure Type - Concrete
4. Wearing Surface - Bituminous
5. Type of Membrane - Unknown
6. Deck Protection - Unknown

*Only code “main”
structure type,
widening not coded*

Example Superstructure

SNBI Item	Slab	Steel widening
Super Configuration	M01	W01
Number of beam lines	1	13
Span Material	Reinf Conc, cast-in-place	Steel, rolled shapes
Span Continuity	Simple	Simple
Span Type	Slab – solid	I-shaped beam spread
Span Protective System	None	Coating - paint
Deck Interaction	Integral or Monolithic	Non-composite
Deck Material and Type	Reinf Conc, cast-in-place	Reinf Conc, cast-in-place
Wearing Surface	Bituminous	Bituminous
Deck Protective System	Unknown	Unknown
Deck Reinforcing Prot Sys	Unknown	Unknown
Deck Stay-In-Place Forms	None	None

Coding guide =
6 items

SNBI = 24
items

SNBI Features

Feature Type

Highway – on, under, include direction, type, classification

Railroad – include service type (freight, passenger, electric)

Pathway - sidewalk

Waterway

Relief for waterway

Urban feature – ex. parking lot

Dry terrain or side slope

Other

SNBI Manual

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Data Item Naming

SUBSECTION 1.1: IDENTIFICATION

Item ID

Data Item

B.ID.01

Bridge Number

B.ID.02

Bridge Name

B.ID.03

Previous Bridge Number

Data Item Naming

SUBSECTION 1.2: LOCATION

<u>Item ID</u>	<u>Data Item</u>
B.L.01	<u>State Code</u>
B.L.02	<u>County Code</u>
B.L.03	<u>Place Code</u>
B.L.04	<u>Highway Agency District</u>
B.L.05	<u>Latitude</u>
B.L.06	<u>Longitude</u>
B.L.07	<u>Border Bridge Number</u>
B.L.08	<u>Border Bridge State or Country Code</u>
B.L.09	<u>Border Bridge Inspection Responsibility</u>
B.L.10	<u>Border Bridge Designated Lead State</u>
B.L.11	<u>Bridge Location</u>
B.L.12	<u>Metropolitan Planning Organization</u>

Data Item Naming

SUBSECTION 1.3: CLASSIFICATION

<u>Item ID</u>	<u>Data Item</u>
B.CL.01	<u>Owner</u>
B.CL.02	<u>Maintenance Responsibility</u>
B.CL.03	<u>Federal or Tribal Land Access</u>
B.CL.04	<u>Historic Significance</u>
B.CL.05	<u>Toll</u>
B.CL.06	<u>Emergency Evacuation Designation</u>

Data Item Naming

SUBSECTION 1.2: LOCATION

<u>Item ID</u>	<u>Data Item</u>
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Data Item Naming

SUBSECTION 2.1: SPAN MATERIAL AND TYPE

<u>Item ID</u>	<u>Data Item</u>
B.SP.01	<u>Span Configuration Designation</u>
B.SP.02	<u>Number of Spans</u>
B.SP.03	<u>Number of Beam Lines</u>
B.SP.04	<u>Span Material</u>
B.SP.05	<u>Span Continuity</u>
B.SP.06	<u>Span Type</u>
B.SP.07	<u>Span Protective System</u>
B.SP.08	<u>Deck Interaction</u>
B.SP.09	<u>Deck Material and Type</u>
B.SP.10	<u>Wearing Surface</u>
B.SP.11	<u>Deck Protective System</u>
B.SP.12	<u>Deck Reinforcing Protective System</u>
B.SP.13	<u>Deck Stay-In-Place Forms</u>

Questions?

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