TXDOT BRIDGE MANAGEMENT PRACTICES

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Texas Department of Transportation
TxDOT Bridge Management Practices

- Existing bridge inventory → Routine and preventive maintenance → Major bridge maintenance and improvements → Major bridge rehabilitation or bridge replacement
TxDOT Bridge Management Practices

Bridge Division (BRG) 88
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Bridge Information Management

Bridge Forensics

Information Services

Fiscal and Resource Support Services

Project Management

Plan Review

Design Branch A
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Design Branch B
Curtis Rebicki, P.E.

Standards and Support

11th International Bridge and Structure Management Conference
Management Tools

**Current Tools**

- **PonTex** (TxDOT’s version of Pontis)
- **Maintenance Bridge Inspection Tracking System (MBITS)**
- **Design And Construction Information System (DCIS)**
- **Construction and Maintenance Contracting System (CMCS)**
- **Bridge Portfolio Manager**

**Coming Tools**

- **InspectTech (Bentley Systems)**
  - Will replace PonTex with added functionality
- **Modernize Portfolio Project Management (MPPM)**
- **BrM (AASHTOWare)**
- **Decision Lens**

**MPPM**

Modernize Portfolio & Project Management

An online tool designed to enhance project and portfolio management capabilities.
Funding by Project Type

- Routine Maintenance
  - Funds available varies by District
  - Allocation to bridges is at District’s discretion
Funding Program by Project Type

- Bridge Preventive Maintenance
  - Managed by Maintenance Division
  - Traditionally intended to help bridge the gap between routine maintenance and bridge replacement
  - $15M / 25 Districts = $600,000 avg. per district
  - State funds
  - To be spent in the FY it is authorized
Funding Program by Project Type

- Bridge Maintenance and Improvement Program
  - Managed by Bridge Division
  - Committee involvement (District, Bridge Division and Maintenance Division)
  - Intended for moderate to large improvement projects
  - $45M / 25 Districts = $1.8M avg. per district
  - Federal funds (federal requirements)
  - Condition survey required
  - Stated goals
Funding Program by Project Type

- Highway Bridge Program (HBP)
- Railroad Grade Separation Program (RGS)
- Emergency contracts
Bridge Preservation Challenges

- First must diagnose and address what caused the defect
- Requires familiarity of effectiveness of repair options
- Each project is unique, no “standard” repairs
Bridge Preservation Resources

- **TxDOT Bridge Division - Construction and Maintenance Branch**
  - Expertise in bridge preservation options and techniques
  - Familiar with specifics of specifications
  - Available to perform site visits for construction inspection

- **TxDOT Construction Division**
  - Materials lab for material testing
  - Paint assessment and paint inspection

- **TxDOT Concrete Repair Manual and Standard Specifications**

- **Departmental Material Specifications (DMS)**

- **Approved products in Material Producer List (MPL)**
New Designs and Replacements

- Standardization as much as possible
  - Documented policy in the Bridge Design Manual and Bridge Detailing Guide
  - Standards for rails, deck reinforcing, bents, abutment, various beam types.
  - Standard Specifications

- Material Requirements
  - Use of HPC, prestressed concrete, and corrosion resistant reinforcing
  - Development of specific corrosion protection measures by District
  - DMS and MPL
New Designs and Replacements

- SiteManager
- In-house inspection and Construction Engineering and Inspection contracts.
- TxDOT Construction Division
  - Materials lab for testing
  - Paint assessment and paint inspection
  - Quality Assurance at fabricators
TxDOT’s TAMP Progress

- Effort being led by Roadway Asset Management Branch of Maintenance Division
- Building off of first-generation TAMP Documents
- Risk analysis
  - Developed preliminary risk register
- Drafting preliminary gap analysis
  - Performed compliance research (MAP-21, FAST Act, Texas HB 20, TxDOT Policies)
  - Aggregating asset performance data
  - Assessing current inventory conditions with FHWA and TxDOT performance measures
  - Identifying process gaps and performance gaps
- Reforming TxDOT’s TAMP Steering Committee
TAMP Business Structure

Administration

Asset Management Goals

TAMP Steering Committee

TAMP

Business Practices

Effectiveness Review

- Policy Review
- Program Delivery
- Lifecycle Management
- Legislative Compliance
- Funding Constraints

• Gap Analysis
• Network Life Cycle Cost Analysis
• Risk Management Analyses
• Financial Plan
• Investment Strategies
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