

Selecting PMP Procedures Appropriate for the Agency

Roger E. Smith, P.E., Ph.D.
Zachry Department of Civil Engineering &
Texas Transportation Institute
Texas A&M University

Most Important

- Select a pavement management program (PMP) that that will:
 - Provide decision support needed
 - Provide recommendations in form useable to agency
 - With resources available to using agency



Match PMP to Agency Needs

- Decision support needed
- Recommendations in useable form
- Data collection within available resource



Compatibility

- More compatible to agency approach - more likely to be adopted and used
 - Helps when the situation seems dismal
 - Provides information needed by senior management and politicians
- Support designed for local agencies
 - Does not require sophisticated outside support
 - Minimizes resources required to implement and operate system



Relative Advantage

- Greater perceived advantage - more likely adoption and use
 - Show benefits provided to the agency
 - Show benefit to operating personnel
 - Support securing funds



Complexity

- Easier to understand - more likely to be adopted and used
 - Understandable by staff
 - Explainable to management



Adaptability

- Modifiable to meet individual differences and changes
 - Reports and formats
 - Accommodate technological changes



What Kind of Support is Needed

- You must know your organization



Organizational Analysis

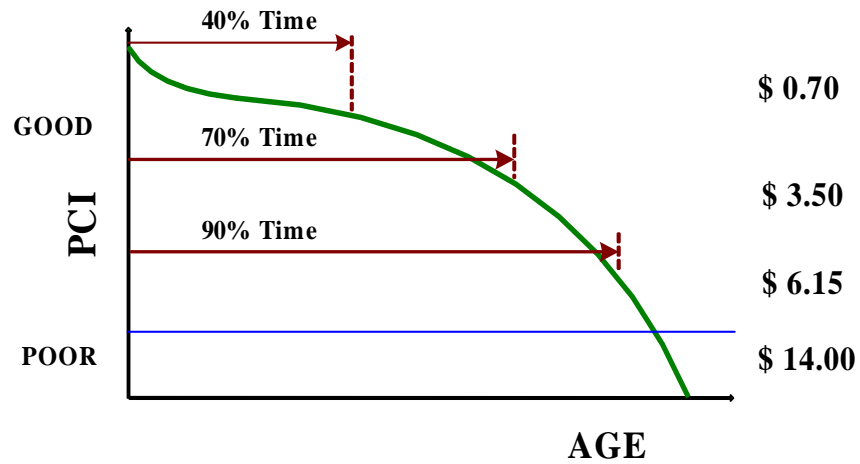
- ❑ Agency structure
- ❑ Communication flow
- ❑ Data collection and flow processes
- ❑ Existing data bases
- ❑ Other affected infrastructure systems
- ❑ Decision making processes
- ❑ Available resources
- ❑ Constraints



Primary Purpose of Pavement Management

- ❑ Get the most out of available funds
- ❑ Greatest return for funds invested

Pay Me Now or Pay Me Later



Pay Me Now

- 3 Seal Coats at \$ 0.70 /sy - 24 yrs
- 1 Overlay at \$ 3.50 /sy - 8 yrs
- 2 Seal Coats at \$ 0.70 /sy - 16 yrs

- Total \$7.00 /sy for 56 yrs

Pay Me Later

- 2 Remove & Replace at \$ 14.00 /sy
 - 54 yrs

- Total \$28.00 /sy for 54 yrs

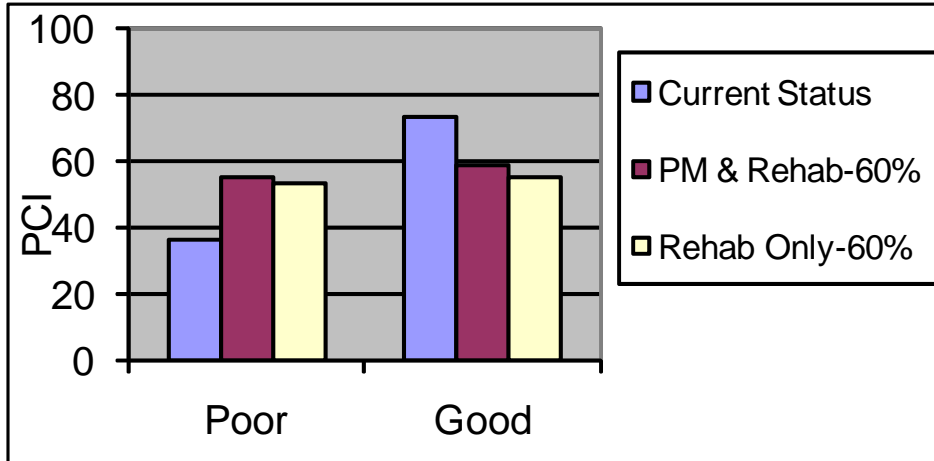
Compare

- Pay Me Now
 - Total \$7.00 /sy for 56 yrs

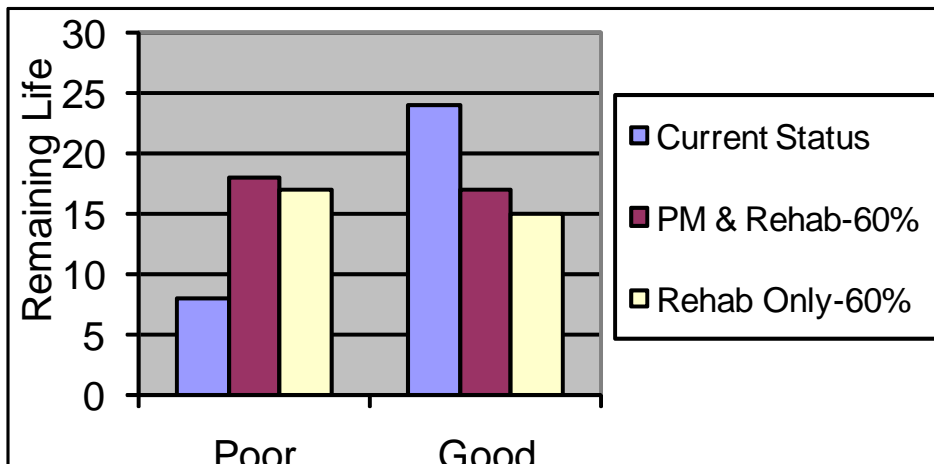
- Pay Me Later
 - Total \$28.00 /sy for 54 yrs

- Which Gave Better Service?

Compare Results - Future PCI



Compare Projected Remaining Life



MTC StreetSaver PMP Principle

- It costs the maintaining agencies less to have good roads than bad roads
- Providing:
 - Reasonable level of service provided
 - Pavements will respond to preventive maintenance, e.g. they must be structurally adequate
- **Pavement Preservation** is a basic principle of MTC StreetSaver
- It gives the best return on funds invested

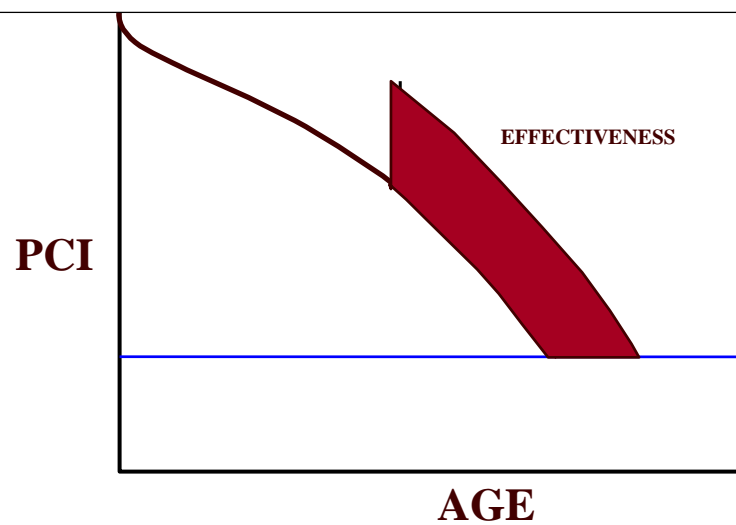
Some Sections Beyond Preventive Maintenance

- Identify segments needing work
- Estimate funds needed to complete the work
- Identify best candidates for work when funds are constrained that will
 - Provide best return on funds invested

Possible Prioritization Concepts

- ❑ Worst First - Weighted for Traffic
- ❑ Least Life-cycle Costs
- ❑ Best Benefit-cost Ratio
- ❑ Best Effectiveness-cost Ratio

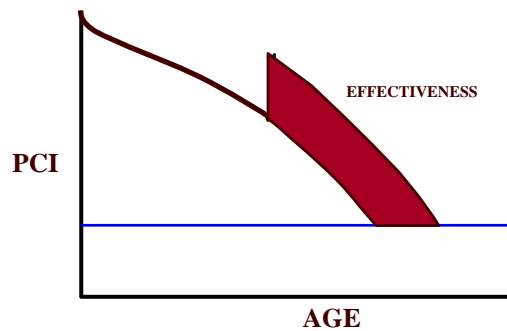
Prioritization Based on Cost-Effectiveness



Cost-Effectiveness

- Sections
 - That will be in the best condition for the longest time for least cost
 - Give best return on funds &
 - Should be repaired first

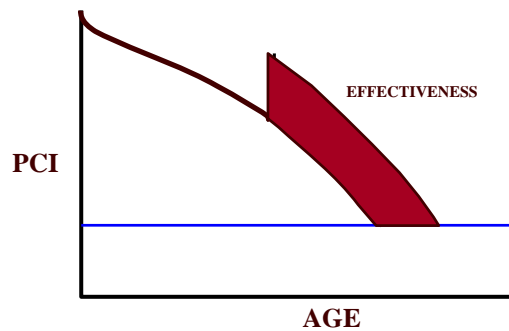
Cost-Effectiveness Ratio



$$\text{Cost-Effectiveness Ratio} = \frac{\text{Effectiveness}}{\text{Cost}}$$

- Which Pavements Last the Longest?
- Which Cost the Least to Build?
- Must Weight for Usage

Weighted Cost-Effectiveness Ratio



$$\text{Weighted Cost-Effectiveness Ratio} = \frac{\text{AREA} / \text{YR}}{\text{EUAC} / \text{SY}} \times \text{WF}$$

Weighted Cost-Effectiveness Ratio

Where

WER = weighted effectiveness ratio

AREA = area under PCI curve

YR = years affected

WF = weighting factor for usage

EUAC = equivalent uniform annual cost

SY = square yards in management section

MTC StreetSaver Provides

- Listings of Candidate Sections the will:
 - Provide best return for funds spent

Resources Available

- Agency personnel
 - Levels of knowledge
 - Engineering/public works
 - IT/computer/software
 - Decision support tools
 - Data collection for pavement management
 - Number
 - To complete work when needed
 - Stability from turn-over

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Resources

- Funds
 - To implement & use PMP software
 - Internal work
 - Contract work
 - To complete work (internal or contract)
 - Preventive maintenance
 - Rehabilitation/reconstruction

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MTC StreetSaver

- Software designed for use by
 - Local agency personnel
 - Public works and finance
- Data collection procedures designed to allow:
 - Local agency personnel to use
 - Or by contract
- Ease of use minimizes need for sophistication in users

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MTC StreetSaver

- StreetSaver Online
 - Only need MS Internet Explorer as Browser
 - Reduces dependence on local IT personnel
 - Reduces data storage needs
 - Data will not be lost because of actions on local network
 - Database backed up automatically

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MTC StreetSaver Training

- Training provided on
 - Pavement management concepts
 - Software use
 - Setting up pavement network
 - Distress data collection
 - How to use data to influence decisions
- Training repeated
 - Helps with that personnel turn-over issue

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MTC StreetSaver Support

- Hot-line support provided to assist with
 - Pavement management problems
 - Data problems
 - Software problems

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MTC StreetSaver Enhancements

- Users drive changes to StreetSaver
 - Software constantly being improved & enhanced
 - Now being converted to “.net” to maintain compatibility with new operating systems
 - GASB module added
 - Multiple curves being added
 - Etc.

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MTC StreetSaver Robust

- StreetSaver tested prior to delivery
 - Tested by programmers
 - Tested by TTI/TAMU
 - Beta tested by select agencies
 - Finally released for full use

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StreetSaver

Matched to Agency Needs

- Compatibility to local agency
- Relative advantage gained
- Minimal complexity
- Adaptable and being enhanced
- No “black box” system here
 - Training explains concepts and usage



Questions?