FHWA Update

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Federal Highway Administration
FHWA

J. Richard (Rick) Capka
Former Administrator

James Ray
Acting Administrator
AASHTO/FHWA Wave Task Force

- PI: Modjeski and Masters, Inc
- Ocean Engineering Assoc., Inc
- Moffatt & Nichol, Inc
- Prof. Dennis Mertz

- State DOTs:
  - Greg Perfetti, NC (chair)
  - William Nickas, FL (past chair)
  - Bruce Johnson, OR
  - Mark Miles, AK (past member)
  - Kevin Flora, CA
  - Susan Hida, CA
  - Rick Renna, FL
  - Hossein Ghara, LA
  - Mitchell Carr, MS
  - Dave Henderson, NC

- FHWA:
  - Tom Everett, (vice-chair)
  - Firas Ibrahim
  - Joe Krolak
  - Jerry DiMaggio
  - Sheila Duwadi
  - Kornel Kerenyi
  - Shoukry Elnahal

- Academia:
  - Spencer Rogers, NC Sea Grant
  - Robert Dalrymple, Hopkins U
  - David Kriebel, U.S. Naval Academy
Products of Task Force

- Guide Specifications for Bridges Vulnerable to Coastal Storms
- Handbook of Retrofit Options for Bridges Vulnerable to Coastal Storms
FHWA Analytical Study Update
(I-35W Bridge Computer Model)

- First generation model matches original details
- Second generation model represents condition of the bridge at the time of failure.
- Model capable of non-linear stress and buckling analysis
Gusset Plate Material

![Graph showing stress-strain relationship](image)
U10 Node from FHWA Analytical Model

Failure mode matches evidence in wreckage
Proposed Research on Gusset Plates

- Joint AASHO and FHWA Study

**Objective:**
- Guidelines for the LRFD and LRFR of Gusset-Plate Connections

**Main Tasks:**
- Perform Analytical Study
- Conduct large scale tests
- Develop guidelines
Government Accountability Office

- Short term review of Minnesota bridge reconstruction
  - project moving along well and quickly
  - Agreement from requesters to focus on longer-term
- Longer-term review of DOT’s programs for bridge inspection, repair and rehabilitation, and construction
  - Six site visits to FHWA Division Offices and State DOT’s.
  - Analyzing NBI data
What is the condition of the Nation’s bridges?

What is FHWA’s role in improving and monitoring bridge conditions?

What incentives are there for States to maintain and improve the condition of bridges?

What processes are used by the States in selecting and prioritizing bridge projects?

What is FHWA’s role in the process?

Publicly available report in September.
Office of Inspector General

- Determine if the current federal program delivers the highest level of bridge safety.
- Make recommendations for future changes to the program.

Actions by OIG thus far:
- Field visits and phone interviews with FHWA Offices and State DOT’s.
- Information collection is complete.
Office of Inspector General

- **Reporting Schedule:**
  - **Phase I** – By May 31, 2008: FHWA’s action on OIG’s March 2006 report on “Load Rating and Posting of Structurally Deficient Bridges.”
  - **Phase II** – By September 30, 2008: States effective and efficient use of Federal-aid funds to repair or replace structurally deficient bridges.
  - **Phase III** – By December 31, 2008: FHWA’s oversight activities to ensure the safety of the NHS Bridges across the country.
MSNBC Articles by Mr. Bill Dedman

- Part 1: Thousands of Bridges Inspected Late
- Part 2: Feds Let States Delay Bridge Inspection
Mr. Bill Dedman’s FOIA Requests

- **FOIA Request 1**
  - Annual NBIS Review Reports for 3 recent years
  - Copy of FHWA Bridge Program Manual
  - Any Updates of the Manual

- **FOIA Request 2**
  - All memos from King Gee and Myint Lwin
    - On any subject
    - To all recipients
  - All e-Mails from July 31 thru February 28
    from King Gee, Myint Lwin, Tom Everett and his team
## Reauthorization

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Reauthorization

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<tr>
<th>SAFETEA-LU</th>
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<tr>
<td><strong>What we asked for</strong></td>
<td><strong>What we got</strong></td>
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<tr>
<td>Add Systematic Preventive Maintenance as an eligible activity</td>
<td>Got what we asked for.</td>
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<tr>
<td>Flexibility to carry out systematic preventive maintenance, seismic retrofit and scour countermeasure</td>
<td>Got what we asked for.</td>
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<td>IBRC Program at $34M per year</td>
<td>IBRD Program at $13.1M per year</td>
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<td>HPS Bridge Research and Technology Transfer at $4.1M per year</td>
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Reauthorization

- Ensure a healthy and sustainable highway infrastructure:
- Revisions to the Highway Bridge Program:
  - Strengthen the HBP
  - Steadily reduce the population of structurally deficient highway bridges
  - Integrate high-performance materials into an effective research and deployment program
- Develop and Implement an effective National Tunnel Inspection Program
IBRD Program

- **FY2006 @ $5.3 M**
  - Awarded 29 projects to 25 States
  - Innovative bridge technologies

- **FY2007 @ $5.1 M**
  - Awarded 1 project to 1 State
  - Innovative techniques in Congestion Mitigation

- **FY2008 Congress rescinded program funds**

- **FY2009 Solicitation for applications will be out soon**
Safe, Reliable and Efficient Bridges

- Structural Deficient and Functional Obsolete:
- Neither type of deficiency indicates that a bridge is unsafe.
- SD means there are elements of the bridge that need to be monitored and/or repaired.
- “Deficient” does not imply that it is likely to collapse or that it is unsafe.
- It means they must be monitored, inspected and maintained.
Major corrosion of strands before collapse
Surprise!

2005 ½”
Oct. 2, 2007 ¾”
Mar 7, 2008 2”
FHWA DA Spring Meeting

- Risk Management Exercise:
  - Bridge Inspection
  - Bridge Construction Quality
  - Bridge Load Rating
Surprise!
The FHWA SDB Support Team

- **Purpose:** Assist bridge owners to identify critical findings and take corrective measures.
- **Scope of Work:** Focus on structurally deficient bridges in the NHS or IHS
- **Size of Team:** 2 teams with 3 members each (2 FHWA + 1 State)
- **Outcomes:** Avoid surprises!
- **Services:** At the request of the bridge owners.
- **Availability:** Immediately for 2 years.
Exemplary State Bridge Programs

- Oregon’s Bridge Rehab/Replacement Program – 500 bridges
- Missouri’s Safe and Sound Bridge Program – 802 bridges
- Massachusetts’ Accelerated Bridge Repair Program – 300 bridges
- Maine’s “Keeping Our Bridges Safe” Programs – 300 bridges
Working Together
Let’s Keep America Moving
Safely, Reliably and Efficiently