Virtual Inspection – Start to Finish
Field Visit Preparation & Research

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Quick Recap

- Why are we here?
  - May 25, 2022 FHWA Memorandum
  - Transition from National Bridge Inventory (NBI) coding guide to the Specifications for the National Bridge Inventory (SNBI)
- Why is 2026 so Important?
  - As of Jan. 1,2026 - Last date to begin collecting SNBI data
    - Indiana Memo 25-06 - Jan. 1, 2025 for State Bridges & started Sept. 1, 2025 for County Bridges
- What is the Goal?
  - March 15, 2028 - First complete SNBI-based dataset with collected and verified SNBI data for all bridges
- They just added an “S” to the name, no big deal….
  - Transition from 1995 coding guide and 2014 element level coding to SNBI coding
  - Addition of new coding items

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How many new coding items were added for SNBI?

Field Inspection – Preparation and Research

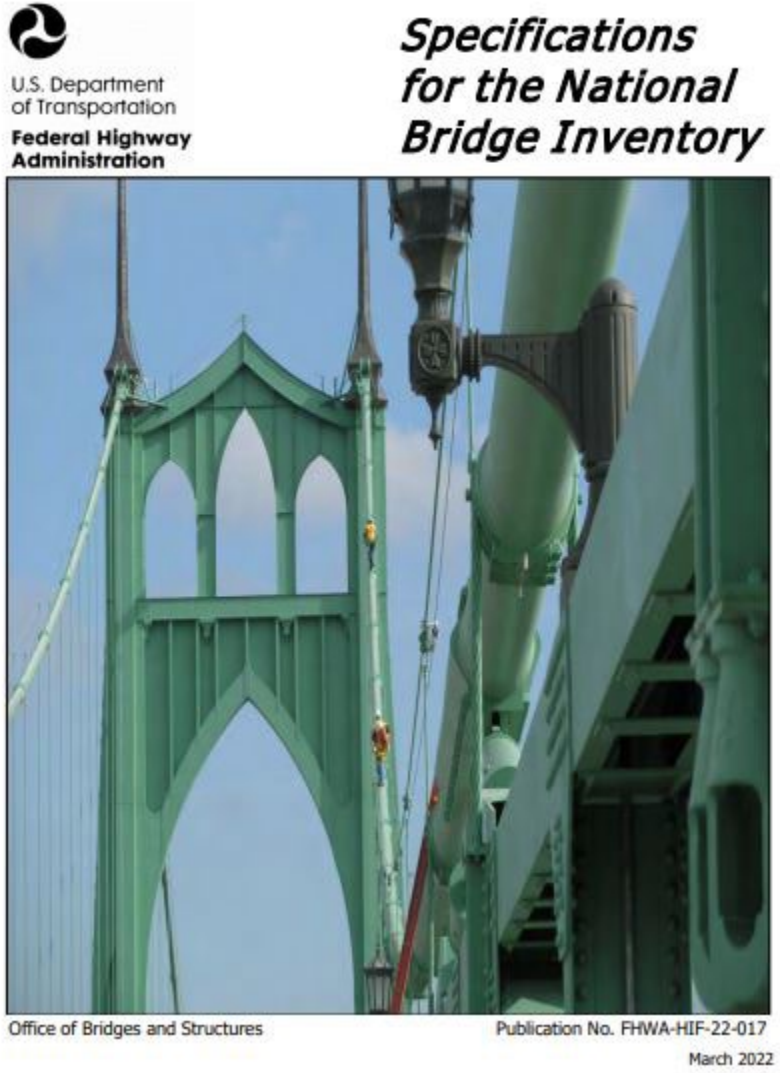
DOCUMENTATION RESEARCH

FIELD VISIT INSPECTION AND RESEARCH

FIELD INSPECTION RESEARCH

Specifications for the National Bridge Inventory

- SNBI code:
  - Replaces the 1995 NBI coding Guide
  - Consideration for combination of:
    - AASHTO Manual for Bridge Evaluation (MBE)
    - AASHTO Manual for Bridge Element Inspection (MBEI)
    - FHWA Bridge Inspector's Reference Manual (BIRM)
  - Link to SNBI: https://www.fhwa.dot.gov/bridge/snbi.cfm
  - Additional Training items available from FHWA on website



SNBI Coding Guide

- Additional Items for Condition Ratings: (SNBI Subsection 7.1)
  - Bridge Railing
  - Bridge Railing Transitions
  - Bridge Bearings
  - Bridge Joints
  - Scour Condition (Not Item 113)
  - Channel Protection
  - NSTM Inspection Condition
  - Underwater Inspection Condition
- Appraisal Item - Scour Vulnerability (SNBI B.AP.03)

SNBI Coding Guide

- 1995 Coding Guide Vs. SNBI Coding Guide

STRUCTURE TYPE AND MATERIAL

(43) STRUCTURE TYPE, MAIN:

A) KIND OF MATERIAL/DESIGN: **4 - Steel continuous**

B) TYPE OF DESIGN/CONSTR: **02 - Stringer/Multi-beam or Girder**

(44) STRUCTURE TYPE, APPROACH SPANS:

A) KIND OF MATERIAL/DESIGN: **3 - Steel**

B) TYPE OF DESIGN/CONSTR: **02 - Stringer/Mult beam or Girder**

(45) NUMBER OF SPANS IN MAIN UNIT: **005**

(46) NUMBER OF APPROACH SPANS: **0001**

(107) DECK STRUCTURE TYPE: **1 - Concrete Cast-in-Place**

(108) WEARING SURFACE/PROT SYS:

Section 2: Bridge Material and Type		
Subsection 2.1: Span Material and Type		
B.SP.01 Span Configuration Designation - Number	01	01
B.SP.01 Span Configuration Designation - Type	A - Approach	M - Main
B.SP.02 Number of Spans	1	5
B.SP.03 Number of Beam Lines	7	7
B.SP.04 Span Material	S01 - Steel – rolled shapes	S01 - Steel – rolled shapes
B.SP.05 Span Continuity	1 - Simple or single span	2 - Continuous
B.SP.06 Span Type	G02 - Girder/beam – I-shaped spread	G02 - Girder/beam – I-shaped spread
B.SP.07 Span Protective System	C01 - Coating – paint	C01 - Coating – paint
B.SP.08 Deck Interaction	NC - Non-composite	NC - Non-composite
B.SP.09 Deck Material and Type	C01 - Reinforced concrete – cast-in-place	C01 - Reinforced concrete – cast-in-place

SNBI Coding Guide

TABLE OF CONTENTS CONDENSED

SUBSECTION 2.1: SPAN MATERIAL AND TYPE

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

SUBSECTION 2.2: SUBSTRUCTURE MATERIAL AND TYPE

Item ID	Data Item
B.SB.01	Substructure Configuration Designation
B.SB.02	Number of Substructure Units
B.SB.03	Substructure Material
B.SB.04	Substructure Type
B.SB.05	Substructure Protective System
B.SB.06	Foundation Type
B.SB.07	Foundation Protective System

SUBSECTION 2.3: ROADSIDE HARDWARE

Item ID	Data Item
B.RH.01	Bridge Railings
B.RH.02	Transitions

Field Visit Preparation and Research

Document Research – Part 2 of IBIM

- Inspection Workflow in iTAMS (IBIM 2-1.01(01))
  - Scheduled
  - In Progress
  - Submitted for Review
  - Approved
  - Audit
  - Audit Approval
- Scheduling in iTAMS
  - State Bridges - Interval
  - County Bridges – Compliance Month & Interval

- iTAMS Training Materials Available at:
  - https://www.in.gov/indot/doing-business-with-indot/consultants/bridges/bridge-inspection/itams-trainings/

Document Research – Part 2 of IBIM

- Identify Inspection Types & Uses (SNBI Item B.IE.01)
  - Routine Inspection – Regularly scheduled comprehensive inspection
    - **Verification of All Reported SNBI Data**
    - Complete Basic Channel Survey
    - Probe around all substructure units in the water for scour. If high water occurs during routine inspection, can email SPM to request a one-time special inspection to revisit the bridge within 3 months of routine to complete probing.
    - **If waterway is known to consistently have low flow conditions, a request can be submitted to the SPM to adjust the routine inspection compliance month or to schedule an In-depth inspection**
    - Photographs of overall condition of all SNBI Bridge Components, including:
      - Bridge Railing
      - Bridge Joints
      - Superstructure in each bridge span
      - Substructure units in each bridge span
      - Bearings at substructure units
      - Photos required for each SNBI Bridge Component with condition rating of 4 or Elements with CS3 or CS4 ratings
      - General Summary of Findings reports in Executive Summary
      - Recommendations of Repairs/Maintenance Items
      - **Documentation of Work History on Bridge (Starting in 2025 if prior work history not available)**

Document Research – Part 2 of IBIM

- Inspection Types & Uses
  - Initial Inspection – First Inspection after New Bridge, Replacement, Rehab
  - Underwater Inspection
    - May need to schedule if substructure units cannot be probed and/water too deep during routine inspections
  - NSTM Inspection
  - Damage Inspection – Unscheduled inspection done to assess structural damage resulting from environmental factors or human actions
  - In-Depth Inspection – Close-up detailed inspection of one or more bridge members/Bridges with Complex Features
  - Special Inspection – Used to monitor a deficiency, special detail, or special characteristic of the bridge
  - Service Inspection – Risk based inspection for a bridge interval exceeding 48 months
  - Scour Monitoring Inspection – Unscheduled inspection when scour triggering event identified in scour POA occurs

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What type of Inspection will this bridge require?

Initial 78

Special 7

In-Depth 3

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What type of Inspection will this bridge require? (Best Option)

NSTM 91

Fracture Critical 11

Underwater 2

Initial 2

Document Research – Part 2 of IBIM

- **Noteworthy Inspection Types and Intervals:**
- Initial Inspection
  - To be completed and approved within 3 months of bridge opening to traffic
  - For State Owned Bridges – Inspection preferred to be completed at Construction Pre-Final Walkthrough
  - For County Bridges – Inspection preferred to be completed prior to opening to traffic
- Routine Inspections
  - Adjust to 12 month reduced interval based on bridge component ratings of 3 or less for Deck, Superstructure, Substructure, Culvert, Scour, Channel condition and Channel protection condition
  - Also can maintain 24 month routine interval and schedule a 12 month interval for a special inspection for components rated as 3 or less
- NSTM – 12 Month interval required if:
  - If NSTM Inspection Condition = 4 or less, full NSTM inspection to be performed
  - Bridge built prior to 1924 and no work has been performed
  - Bridge is coded as a Railroad Flat Car (RRFC)
    - Proof of internal redundancy can be submitted to SPM for review for RRFC

Document Research – Part 2 of IBIM

- **Noteworthy Inspection Types and Intervals:**
- Bridges Closed for Construction:
  - If fully closed for construction, any bridge with regularly scheduled inspection due that is fully closed to traffic, a Special Inspection to be completed within 24 hours of the closure that documents the bridge properly closed to traffic
    - Initial Inspection required at the completion of construction
  - If partially closed for phase construction, bridge to be inspected as planned according to requirements of all scheduled inspection types. Contractor to provide access for inspection on State Bridges
  - Designer provides a Recurring Special Provision to Contractor identifying month of inspection
- Bridge Permanently Closed or Closed due to condition:
  - If permanently closed, a special inspection is required on 12 month interval
    - Person other than ATL can perform 12 month special inspection
  - If closed for condition or other causes not related to construction, a special inspection to be done within 24 hours
    - Special Inspection required on a 12 month interval

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What is the NSTM Inspection Interval on this bridge?

12 Months ✓ 86

24 Months 11

6 Months 0

48 Months 0

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#INBridge

What is the Inspection Interval for this bridge? (Routine Interval is 24 months)

24 Months ✓ 77

12 Months 16

6 Months 2

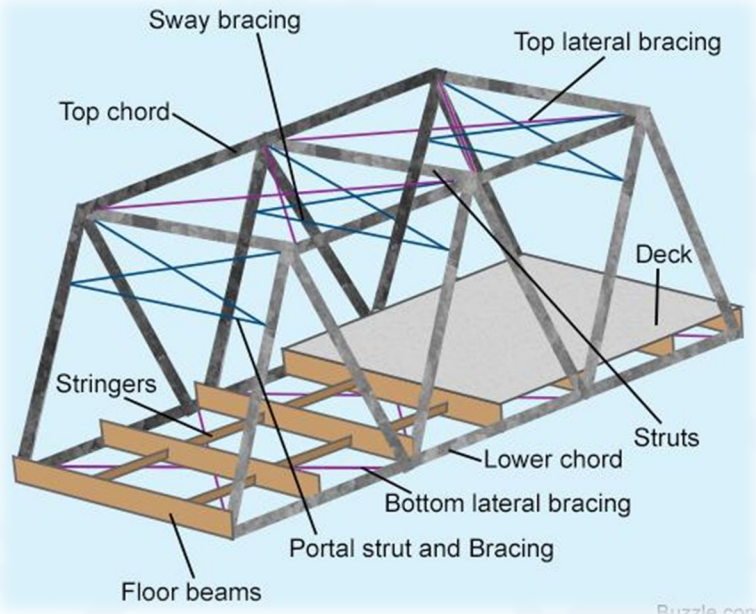
48 Months 0

Inspection Research – Preparing for the Field

- Office review of documents for New Items to be Coded:
  - Review of Existing Plans
  - Review of Older Inspection Reports
  - May require development of new field forms for additional coding items
- Bridge Specific Plan of Action Reports (POA) Required for:
  - Underwater Inspection
  - NSTM
  - In-Depth
  - Special
  - Inspection POA to be included in iTAMS Bridge Asset File
  - This is a Standalone document from the inspection report

Inspection Research – Plan of Action Reports

- Bridge Specific Plan of Action Reports Developed to:
  - Identify bridge history (repairs/rehabilitations)
  - Review Inspection Types and Inspection Intervals
  - Operational requirements for the Inspection – items to be inspected and Identify additional photos needed
  - Protocols for deficiencies/discoveries
  - How inspection Findings will be documents and reported
  - Provide Sufficient details of inspection needs
    - Bridge Access
      - Hazards for access
    - Equipment/Tools for Inspection
    - Traffic Control
    - Qualifications of Inspection Personnel
    - Testing requirements – Mechanical/Electrical



Inspection Research – Bridge Access

- Review site for parking and access to bridge:

Inspection Research – Bridge Access for Inspection

- Review site for Inspection Access:

Inspection Research - Load Posting Signage Review

- Review in office prior to visiting the site
- Reminder that load posting signs are required at and in advance of the bridge
- Missing load posting signage is a critical finding

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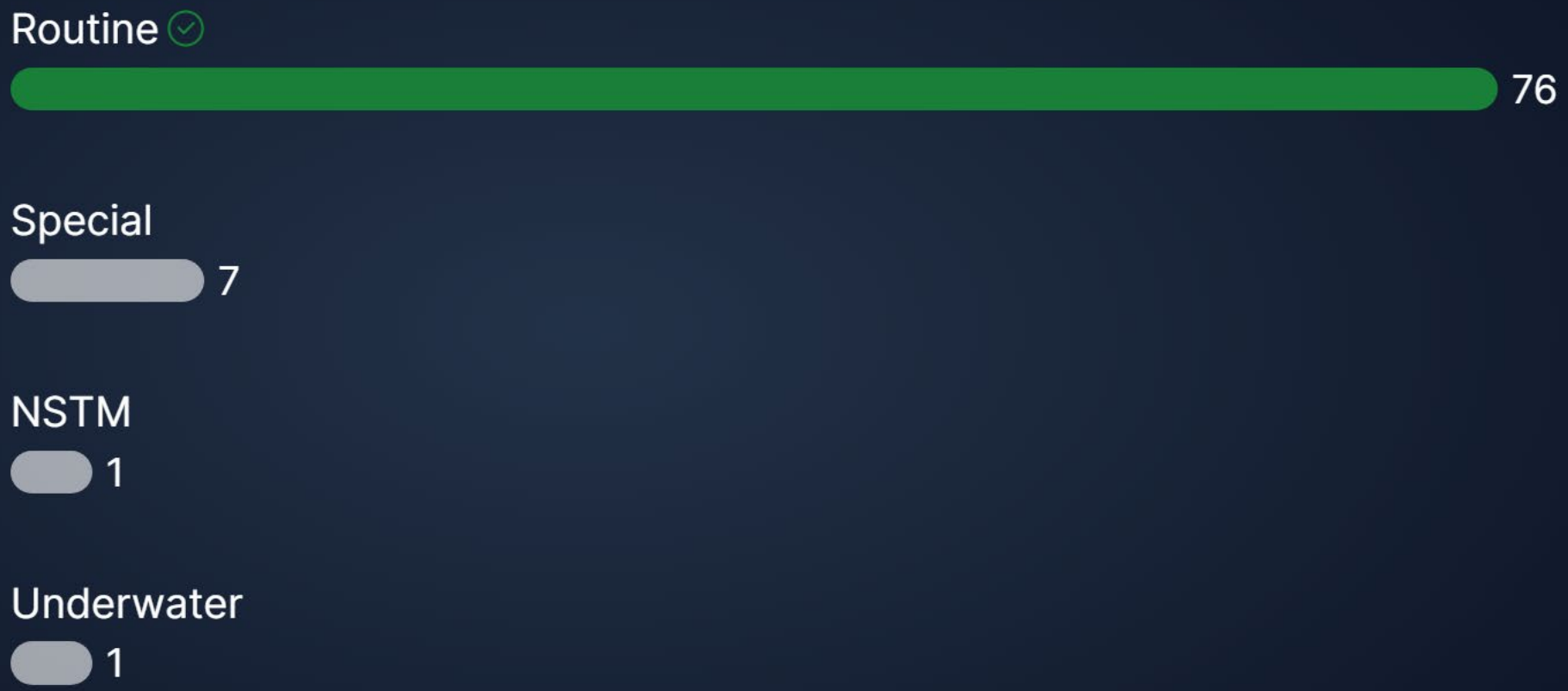
What Inspection Type does not require a Plan of Action Report?



Field Research

- Review bridge history and past reports (*If Available)
  - Notes
    - Noteworthy deficiencies
    - Labeling convention
- Safety Considerations
  - Inspection Teams (1 or 2?)
  - Safety
    - Contacts (Local and Emergency)
    - Facilities (Emergency and Medical)
- Inspection Team (ATL and TM)
- Inspection Equipment
  - Consider for the full county
  - Equipment for different types of inspections or access
    - Additional inspection clothing
    - Equipment for cleaning

Field Research

- Preparation of Field Forms
  - Hard Copies
  - iPad
- Field Documentation Consideration:
  - SNBI Component Condition Ratings and Condition States
  - Keep in mind the “+1” criteria for QA/QC
  - SNBI Field Forms for Defect Severity:
    - Inherent
    - Minor
    - Moderate
    - Major
  - SNBI Classification for Defects Extent:
    - Isolated
    - Widespread
    - Some

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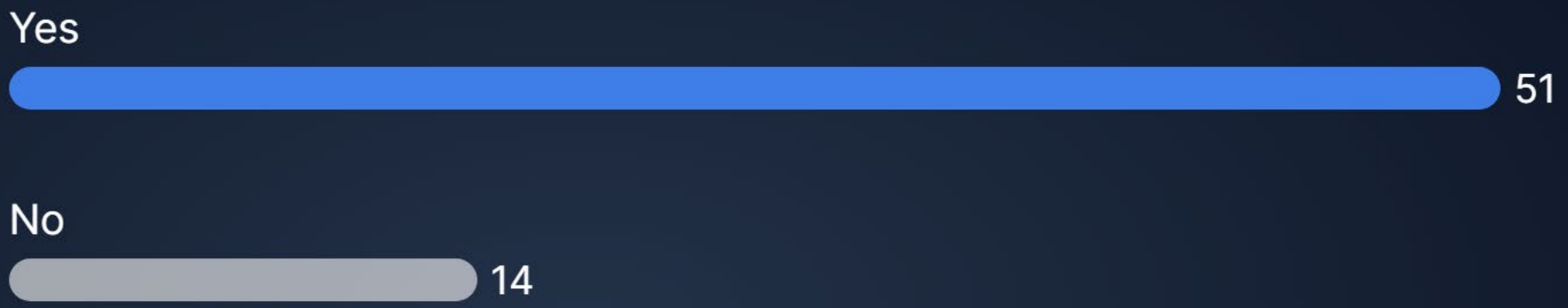
Are we ready for the Field Inspection Now?



Slido Q&A not in recorded presentation.

Question	Answer
Is there a way you can select in ITAMS which fields from SNBI be printed in the inspection report? If not, is that something to ask sixsense to add that feature	Currently, no. A "new request" similar to what you described is being discussed. No timeline on that, though.
Most counties do not want a 10-page report. Can the reports in ITAMS be condensed or have a feature to deselect certain items?	Currently, no. A "new request" similar to what you described is being discussed. No timeline on that, though.
What is the reasoning of the RRFC being required on a 12 month interval?	The federal CFR for bridge inspections mandate that other factors, such as ADT, age, structure types, and others must be considered by the responsible agency when setting inspection interval requirements.
What is the reason for putting RR flatcar bridges on 12 month inspection cycle. They are typically on very low volume roads.	The federal CFR for bridge inspections mandate that other factors, such as ADT, age, structure types, and others must be considered by the responsible agency when setting inspection interval requirements.
RR flat car requires 12 month ROUTINE inspection. If the NSTM condition rating is over 4, does it really require 12 month NSTM interval?!?	The federal CFR for bridge inspections mandate that other factors, such as ADT, age, structure types, and others must be considered by the responsible agency when setting inspection interval requirements.
For phase constructed bridges, will this require two initial inspections? One initial inspection after each phase is opened back up to traffic?	Yes, if the gap between phase completion is larger than 3 months.