

# Moving Ahead for Progress in the 21<sup>st</sup> Century Act – MAP-21

## **Michigan Bridge Conference**

### **March 20, 2013**

### **Cleary University, Howell, MI**

**Mark G. Lewis, P.E.**

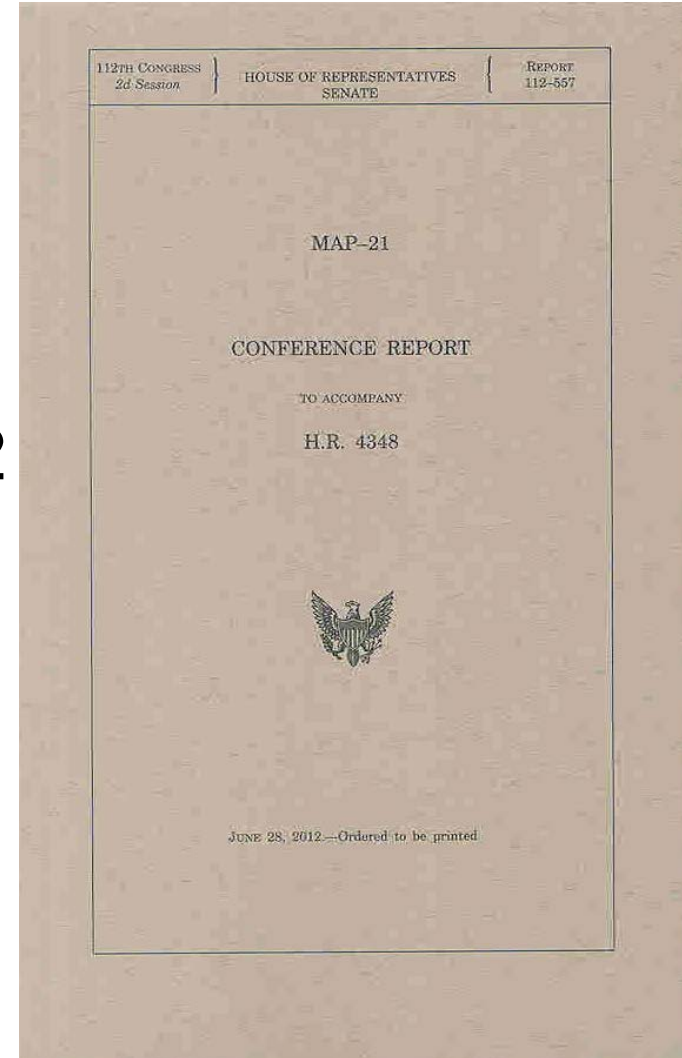
**Federal Highway Administration**

**Michigan Division**



# MAP-21

- H.R.4348
- Signed by President July 6, 2012
- 2 year Bill (2013 & 2014)
- Effective date: October 1, 2012



# MAP-21 Resources for Information

- <http://www.fhwa.dot.gov/map21/>

U.S. Department of Transportation  
Federal Highway Administration

Search FHWA

ABOUT WHAT WE DO PROGRAMS RESOURCES BRIEFING ROOM CONTACT US

Home > MAP-21

## MAP-21

### Moving Ahead for Progress in the 21st Century

Summary

Q & A

Fact Sheets

Presentations

Legislation

Funding Tables

Webinars

MAP-21, the Moving Ahead for Progress in the 21st Century Act (P.L. 112-141), was signed into law by President Obama on July 6, 2012. Funding surface transportation programs at over \$105 billion for fiscal years (FY) 2013 and 2014, MAP-21 is the first long-term highway authorization enacted since 2005.

MAP-21 is a milestone for the U.S. economy and the Nation's surface transportation program. By transforming the policy and programmatic framework for investments to guide the system's growth and development, MAP-21 creates a streamlined and performance-based surface transportation program and builds on many of the highway, transit, bike, and pedestrian programs and policies established in 1991.

Recently Added

- [Q & A](#)
- [Fact Sheets](#)

U.S. Department of Transportation  
Federal Highway Administration

Privacy Policy | Freedom of Information Act (FOIA) | Accessibility | Web Policies & Notices | No Fear Act | Report Waste, Fraud and Abuse  
U.S. DOT Home | USA.gov | WhiteHouse.gov

Federal Highway Administration | 1200 New Jersey Avenue, SE | Washington, DC 20590 | 202-366-4000



# MAP-21 Highlights

1. Reauthorizes the Federal-Aid Highway Program for 2 fiscal years
2. Consolidates Fed. programs from ~90 down to ~30
3. Eliminates earmarks
4. Accelerates program delivery
5. Promotes innovation
6. Requires Asset Management processes
7. Performance measures and targets



# MAP-21 Enhanced NHS (Sec. 1104)

- Expands the NHS from ~165,000 to ~220,000 miles of rural and urban roads serving major population centers, international border crossings, intermodal transportation facilities, and major travel destinations.
- It includes:
  - The Interstate System.
  - All principal arterials and border crossings on those routes.
  - Intermodal connectors -- highways that provide motor vehicle access between the NHS and major intermodal transportation facilities.
  - STRAHNET and connectors to major military installations.

– [http://www.fhwa.dot.gov/planning/national\\_highway\\_system/nhs\\_maps](http://www.fhwa.dot.gov/planning/national_highway_system/nhs_maps)

[http://mdotwas1.mdot.state.mi.us/public/maps\\_nfc](http://mdotwas1.mdot.state.mi.us/public/maps_nfc)



# MAP-21 Enhanced NHS (Sec. 1104)

15 Counties (and 55 Municipalities) in Michigan have Enhanced NHS Routes

Berrien

Macomb

Calhoun

Muskegon

Genesee

Oakland

Ingham

Ottawa

Jackson

Saginaw

Kalamazoo

Washtenaw

Kent

Wayne

Livingston



# MAP-21 APPORTIONMENT (Sec 1105)

- Apportioned to states based on total Federal apportionment in 2012
- Process differs from 2013 and 2014
- Adjusted for minimum tax payments into the trust fund (95% minimum)
- Can transfer up to 50% among programs (SEC 1509)



# MAP-21 APPORTIONMENT (Sec 1105)

- Four primary programs
  - National Highway Performance Program
  - Surface Transportation Program
  - Highway Safety Improvement Program
  - Congestion Mitigation and Air Quality Improvement Program
- Funding for these programs
  - \$37.5 billion in 2013
  - \$37.8 billion in 2014





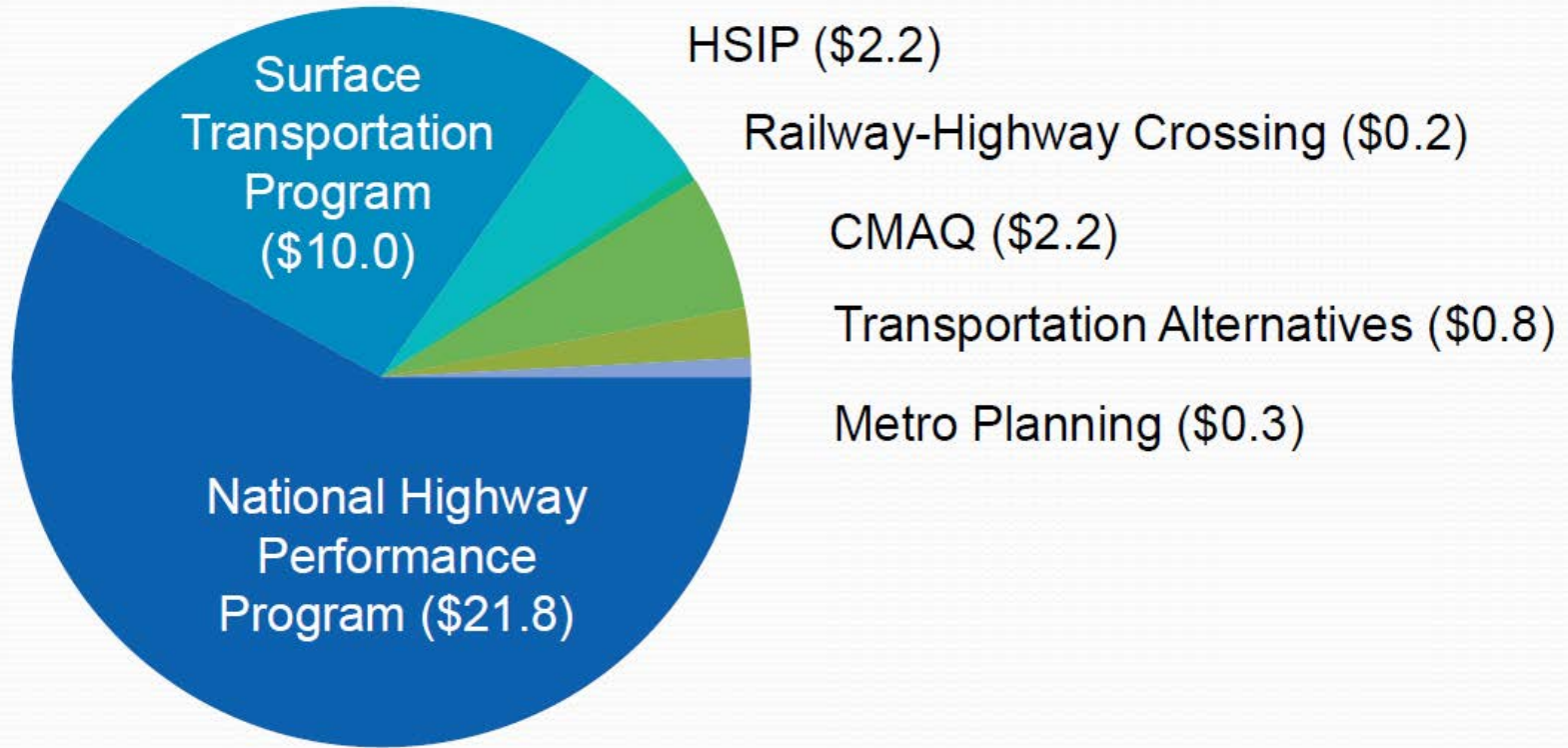
# MAP-21 APPORTIONMENT (Sec 1105)

- Apportionment process
  - Determine amount for CMAQ and Metropolitan Planning following process in law
  - From the remaining amount...
    - 63.7% for NHPP
    - 29.3% for STP
    - 7% for HSIP



# MAP-21 APPORTIONMENT (Sec 1105)

## \$37.7 billion/year in formula funding



Note: Amounts in \$ billions; individual program amounts do not add exactly to total due to rounding



# MAP-21 APPORTIONMENT (Sec 1105)

## Michigan

NHPP	594,508,308
STP	273,455,156
HSIP	57,916,501
Railroad Crossings	7,414,082
CMAQ	74,109,801
Metropolitan Planning	<u>10,048,127</u>
	<b>\$1,017,361,975</b>



# Program Structure

MAP-21	SAFETEA-LU
National Highway Performance Program (NHPP) Sec. 1106	NHS, IM, & Bridge (portion)
Surface Transportation Program (STP) Sec. 1108	STP & Bridge (portion)
Congestion Mitigation & Air Quality Improvement Program (CMAQ)	CMAQ
Highway Safety Improvement Program (HSIP)	HSIP (including HRRR)
Railway-Highway Grade Crossing (HSIP)	Railway Highway Grade Crossing
Metropolitan Planning	Metropolitan Planning
Transportation Alternatives (Set-aside from NHPP, STP, HSIP, CMAQ, and Metro Planning)	Transportation Enhancements, Recreational Trails, and Safe Routes to Schools



# MAP-21 FOR BRIDGES and tunnels

## National Highway Performance Program (SEC 1106)

- Purpose:
  1. To provide support for the construction of new facilities on the NHS
  2. To provide support for the condition and performance of the National Highway System
  3. To ensure investments of Federal-aid funds in highway construction are directed to support progress toward the achievement of performance targets established in an asset management plan of a State for the NHS.



# MAP-21 FOR BRIDGES and tunnels

## National Highway Performance Program (SEC 1106)

- Includes bridges and tunnels on the NHS
  - Eligible - construction, replacement (including with fill), rehabilitation, preservation, protection, inspection, evaluation, inspector training
  - NEW TERM – **Protection** – scour countermeasures, seismic retrofits, impact protection, security, extreme events
- Includes inspection and evaluation of other infrastructure assets (signs, walls, drainage structures)



# MAP-21 FOR BRIDGES and tunnels

## National Highway Performance Program (SEC 1106)

- Includes costs associated with obtaining, updating, and licensing software and equipment required for Asset Management
- Asset Management plan must include:
  - *a summary listing of pavement and bridge assets on the NHS, including a description of their conditions*
  - *Asset management objectives and measures set by states, in line with national goals*
  - *Performance gap identification*
  - *Life cycle cost and risk management analysis*
  - *A financial plan*
  - *Investment strategies*



# MAP-21 FOR BRIDGES and tunnels

*‘ASSET MANAGEMENT.— means a strategic and systematic process of operating, maintaining, and improving physical assets, with a focus on both engineering and economic analysis based upon quality information, to identify a structured sequence of maintenance, preservation, repair, rehabilitation, and replacement actions that will achieve and sustain a desired state of good repair over the lifecycle of the assets at minimum practicable cost.’*





# MAP-21 FOR BRIDGES and tunnels

## National Highway Performance Program (SEC 1106)

### – Timing of actions

- 18 months after October 1<sup>st</sup> - Secretary to issue regulations defining the process for developing an asset management plan
- 18 month transition period beyond publication of final rule (12 months for States + 6 month for MPO's)
- Total = 36 months



# MAP-21 FOR BRIDGES and tunnels

National Highway Performance Program (SEC 1106)

- Penalties
  - If *no* approved **Asset Management plan**, Federal share is 65%
  - Bridge: if more than 10% of the **deck area** on NHS bridges is structurally deficient for the prior 3 years;
    - 50% of 2009 Highway Bridge Program apportionment equals the amount that must go to bridges on the NHS under the NHPP



# MAP-21 FOR BRIDGES and tunnels

National Highway Performance Program (SEC 1106)

- **When will the bridge condition penalty under section 1106 (23 U.S.C. 119(f)(2)) be applied?**
  - In order to allow the States three complete years under the NHPP as required by 119(f)(2), FHWA will examine bridge condition data submitted by the states in April 2014, 2015, and 2016. If the deck area on structurally deficient NHS bridges exceeds **10** percent for all *three* years, the penalty will be imposed on October 1, 2016 (the start of FY 2017).



# MAP-21 FOR BRIDGES and tunnels

## Surface Transportation Program (SEC 1108)

- Applicability: includes bridges and tunnels on public roads of all functional classifications (different than roads)
- Eligibility: construction of new bridge or tunnel on a Federal-aid Highway, replacement (including with fill material), rehabilitation, preservation, protection, application of de-icing chemicals, inspection, evaluation, inspector training



# MAP-21 FOR BRIDGES and tunnels

## Surface Transportation Program (SEC 1108)

– Also includes...

- construction or reconstruction necessary to accommodate *other* transportation modes
- costs associated with obtaining, updating, and licensing software and equipment required for Asset Management
- inspection and evaluation of *other* infrastructure assets (signs, walls, drainage structures)



# MAP-21 FOR BRIDGES and tunnels

## Surface Transportation Program (SEC 1108)

- 15% of 2009 Highway Bridge Program apportionment set aside for **bridges not on Federal-aid highways**
  - waiver still allowed when a State has “inadequate needs”



# MAP-21 FOR BRIDGES and tunnels

## National Bridge and Tunnel Inventory and Inspection Standards Program (SEC 1111)

- (a)(2)(B) Congress declares it is in the vital interest of the United States to use a data-driven, risk based approach and cost-effective strategy for systematic preventative maintenance, replacement, and rehabilitation of highway bridges and tunnels to ensure safety and extended service life (through an overall asset management approach to transportation investment.)



# MAP-21 FOR BRIDGES and tunnels

## National Bridge and Tunnel Inventory and Inspection Standards Program (SEC 1111)

- (a)(2)(C) use performance based bridge management systems
- (b)(1)&2 Establish tunnel inspection standards and an inventory





# National Bridge and Tunnel Inventory and Inspection Standards Program (SEC 1111 cont.)

- The Secretary, in consultation with the States and Federal agencies with jurisdiction over highway bridges and tunnels, shall:
  - (b)(3) classify the bridges according to serviceability, safety, and essentiality for public use, including the potential impacts to emergency evacuation routes and to regional and national freight and passenger mobility if the serviceability of the bridge is restricted or diminished



# MAP-21 FOR BRIDGES and tunnels

- National Bridge and Tunnel Inventory and Inspection Standards Program (SEC 1111)
  - (b)(4) based on that classification, assign each a risk-based priority for systematic preventative maintenance, replacement, or rehabilitation;
  - (b)(5) Determine cost of rehabilitating or replacing each SD bridge
  - (d)(2&4)Element level data:
    - **NHS Bridges:** Issue guidance and begin collecting element level data within 2 years of enactment
    - **non-NHS bridges:** Study cost-effectiveness, benefits, and feasibility of collecting element level data and report results to Congress



# MAP-21 FOR BRIDGES and tunnels

- National Bridge and Tunnel Inventory and Inspection Standards Program (SEC 1111)
  - (h)(1)(A) Establish and maintain inspection standards for *bridges* and *tunnels*
  - (h)(2) *Minimum Requirements of Inspection Standards*
    - Specify method for carrying out inspections
    - Establish max time between inspections
    - Establish qualifications
    - Require written reports and inventory data
    - Establish a procedure for **National Certification of highway bridge and tunnel inspectors**



# MAP-21 FOR BRIDGES and tunnels

- National Bridge and Tunnel Inventory and Inspection Standards Program (SEC 1111)
  - (h)(3)(A) Establish procedures to conduct reviews of State compliance
  - (h)(3)(B) Establish procedures for States to report critical findings and monitor corrective actions
  - Requirement to conduct annual compliance reviews and:
    - Issue a report with review results by December 31<sup>st</sup>
    - Implement “penalty” if no resolution or plan of corrective actions within 45 days



# MAP-21 FOR BRIDGES and tunnels

- National Bridge and Tunnel Inventory and Inspection Standards Program (SEC 1111)
  - Update the Inspection Standards within 3 years to cover
    - Methodology, training, and qualifications
    - Frequency of inspection
    - Consider *risk-based* approach to setting inspection intervals
  - Maintain a bridge and tunnel inspection training program
    - Keep training up-to-date
    - Need to develop training program for tunnel inspectors



# MAP-21 FOR BRIDGES and tunnels

- National Goals and Performance Management Measures (**SEC 1203**)
  - 7 national goal areas defined in law
    - Infrastructure condition – maintain a state of good repair
  - within 18 months after enactment – promulgate rulemaking to “*establish performance measures and standards.*”
  - 12 months after the rule, states set their targets
    - Targets can differ for rural and urban areas



# MAP-21 FOR BRIDGES and tunnels

- National Goals and Performance Management Measures (SEC 1203)
  - Targets for bridges, limited to standards and measures for bridge conditions on the NHS
  - Establish minimum standards for States to use in developing and operating bridge and pavement management systems
    - Note: 23 U.S.C. 303 Management Systems was repealed
- 4 years after enactment and biennially thereafter, states report on conditions and progress

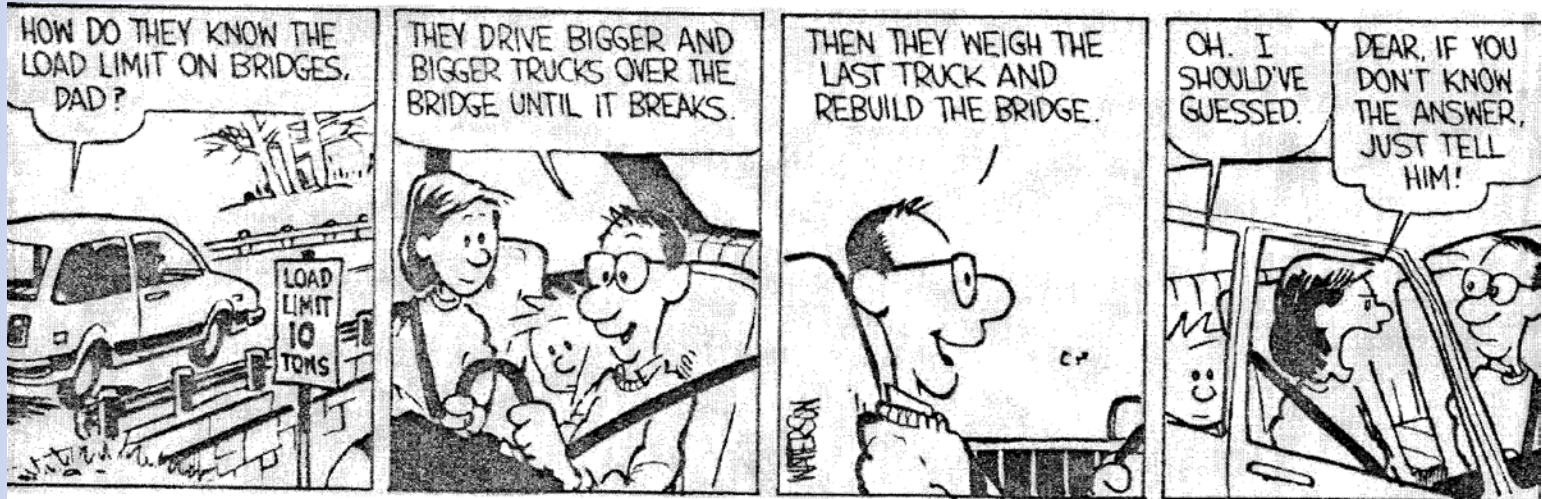


- ***You can visit the new FHWA Transportation Performance Management website at: <http://www.fhwa.dot.gov/tpm/>.***
- ***You can track Notice of Proposed Rule Makings at: <http://www.regulations.gov/#!/home;tab=search>***





# Questions?



# NBI of the Future: Vision

*“A NBI that accurately reflects the condition and performance of our nation’s highway bridges”*

From: The National Bridge Inventory of the Future, Vision, Goals, Stakeholders, Primary Actions Needed Paper



# NBI Coding Guide: Goals

- Advance the NBI
  - 1) Through, quality data...
  - 2) Incorporates data that provides for:
    - a) support of the *data driven, risk based* NBIP oversight process;
    - b) develop and use of effective *performance measures*;
    - c) support for National level *analysis*
  - 3) Improved *timeliness* ...



# NBI Coding Guide: Criteria

The following criteria will be used to guide this effort.

- a) ensure highway bridge safety;
- b) allow for monitoring of NBIS;
- c) accommodate reporting to Congress (e.g. C&P, bridge materials reports, etc.);
- d) provide adequate and beneficial information during times of emergency;



# NBI Coding Guide: Criteria

- e) provide data necessary for the FHWA to run the HBP;
- f) utilize data from existing management systems to the maximum extent possible (not just Pontis);
- g) share as much information as possible from other data sources (e.g., HPMS)

Also, Data collection burden needs to be a consideration...



# NBI Coding Guide: Tasks

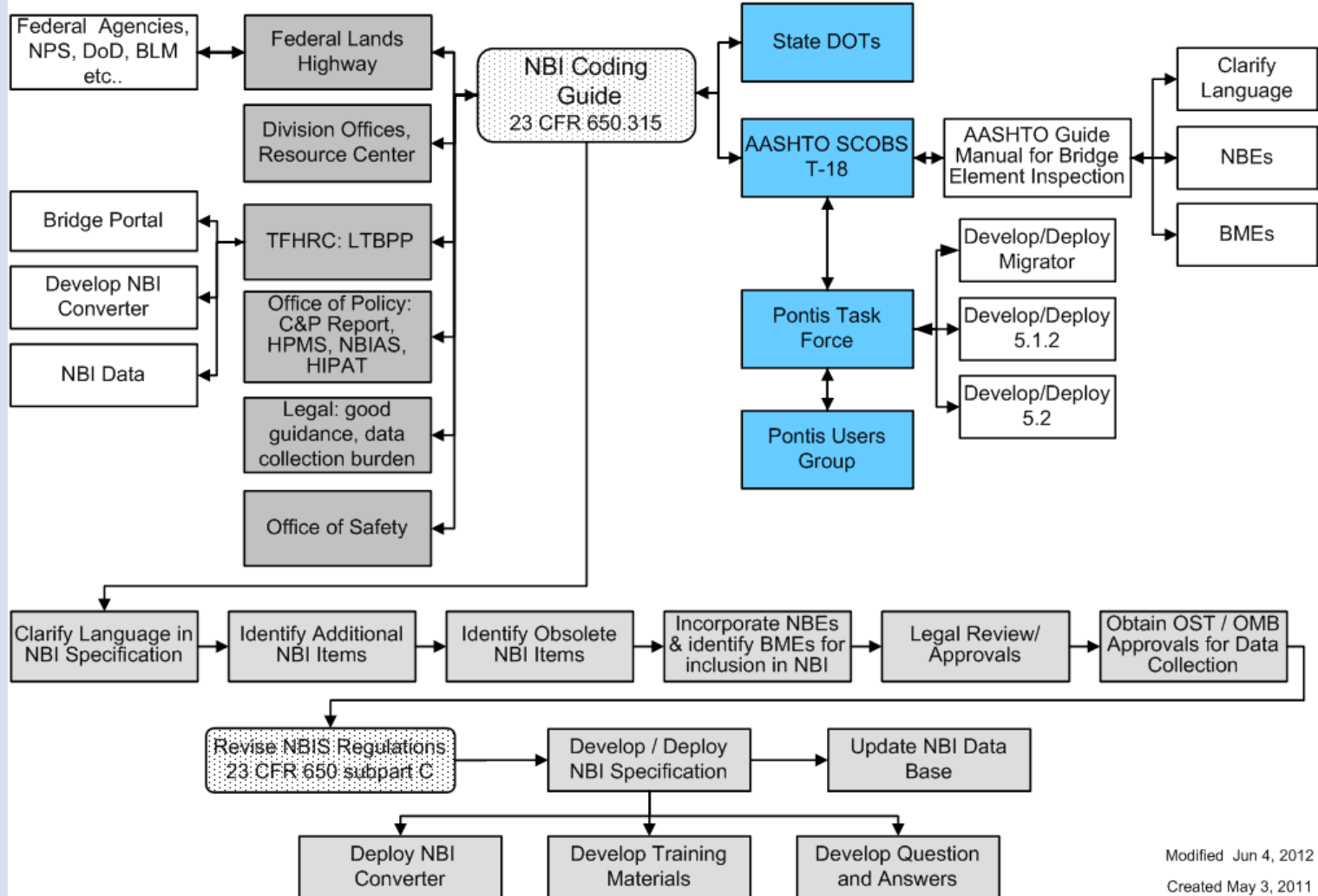
- Update the NBICG addressing previously mentioned goals
- Identify and incorporate bridge element data into the NBI
- Seek assistance from T-18 in reviewing the draft document(s)
- Establish in-house expert for NBI item numbers, NBE and BMEs and determine needs for Information
- Develop an implementation strategy
- Publish NBI spec



# NBI Spec Development: Plan

## Proposed NBI Specification Development

<-Internal Stakeholders [Federal] / External Stakeholders [State]->



Modified Jun 4, 2012

Created May 3, 2011



# NBI Coding Guide: FHWA Team

- Wade F. Casey, HQ (Team Lead)
- Larry O'Donnell, Resource Center
- Ann Shemaka, HQ
- Dennis O'Shea, DelMar Division Office
- Derek Soden, Resource Center



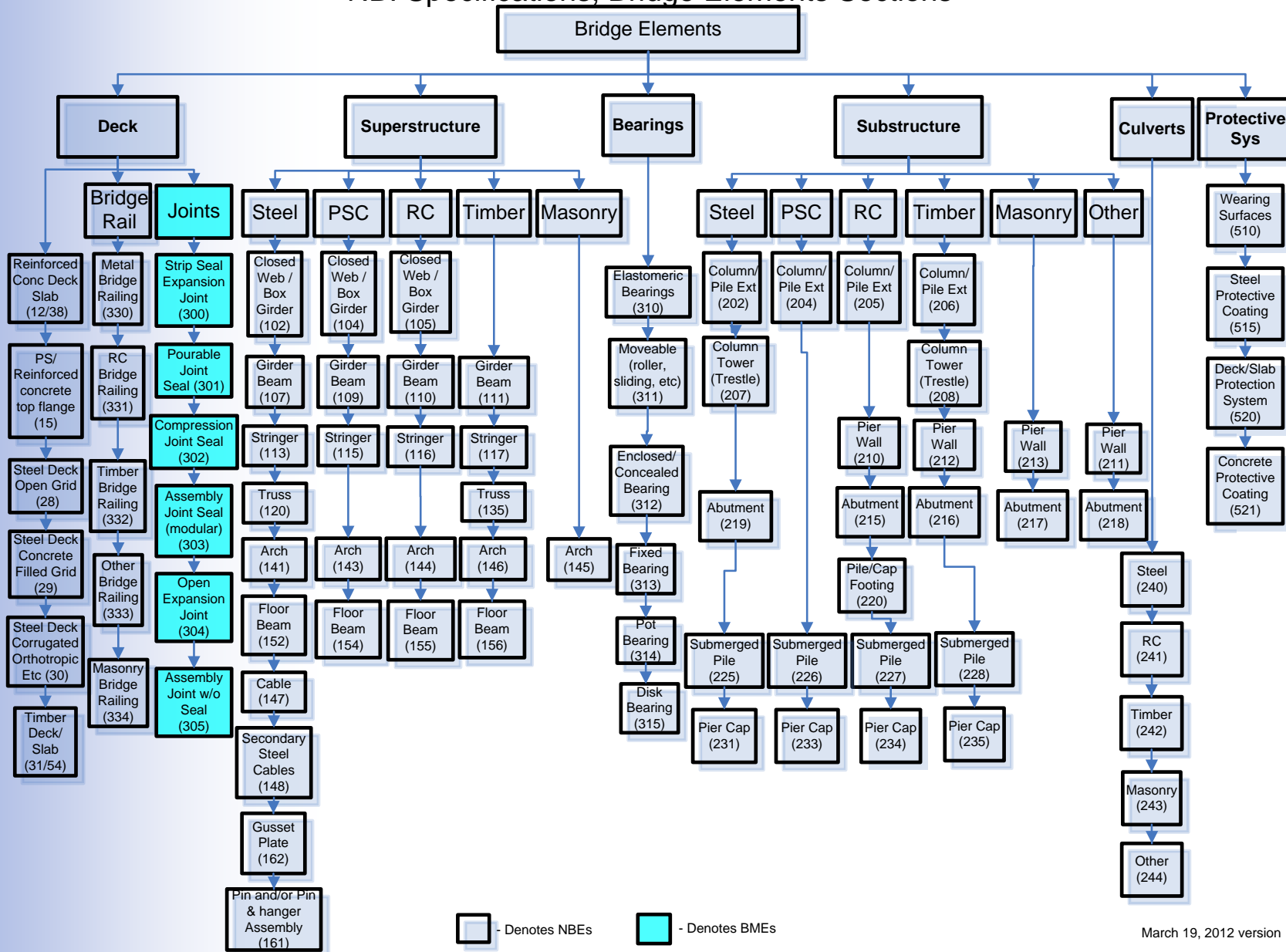


# NBI of the Future: Transition

- Transition bridge condition reporting requirements from the current general component condition rating system to the element level condition state rating system
- Collect – element data for NHS bridges



# NBI Specifications, Bridge Elements Sections



□ - Denotes NBEs

■ - Denotes BMEs

March 19, 2012 version



# NBI coding guide update: status

- FHWA team formed in fall 2011
- Reviewing 2,007 comments on year 2006 draft
- Obtained input from other Federal stakeholders
- Review of sections by AASHTO SCOBS T-18
  - Identification Section complete
  - Structure Type and Material Section complete



# NBI coding guide update: status

- What's next?
  - ❑ Bridge Element Section
- Target date for implementation: FY 2015
  - ❑ Lots of factors could influence this

