

Virginia DOT: Pavement Management Assessment

Group Assessment
(w/ Individual Assessments)
General Action Plan

Virginia DOT (VDOT) has a long standing and high functioning Pavement Management program. This program is organized around a well-established pavement management system (PMS) and pavement maintenance scheduling system (PMSS). These systems are used by Central Office and District staff to forecast pavement conditions, allocate resources, and plan targeted preventative, corrective, and restorative maintenance projects.

Although VDOT staff were confident in their high-performing program, they were motivated to identify if further advancement would be possible through data and/or system improvements.

Step 1: Assessment Planning

Participants were selected based on their involvement in annual pavement condition data collection, pavement management system oversight, and pavement maintenance planning and contract development. Two District pavement managers were included, as were IT staff supporting key systems and tools.

Step 2: Benchmarking and Improvement Selection

A 60-minute kickoff meeting introduced participants to the assessment framework and tools. Offline, individual assessment responsibilities were assigned and 2-weeks allowed for completion. Group consensus discussion was led using the TAM Data Assistant's group assessment facilitation features. The facilitator guided

discussion and recorded outcomes directly into the tool during the three 90-minute meetings required to complete all 51 elements.

Step 3: Evaluation and Implementation Action Planning

Individual improvements were not evaluated, instead the facilitator produced an assessment summary presentation and worked with the core team to consolidate and select proposed improvement actions. A single 90-minute meeting was used to confirm outcomes and proposed actions.

Step 4: Closeout and Next Steps

A final presentation was developed to present the assessment process, outcomes, and proposed actions. This presentation was reviewed with management prior to finalization.

Sponsor

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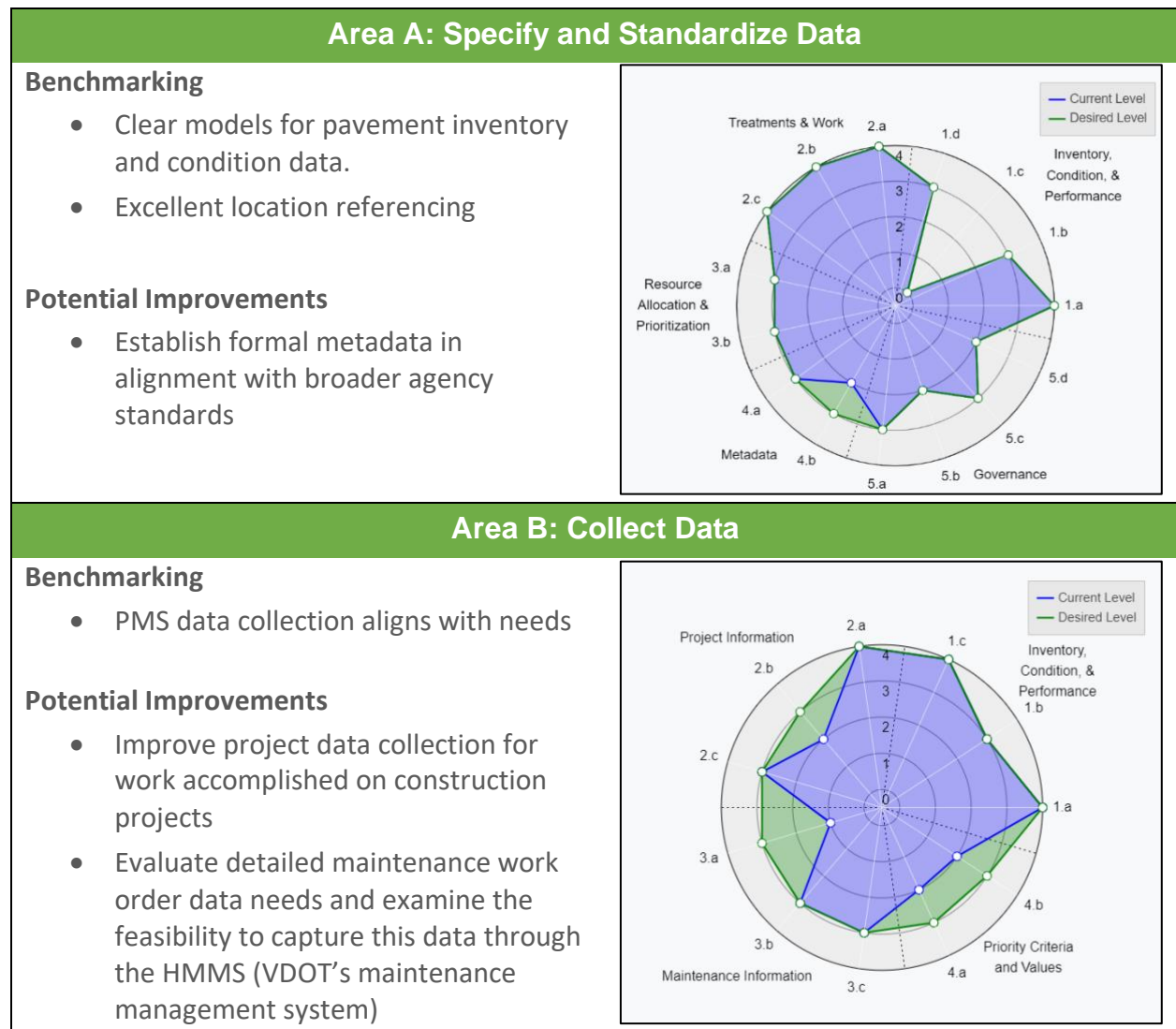
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Assessment Experience:

The assessment outcomes and recommendations met VDOT’s business needs and the closeout materials are expected to be very useful to support future implementation. Participants raised concerns regarding the level of effort required to complete initial individual assessments – recommending that future assessments skip offline, individual contributions and proceed directly into group assessment and consensus building discussions.

Assessment Findings:

Overall, the assessment confirmed that the data and information systems supporting VDOT’s pavement management program are high performing and largely meeting VDOT’s business needs.



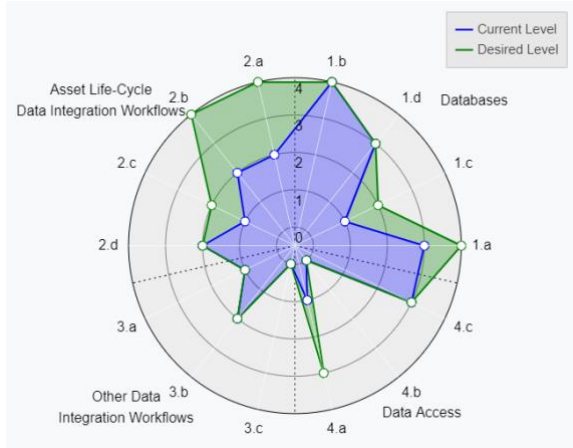
Area C: Store, Integrate, and Access Data

Benchmarking

- Barriers to field access of PMS and PMSS data
- Limited business data integration

Potential Improvements

- Improve PMS-PMSS data exchanges
- Integrate other project related systems into pavement management tools (e.g., Project Pool, Transport)



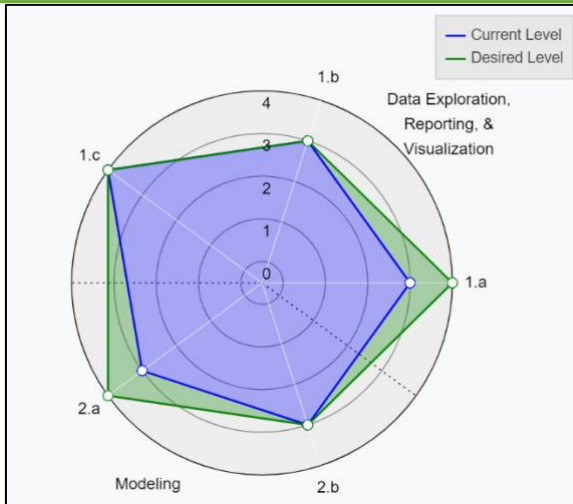
Area D: Analyze Data

Benchmarking

- PMS is a centralized tool that has standard and ad-hoc reporting features

Potential Improvements

- Develop master pavement data and make it available for access and analysis through agency business intelligence tools
- Incorporate pavement friction and network-level structure data into pavement deterioration modeling



Area E: Act on Data

Benchmarking

- High functioning, data-driven decision-making processes

Potential Improvements

- Incorporate new pavement management techniques into PMS and performance targeting (e.g., pavement recycling – FDR, CCPR, CIR, HIR)
- Consolidate various design models for easier reference during project-level pavement design



Proposed Actions:

Action	Description
Automate Construction Project Entry into PMS Master Work Program	Work with Six Year Improvement Program staff to automate identification of pavement related project. Establish methods to extract location, network-level treatment and project cost data necessary to program identified projects into the PMS Master Work Program. Work with IT to implement an automated data integration.
Evaluate Detailed Work Order Data Collection Needs	Work with HMMS staff to evaluate current and potential pavement maintenance data collection capabilities and uses. Develop business cases and associated requirements for HMMS data collection and integration with PMS where there are potential value. Pursue implementation as appropriate and cost-beneficial.
Leverage PMSS Replacement to Improve Field Tools and Data Integrations	Work with District Pavement Management Staff and BIS Division to develop business needs and requirements for the PMSS Replacement project. Incorporate identified needs for PMSS integration with PMS, Transport, and Project Pool. Also incorporate needs for improved field data access and collection tools.
Create and Support Master Data Management Solutions	Build from OIPI data request to identify critical agency use cases and requirements for reporting and analysis of pavement data. Propose a pavement management master data management solution which will meet enterprise needs. Work to master data based on developed requirements. Appoint a pavement management data steward support implementation and to lead data stewardship activities once the data is made available.
Evaluate Network-Level Friction and Structure Data Collection and Use	Build upon ongoing research to evaluate feasibility and use cases for network-level friction data and pavement structure data collections. Where feasible, initiate data collection, and configure PMS for data storage, reporting, and integration into available decision-support analysis and tools. Develop supporting training materials and engage District staff as part of implementation.
Incorporate Recycling Treatments into PMS Modeling and Targets	Incorporate new pavement recycling practices - such as FDR, CCPR, CIR, and HIR - into PMS treatment models and performance targeting and monitoring processes. Modify existing performance targeting processes to promote appropriate application of these treatments by District pavement management staff. Develop supporting training materials and engage District staff as part of implementation.
Continue to Maintain the Paving Schedule Development Process Documentation	Continue to support cyclical review and improvement of paving schedule development process documentation. Engage District stakeholders to identify pain points and work with VDOT subject matter experts to address process documentation needs as VDOT's systems, tools, and overarching contract development requirements continue to evolve. Provide recurring training to District staff.