MODULE 12

PMS FEEDBACK PROCESS

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Instructional Objectives

- Explain why feedback loop is important
- Describe processes needing feedback loop
- Describe type of feedback required
- Describe how to establish feedback loop
- Describe benefits to other agency needs

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Introduction

- From the 1990 AASHTO Guide:

"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 PMS."

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Feedback Plan

- Pavement Performance Models
- Treatments
- Treatment Trigger Levels
- Treatment Costs
- User Cost Models
- Data Quality Use Cost

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Pavement Performance Models

- First developed by expert opinion or from limited data
- Must be re-calibrated with more extensive field data

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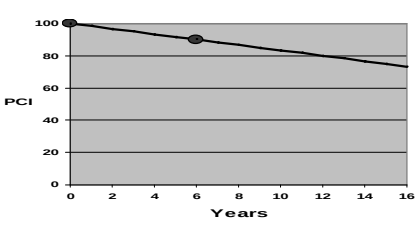
Typical pavement performance after 2 surveys



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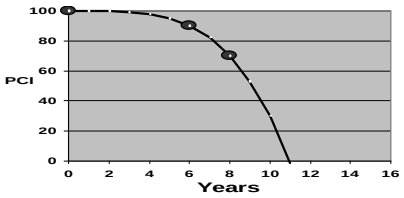
Typical pavement performance after 3 surveys



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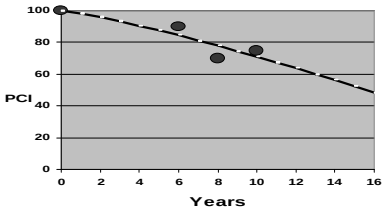
Typical pavement performance after 4 surveys



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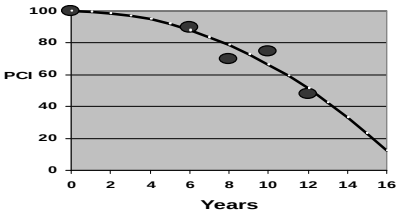
Typical pavement performance after 5 surveys



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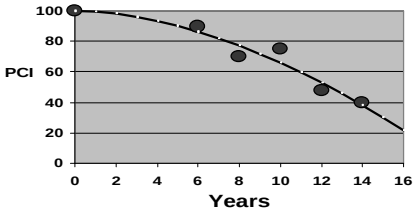
Typical pavement performance after 6 surveys



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Feedback on Treatments & Triggers

- Review treatments and trigger levels with actual data
- Use actual case studies and output from several PMS optimization runs
- Confirm modifications

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Feedback on Treatment Costs

- Fairly well developed during PMS development
- Costs simply inflated for each year's operation
- Not as age sensitive as other PMS inputs

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Feedback on Data Quality Use Cost

- **Quality control of inventory/condition data essential**
- **Feedback loop on data quality regular part of PMS process**
- **Periodically raise and answer questions of cost, quantity, and use of data**

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Other Feedback Areas

- **Pavement related research**
- **Pavement construction on performance**
- **Pavement design**

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Pavement Research

- **Pavement management data used in research of pavement performance**
- **Can confirm cost effectiveness of efforts like Superpave**

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Pavement Construction

How construction variability influences pavement performance

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

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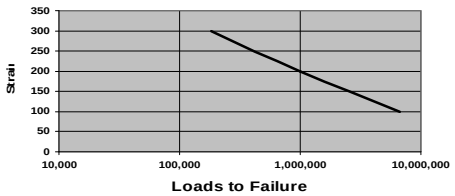
Pavement Design

Fatigue Damage Model



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Summary

From the 1990 AASHTO Guide:

- "The PMS should be reviewed periodically to make certain that it is achieving the original objectives.
- Follow up provides the opportunity to identify and make improvements in the system.
- Feedback is essential to the long-term success of a PMS and to maximize its ultimate benefit to the agency."

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Instructional Objectives

- **Explain why feedback loop is important**
- **Describe processes needing feedback loop**
- **Describe type of feedback required**
- **Describe how to establish feedback loop**
- **Describe benefits to other agency needs**