

2017

AASHTO BRIDGE MEETING



JUNE 11-15
SPOKANE
WASHINGTON

hosted by



Washington State
Department of Transportation

FHWA Update – Joey Hartmann
Director, Office of Bridges and Structures



Contents

- Transition/Administration Initiatives
- Legislation Implementation
 - MAP-21
 - FAST Act
- Federal-Aid Bridge Program Language
- NHI Training
- Odds and Ends



Transition

- Department of Transportation
 - Secretary Elaine L. Chao
 - Deputy Secretary Jeffrey Rosen
- Federal Highway Administration
 - Acting Deputy Administrator Butch Waidelich
(current Executive Director)



President's Infrastructure Initiative

- Key Principles
 1. *Make Targeted Federal Investments*
 2. *Encourage Self-Help*
 3. *Align Infrastructure Investment with Entities Best Suited to Provide Sustained and Efficient Investment*
 4. *Leverage the Private Sector*
- \$200B to leverage \$800B in local and private investment (\$1T)
- Details in late summer



President's Regulatory Reform Initiative

- “Identify and reduce unnecessary regulatory obstacles that too often stand in the way of completing important infrastructure projects...”
- “If you have any ideas, we want to hear from you!”



President's Regulatory Reform Initiative

- Federal Register Notice
- June 8th to July 24th (45 days)
- Document: DOT-OST-2017-0057
- Citation: 82 FR 26734
- The “ask” ...
 - Specific reference of regulation
 - Description of the burden
 - Description of less burdensome alternatives
 - Examples of affected projects



MAP-21 Implementation

- National Bridge Inspection Standards
- Bridge Performance Measures
- Risk-Based Prioritization



NBIS Update

- Establish risk-based, data-driven frequency of inspections
- Establish procedures for reporting critical findings and monitoring corrective actions
- Requirement to conduct annual compliance reviews
- Maintain a bridge inspection training program
- Nationally Certified Bridge Inspectors



MAP-21 Implementation

- Bridge Performance Measures
 - The final rule became effective on May 20th.
 - Defines Good, Fair and Poor.
 - Transitions Structurally Deficient to Poor.



Bridge Performance Measures

Border Bridges

- Requirement is data for border bridges is included in both State inventories

NHS Border Bridges	# of Bridges	# of SD Bridges
State-to-State	328	32
Canada	18	1
Mexico	18	0
TOTALS	364	33 (9.1%)

Source: 2016 NBI & BTS



MAP-21 Implementation

- Risk-Based Prioritization
 - Classify bridges according to serviceability, safety and essentiality.
 - Based on that classification, assign each a risk-based priority for preventative maintenance, replacement or rehabilitation.



FAST Act Implementation

- Interstate Weight Limits
 - Emergency Vehicles
 - Covered Heavy-Duty Tow and Recovery Vehicles
- Study on Performance of Bridges



Emergency Vehicles

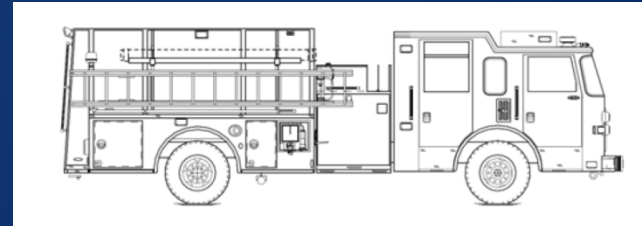
- Shall not enforce against an emergency vehicle up to a maximum of 86,000 pounds a limit less than –
 - 24,000 pounds on a single steering axle
 - 33,500 pounds on a single drive axle
 - 62,000 pounds on a tandem axle
 - 52,000 pounds on a tandem rear drive/steer axle



Emergency Vehicles

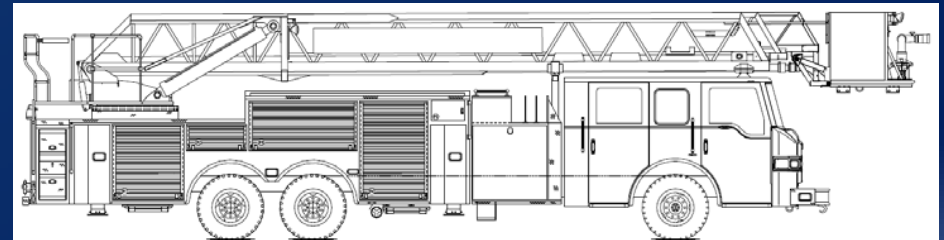
- Single Rear Axle Emergency Vehicle

- Front Single Axle: 24,000 pounds
- Rear Single Axle: 33,500 pounds
- Wheelbase: 15 ft.



- Tandem Rear Axle Emergency Vehicle

- Front Single Axle: 24,000 pounds
- Rear Tandem Axle: 62,000 pounds (two 31,000 pound axles spaced at 4 ft.)
- Wheelbase: 17 ft. (distance from front axle to the centerline of rear tandem axle)





Emergency Vehicles



Memorandum

Subject: **ACTION:** Load Rating for the FAST Act's
Emergency Vehicles Date: November 3, 2016

From: (Original signed by)
Joseph L. Hartmann, Ph.D., P.E.
Director, Office of Bridges and Structures In Reply Refer To: HIBS-1

To: Division Administrators
Federal Lands Highway Division Directors

On December 4, 2015, the President signed into law the *Fixing America's Surface Transportation Act* (FAST Act) (Pub. L. 114-94). Section 1410 of the FAST Act amended 23 U.S.C. 127, *Vehicle weight limitations—Interstate System*, by revising the weight limits for certain vehicles on the Interstate System. The purpose of this memorandum is to provide guidance on maintaining compliance with the load rating and posting requirements of 23 CFR Part 650—specifically for the amended weight limits in 23 U.S.C. 127(r), *Emergency Vehicles*, for bridges on the Interstate System and within reasonable access to the Interstate System. Reasonable access is defined in a September 30, 1992 Non-Regulatory Supplement to 23 CFR Part 658 as at least one-road-mile from access to and from the National Network of highways, which includes the Interstate System, or further if the limits of a State's reasonable access policy for food, fuel, repairs, and rest extend to facilities beyond one-road-mile.

An emergency vehicle as defined in the FAST Act is designed to be used under emergency conditions to transport personnel and equipment to support the suppression of fires and mitigation of other hazardous situations (23 U.S.C. 127(r)(2)). The gross vehicle weight limit for emergency vehicles is 86,000 pounds under section 127(r). The statute imposes the following additional limits, depending upon vehicle configuration:

- 24,000 pounds on a single steering axle
- 33,500 pounds on a single drive axle
- 62,000 pounds on a tandem axle
- 52,000 pounds on a tandem rear drive steer axle

Emergency vehicles are typically operated by fire departments and are primarily equipped for firefighting, but are also used to respond to and mitigate other hazardous situations in



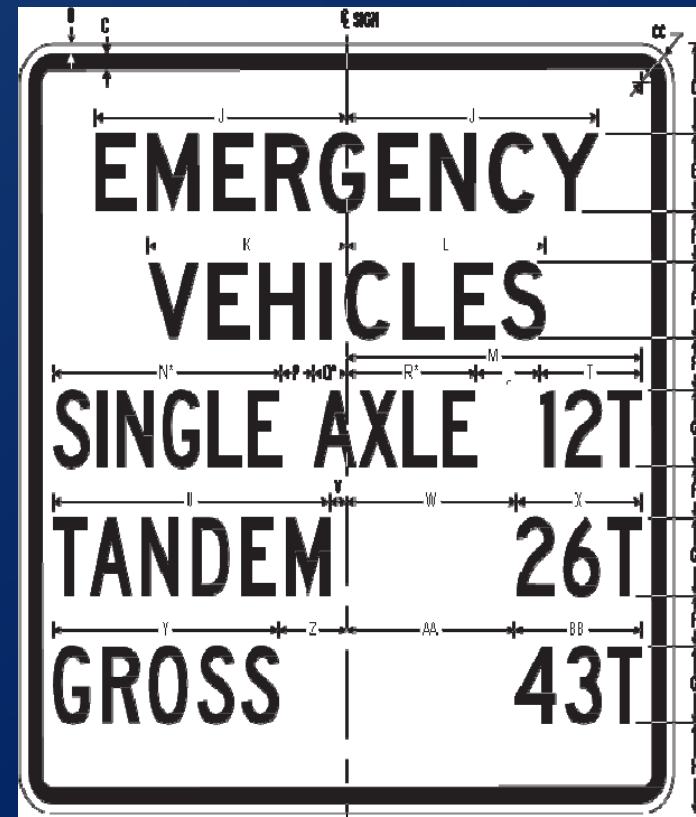
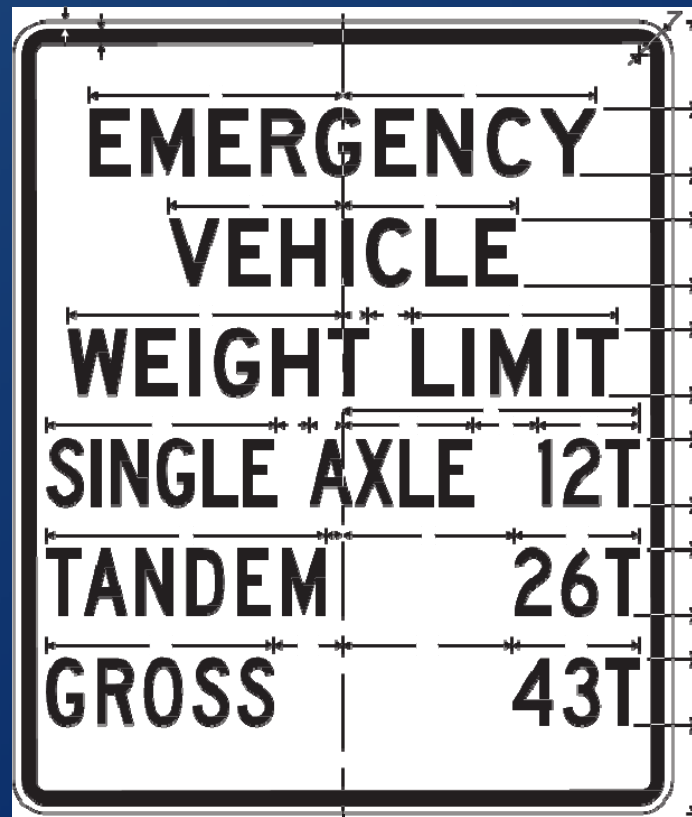
QUESTIONS AND ANSWERS

Load Rating for the FAST Act's Emergency Vehicles

Office of Bridges and Structures
Federal Highway Administration
1200 New Jersey Avenue, SE
Washington, DC 20590
March 2017

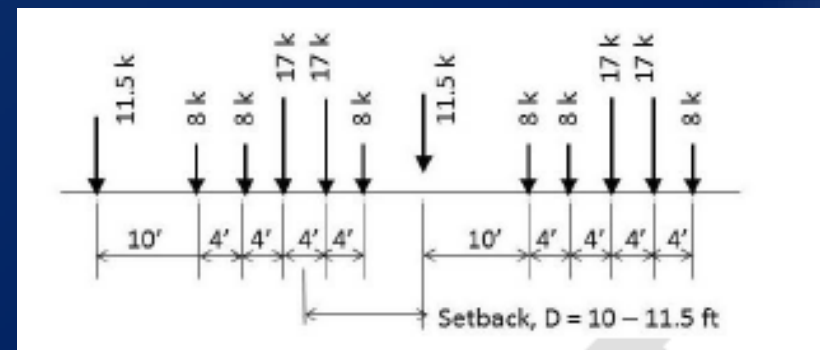


Emergency Vehicles





Covered Heavy-Duty Tow and Recovery Vehicles





Covered Heavy-Duty Tow and Recovery Vehicles

- Interstate vehicle weight limits to not apply
- A vehicle that is transporting a disabled vehicle from the place where it became disabled to the nearest appropriate repair facility, and
- Has a gross vehicle weight that is equal to or exceeds the gross vehicle weight of the disabled vehicle being transported



Study on Performance of Bridges

- FHWA shall commission TRB to conduct a study on the performance of bridges that received funding from IBRC
- Each State that received IBRC funds shall provide to TRB any relevant data needed to carry out this study



Changing the Language of the Federal-Aid Bridge Program

Goal...Eliminate Federally instituted but (to the uninformed) sometimes confusing, unclear, misleading or alarming terms from the language of bridge engineers!

This is language that has served us well and we have “owned” but recognize it does not translate well in a transparent world.

- Functionally Obsolete
- Sufficiency Rating
- Structurally Deficient
- Fracture Critical



~~Functionally Obsolete~~

- Legacy Term (MAP-21)
- Relies on 5 items from the NBI
- Still in some of our programs, guidance, etc. (SI&A) but the Federal-Aid program no longer uses it



~~Sufficiency Rating~~

- Legacy Term (MAP-21)
- Used as a means to apportion Highway Bridge Program Funding to States
- Still in some of our programs, guidance, etc. (SI&A) but the Federal-Aid program no longer uses it



~~Structurally Deficient~~

- No longer needed for funding apportionment, but still in law (bridge penalty provision)
- Bridge Performance Measures
- Poor – A condition rating of 4 or less for
 - Item 58, Deck; or
 - Item 59, Superstructures; or
 - Item 60, Substructures; or
 - Item 62, Culvert
- Structurally Deficient = Poor



Fracture Critical

- 23 CFR 650 (C): A steel member in tension, or with a tension element, whose failure would probably cause a portion of or the entire bridge to collapse.
- FHWA, AASHTO, AWS
- System Redundant Member
- Internally Redundant Member
- NBIS Update!



Changing the Language of the Federal-Aid Bridge Program

- ~~Sufficiency Rating~~
- ~~Functionally Obsolete~~
- ~~Structurally Deficient~~ —————> Poor
- Fracture Critical —————> NBIS Update



Recent NHI Additions

- 130056 *Safety Inspection of In-Service Bridges for PEs*
- 130081 *LRFD for Highway Superstructures*
- 130102/A *Engineering for Structural Stability in Bridge Construction*
- 130122 *Design and Evaluation of Bridges for Fatigue and Fracture*



National Tunnel Inspection Standards

- Initial Inspections Due, 08.13.2017
- Inspection Data Due, 03.15.2018
- NTIS Assessment Metrics
 - Implemented in 2018
 - Mini-pilot this summer with CO, MA, & MI
 - Seek review/comment from SCOBS
 - Publish in Federal Register



FHWA Role in AASHTO

- As of August 2017, FHWA will no longer formally fill Secretary roles
- FHWA will designate an appropriate liaison for AASHTO committees
- Actively engage with the committee members to advance mutual interests



December 15, 1967

Point Pleasant Bridge (Silver Bridge) Collapse





History of NBIS

- Congressional Order – Secretary shall work with the States to develop a national-level bridge safety inspection program
- Federal-Aid Highway Act of 1968
- Regulation implemented in 1971
 - 1978...Extended to all bridges
 - 1980...NBI added
 - 1987...FC and UW inspection added
 - 1993...Corrective action for Critical Findings
 - 2005...Qualifications for PMs and TLs



August 1, 2007

I-35W Bridge Collapse





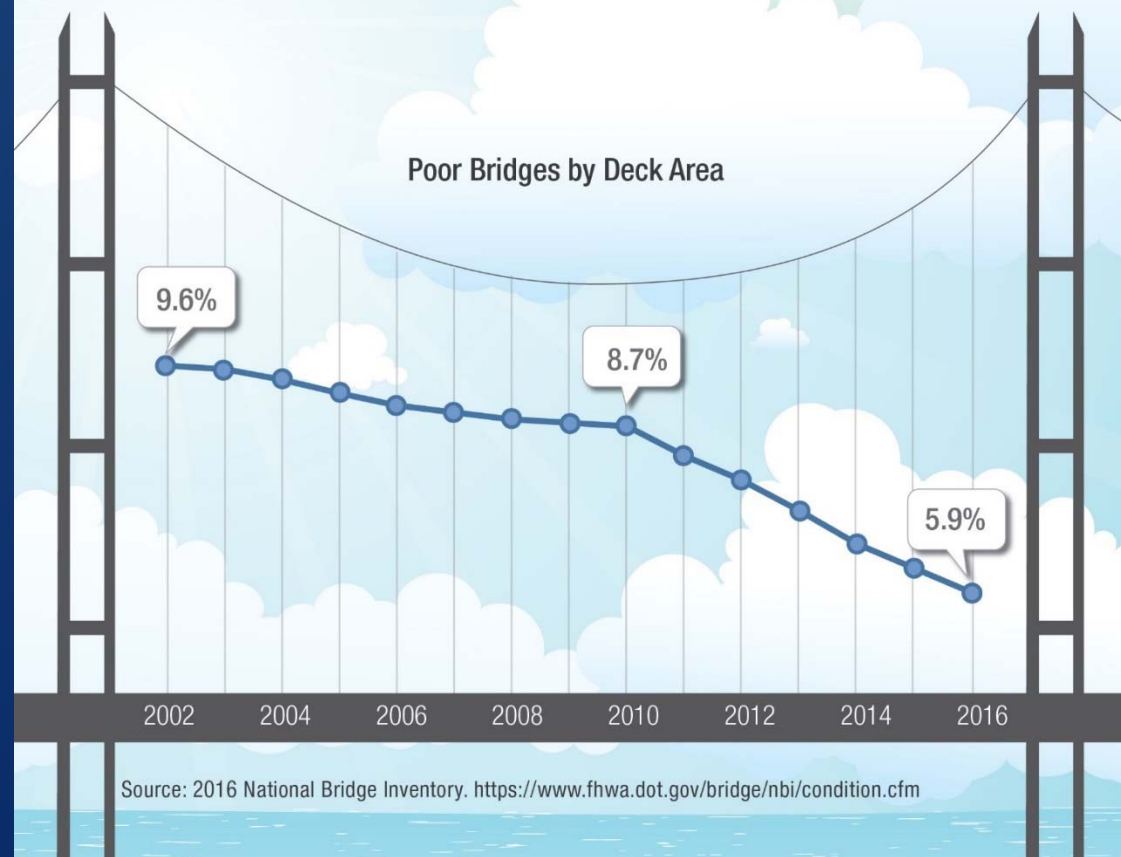
Post I-35W

- Renewed focus on...
 - Load ratings
 - Inspection technologies
 - Bridge conditions
- Risk-based, data driven...
 - Compliance assessments
 - Inspection intervals [coming soon!]



PERCENT OF BRIDGES IN POOR CONDITION IS DECREASING

Surface area of U.S. bridges rated Poor has decreased by 3.7 percentage points since 2002



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Questions?

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