



**National Bridge Management, Inspection and
Preservation Conference**
**Managing The Nation's Bridges
Beyond The Short Term**

November 2, 2011

Malcolm T. Kerley, PE,

Chief Engineer, Virginia DOT

Chair, AASHTO Subcommittee on Bridges and Structures

PRESENTATION OUTLINE

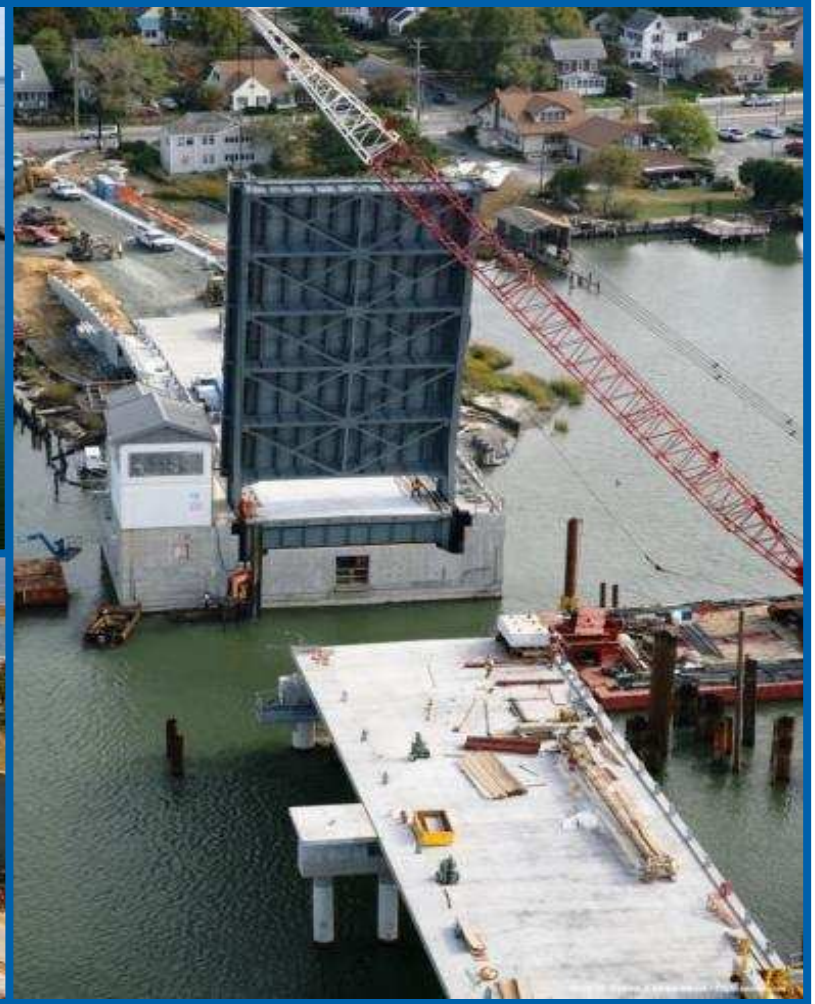
AASHTO

TECHNICAL TRACKS

PRESENT/FUTURE IMPACTS

CHALLENGES

CHINCOTEAGUE BRIDGE ROUTE 175 EASTERN SHORE



American Association of State Highway and Transportation Officials (AASHTO)

Membership:

State Highway Departments/Agencies

Puerto Rico

District of Columbia

U.S. DOT (FHWA) (non voting):

Includes Secretary and Assistant

Secretary (also Ex-Officio

Technical Committee Liaisons)

Associate Members (non voting)

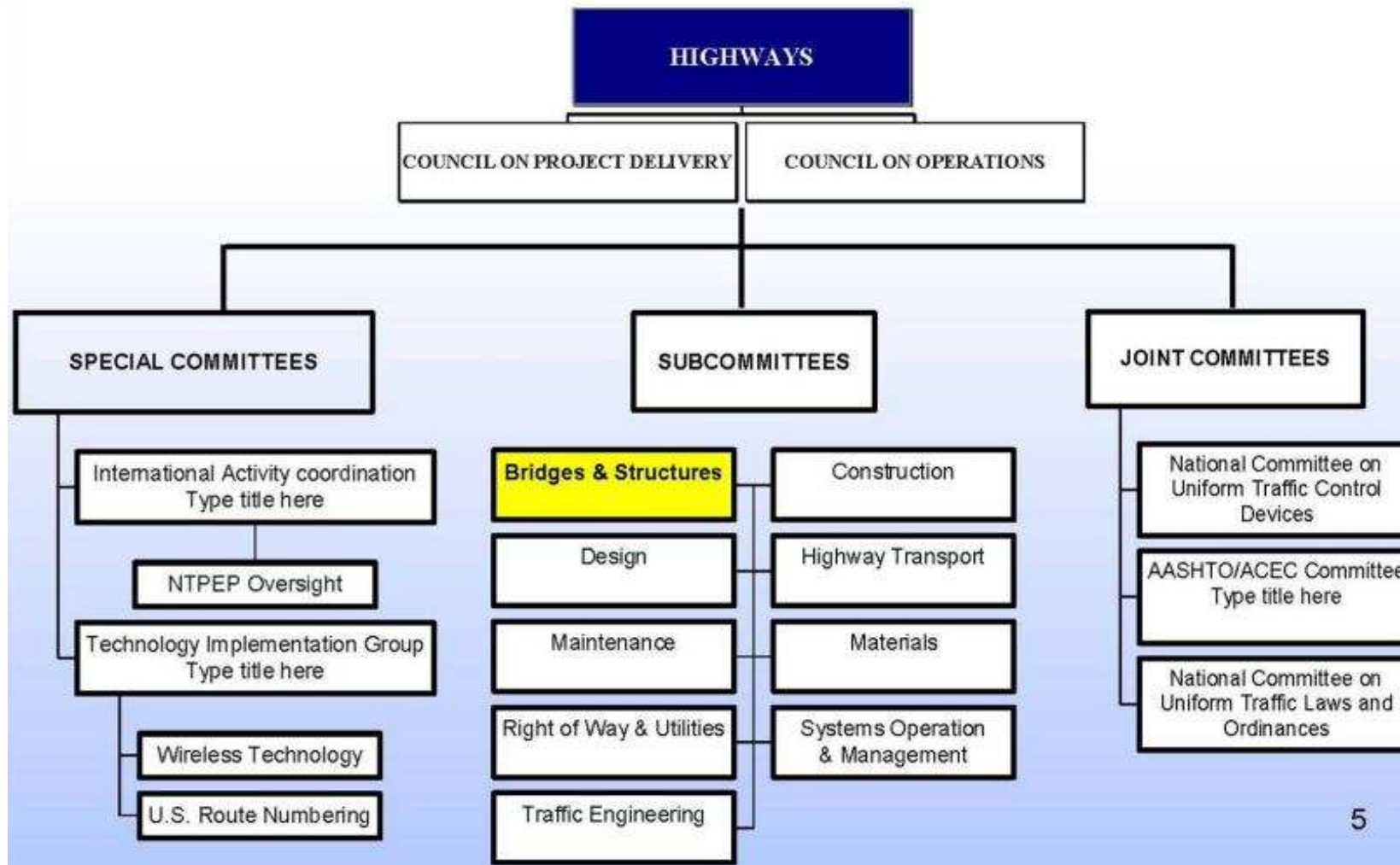
AASHTO Organization



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SUBCOMMITTEE ON BRIDGES AND STRUCTURES RESPONSIBILITIES

Develop and maintain

Major engineering standards

Specification and principles pertaining to highway and pedestrian bridge and structural design, construction and maintenance

Geometric Standards

Standards for rating and evaluating highway and pedestrian bridges

Make recommendations for testing and investigating existing and new materials of construction

Determine needs and areas for research and study

MEMBERSHIP

Members appointed by the CAO or designated individual of the member departments

Member department may nominate up to three members.

Total Members: 96 Voting Members: 52

Only one vote is permitted from each member department on Subcommittee ballots. (35 votes needed to pass policy)

Members may serve as active members of technical and liaison committees

FHWA – Secretary and Assistant Secretary

TECHNICAL COMMITTEES

T-1 Bridge and Tunnel Security

T-2 Bearings and Expansion Devices

T-3 Seismic Design

T-4 Construction

T-5 Loads and Load Distribution

**T-6 Fiber Reinforced Polymer
Composites**

T-7 Guardrail and Bridge Rail

T-8 Movable Bridges

T-9 Bridge Preservation

T-10 Concrete Design

T-11 Research

**T-12 Structural Supports for Signs,
Luminaries, and Traffic Signals**

T-13 Culverts

T-14 Structural Steel Design

**T-15 Substructures and Retaining
Walls**

T-16 Timber Structures

T-17 Welding

**T-18 Bridge Management, Evaluation
and Rehabilitation**

T-19 Computers

T-20 Tunnels

Key Technical Committees

T-9 Bridge Preservation

Chair - Bruce Johnson (Oregon)

Definition of Bridge Preservation

Action or strategies that prevent, delay or reduce deterioration of bridges, keep bridges in good condition and extend their useful life. Preservation actions may be preventive or condition driven.

T-18 Bridge Management, Evaluation and Rehabilitation

Chair – Matt Farrar (Idaho)

New AASHTO Bridge Element Inspection Manual

Gilmerton Bridge Project



Bridge Management

Moving Beyond Data Collection

Application of Bridge Management and Preservation Programs

Element Migration

Bridge Modeling – Introduction to Transition Probability

**Communicating the Benefits of Bridge Management to Upper Management,
General Public, and Legislators**

Project Selection and Prioritization

Bridge Inspection

FHWA National Bridge Inventory of the Future

Inspection Challenges

Formal Process other than Inspection Reports

Identify of Preservation Needs using Inspection Data

Inspections using New AASHTO Bridge Element Inspection Manual

Innovative Inspection Techniques

QC/QA of Bridge Inspection Data

Bridge Preservation

Introduction of FHWA Preservation Guide

Laying out Framework for a Successful Bridge Preservation Program

Applying the Appropriate Treatments and Strategies at the Right Time

Data Collection and Analysis for Bridge Preservation

Guideline for Selection of Bridge Deck Overlays, Sealers and Treatments

Present/Future Impacts

Long Term Bridge Performance (LTBP) Program

SHRP II products

QA/QC programs

Bridge Inspection – 23 Metrics

Tunnel Inspection Program

Long Term Bridge Performance (LTBP) Program

Objective of the LTBP Program

The objective of the LTBP program is to compile a comprehensive database of quantitative information from a representative sample of bridges nationwide, looking at every element of a bridge. By taking a holistic approach and analyzing all of the physical and functional variables that affect bridge performance, the study will provide a more detailed and timely picture of bridge health and better bridge management tools.

State Coordinators – Early and continuous involvement

Strategic Highway Research Program (SHRP 2)

The second Strategic Highway Research Program (SHRP 2) was authorized by Congress to address some of the most pressing needs related to the nation's highway system: the high toll taken by highway deaths and injuries, aging infrastructure that must be rehabilitated with minimum disruption to users, and congestion stemming both from inadequate physical capacity and from events that reduce the effective capacity of a highway facility. These needs define the four research focus areas in SHRP 2:

The Safety area

The Renewal area is developing technologies and institutional solutions to support systematic rehabilitation of highway infrastructure in a way that is rapid, presents minimal disruption to users, and results in long-lasting facilities.

The Reliability area

The Capacity area

Guidance on QC/QA in Bridge Design

**To the American Association of State Highway and Transportation Officials:
Work with the Federal Highway Administration to develop and implement a bridge design quality assurance/quality control program, to be used by the States and other bridge owners, that includes procedures to detect and correct bridge design errors before the design plans are made final; and, at a minimum, provides a means for verifying that the appropriate design calculations have been performed, that the calculations are accurate, and that the specifications for the load-carrying members are adequate with regard to the expected service loads of the structure**

Bridge Inspection - 23 Metrics

Established a FHWA/AASHTO Joint National Bridge Inspection Task Force

Mission

To engage in a discussion of the 2011 baseline review process and results and flesh out ideas that AASHTO and FHWA divisions offer for modifications and improvements to the process. Because of the Federal/State relationship under Title 23, final decisions on revisions to the oversight process will rest with FHWA.

Deliverables

Recommended short-term changes to NBIP assessment process (for 2012 implementation)

Recommended long-term changes to NBIP assessment process (for implementation in 2013 and beyond)

Identification of NBIS regulations issues

Tunnel Inspection Program

Five (5) categories identified as importance:

- Basic Tunnel Information
- Tunnel and Roadway Geometrics
- Interior tunnel structural features
- Postal structural features
- Preliminary assessment of tunnel condition

But the BIG questions are.....Inspection frequency?

.....Flexibility?

.....Resources?

Top Three Challenges

1. Funding

When, how long and at what funding leveling?

Senate and House Bill?

Two (2) or Six (6) Year Bill?

Current level/30% less?

2. Funding

When funding level is established, does the Bridge Program get its “Fair Share”?

3. Funding

With its “Fair Share”, is it spend appropriately?

HUGUENOT BRIDGE PROJECT





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