Pavement Management Systems
Peer Exchange Program

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Background

- The Peer Exchange Program was funded as a result of the 2006 PMS Questionnaire
- 15 respondents are/would be upgrading or replacing their software
- 6 States do not use PMS for Project Selection
- 9 States use “Worst First” approach
- Communication and PMS data accessibility is an issue
PMS Data Accessibility

The chart illustrates the percentage of states where PMS data is accessible. The data is categorized as follows:

- **Everyone**: A significant percentage of states have everyone's data accessible, around 40%.
- **District Offices**: A few states provide access to district offices, around 25%.
- **Available upon request**: A few selected offices offer data access upon request, around 15%.
- **No one**: Other states have no data accessibility, around 10%.
- **Only Central Office**: Data is available only at the central office, around 5%.
- **Only District Engineers**: Access limited to district engineers, around 5%.
- **HPMS Group**: Data is accessible to the HPMS group, around 2%.
- **Traffic Group**: Minimum access to traffic groups, around 1%.

Overall, the chart shows a disparity in data accessibility across different states and offices.
Peer Exchange Program

- The intent was to exchange ideas and share current practices such as:
  - Data collection and analysis activities
  - Decision making process
  - PMS Link with Maintenance
  - PMS Link with Planning & Programming
  - Strategies for communicating pavement management information throughout the agency
Mn/DOT and UDOT were selected as the host agencies due to the maturity of their pavement management practices.

Other factors

- Differences in Pavement Management Software
- Commitment to Pavement Preservation
- Links to Maintenance and Planning & Programming
Peer Exchange Program
Participants

- **NYSDOT**
  - Prepared a draft work plan in May 2007 for enhancing their existing PMS
  - Submit Proposal for funding/project approval
  - Developed RFP documents

- **CALTRANS**
  - An agreement in place to implement a commercial software.
  - Moving forward with data collection contracts
  - Expect to secure funding in 2008
Minnesota DOT

- The Pavement Management Unit is located within the Office of Materials of the Engineering Services Division

- Mn/DOT stores its roadway data in a mainframe database (TIS) for use by the entire agency

- The PMS software uses TIS to access pavement data

- Mn/DOT provides data collection services to counties on a contract basis
Minnesota DOT
PMS & Planning and Programming

- Strong link between pavement management and the long-range planning

- Optimize the use of funding for long-range planning

- Investment levels to achieve performance targets is based on PMS network level analysis
Mn/DOT is a decentralized State with Districts having a significant power over the project selection.

District plan was an effort to develop more consistency in the Department’s planning and districts activities.

The PMS group must agree that projects funded are good candidates for the pavement preservation treatments.
PMS team has no electronic access to maintenance activities

Most preventive maintenance work is conducted under contract

PMS Team identifies where maintenance improvements have been made using pavement deterioration models for each section

MN/DOT has developed decision trees for its preventative maintenance program
Utah DOT

- A leader in promoting pavement management concepts – published the study “Good Roads Cost Less” in 1977
- Pavement management is housed within the Division of Asset Management
- PMS optimization analysis is the primary source of pavement management recommendations
Strong link with maintenance with focus on pavement preservation in recent years

The Deputy Engineer for Maintenance served as the Pavement Management Engineer

A steering committee comprised of PMS staff from the central office and the Region PMS Engineers was involved in the original development of the treatment rules
Pavement condition data for the state highway system is collected by both the central office and the Regions.

Maintenance sets a level of maintenance (LOM) for reporting the performance of UDOT’s roadway appurtenances.

The LOM for pavement activities is linked to the pavement management system through the Overall Condition Index.
Utah DOT
PMS & Maintenance

- To help aid the buy-in of Region
  - Offers 1-day training sessions
  - Conducts field visits with Region personnel to review treatment recommendations
  - Involved the Regions in the refinements to the pavement management models.
Utah DOT

PMS & Planning and Programming

- PMS information is used to develop a 20-year program, divided into two 10-year programs for long-term planning.

- The Asset Management Division makes regular presentations to the Transportation Commission to convey:
  - the impact of cost increases on the program
  - current and projected network conditions
  - funding needs to achieve performance targets
Key Factors contributing to the success of Pavement Management Program

- Strong support from upper management
- Consistency in the pavement management personnel operating the system
- Mn/DOT has approximately 30 users of the PMS software
- UDOT, Pavement Management Engineers are located in each of the four Region offices
- The use of quality data to provide reliable information
Key Factors contributing to the success of pavement management Program

- A strong relationship with the software providers
- A commitment to pavement management concepts throughout the organization
- The involvement of pavement management stakeholders in decisions regarding changes to the analysis models
- The use of software tools that are flexible enough to adapt to the changing environment in which they must operate.
Achievements

- Both agencies have better information to support the decision processes due to the availability of reliable data.
- Mn/DOT has changed to an organization that places system preservation as a priority.
- Mn/DOT is able to demonstrate the amount of road deterioration under various levels of budget cuts.
- Using pavement management as a model, UDOT improved their ability to analyze current and future bridge needs.
Achievements

- Economic and engineering analyses are supported through the availability of field data to evaluate treatment performance.
- Pavement management has been able to provide useful information to Region and District Engineers responsible for project and treatment selection decisions.
- On a day-to-day basis, the PMS has enabled these agencies to more efficiently sort through the pavement data to determine candidate projects.
Contact Information

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