



Implementation and Feedback Issues

Section 6

Section 6 Topics



- Developing a feedback plan
- Improving pavement performance predictions
- Improving treatment recommendations

Feedback Plan



- Condition assessments
- Performance models
- Treatment types & costs
- Treatment trigger levels
- Influence of pavement design, construction, and maintenance on performance

1990 AASHTO Guide Recommendation



Pavement management systems, similar to any other engineering tool must be reliable in order to be credible.

The feedback process is crucial to verify and improve the reliability of a pavement management system.

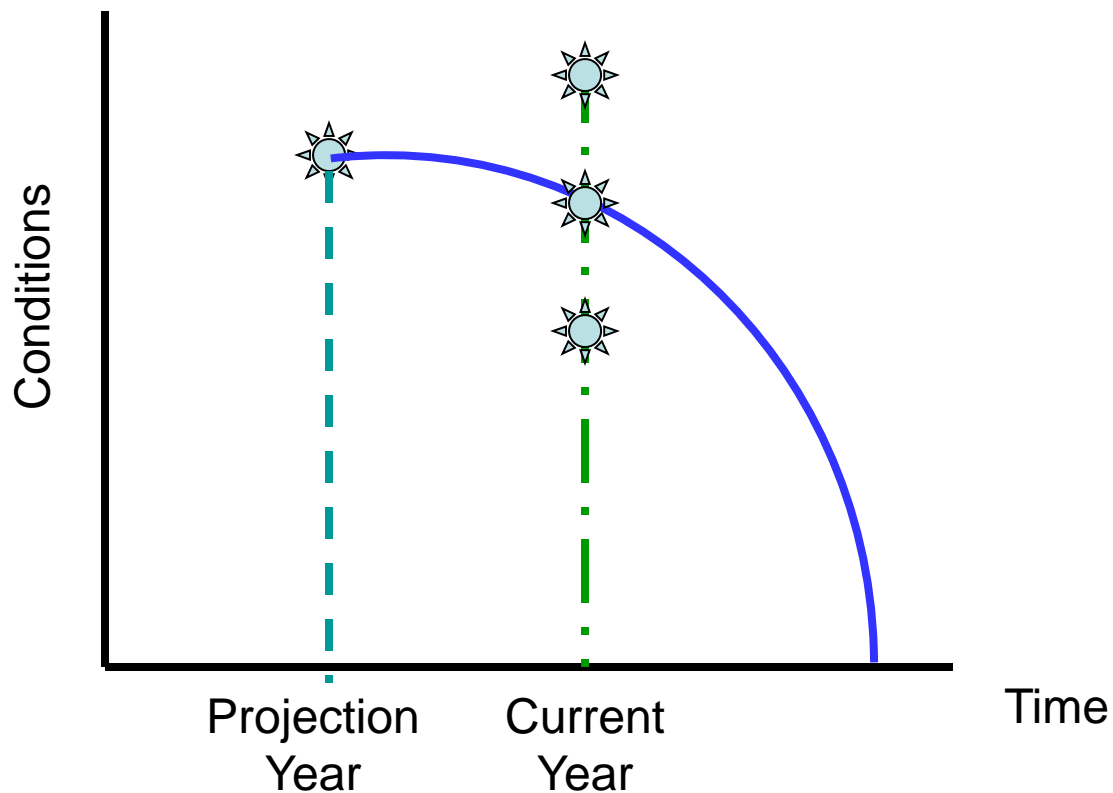
Performance Modeling Applications



- Replacing expert models with models based on historical data
- Verifying or updating existing models
- Comparing projected conditions to actual conditions

Comparing Projections With Actual Conditions

- Assumes several years have passed since the projections were made



Feedback on Treatment Triggers and Costs




- Compare recommended treatments with actual treatments constructed
 - What factors influenced the differences?
 - Are there better matches between certain types of treatments than others?
 - Are changes needed to the pavement management system?

Tests of Data Quality, Usefulness, and Completeness

- GIS
 - Overlaps or gaps?
- Pavement Age or Year Since Last Treatment
- Are all collected data being used?

Pavement Age of Sections With RSL = 0	All Regions
>10 years	97.5%
>15 years	94.7%
>20 years	60.5%
>25 years	37.8%

Effectiveness of Research Results



- Superpave Study
 - How has the performance of pavements changed since the agency started using Superpave mixes?
 - FHWA Study
 - Biggest issue: data availability

Pavement Construction Studies

Influence of construction variability on pavement performance

<u>Air Voids Content (%)</u>	<u>Loss in Service Life (yrs)</u>
7	0
8	2
9	6
10	17
12	36

From a 1987 study by Washington State DOT on 70 HMA sections

Pavement Design



- Use of pavement management information to support the calibration of the models in the new mechanistic-empirical pavement design guide (MEPDG)

Other Applications



- How could pavement management data be used to:
 - Determine optimal overlay cycles?
 - Determine the optimal timing of preventive maintenance?
 - What other applications of pavement management information would be useful in your organization?
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Implementation Steps



- Conduct a gap analysis
 - Identify where needs differ from existing capabilities
- Document business process changes
 - Align processes with the way you'll do business
- Select software
- Implement software and train staff

Implementation Recommendations



- Match your decision processes
- Develop models that support your goals
- Be sure the system is flexible enough to support your needs
- Check references
- Ask for the system to be demonstrated with a similar agency's data
- Involve stakeholders

Keys to Success



- Consistency in personnel
- Quality data
- A cooperative relationship with the vendor
- Support from upper management
- Acceptance of the models
- Ability to adapt to a changing organization
- Generating results and feedback that is useful to the agency



Course Summary and Wrap-Up

Course Summary



- When used effectively, pavement management can support transportation decisions at all levels
 - Strategic
 - Network
 - Project
- Pavement management is an important component of an agency's asset management program

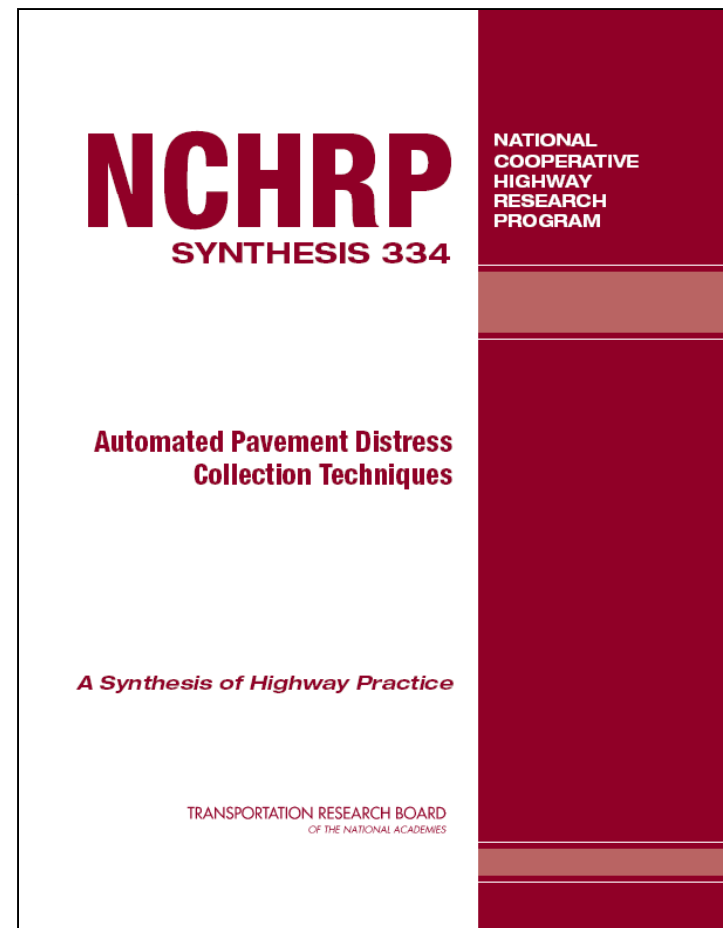
Useful Resources - Websites

- FHWA Pavement Preservation website:
www.fhwa.dot.gov/preservation
- FHWA Office of Asset Management:
www.fhwa.dot.gov/infrastructure/asstmgmt



Other Useful Resources

- NCHRP Synthesis 334
- NCHRP Synthesis Topic 39-01, Quality Management of Pavement Condition Data Collection



Other Useful Resources

- FHWA Distress Identification Pocket Guides
- Pavement Preservation Toolbox CD, 2nd Edition
- AASHTO *Pavement Management Guide*
- AASHTO *Transportation Asset Management Guide*: <http://downloads.transportation.org/amguide.pdf>



Thank You!



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