Bridge Management System

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BMS Workshop

- Organization and Assets
- Bridge Management Processes
- Noteworthy Policy and Practices
Organization and Assets

- **Organization**
  - Central Office, 11 Districts, 67 County Maintenance Offices
  - Oversight and policy from Central Office

[ PENNDOT Regional Map ]

[Pennsylvania Department of Transportation](http://www.dot.state.pa.us)
Organization and Assets

• Assets Managed
  – Bridges
    • 25,350 state-owned bridges > 8 ft
      – <5600 SD
    • 6,406 NBIS locally owned bridges
      – 2159 SD
  – Tunnels
  – Sign Structures
  – Retaining Walls
  – High Mast Lights
Bridge Management Processes

• Software
  – BMS2 implemented November 2006
    • Pontis Based
    • Web version
    • iForms
    • Does not make future predictions
  – Multi-modal Project Management System (MPMS)
    • Stores planned projects (bridge and roadway)
    • Interfaces with Pontis
Bridge Management Processes

- **Management**
  - Central Office
    - Oversees overall data quality in BMS2
    - Reports data to FHWA
  - Districts and consultants
    - Data input
    - Data quality
Bridge Management Processes

• BMS Utilization
  – Stores bridge inspection and inventory data
  – Does not allocate funds
  – Does not predict future conditions
  – Does not track projects
Bridge Management Processes

• BMS Utilization
  - Data extracted for Risk Assessment (RA)
    • Computes risk scores for all state-owned bridges
    • RA ensures more critical bridges are programmed
    • RA uses inventory, condition and appraisal data
    • Scores based on risk levels of bridge (i.e., structure type, system network, condition ratings)
    • Importance factors are applied based on bridge size, ADT, scour condition, detour length, feature under bridge
    • RA determines preliminary scopes of work (replace/rehab/preservation) and generates design and construction cost estimates
Bridge Management Processes

- **BMS Utilization**
  - Identify and Prioritize Critical Maintenance Activities
  - Priority 0’s (Critical) – POA in 3 days
    - Posting/clearance signs
    - Railings, etc.
  - Priority 1’s (High) – POA in 7 days
    - Deck Joints
    - Advanced Scour
    - Serious Deck spalls and cracking
Bridge Management Processes

• Program Decision Making
  – Central Office sets bridge program goals
    • Accelerated Bridge Program
      – Goal: Fix 1,145 SD Bridges in 3 years
      – Actual: Fix 1,322 SD Bridges in 2 ½ years
  – Districts select projects based on goals
    • Input from RPO’s and MPO’s
  – Central Office provides oversight and tracking
Noteworthy Policy and Practices

• **BMS2 Web**
  – Allows access for consultants to our database

• **iForms**
  – Consistent and quality inspection data

• **System Interfaces**
  – BMS2 connected to RMS, MPMS, SAP

• **Risk Assessment**
  – Prioritization of bridge needs
QUESTIONS