South Carolina DOT Asset Management Peer Exchange
Louisiana DOTD

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LADOTD OVERVIEW
LADOTD Scope of Responsibility

- **Roadway**
  - 16,655 miles of roadway
  - 931 miles of interstate

- **Bridges**
  - 13,095 Bridges
    - 8,073 state-owned
    - 5,022 locally owned

- **Airports**
  - 62 general aviation airports
  - 7 commercial airports

- **Ports**
  - 7 deep draft ports (incl. LOOP)
  - 34 shallow-draft port authorities

- **Public Transit**
  - 11 urban & 32 rural systems

- **Freight Rail**
  - 19 freight railroads
  - 2,789 miles of railroad track

- **Public Works**
  - Northern levee districts
  - 555 regulated dams

- **Waterways**
  - 27 locks
    - 25 DOTD oversight
    - 2 owned and operated
  - Over 2,800 miles of navigable waterways
    - 274 deep draft river miles
    - Over 2,526 shallow draft river miles

- **Operations**
  - 3.6 million acres mowed annually
  - 71,000 cu. yds. of litter collected
  - 11 rest areas
  - 5 ferry service locations
  - 3000+ highway-rail crossings
  - 3000+ traffic signals
  - 1,000,000+ traffic signs
  - Over 900 buildings
FY 13-14 REVENUE
Operating and Capital Budget (millions)

- State TTF Funds $549
- State HIF Funds $48
- TIMED TTF $115
- Federal Funds $874
- G.O. Bonds/Other $346
- General Funds $0
- Interagency Transfers $29
- Self Generated $39
- $2,000
FY 13-14 EXPENDITURES
Operating and Capital Budgets (millions)

$2,000

Operating Budget
$577

TIMED Debt Service
$135
($115M from $0.04 tax; $20M from $0.16 tax)

Non-Fed Eligible Roads
$48

Non-DOTD Dedicated
$89
($43 M to PTF; $46M to DPS)

Capital Outlay
(Non-Highways)
$182

Capital Outlay, Engineering
(Highways)
$969
SESSION 1: EXISTING INVENTORY AND ASSET MANAGEMENT SYSTEMS
Existing Inventory and Asset Management Systems

• Pavement
  – dTIMS (*Deighton Total Infrastructure Management System*) Pavement Management System
  – HPMS – Highway Performance Management System
  – TAHI – Legacy Highway Inventory Data System – homegrown mainframe application
  – TAND – Legacy Highway Condition data system – homegrown mainframe application
Existing Inventory and Asset Management Systems

• Bridges
  – AASHTOWare™ Bridge Management software BrM (formerly Pontis)
  – STRM – Legacy home grown mainframe application supporting National Bridge Inventory requirements
Existing Inventory and Asset Management Systems

- **Maintenance**
  - *AgileAssets* integrated infrastructure asset management software
  - SAP Project System (PS)

- **Safety**
  - Home grown mainframe application

- **Financial**
  - SAP Portfolio
Existing Inventory and Asset Management Systems

• Other
• ESRI GIS Roads & Highways – future integration tool
• CSM (Control Section Manual) - original basis for Location Reference
• STIP – Statewide Transportation Improvement Plan
• Long Range Transportation Plan
SESSION 2: ASSET MANAGEMENT DATA NEEDS
Asset Management Data Needs

• **Necessary Data**
  – Inventory and condition
  – Risk assessment
  – Cost/revenue
  – Performance measures (Targets?)
  – Management systems (what-if scenarios)
  – Future needs (forecasted deterioration)
  – Communication tools (dash board)
Asset Management Data Needs

• Data Governance / Management Policies
  – Organizational Support for the TAMP
  – Redefine Business Culture - fix it first
  – Performance Measures / Levels of Service
  – Data Ownership – break down data silos, data owners must have team focus
  – Risk Management - instinctively do this, but now must implement policies
Asset Management Data Needs

• **Data Gathering**
  – Timeliness – data can’t be out of date
  – Accuracy – is more critical than ever
  – Quality Assurance – the quality of the data must be verifiable
  – Location – most transportation data has a location component and it must be accurate
  – Collection Cycles – must meet needs, too often is costly over collection
Asset Management Data Needs

• **Data Interoperability and Consistency**
  – Using Indexes for Disparate Data Comparison (i.e. roughness vs rutting indexes)
  – Linking Data Systems – kill the data silos and eliminate inaccurate data redundancy
  – GIS – ties data together and allows data viewing in a spatial way
  – ESRI Roads & Highways – potential tool to tie all the data silos together and eliminate redundancy
Asset Management Data Needs

• Dealing with Data Deficiencies
  – Missing Data – don’t always have all needed data, even when you plan to collect it
  – Existing Data Errors – data that wasn’t critical may now be critical and must be accurate
  – Duplicated Data in Various Silo Systems – need one data source to be truth, link from other systems to the primary data source
SESSION 3: PLANNING FOR AN ASSET MANAGEMENT SYSTEM
TAM and MAP-21

• Each State is required to develop a risk-based asset management plan (TAMP) for the National Highway System (NHS) to improve or preserve the condition of the assets and the performance of the system.
MAP-21 Legislation

- Requires a risk-based asset management plan for pavements and bridges on the NHS that includes, at a minimum:
  - a summary listing of the pavement and bridge assets on the NHS in the State, including a description of the condition of those assets;
  - asset management objectives and measures;
  - performance gap identification;
  - lifecycle cost and risk management analysis;
  - a financial plan; and
  - investment strategies.
Planning for an Asset Management System

• Advantages / Disadvantages of Specific Asset Management Systems
  – AgileAssets provides all modules necessary for Trade Off Analysis
  – LADOTD has Used dTIMS for Pavement Management Analysis for >10 years – served as basis for pavement needs assessment reporting to legislature, no reason to stop using
Planning for an Asset Management System

• Unifying Multiple Asset Management Systems
  – Plan to pass dTIMS data to AgileAssets for Trade Off Analysis
  – Plan to pass PONTIS data to AgileAssets for Trade Off Analysis
  – Will Implement ESRI Roads & Highways to Sync All Data Systems
Planning for an Asset Management System

• Determining Resource Allocation between Preservation and Mobility
  – Mobility is synonymous with Capacity
  – Emphasis on Sustainability – MAP-21 has a primary focus on moving investments towards preservation strategies
  – LADOTD long-range forecast virtually eliminates capacity funding
Planning for an Asset Management System

• **Making the Most of Limited Resources**
  – Utilize TAMP to set policy for allocation of resources
  – Move to data driven decision making
  – Consider risk at Agency, Program and Project Levels.
  – Adjust program funding based on performance
Planning for an Asset Management System

• Asset Management & MAP-21
  – The risk based TAMP will require the use of data to drive decisions
  – Good asset condition data will become more important
  – Performance targets will become more important
  – Funding strategies and tradeoff analysis will become more important
Planning for an Asset Management System

• Connection to Financial Planning - MAP-21 Requirement
  – Move to a ten-year financial plan
  – Refresh financial plan annually
  – Prediction models (lifecycle cost) will need to be more accurate
  – Focus on Sustainability
  – Will provide transparency to stakeholders
Planning for an Asset Management System

• Relationship Between Asset Management Plans & Other Plans
  – TAMP is a policy document
  – TAMP not intended to replace other plans
  – TAMP must influence all other plans
  – Data Sources must support TAMP
  – TAMP is revised on a cycle
TAMP Link to Other Plans

Diagram showing the relationship between various plans and the Transportation Asset Management Plan (TAMP). The diagram includes:
- Human resources plan
- Customer service plan
- Legal requirements
- Stakeholders/customer requirements and expectations
- Asset management policy
- Supporting strategies
- Marketing plan
- Financial plan
- Long-term plans and programs
- TIP/STIP
- Performance measurement
- Annual plans and programs
- Annual achievements
- Annual report
- Data and systems
- Contracts and specifications
SESSION 4: IMPLEMENTING A FORMAL ASSET MANAGEMENT PLAN
Implementing a Formal Asset Management Plan

- Organizational Structure to Support Asset Management (LADOTD)
  - Executive Champion
  - LADOTD TAM Steering Committee
  - Office of Multimodal Planning
  - Data Collection and Analysis
  - Asset Management Engineer
  - Management by influence
LADOTD TAM Steering Committee

- Finance (Executive Champion)
- Maintenance Systems Management (Co-Lead)
- Multimodal Planning (Co-Lead)
- Data Collection and Management Systems
- Multimodal Planning (Long-range)
- Districts
- IT
- Engineering
- Research Center
- Strategic Planning/QCIP
Implementing a Formal Asset Management Plan

• **Resources Required For Effective Asset Management**
  – Leadership support
  – TAMP
  – Department-wide buy-in
  – Good data
  – Ability to do life-cycle cost analysis
  – Willingness to stick to the plan
Implementing a Formal Asset Management Plan

• Prepare Plan In House vs Consultant
  – Two of three TAMP pilot states used a second Consultant to help Develop Plan
  – Abundance of information on TAM available
  – FHWA TAMP pilot will produce examples
  – NCHRP projects near completion
    • TAMP template
    • TAM Gap Analysis Tool
Implementing a Formal Asset Management Plan

• Other Resources
  – AASHTO TAM Guide – A Focus on Implementation
  – FHWA 3-State TAMP Pilot Examples
  – FHWA TAM Website
  – AASHTO and TRB Asset Management Committees
  – Other State DOTs
Partnering For Success

U.S. Department of Transportation
Federal Highway Administration

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Transportation Asset Management
Expert Task Group
Get Your Copy

• Available from the FHWA’s Asset Management website http://www.fhwa.dot.gov/asset/

• An Executive Summary is available through AASHTO
Questions

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