
VDOT

Asset Management Methodology

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CTB Presentation
December 14, 2006

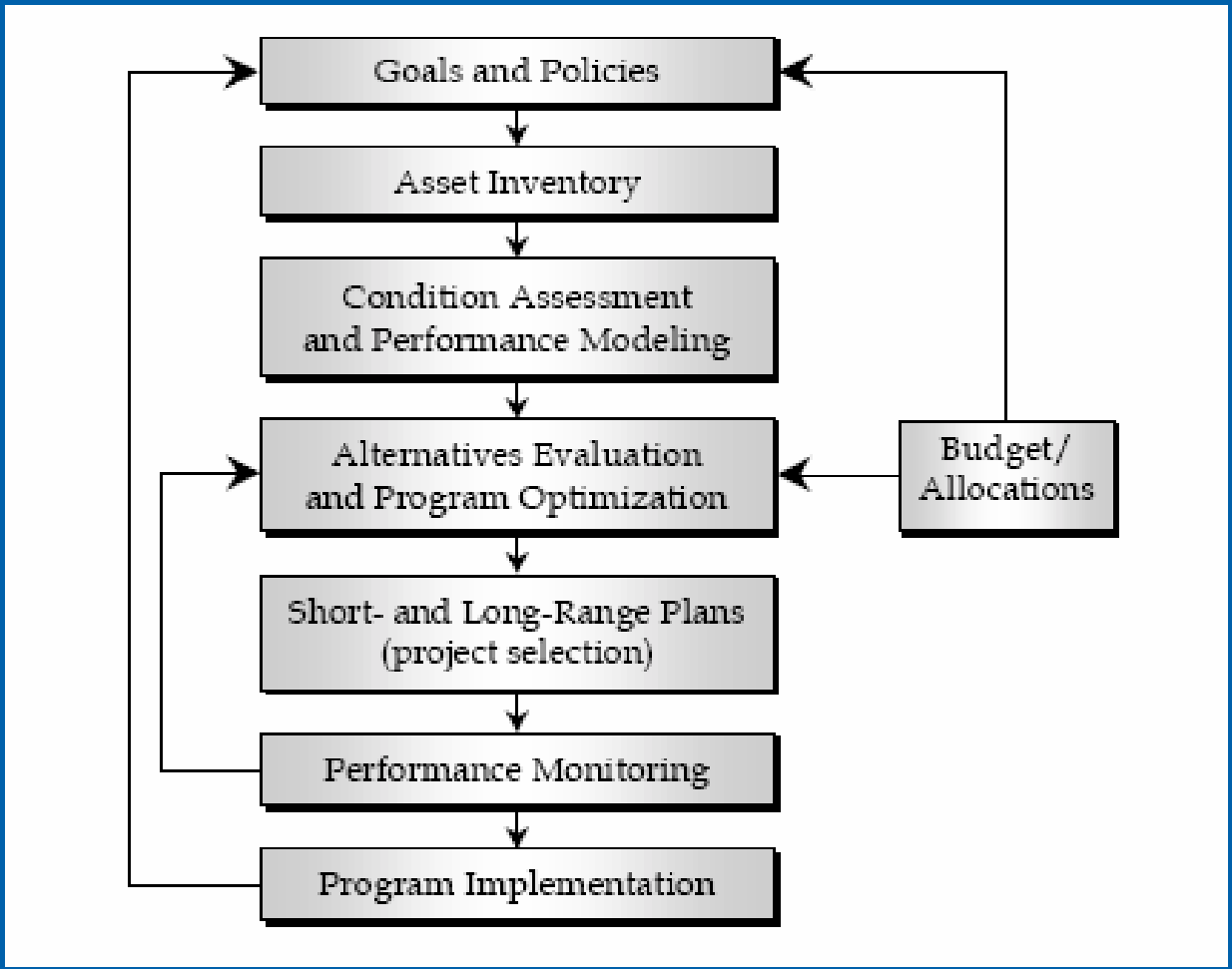
Asset Management Methodology

- Code of Virginia, 33.1-23.1(A)
- CTB directed the VDOT to place major emphasis on the maintenance program
- JLARC Report issued 2002
- Booz Allen study 2005
- HB 5002 Item 444 A.4. and B.1.

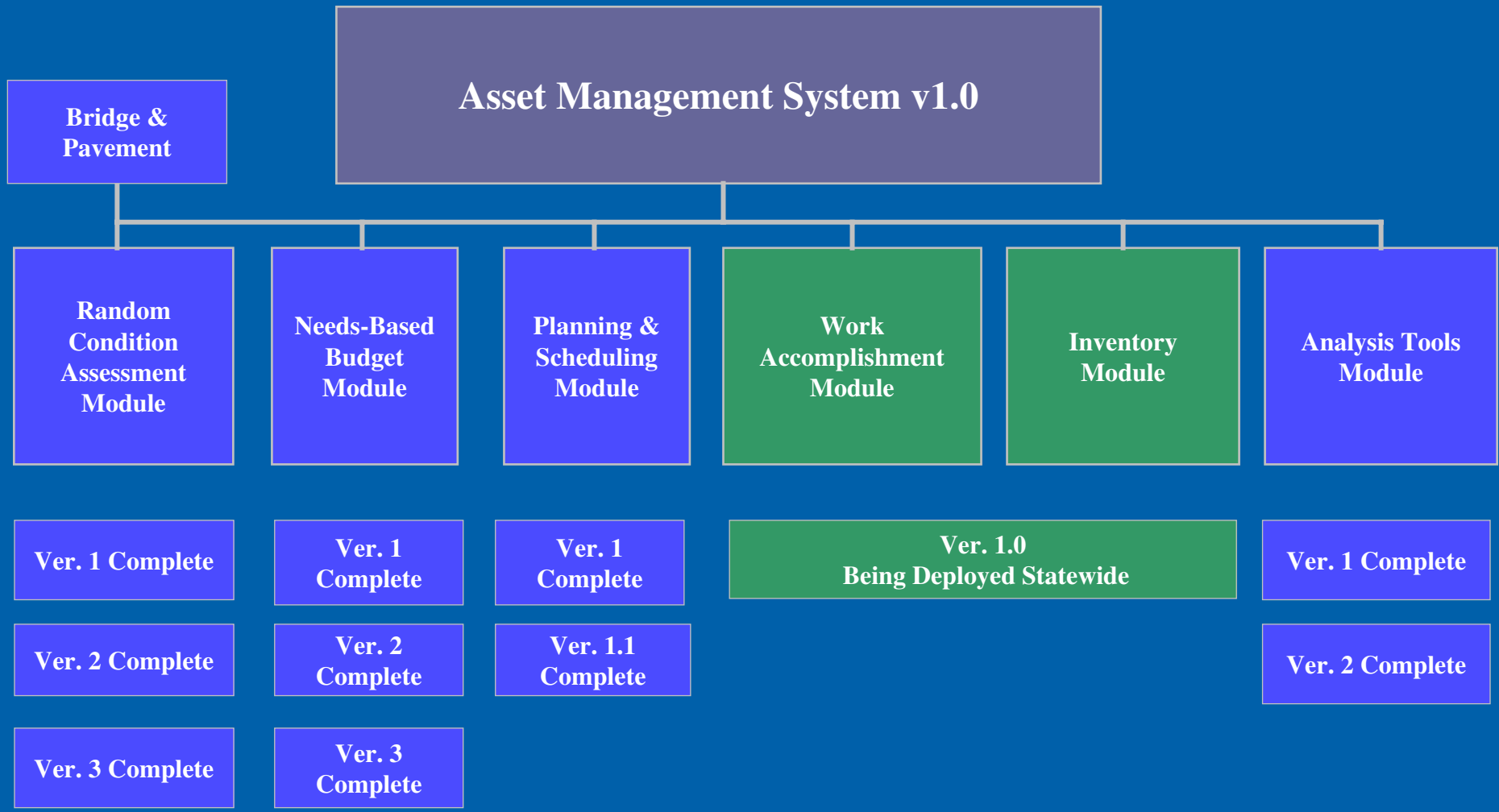
Asset Management Methodology

- Manage VDOT's assets using a life-cycle analysis approach
- Use a Needs Based Budget approach to identify and prioritize statewide maintenance and operations needs based on the inventory and condition assessments
- Employ processes to plan, budget, implement, monitor and measure performance

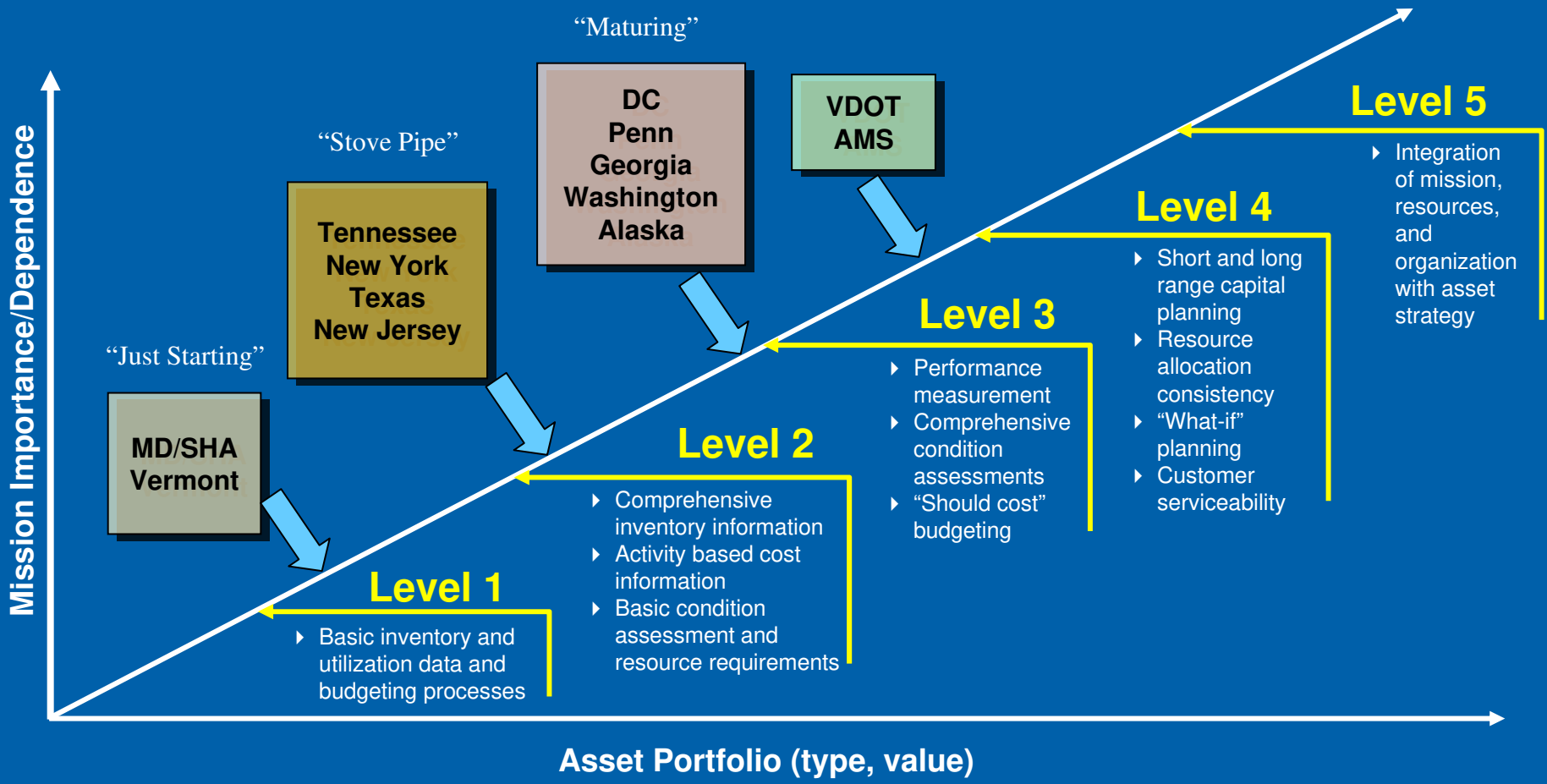
AASHTO Guide to Transportation Asset Management



AMS Development Model



VDOT's AMS Is Progressing on this Maturity Track



Asset Management System

- Developed the Asset Management System tools over the last three years to include the following modules:
  - Inventory
  - Random Condition Assessment
  - Analysis tools
  - Needs Based Budget
  - Planning
  - Work Accomplishments & Monitoring

Inventory Condition Data Collected

- Pavements
  - 100% assessment of Interstate and Primary pavements
  - 100% assessment of Secondary pavements over a five year period to be completed by 2011
  - 100% automated data collection
- Bridges
  - 100% assessment of bridges
  - Every bridge is inspected at least once every 2 years in accordance with NBI

Inventory Condition Data Collected

- Traffic Devices
  - 100% Traffic signal inventory – approx. 2,000 signals
- Random Condition Assessment Assets
  - Condition data collected in randomly-generated 1/10-mile sections of Interstate, Primary, and Secondary roads in each district
  - Assets collected include traffic signs; guardrail; pavement markings; unpaved shoulders; paved and unpaved ditches; pipes and culverts.

Additional Data Collected

- Snow Removal
  - Approved levels of service
  - Priorities identified by highway functional classification
- Equipment Management
  - Identified by Rental Equipment Budget System
  - Total replacement needs for each district
  - Life cycle process includes upgrading EMS

Operations Assessment

- Technology Assets
  - Needs are developed by districts
  - Current technology inventory resides in districts
  - Future actions include adding these assets to AMS

Resource Planning and Budgeting

Maintenance and Operations Funds are distributed annually as follows:

- Funds allocated to districts based on each district's share of total needs
- A hold harmless policy applied
- Budgeting guidance to the districts is provided on distribution of needs by asset and system
- District budgeting based on but not constrained by this guidance due to local conditions
- Districts report on variances between actual expenditures and budgets

Next Steps in AMS Evolution...

Data Collection

- Put consistent statewide data collection methods in place for traffic/ITS assets: signals, cameras, VMS, detectors.
- Explore use of current videolog contract (for pavement data collection) to gather inventory and condition data on above ground assets – replacement for some RCA assets; expansion to other assets

Inventory

- RNS to provide backbone of centerlines and geographic referencing translation (HTRIS cutoff scheduled for 2009).
- Population of other asset inventory data TBD – still need to address appropriate level of detail for enterprise data, QA and data maintenance strategy.

Needs & Tradeoffs

- Incorporate methods for operations assets and programs
- Implement COTS PMS compatible with VDOT IT Architecture
- Coordinate with Bridge Div on expanding use of Pontis for investment-performance scenarios
- Investigate transitioning some of the RCA-decision tree-based analysis to life cycle-based analysis in conjunction with use of videolog inventory data
- Investigate adding data-driven needs methods for additional assets that account for significant portions of the budget (e.g. highway lighting, roadside.)
- Enhance AMS to accommodate regions, improve ease of use, better support QA and “what-if” analysis and reduce manual steps.

Resource Allocation

- Take the next steps toward performance-based resource allocation to allow for more informed tradeoffs across assets and program categories.
- Continue efforts (currently underway) to define performance measures and determine analytical tools and techniques to support this process.
- Establish performance targets linked to budgets, beginning with pavements and bridges.

Next Steps in AMS Evolution (continued)...

Programming and Budgeting

- Evaluate solutions to provide project planning capability for non-federal projects. Candidates include iSYP or enhancements to the AMS Budget Program.
- Enhance AMS to make the budgeting process less time consuming and to better integrate needs estimates, performance targeting and budgeting activities.
- Implement integrated work scheduling/maintenance management capability (longer term.)

Work Accomplishments

- Complete roll-out of Work Accomplishments including Inventory Module.
- Fully integrate information on work accomplishment via contract and TAMS contracts (for Interstate Maintenance) to provide a complete picture.
- Utilize work accomplishment data to assess performance and to update deterioration and cost models in the AMS.

Asset Management Next Steps

- Present Six Year Maintenance and Operations Program to CTB in March 2007
- Adopt Six Year Program for Maintenance and Operations by June 1, 2007
- Present next needs assessment November 2007

Questions?

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