

FHWA Update

AASHTOWare BrMUG Meeting
September 14, 2021



U.S. Department of Transportation
Federal Highway Administration
Office of Infrastructure

The contents of this presentation do not have the force and effect of law and are not meant to bind the public in any way. This presentation is intended only to provide information regarding existing requirements under the law or agency policies.

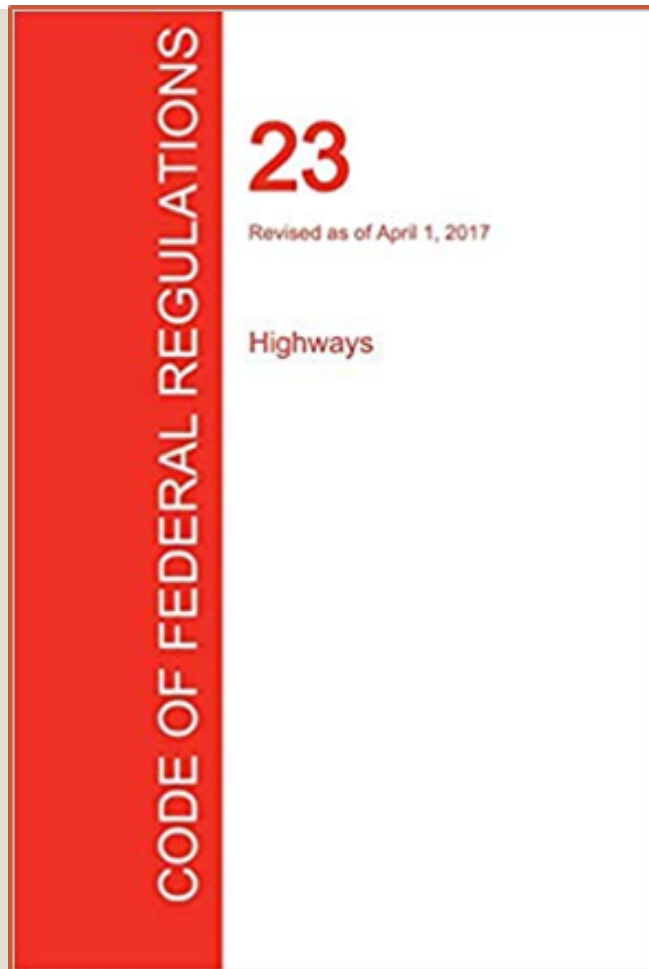
Contents

2

- National Bridge Inspection Standards (NBIS) Rulemaking
- Specifications for the National Bridge Inventory (SNBI)
- NBI and NTI
- Asset Management Program
- Performance Management Program
- Miscellaneous Items
- Legislation & Funding Programs

NBIS Rulemaking Status

3



- NPRM Published November 12, 2019
- NPRM comment period closed March 13, 2020
- Updates on the NBIS Final Rule process are at:
<https://www.reginfo.gov/public/do/eAgendaViewRule?pubId=202104&RIN=2125-AF55>

Brief History of the NBIS

4

- **1968 Federal-Aid Highway Act** provided authority for the first NBIS regulation enacted in 1971.
- **1978 Surface Transportation Assistance Act** extended NBIS to all bridges on public roads and established the National Bridge Inventory.
- **1987 Surface Transportation and Uniform Relocation Assistance Act** provided authority for fracture critical and underwater inspections.
- 1993 revisions to require follow-up actions and provide for extended intervals.
- 2004 revisions to update qualification requirements for bridge inspection team leaders and program managers.
- **2012 Moving Ahead for Progress in the 21st Century Act (MAP-21)** required NBIS revisions by October 1, 2015.



MAP-21 NBIS Required Revisions

5

- Extended applicability to tribally owned bridges
- Update methodology, training, and qualifications for inspectors
- Update frequency of inspection, considering a risk-based approach
- ➔ Establish procedures for reporting and monitoring of critical findings
- Establish national certification of bridge inspectors
- Ensure uniformity of the inspections and evaluations (NBIS and NTIS)
- ➔ Requires annual compliance reviews
- ➔ Requires collection of element level inspection data for bridges on the National Highway System

NBIS NPRM Comments

6

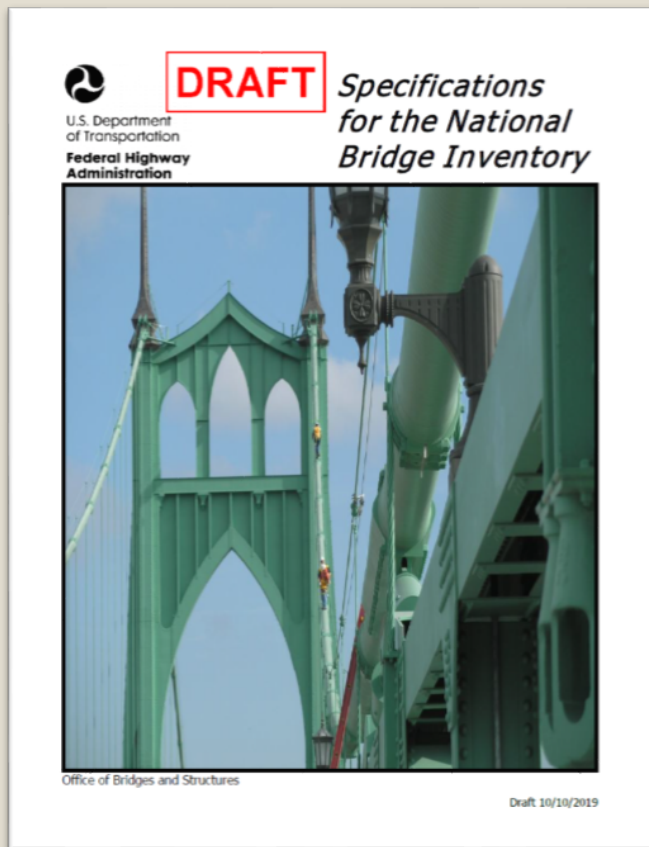
NPRM Section / Topic	Comments
301-Purpose	5
303-Applicability	66
305-Definitions	202
307-Inspection Organization	102
309-Qualifications	152
311-Inspection Interval	382
313-Inspection Procedures	505
315-Inventory	49
317-Reference Manuals	37
T1-Cost/Benefit	50
T2-General	75
T3-Other	22
Total NBIS Comments	1647

- 41 States commented

- 90-day load rating requirement
- 30-day load posting requirement
- Inspection of private bridges
- Reporting of critical findings
- Agreements for delegating functions
- Inspection intervals

SNBI

7



- Proposed Incorporated Reference in the updated NBIS
- Included in Federal Register (FR) docket for comment

SNBI Development History



- 2006 version: More than 2,000 comments
- Long pause ...
- Additional stakeholder outreach
- FHWA independent QC review
- 2013 version: AASHTO T-18 review generated more than 500 comments
- Updated to align with the proposed NBIS update
- 2019 version: Posted in Federal Register for comment on 11/12/19; about 1,450 comments
- In final rulemaking process

SNBI Development Criteria

- *Highway bridge safety*
- *NBIS oversight*
- *Consistency with NBIS*
- *Reporting to Congress*
- *Emergency response*
- *Risk-based, data driven, asset & performance management program*
- *Utilize data from existing management systems*
- *Clarity and ease of use (lessen interpretation)*
- *Consistency with Specifications for the National Tunnel Inventory & Highway Performance Monitoring System (where appropriate)*



SNBI Summary Changes



As compared to 1995 Coding Guide;

- Format changes
- More examples
- Item names and identifiers
- Item relationship and grouping changes
- U.S. customary units
- Discontinued items
- New items
- Revised items

SNBI NPRM Comments

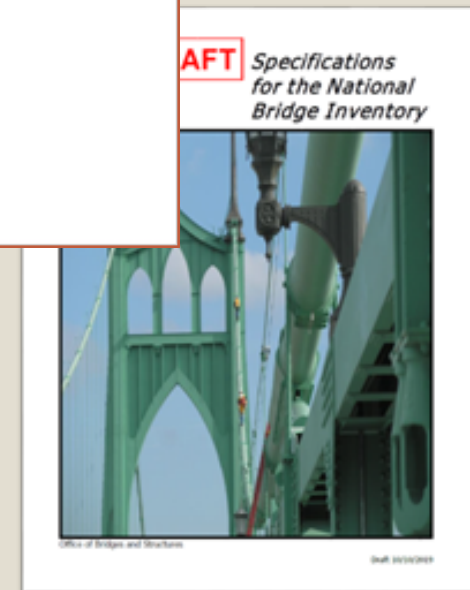
11

- Approx. 1,450 comments total
- Approx. 1,290 from States (39 states total)
- Approx. 160 from AASHTO, counties or county associations, consultants, professional associations, individuals, etc.
- Common comments surrounded
 - retaining culvert bridge type and rating
 - general condition rating language inclusion of “element type” defect quantity and severity language
 - bridge railing appraisal changes
 - cost to implement

NBIS & SNBI Transition Plan

12

- Draft Final Rule and Preamble
- Review by USDOT
- Review by OMB
- Publish Final Rule in the Federal Register
- Typically becomes effective 30 days after publication but date is determined during process
- A transition plan will be developed based on the date the new regulation becomes effective.



NBI and NTI Data Archiving

13

- MAP-21 established Transportation Performance Management (TPM) Program
- The implementing TPM regulation established June 15th as the deadline¹ for performance data from States
- FHWA has traditionally archived and published each NBI and NTI data set at the end of the calendar year (December 31st)
- TPM required a second bridge archive that is essentially unpublished
- FHWA will now archive and publish one data set using the TPM deadline of June 15th

¹23 CFR 490.109

Asset Management Program

14

- TAMPS
 - ✦ Annual consistency determinations by FHWA Division Offices were completed by July 31 and notification provided to States
 - ✦ TAMP updates due from States in 2022 (30 days preceding the date of original process certification in 2018)
- Maturity assessment report (“Consumer Report” style) sent to each state in early 2021 (for information only)
 - ✦ Followed AASHTO’s TAM Guide and the TAM Gap Analysis Tool developed under NCHRP Project 08-90.

Performance Management Program (TPM)

15

- 2018 - 2021 Performance Period
 - ✦ Mid-Performance Period reports submitted by States by September 30, 2020
 - ✦ FHWA Significant Progress Determination notifications provided in early 2021
 - % Good Measure – 22 States did not make significant progress
 - % Poor Measure – 13 States did not make significant progress
 - Combined 25 States needed to report response actions as result of not making significant progress
- End-Performance Period reports due September 30, 2022
 - ✦ Report on end of period results and targets for the next 4-year period

FHWA Workshop on BMS

16

- Three-Day Workshop
 - Not specific to any one BMS
 - Focus is asset management
 - Day One
 - ✦ Fundamentals targeted to both a technical and executive level audience
 - Day Two and Three
 - ✦ In-Depth
- Taking requests (free)
- Participant Workbook and Day One recordings available at <https://www.fhwa.dot.gov/bridge/management/>

Element to Component Condition Conversions

17

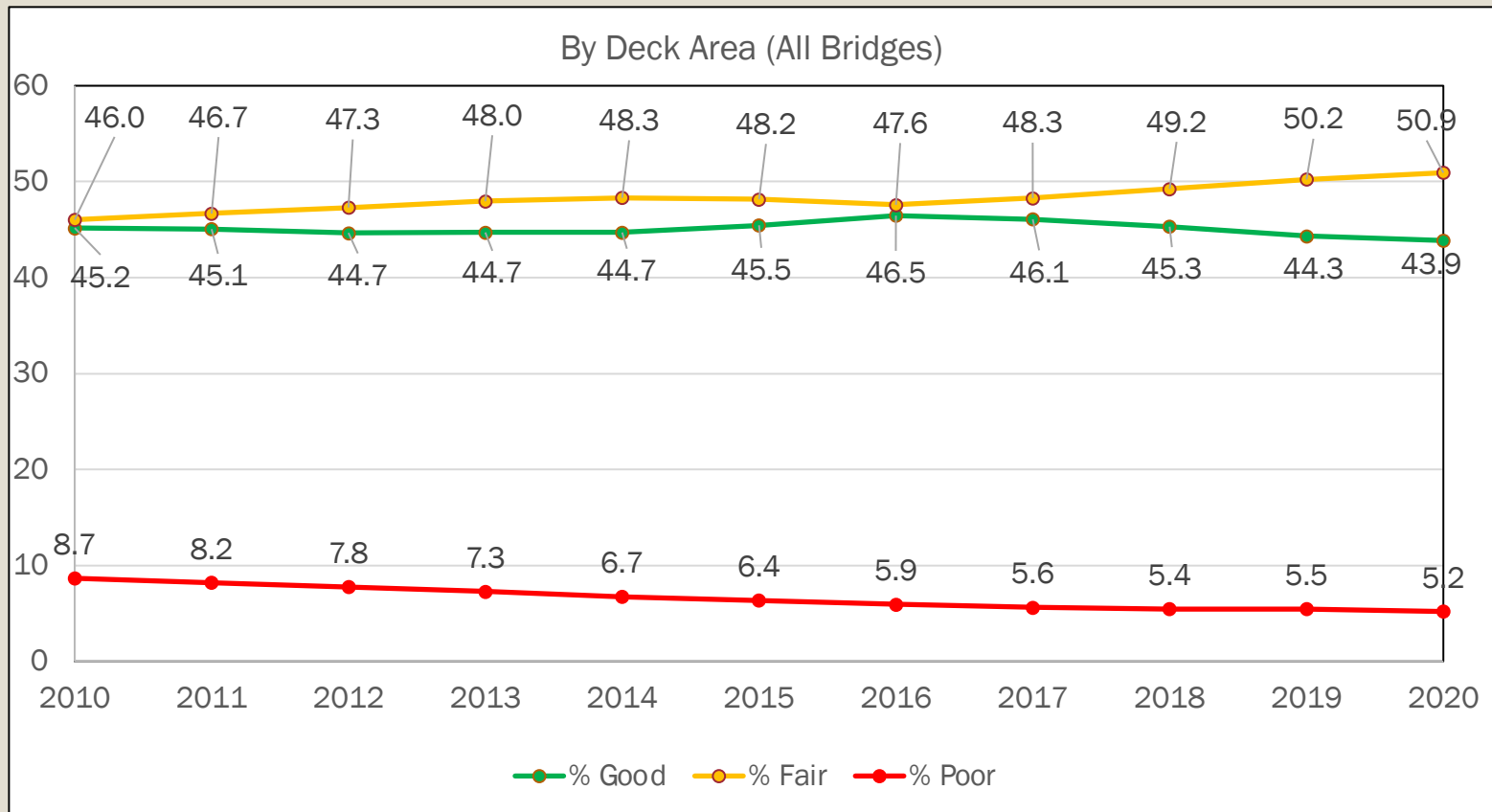
- FHWA project (ongoing)
- Goal - support TPM forecasting and inspection QC/QA
 - more accurate conversion
 - documented levels of confidence
 - documented and repeatable generation process
- Expectation
 - single/universal profile
 - profiles by major component
 - profiles by major component and material/design type (approx. 21 profiles)

NBI	CS1 %	CS2 %	CS3 %	CS4 %
9	x	x	x	X
8	100	0	0	0
7		1 - 20	0	0
6			1 - 5	0
5			6 - 20	0
4				1 - 20
3				21 - 100
2	x	x	x	X
1	x	x	x	X

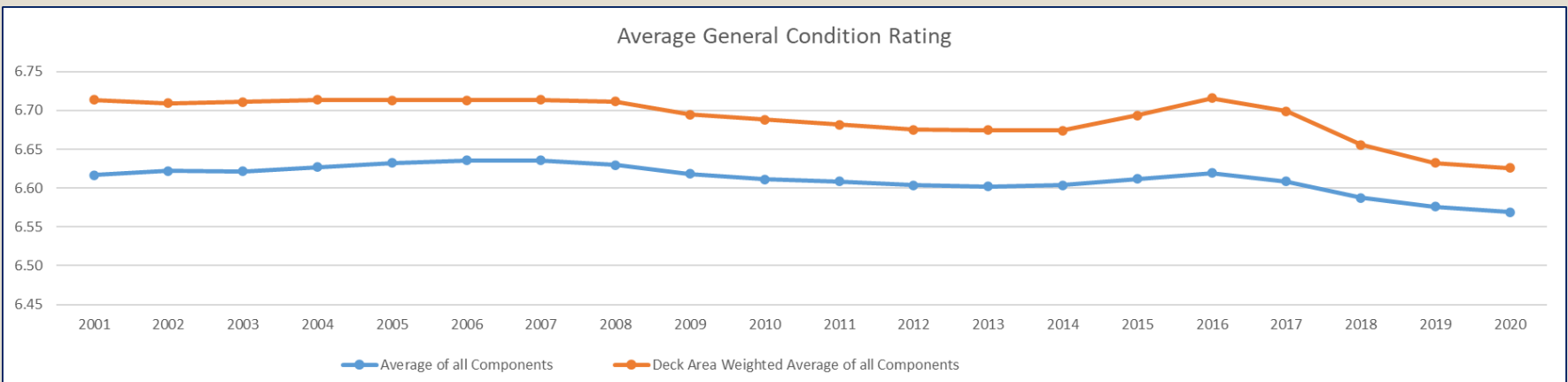
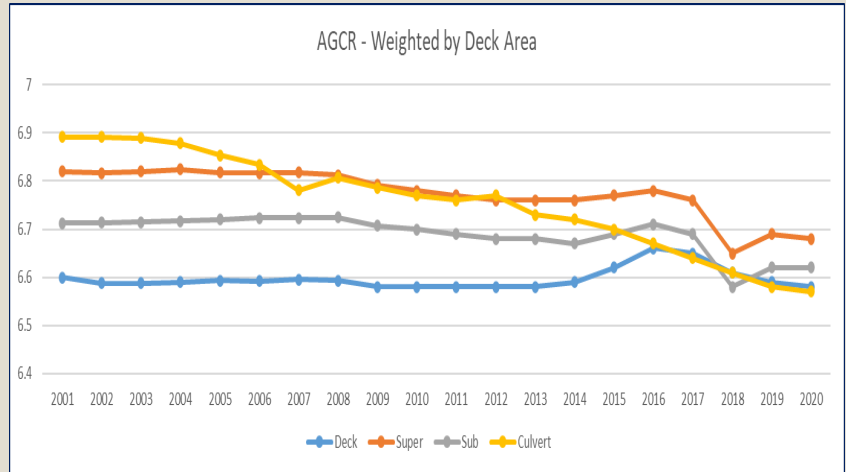
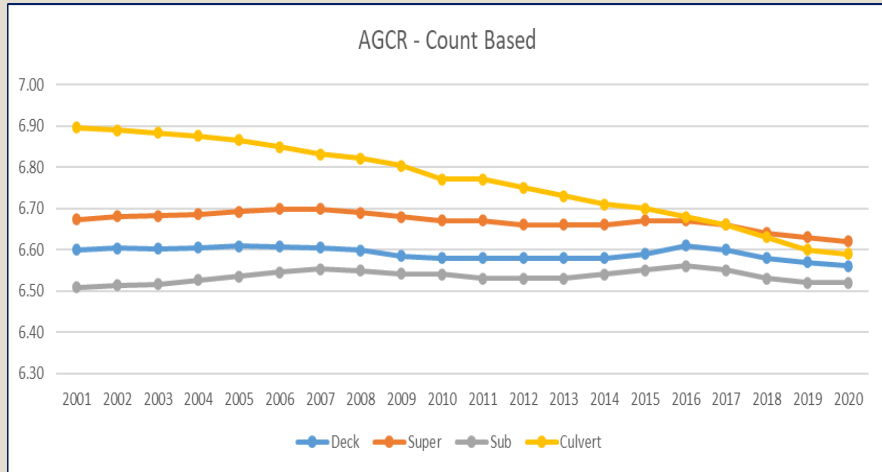
FHWA First-Generation
Universal Profile

National Bridge Condition Trends

18



National Bridge Condition Trends

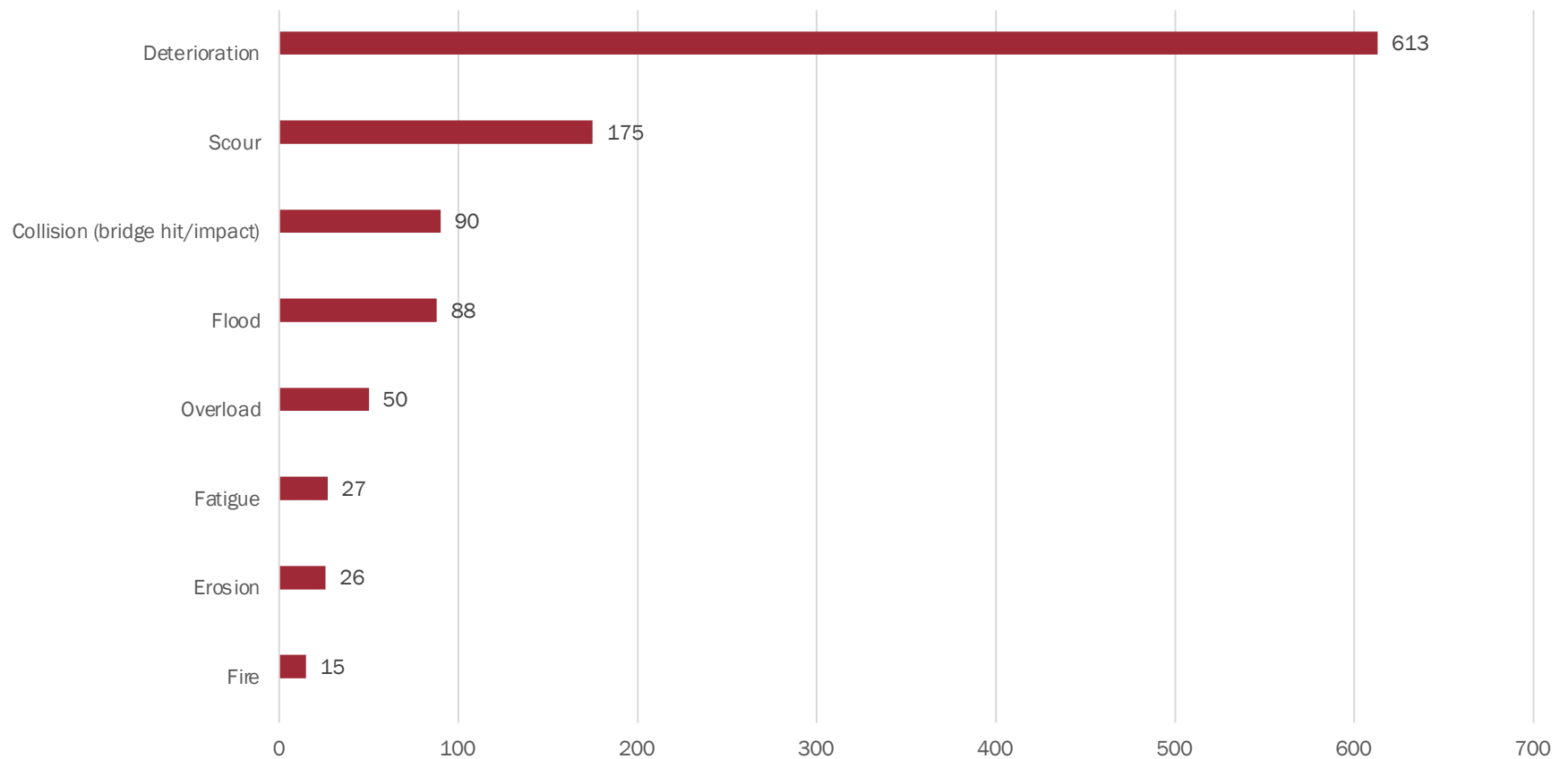


*Data not fully vetted and verified

Critical Findings Database

20

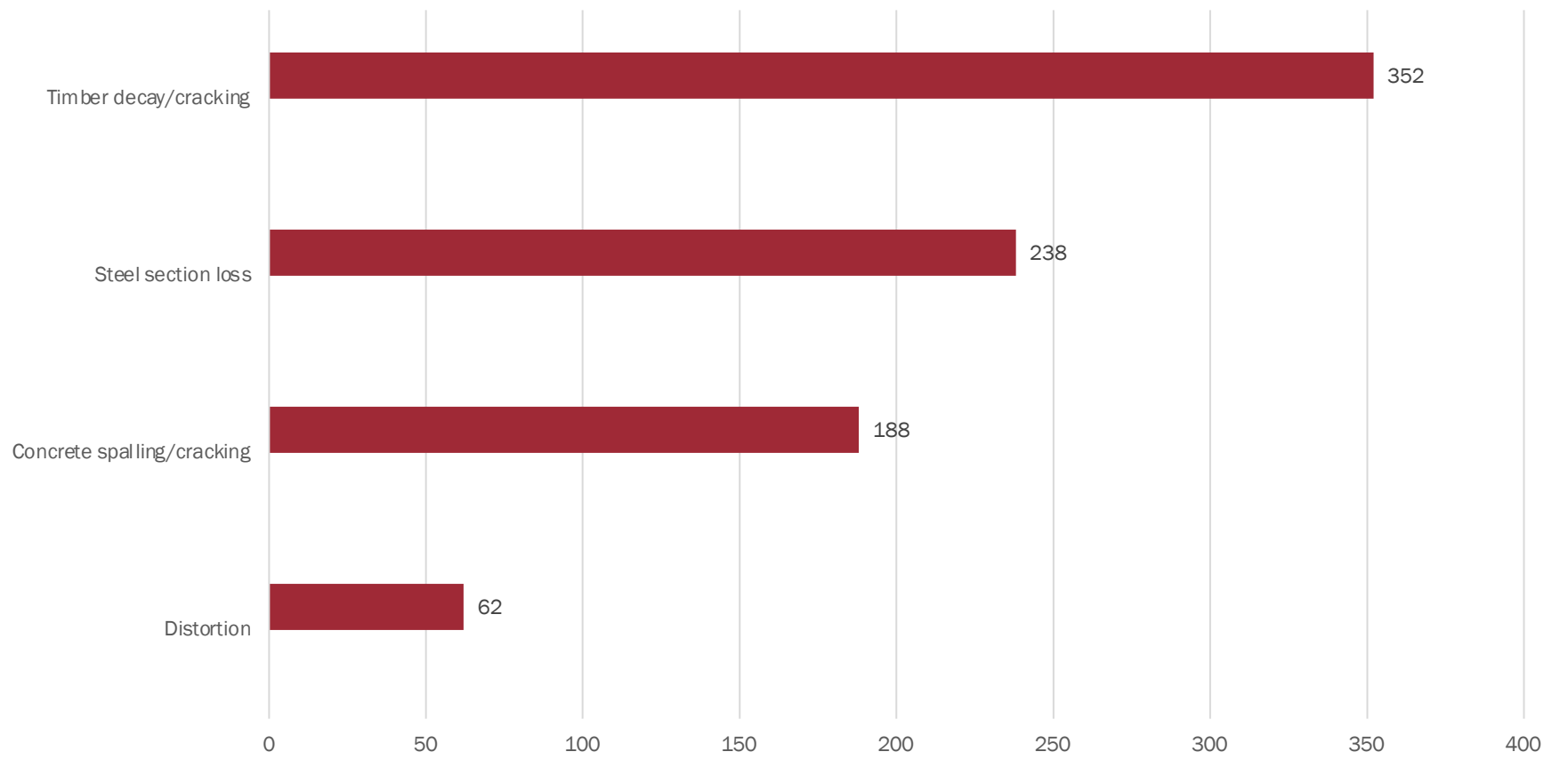
Bridge CF by Cause



Critical Findings Database

21

Deterioration by Type



Critical Findings Database...an example

22

- 22 bridges were closed or restricted due to a partial or total collapse in the last year.
 - 5 from deterioration
 - 5 from scour associated with flooding or storms
 - 4 from vehicle impact (collision)
 - 3 from overload
 - 3 from fire
 - 1 from scour
 - 1 from unknown causes

Critical Findings Database...an example

23

- 7 bridges were closed or restricted due to a total collapse in the last year.
 - 1 from scour associated with flooding or storms
 - 2 from vehicle impact (collision)
 - 1 from overload
 - 2 from fire
 - 1 from scour

New Resources

24

- Preservation Pocket Guides (Bridge Preservation Expert Task Group)
 - Bridge Cleaning
 - Concrete Bridge Deck Patching
 - Thin-Polymer Bridge Deck Overlay Systems
 - Removal and Replacement of Bridge Coatings
 - Spot, Zone and Overcoating Existing Bridge Coatings
 - Repair of Bridge Concrete Substructure Elements
- NDE Return on Investment Tool, FHWA project, upcoming (ongoing)



Legislation

25

- **Senate's Bipartisan Infrastructure & Jobs Bill**
 - Includes aspects of President's American's Jobs Bill and a new Transportation Bill
 - Jobs Bill aspects
 - ✦ \$109B in new funding for roads and bridges over 5 years (avg. \$22B per yr)
 - ✦ \$40B for bridges over 5 years (avg. \$8B per yr)
 - ✦ Largest bridge designation since Eisenhower Act
 - Between this and Transportation Bill the highway program would change from approx. \$47B to \$70B annual (49% increase)
- **The Senate's Bill is now moving through the House. Previous House Bill was not as aggressive.**

Thank you for your time and attention.

QUESTIONS?



U.S. Department of Transportation
Federal Highway Administration
Office of Infrastructure