South Carolina DOT Asset Management Peer Exchange Louisiana DOTD

Presented by Michael Bridges, P.E.

Undersecretary for the Office of Management and Finance
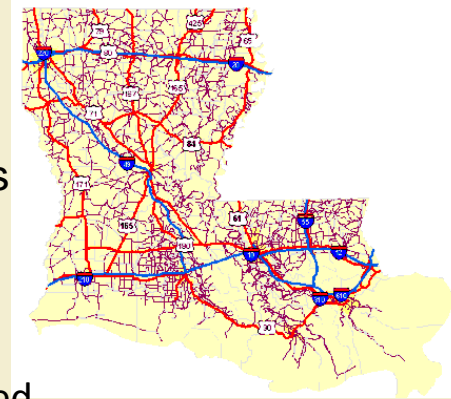
February 5th and 6th, 2014

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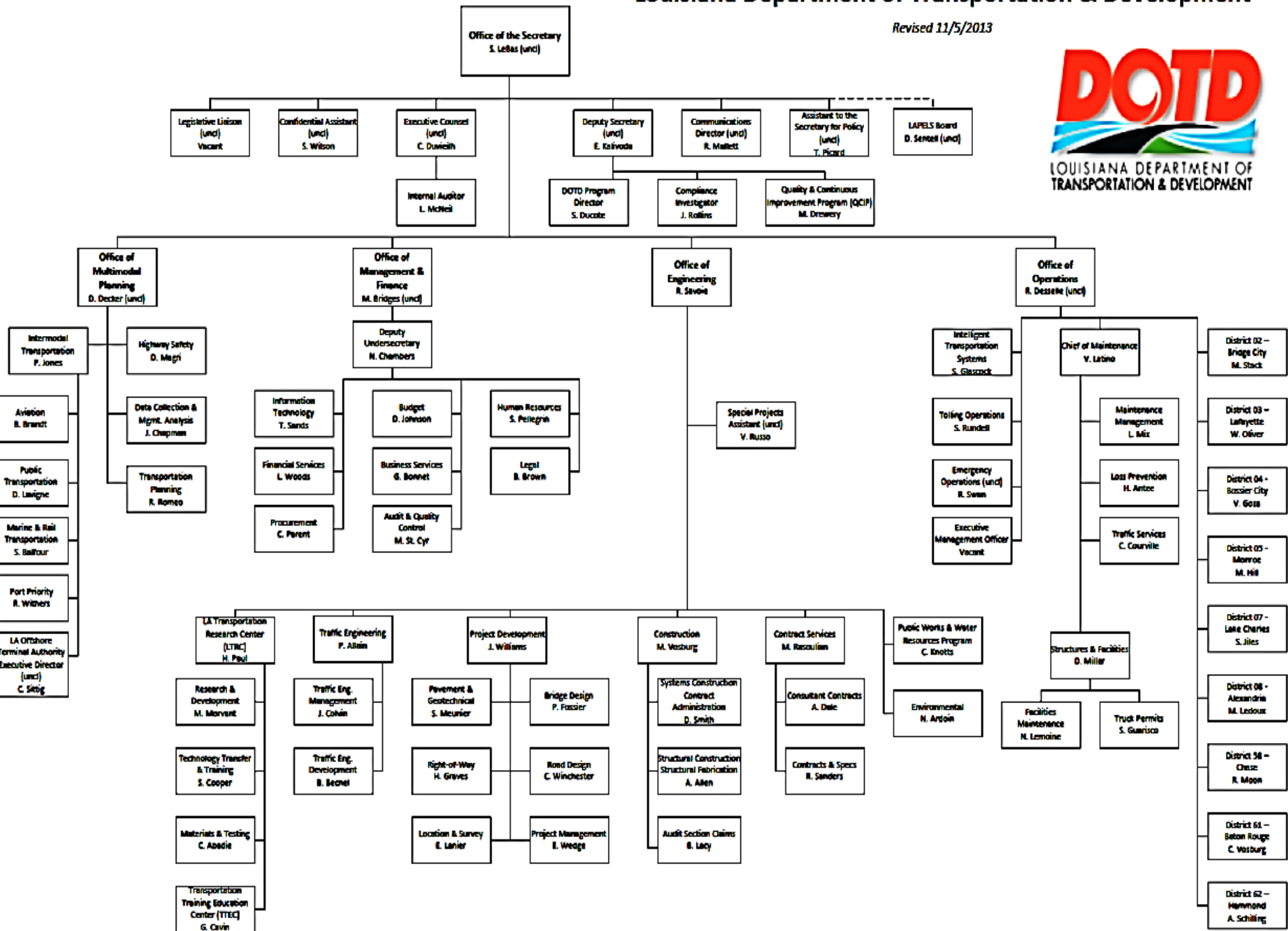
LADOTD OVERVIEW

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
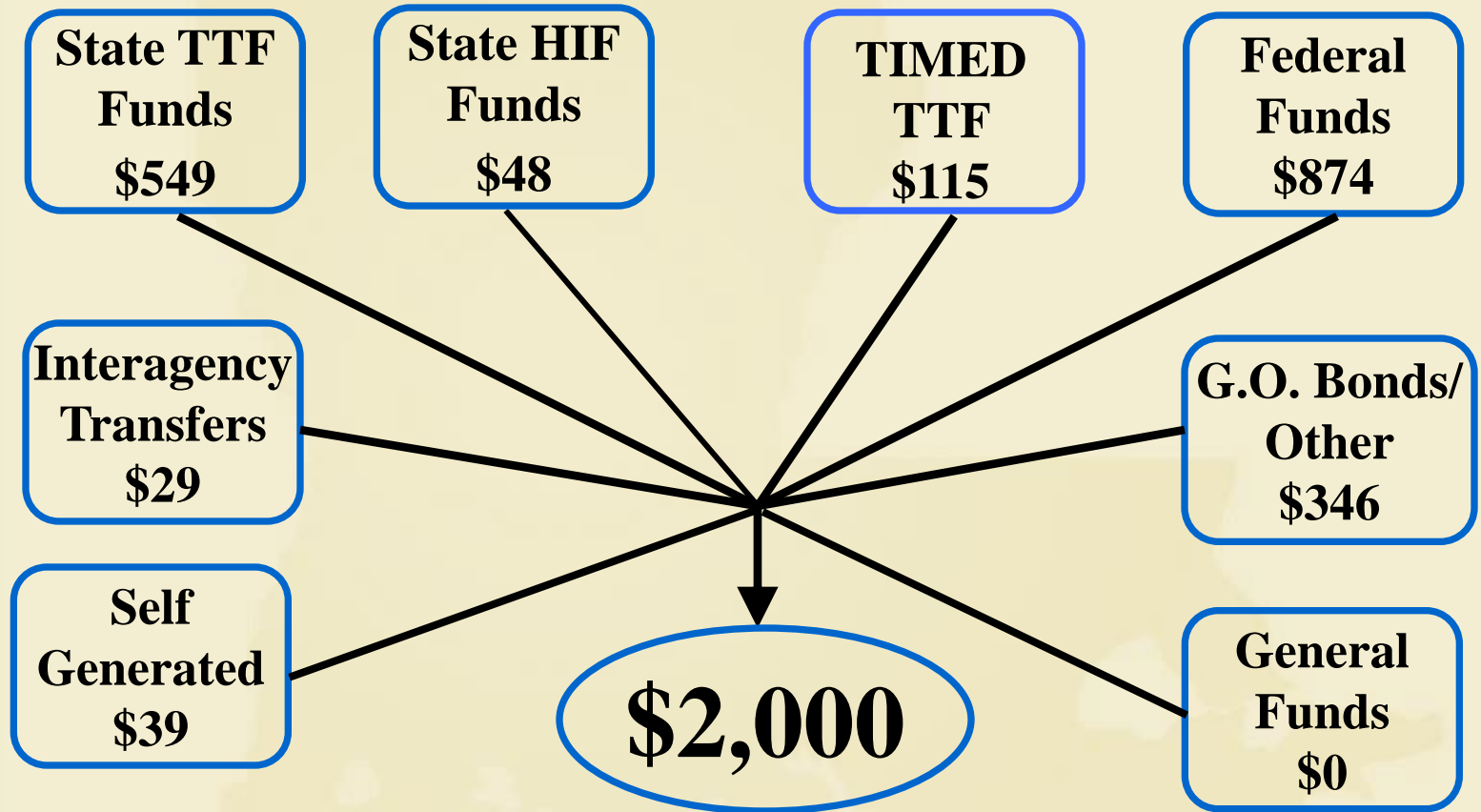- Over 900 buildings

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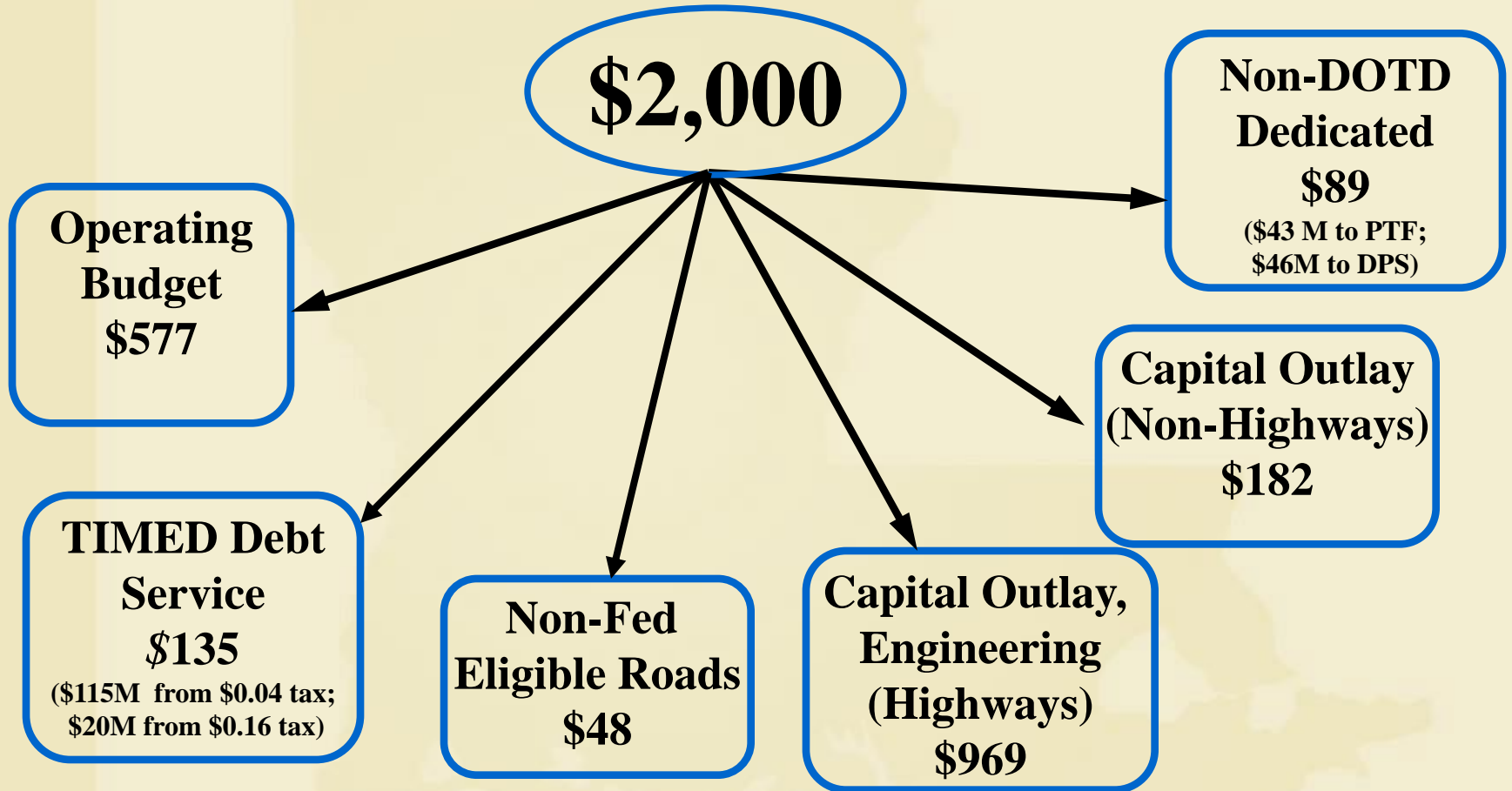# Louisiana Department of Transportation & Development

Revised 11/5/2013

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- Location & Survey — E. Lanier
- Bridge Design — P. Fossier
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  - Structures & Facilities — D. Miller
    - Facilities Maintenance — N. Lemoine
    - Truck Permits — S. Guarisco

Districts
- District 02 — Bridge City — M. Stack
- District 03 — Lafayette — W. Oliver
- District 04 — Bossier City — V. Goss
- District 05 — Monroe — M. Hill
- District 07 — Lake Charles — S. Jiles
- District 08 — Alexandria — M. Ledoux
- District 58 — Chase — R. Moon
- District 61 — Baton Rouge — C. Vosburg
- District 62 — Hammond — A. Schilling

FY 13-14 REVENUE
Operating and Capital Budget (millions)

State TTF Funds $549

State HIF Funds $48

TIMED TTF $115

Federal Funds $874

Interagency Transfers $29

G.O. Bonds/ Other $346

Self Generated $39

$2,000

General Funds $0

FY 13-14 EXPENDITURES
Operating and Capital Budgets (millions)

$2,000

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

Operating Budget $577

Capital Outlay (Non-Highways) $182

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

Non-Fed Eligible Roads $48

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

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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

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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
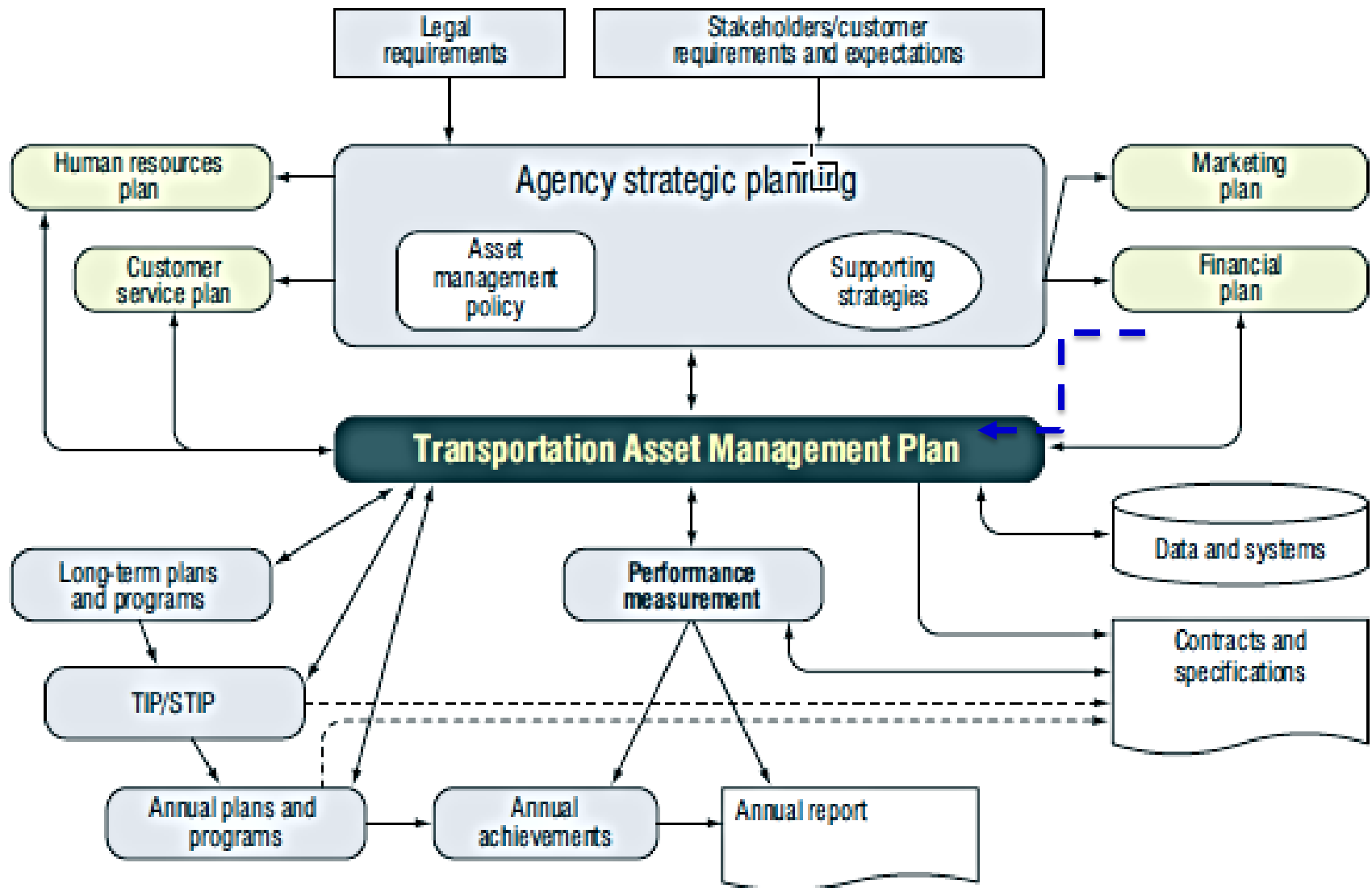
SESSION 4: IMPLEMENTING A FORMAL ASSET MANAGEMENT PLAN

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
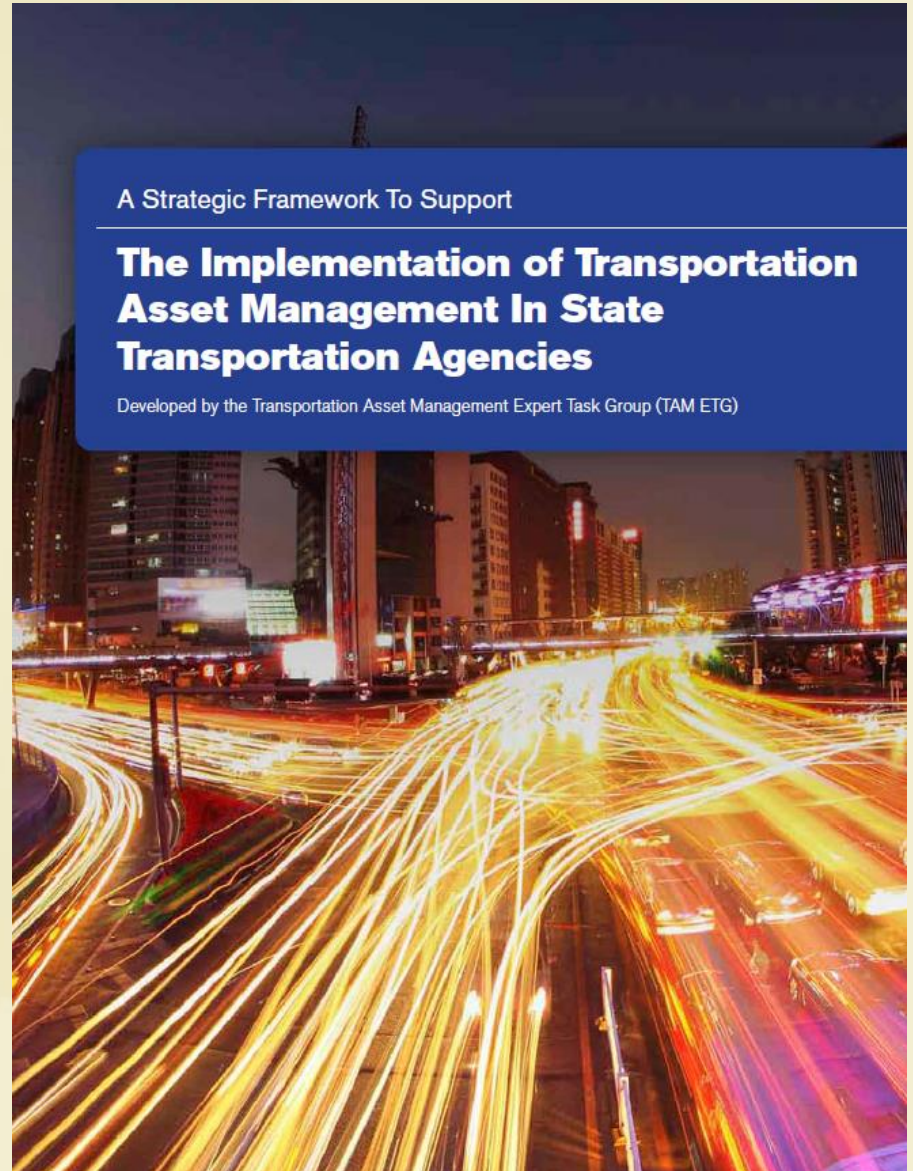
Partnering For Success

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

A Strategic Framework To Support

The Implementation of Transportation Asset Management In State Transportation Agencies

Developed by the Transportation Asset Management Expert Task Group (TAM ETG)

Questions

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