

INDOT COLLECTING SNBI DATA

2025 BRIDGE INSPECTION WORKSHOP

Anthony Marino, P.E., Bridge Inspection Program Manager

Erich Hart, P.E., Bridge Asset Engineer

PRESENTATION AGENDA

- iTAMS and SNBI Implementation
- SNBI Section 6: INSPECTIONS
- SNBI Section 7: BRIDGE CONDITION
- Inspection Accuracy and Thoroughness
- BIM Part 1 (Administration) Refresh
- BIM Part 2 (Types of Inspections) Refresh
- Erich Hart: SNBI Sections 1 to 4



iTAMS AND SNBI IMPLEMENTATION

- SNBI Inspections started on ***January 1, 2025***.
- iTAMS Platform for SNBI implemented in December.
- INDOT and Sixense are prepopulating iTAMS Asset Inventory Data as much as possible using Data Crosswalk.

As you do your SNBI Inspections in the new year:

- ***Start coding*** Section 6 and Section 7 during inspections.
- Review data in Sections 1 through 4 for accuracy (ongoing process).
- ***Review the SNBI: Specifications, Commentary, Examples.***

iTAMS AND SNBI IMPLEMENTATION

1. SNBI Inspections started on January 1, 2025.
2. CY2025: SNBI Hybrid for March 2026 SNBI Hybrid Fed Tape.
3. CY2026: SNBI Hybrid for March 2027 SNBI Hybrid Fed Tape.
4. CY2027: Fully populated and compliant SNBI Inspections for March 2028 SNBI Fed Tape submission.

Understanding that not all SNBI fields will be populated as part of the upcoming hybrid inspection years.

SNBI SECTION 6: INSPECTIONS

- Two Subsections: Inspection Requirements and Events.
- Inspection Requirements: Provide information about non-routine inspection types needed and special features. Part of the Primary Data Set and are ***One-to-One Items***.
- Inspection Events: Provide information about each inspection event done for any given bridge asset. Part of the Inspections Data Set and are ***Many-to-One Items***.

Inspectors will code all SNBI Item IDs as inspections are executed.

SNBI SECTION 6: INSPECTIONS

SUBSECTION 6.1: INSPECTION REQUIREMENTS

Only 4 items and coding is straightforward.

- B.IR.01 (NSTM Inspection Required): Only use N or Y (NBI 92A).
 - INDOT investigating implementation of IRM and SRM inspection procedures.
 - Needs FHWA concurrence.
- B.IR.02 (Fatigue Details): Code N or Y **ONLY** for presence or absence of AASHTO Fatigue Category E/E' Details.
- B.IR.03 (UW Inspection Required): Code N or Y based on NBI 92B.
- B.IR.04 (Complex Feature): Most will Code N.
 - Indiana has only 6 bridges that have complex features that will Code Y.
 - Coordinate with SPM/ASPM if you think you have such a bridge.

SNBI SECTION 6: INSPECTIONS

SUBSECTION 6.2: INSPECTION EVENTS

*Has 12 items; coding generally straightforward and are coded as inspections of **each type** are done (many-to-one items)*

- B.IE.01 (Inspection Type):

Code	Description	Code	Description
1	Initial	5	Damage
2	Routine	6	In-Depth
3	Underwater	7	Special
4	NSTM	9	Scour Monitoring

Note: INDOT is not using Code 8 – Service Inspections

SNBI SECTION 6: INSPECTIONS

SUBSECTION 6.2: INSPECTION EVENTS

- B.IE.04 (Nationally Certified Bridge Inspector)

CONTACT SHARI STREET FOR YOUR IDENTIFYING NUMBER

- B.IE.05 (Inspection Interval): Code Number of Months (Each Type)
 - CFR Section 650.311 and INDOT BIM Part 2.
 - Regular: 24 months; Reduced: 12 months; Extended: 48 months
 - Extended Intervals will no longer require external approvals – Important for QC review to verify accuracy.
 - Ultimately INDOT will build tracking tools to monitor.

SNBI SECTION 6: INSPECTIONS

SUBSECTION 6.2: INSPECTION EVENTS

- B.IE.06 (Inspection Due Date): ***LEAVE BLANK***. Calculated by FHWA.
- B.IE.07 (Interval Method): Code N or 1; ***INDOT only using Method 1***.
- B.IE.08 (QC Date)
 - State Owned/Maintained: iTAMS workflow for 1st Approval.
 - LPA Owned/Maintained: Organizations' QC/QA Procedures.
- B.IE.09 (QA Date)
 - Most will be blank.
 - INDOT will code for sampled bridges as part of Annual QA Review.
 - LPA Owned/Maintained: Organizations' QC/QA Procedures.

SNBI SECTION 6: INSPECTIONS

SUBSECTION 6.2: INSPECTION EVENTS

- B.IE.10 (Inspection Data Update Date)
 - Likely entered by INDOT when Fed Data is submitted.
- B.IE.11 (Inspection Note)
 - 300 Alpha-Numeric field.
 - Use mainly for non-Routine Inspection Types when *limited portions* of a bridge is inspected.
- B.IE.12 (Inspection Equipment)
 - Important to read descriptions within this item's specification.
 - Coding Access Equipment and Inspection Equipment (**BEARINGS**).
 - Many LPA Bridges will likely be coded **AN|IN** denoting no access or inspection equipment used beyond standard hand tools.

SNBI SECTION 7: BRIDGE CONDITION

- Five Subsections:
 - 7.1: Component Condition Ratings

This is where most of your inspection work will be done.

- 7.2: Element Identification
- 7.3: Element Conditions

AASHTO Manual of Bridge Element Inspections – only bridges carrying NHS Routes.

- 7.4: Appraisal
- 7.5: Work Items

Inspectors will code all SNBI IDs as inspections are executed.

SNBI SECTION 7: BRIDGE CONDITION

SUBSECTION 7.1: INSPECTION REQUIREMENTS

Has 15 items for the bridge and channel component condition ratings and coding is generally straightforward.

- Most Bridge Component Conditions will be coded according to categories detailed SNBI Table 20.
- SNBI Appendix C provides guidance for selecting appropriate condition rating codes.
- Four select Bridge Components – *Bridge Joints*, *Channel Condition*, *Channel Protection Condition*, and *Scour Condition* – have unique, component-specific condition tables that shall be used.

SNBI SECTION 7: BRIDGE CONDITION

THINGS TO KNOW...

- Condition coding +/- 1 variance only within the following three Major Condition Groups.

GOOD (9-7); FAIR (6-5); POOR (4-0)

- Definitions: *Inherent, Minor, Moderate, Major.*
- Definitions: *Isolated, Some, Widespread.*
- SNBI Appendix C has component condition rating guidance.
- What is the level of magnitude when deterioration or defects are considered to *affect the strength and/or performance of a given bridge component?*

SNBI SECTION 7: BRIDGE CONDITION

INDOT will be developing a Definitions and Calibration Guidelines to supplement the Bridge Inspection Manual.

For now, use your best judgment.

SNBI SECTION 7: BRIDGE CONDITION

- 7.1: Component Condition Ratings
 - Part of the Primary Data Set and are ***One-to-One Items***.
 - Data may change after each inspection.
 - B.C.12 (Bridge Condition Classification): ***LEAVE BLANK***. Calculated by FHWA.
 - B.C.13 (Lowest Condition Rating Code): ***LEAVE BLANK***. Calculated by FHWA.

“Condition ratings indicate existing field conditions of the bridge components and waterway.

A condition rating code must therefore consider the type, location, and severity of the defects; the extent to which they exist throughout the item being evaluated; and the degree to which the defects affect strength and/or performance of the bridge or component.”

- 7.2: Element Identification – No major differences from previous.
- 7.3: Element Conditions – No major differences from previous.

SNBI SECTION 7: BRIDGE CONDITION

- 7.4: Appraisal
 - **5 ITEMS**: all part of the Primary Data Set and are *One-to-One Items*.
 - B.AP.01 (Approach Roadway Alignment) – Crosswalk from NBI 72.
 - B.AP.02 (Overtopping Likelihood) – Partial Crosswalk from NBI 71.
 - B.AP.03 (Scour Vulnerability) – Partial Crosswalk from NBI 113.
 - A = NBI 9 or 8 (Nominally).
 - B = NBI 8 (Designed and Functioning Scour Protection in Place).
 - C or E = NBI 7 (Temporary/Non-Designed Scour Protection in Place).
 - D or U = Considered Scour Critical.
 - B.AP.04 (Scour Plan of Action) – Code Y, N, or 0 (Not Required)
 - Scour POAs **REQUIRED** for NBI 113 = 7 or 3 and lower.
 - Scour POA template available in iTAMS.
 - B.AP.05 (Seismic Vulnerability) – Code “0” for now; more guidance will be provided.

SNBI SECTION 7: BRIDGE CONDITION

- 7.5: Work Items
 - B.W.01 (Year Built) – Crosswalk from NBI 27.
 - Part of the Primary Data Set and is ***One-to-One Item***.
 - B.W.02 (Year Work Performed) – Crosswalk from NBI 106.
 - Part of the Work Data Set and is ***Many-to-One Item***.
 - Item is reported each year regardless of whether work was done in that year.
 - Improve functionality, Prevent deterioration, Preservation, Restore Strength/Performance.
 - B.W.03 (Work Events)
 - More guidance will be provided.
 - Part of the Work Data Set and is ***Many-to-One Item***.
 - From FHWA-SNBI Training: Pre-2026 Work History need not be coded.

INSPECTION ACCURACY AND THOROUGHNESS

Reminder to everyone:

- Thoroughly prepare prior to field inspections (review plans, past report findings, special equipment needs, etc.).
- Thoroughly photo-document of ***all areas*** with Moderate or Major Deterioration during each inspection.
- Photo captions must be descriptive.
- Fully document defect types, sizes, and severity at all locations.
- Use tools to remove loose/deleterious materials for accurate inspection documentation. ***USE THOSE HAMMERS AND BRUSHES!***

INSPECTION ACCURACY AND THOROUGHNESS

Continued:

- As condition ratings go down, number of photos taken should be increasing.
- Good practice to include measurement scales in photos.
Range poles, crack gauges, folding rulers, tape measures, etc.
- Widespread deterioration – consider adding sketches to Documents tab in the iTAMS Inspection File and Bridge Asset File.
- Must be documenting *deterioration progression*.
- Don't hesitate to get additional equipment if needed and return to a bridge for follow up.

BIM PART 1 (ADMINISTRATION) REFRESH

- Part 1 internal and FHWA reviews done; addressing comments.
- Publish/distribute by end of January.

Reminders

1. ATLs: Renewals governed by refresher training months; not calendar years and 60-month maximum interval restarts on date of last refresher.
2. NSTMs: Still require both NHI 130078 and S-BRITE Inspection Techniques for Nonredundant Steel Tension Members (NSTMs).
3. Earlier S-BRITE Inspecting Steel Bridges for Fatigue grandfathered in.

BIM PART 2 (TYPES OF INSPECTIONS) REFRESH

- Part 2 internal and FHWA reviews done; addressing comments.
- Looking to issue “Highlights Memorandum” by end of January.

Highlights

- Types: Initial, Routine, UW, NSTM, Damage, In-Depth, Special, and Scour Monitoring.
- Service not being implemented for now.
- Scopes for Inspection Types more tightly focused.
- Inspection Intervals:
Only implementing **Method 1** or now.
Essentially following CFR Section 650.311

BIM PART 2 (TYPES OF INSPECTIONS) REFRESH

Highlights

- Inspection Data from past to scheduled: Only pre-populating data within the same Inspection Types (Combination Inspections going away).
- All NSTM Inspections shall be NSTM Types.
- NSTM Inspection Intervals: 12, 24, or 48 months.
- NSTMs Rated 4 or less = 12-month Inspection Intervals.
- Past practice of allowing *Off-Cycle Special Inspections* for poor condition NSTMs ***is no longer allowed***.

BIM PART 2 (TYPES OF INSPECTIONS) REFRESH

Highlights

- B.C.14 (NSTM Inspection Condition) will define NSTM Inspection Interval.
- This item coded using SNBI Table 20.
- **POOR**: Widespread Moderate or Isolated Major Defects; Strength and/or Performance of the component is affected.

NSTM Inspection Intervals shall be coded based on the reported B.IE.14 NSTM Inspection Coding.
All NSTM Inspections shall be **FULL SCOPE**.

BIM PART 2 (TYPES OF INSPECTIONS) REFRESH

- IN-DEPTH INSPECTIONS: Intention is to *supplement* Routines.
 - Most will require written In-Depth Inspection Plans.
 - Most will be done at *specified Inspection Frequencies*.
 - Types include:
 - Pin/Hinge and Pin/Hanger.
 - Fatigue-Prone E/E' Cover Plates.
 - Fatigue-Prone Details (Eye bars, shelf-type gusset plates, etc.).
 - Unscheduled Wading Inspection.
 - Substructure/Channel Wading Inspection.
 - Complex Features.
 - Mechanical/Electrical components on Movable Bridges.
 - Cables/Cable Appurtenances (mainly for cable-stayed bridges).
 - Others as designated.

BIM PART 2 (TYPES OF INSPECTIONS) REFRESH

- SPECIAL INSPECTIONS: Intention is to *complement* Routines.
 - May or may not require written Special Inspection Plans.
 - May or may not require Approved Team Leaders.
 - May or may not have regular intervals over time.
 - Types include:
 - IRMs (Internally Redundant Members).
 - SRMs (System Redundant Members).
 - Non-problematic E/E' for Cover Plates.
 - Scour POA Trigger Events.
 - Architectural Attachments/Features.
 - Cathodic Protection Systems.
 - Others as designated (i.e.: displaced or bulging bearings).

INDOT SNBI Crosswalk Activities

- Introduction: Erich Hart, Bridge Asset Engineer with INDOT Central Office
 - Manage INDOT bridge network optimization (forecasting) software
 - Assist with 20-Yr/40-Yr bridge plan
 - Consumer of bridge inspection data
- Topic: Review INDOT's SNBI data crosswalk activities
 - What do we mean by “crosswalk activities”
 - SNBI Data addressed by crosswalk activities
 - Assumptions made when translating data
 - What is still required for hybrid submittal

INDOT SNBI Crosswalk Activities

- Crosswalk Activities
 - Translating NBI to SNBI
 - Task started over a year ago with the goal of building bulk import files for pre-populating the new SNBI database with as much data as possible
 - No SNBI database when started. Collected in Excel spreadsheets (Repository)
 - Leaned heavily on the FHWA website: <https://www.fhwa.dot.gov/bridge/snbi.cfm>
 - Coding Guide, Data Crosswalk Document, Detailed Coding Map, Transition Tool
- SNBI Data Crosswalked by INDOT
 - Spine (Section 1, 3, Subsection 2.3, 5.1, 6.1, 7.1, 7.4 & Field B.W.01)
 - Subsection 2.1 & 2.2: Span & Substructure Sets
 - Section 4 – Features
 - In General, addressing Sections 1 thru 4 along with condition/appraisal ratings in Section 7
 - Will discuss portions of the above that have not been cross walked

INDOT SNBI Crosswalk Activities

Home / Programs / Bridges & Structures / Management and Preservation / National Bridge Inventory / SNBI

National Bridge Inventory (NBI) – Based on the SNBI

- [Errata Number 1 Specifications for the National Bridge Inventory \(SNBI\) \(.pdf\)](#)
 - [Memorandum – Errata Number 1 Specifications for the National Bridge Inventory \(.pdf\)](#)
 - [Memorandum - Specifications for the National Bridge Inventory - Updates for Data Submittal Schema, Data Validation Logic, and NBIS Bridge Length \(.pdf\) NEW!](#)
- [Specifications for the National Bridge Inventory without errata \(.pdf\)](#)
 - [Memorandum - Implementation of the Specifications for the National Bridge Inventory \(.pdf\)](#)
- [Questions and Answers \(February 7, 2023\)](#)
- Data Crosswalk - logic for transitioning data from Coding Guide to SNBI
 - Data Crosswalk for "Over" Records and "Under" Records, [HTML](#) | [XLSX](#) (58 kb) (Updated 12/5/2023)
 - Detailed Code Mapping for Individual Data Items, [HTML](#) | [XLSX](#) (164 kb)
- [Data Submittal Schema/Format](#)
- Data Submittal Validation Logic
 - [Data Verification by SNBI Item Number – includes critical and general errors](#) (Updated 12/5/2023)
 - Data Validation Cross-checks, [HTML](#) | [XLSX](#) (51 kb)
- [Transition Tool - web-based application for transitioning data from Coding Guide to SNBI](#) (Updated: 5/20/2024)
- Data Submittal Validation Tool (coming in October 2024)
- National Bridge and Tunnel Inventory System (NBTIS) (coming January 2026)
- [Spreadsheet Aid for Preliminary Collection and Storage of Data Using the March 2022 SNBI](#)
- SNBI Training – Zoom Recordings **NEW!**



FHWA Data Crosswalk

Transition of Over Records									
SNBI ID	Data Tag	SNBI Item Name	SNBI Format	1995 Coding Guide ID	1995 Coding Guide Item Name/Description	1995 Coding Guide Format (as shown in Appendix E)	Clean Transition?	Transition Notes for Developer	Additional Notes
B.ID.01	BID01	Bridge Number	AN(15)	8	Structure Number	15/AN	Yes	Trim leading and trailing spaces. For Transition Tool, provide option to trim or not trim leading zeroes, or to trim all but one leading zero; do not provide a default selection. Ask user whether to apply this selection to transitioned legacy (historical) data for that State/Agency. (Add a note stating that all legacy data will also be preserved in its original form.) For those who do not use the Transition Tool, we will need to survey.	
B.ID.02	BID02	Bridge Name	AN(300)	N/A	N/A	N/A	No		
B.ID.03	BID03	Previous Bridge Number	AN(15)	N/A	N/A	N/A	Yes	Populate this field using the history of structure number changes that resides in the NBI from Structure Number Change submittals. Trim leading and trailing spaces and leading zeroes in accordance with the user's selection for item B.ID.01.	
B.L.01	BL01	State Code	N(2,0)	1	State Code	3/N	Yes	Trim leading zero, drop 3rd digit.	
B.L.02	BL02	County Code	N(3,0)	3	County (Parish) Code	3/N	Yes	Direct transition.	
B.L.03	BL03	Place Code	N(5,0)	4	Place Code	5/N	Yes	Direct transition.	
B.L.04	BL04	Highway Agency District	AN(2)	2	Highway Agency District	2/AN	Yes	Trim leading zeroes.	
B.L.05	BL05	Latitude	N(9,6)	16	Latitude	8/N	Yes	Convert to decimal degrees from degrees/minutes/seconds. Add negative if item 1= 60.	Jarvis Island in the U.S. Minor Outlying Islands also has a negative latitude, but there are currently no bridges for that island in the NBI.
B.L.06	BL06	Longitude	N(10,6)	17	Longitude	9/N	Yes	Convert to decimal degrees from degrees/minutes/seconds. Add negative for all records except if item 1= 64, 66, 68, 69, or 70.	Wake Island in the U.S. Minor Outlying Islands also has a positive longitude, but there are currently no bridges for that island in the NBI. Additionally, some portions of Alaska have a positive longitude, but there are currently no bridges for those areas in the NBI.
B.L.07	BL07	Border Bridge Number	AN(15)	99	Border Bridge Structure Number	15/AN	Yes	Trim leading and trailing spaces and leading zeroes.	
B.L.08	BL08	Border Bridge State or Country Code	AN(2)	38A	Neighboring State Code	3/AN	Yes	Trim leading zero, drop 3rd digit, change CAN to CA, MEX to MX.	
B.L.09	BL09	Border Bridge Inspection Responsibility	AN(1)	98B	Percent Responsibility	2/N	Partial	See tab. Coding Guide uses FUNDING responsibility.	Transition assumes that funding responsibility and inspection responsibility are the same. Agencies will need to update in accordance with FHWA implementation timeline.
B.L.10	BL10	Border Bridge Designated Lead State	N(2,0)	1	State Code	3/N	Yes	Trim leading zero, drop 3rd digit.	Both bordering States are designated as Lead States for transition. Agencies will need to update in accordance with FHWA implementation timeline.
B.L.11	BL11	Bridge Location	AN(300)	9	Location	25/AN	Yes	Direct transition.	
B.L.12	BL12	Metropolitan Planning Organization	AN(300)	N/A	N/A	N/A	No		
B.CL.01	BCL01	Owner	AN(4)	22	Owner	2/N	Yes	See tab.	
B.CL.02	BCL02	Maintenance Responsibility	AN(4)	21	Maintenance Responsibility	2/N	Yes	See tab.	
B.CL.03	BCL03	Federal or Tribal Land Access	AN(5)	105	Federal Lands Highway	1/N	Partial	See tab.	
B.CL.04	BCL04	Historic Significance	AN(1)	37	Historical Significance	1/N	Partial	See tab.	Contains temporary codes to be phased out.
B.CL.05	BCL05	Toll	AN(1)	20	Toll	1/N	Yes	See tab.	
B.CL.06	BCL06	Emergency Evacuation Designation	AN(1)	N/A	N/A	N/A	No		

SNBI Spine Crosswalk

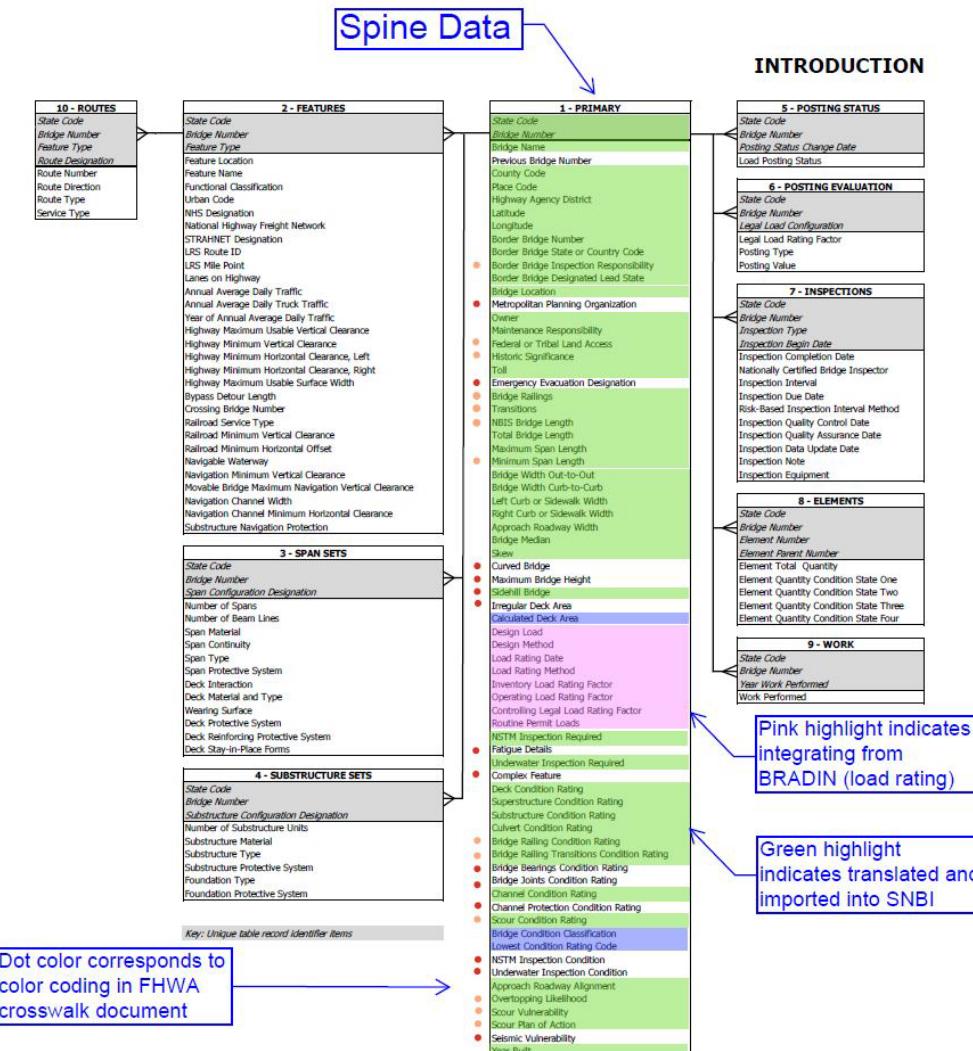
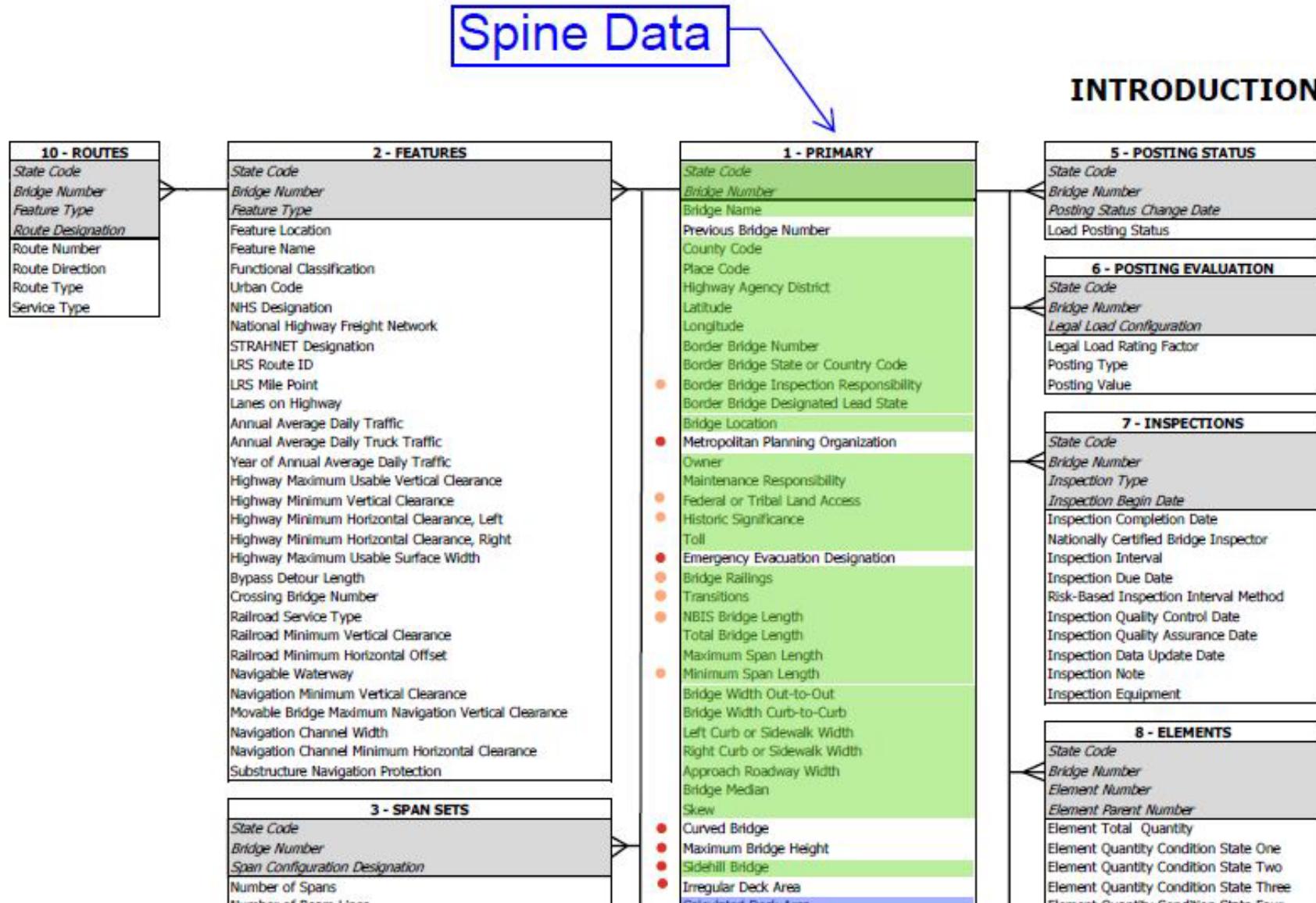


Figure 1. SNBI data relationships.

SNBI Spine Crosswalk



SNBI Spine Crosswalk

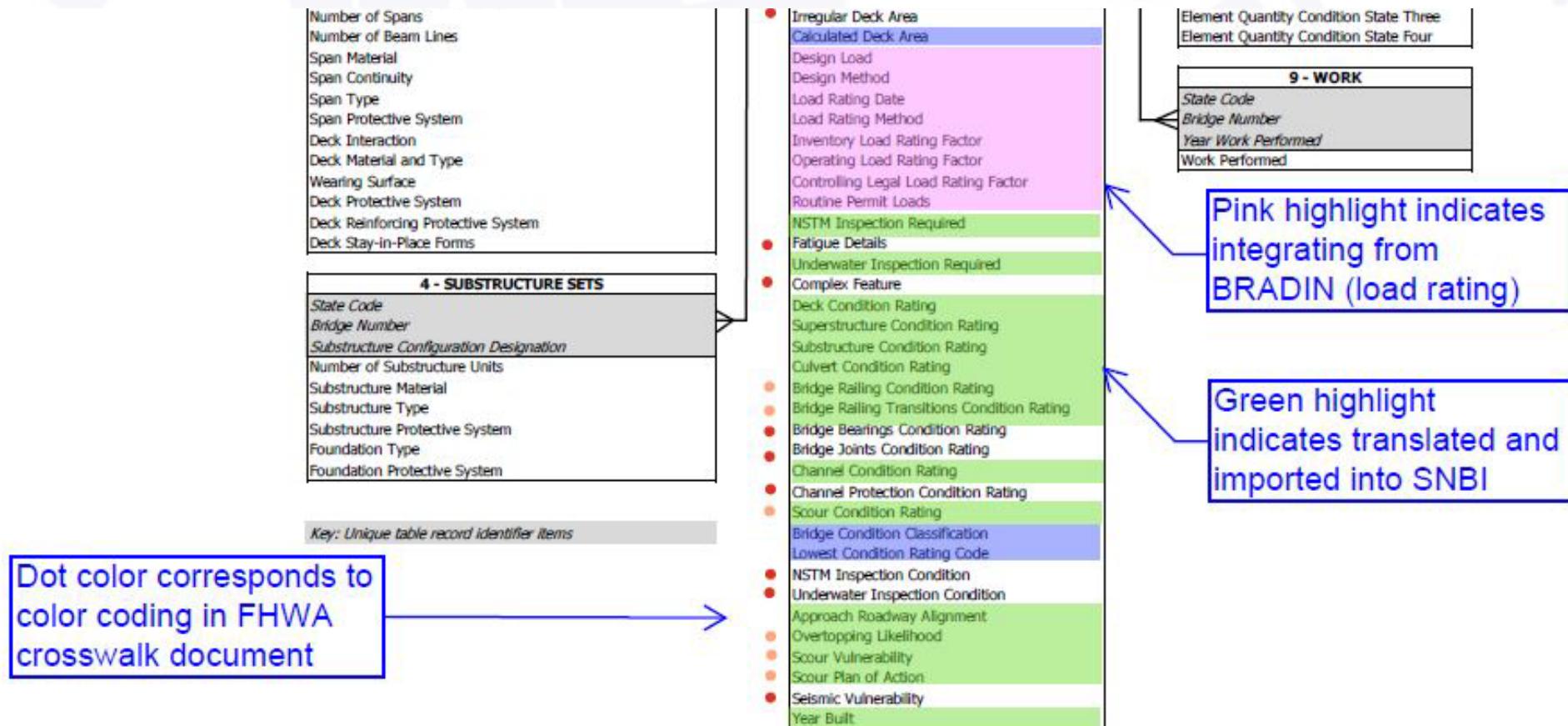


Figure 1. SNBI data relationships.

SNBI 2.1 Span Set Crosswalk

SNBI 2.1 Span Material and Type

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

- **INDOT Bridges**

- Reviewed plans and pre-populating all thirteen (13) fields shown to the left
- Accounted for widening when dissimilar construction (material, type or continuity)

- **Remaining Non-INDOT Bridges**

- Using existing NBI data and basic assumptions, pre-populating ten (10) fields.
- Fields **not** populated in **red**.
- Did not address widenings

SNBI 2.1 County Assumption Examples

- B.SP.01 Span Configuration Designation
 - Assumed similar construction along the length of the bridge for main spans, approach spans and culvert spans (pre-populated, M01, A01, or C01)
 - Did not address widening for non-INDOT
 - Culverts (C01): Wet crossings with NBI_043B = '19'
 - When not a culvert, automatically got M01
 - Added A01 based on NBI_044 & NBI_046
- B.SP.02 Number of Spans
 - From NBI_045 & NBI_046 (main & approach span count)
- B.SP.03 Number of Beam Lines
 - Left blank unless slab, truss or specific arches
- B.SP.04 Span Material*
 - From NBI_043A or NBI_044A.
 - Assumed steel stringer/multi-beam to be S01 rolled shapes. Assumed steel truss to be S04 riveted.
 - Where NBI indicated "prestressed concrete" we went with C03 "prestressed concrete – pre-tensioned". Will need to be verified not actually post-tensioned option.
- B.SP.05 Span Continuity
 - From NBI_043A or NBI_044A
- B.SP.06 Span Type*
 - From NBI_043B or NBI_044B
 - Occasionally had to leave blank
 - Old arch-deck(11) could now be open spandrel (A01) or closed spandrel (A03)
 - Old culvert (19) could now be pipe (P01/P02) or frame (F01/F02) or possibly something else
- B.SP.07 Span Protection System
 - Where steel beam bridge, assumed painted (C01)
 - Where wooden superstructure, assumed treated (T01)
- B.SP.08 Deck Interaction
 - Typically left blank
 - Would assume "IM" for Slab or Tee Beam (RC Girder)
 - Would assume "CU" for newer precast bridge
- B.SP.09 Deck Material and Type
 - NBI_107 Deck Structure Type

SNBI 2.1 County Assumption Examples

- B.SP.10 Wearing Surface
 - NBI_108A Type of Wearing Surface
- B.SP.11 Deck Protective System
 - Assumed none “0” unless not applicable
- B.SP.12 Deck Reinforcing Protective System
 - NBI_108C Deck Protection
 - NBI coded “1” for epoxy coated, now “C01”
 - NBI coded “0” for none, still “0”
 - NBI coded “2” for galvanized, now “C02”
- B.SP.13 Deck Stay-In-Place Form
 - Typically not populated or assumed “0” none
 - Did intentionally populate “0” none when RC slab, RC girder, adjacent box beams or other more obvious.
 - Did intentionally leave NULL when previously coded culvert (19) and would not have a deck.

SNBI 2.2 Substructure Set Crosswalk

SNBI 2.2 Substructure Material and Type

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*

- INDOT Bridges

- Reviewed plans and pre-populating all seven (7) fields shown to the left
- Accounted for widening when dissimilar construction (material, type or continuity)

- Remaining Non-INDOT Bridges

- Only pre-populate first two (2) fields.
- Fields **not** populated in red.
- Actually we did default B.SB.05 & B.SB.07 to “0” for “none” but would be wrong for many pile bents.
- Did not address widenings

SNBI 2.2 County Assumption Examples

- B.SB.01 Substructure Configuration Designation
 - Assumed two (2) abutments and assumed same material, type and foundation type.
 - If sum of approach & main spans = 1, only A01 designation
 - Otherwise A01 & P01.
- B.SB.02 Number of Substructures
 - A01: Assume count = 2
 - P01: sum of approach & main spans minus one
- B.SB.03 Substructure Material
 - Left blank
 - Tempted to code concrete (C01) but easy update in field
- B.SB.04 Substructure Type
 - Left blank
 - Can be done with plans, photos or in field
- B.SB.05 Substructure Protective System
 - Defaulted “0”
 - Typically none (“0”) unless pile bent with concrete encasement (“E01”) or epoxy coated (“CX”)
 - Can be done with plans, photos or in field
- B.SB.06 Foundation Type
 - Left blank
 - For INDOT, used plans. When no plans available, coded unknown (“U”)
 - Will likely review all “Unknowns” during hybrid period
- B.SB.07 Foundation Protective System
 - Defaulted “0”
 - Typically none (“0”) unless pile bent with concrete encasement (“E01”) or epoxy coated (“CX”) extending below groundline
 - Need plans or other documentation

SNBI 4 Features

SNBI 4.1 Feature Identification

B.F.01 Feature Type (i.e.: H01, W01, R01)

B.F.02 Feature Location (i.e.: C or B mostly)

B.F.03 Feature Name (from NBI or GIS)

80% to 90% or more done for local agencies since very few would have highway crossings.

SNBI 4.2 Routes (when B.F.01 = H##)

B.RT.01 Route Designation (R01, R02, etc)

B.RT.02 Route Number (NBI_005D for R01/H01 only)

B.RT.03 Route Direction (NBI_102 for R01/H01 only)

B.RT.04 Route Type (NBI_005B for R01/H01 only)

B.RT.05 Service Type (NBI_005C for R01/H01 only)

80% to 90% or more done for local agencies. Routes are many to one off a given highway feature. Only doing R01 for the H01 for now

• All Bridge

- For the most part, did the same for both INDOT and Non-INDOT Bridges
- Start with NBI feature carried (042A) and then intersected (042B)
- Took care railroad features in 4.1 “Feature ID” and 4.4 “Railroads” completely
- Took care of waterway features in 4.1 “feature ID” complete and 4.5 “Navigable Waterways” partially. Only populated B.N.01 Navigable Waterway (yes or no)
- For Highways and Route, addressed “H01” and “R01” for route carried in accordance with cross walk and detailed code mapping

SNBI 4 Features

SNBI 4.3 Highway Features (when B.F.01 = H##)

- B.H.01 Functional Classification
- B.H.02 Urban Code
- B.H.03 NHS Designation
- B.H.04 National Highway Freight Network
- B.H.05 STRAHNET Designation
- B.H.06 LRS Route ID
- B.H.07 LRS Mile Point
- B.H.08 Lanes on Highway
- B.H.09 Annual Average Daily Traffic
- B.H.10 Annual Average Daily Truck Traffic
- B.H.11 Year of Annual Average Daily Traffic
- B.H.12 Highway Maximum Usable Vertical Clearance
- B.H.13 Highway Minimum Vertical Clearance
- B.H.14 Highway Minimum Horizontal Clearance, Left
- B.H.15 Highway Minimum Horizontal Clearance, Right
- B.H.16 Highway Maximum Usable Surface Width
- B.H.17 Bypass Detour Length
- B.H.18 Crossing Bridge Number

- All Bridge

- Have not cross walked needed values for SNBI 4.3 (yet)
- We did create H01 for SNBI 4.1
- Will be targeting SNBI 4.3 soon
- FHWA crosswalk has good direction how to get H01 & H02 from existing NBI data.
- Our (INDOT) goal is to do this for all bridges

SNBI 4 Features

SNBI 4.4 Railroads

B.RR.01 Railroad Service Type

B.RR.02 Railroad Minimum Vertical Clearance

B.RR.03 Railroad Minimum Horizontal Offset

SNBI 4.5 Navigable Waterway

B.N.01 Navigable Waterway

B.N.02 Navigation Minimum Vertical Clearance

B.N.03 Movable Bridge Maximum Navigation Vertical Clearance

B.N.04 Navigation Channel Width

B.N.05 Navigation Channel Minimum Horizontal Clearance

B.N.06 Substructure Navigation Protection

- All Bridge

- Railroad Service type pulled from GIS map for all bridges, not just INDOT, that crossed or carried a railroad
- Railroad minimum vertical clearance when railroad below (B). Use NBI_054B when NBI_054A = 'R'
- Railroad minimum horizontal offset when railroad Below (B). Use NBI_055B when NBI_055A = 'R'
- Did code B.N.01 navigable waterway as 'Y' or 'N' or 'Blank' option based on NBI_038.
- Will be targeting the rest

Crosswalk Activity Summary

- Spine already imported
 - Section 1 & 3 (Fully crosswalked from NBI to SNBI)
 - Subsection 5.1 (Bradin), 6.1 (Inspection), 2.3 (limited, hybrid temporary status)
 - 7.1, 7.4 & Field B.W.01 (All applicable crosswalked from NBI to SNB)
- Subsections 2.1 & 2.2 “Span & Substructure Sets” (To be imported this week)
 - 100% for INDOT
 - 70% for the locals and good enough for the hybrid submittal
- Section 4 Features (To be imported this week)
 - Plan to have local agency bridges 90% complete or better by mid February
 - Recommend holding off doing any work on features until then
 - INDOT bridges more complicated but will have done well before end of year