AIRPORT PAVEMENT

ODOT/FAA WORKSHOP

Presented to: Ohio Sponsors & Consultants
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TODAY’S OBJECTIVES

To Better Understand:

– Pavement Maintenance
– Prioritizing Projects and Pavement Condition
– Pavement Maintenance Management Program
– Pavement Classification Number (PCN)
HELPFUL TOOLS

• Advisory Circular (AC) 150/5380-7, Airport Pavement Management Program

• AC 150/5380-6, Guidelines and Procedures for Maintenance of Airports Pavements

• AC 150/5335-5, Standardized Method of Reporting Airport Pavement Strength (PCN)

• ODOT Web Site:
  – http://www.dot.state.oh.us/Divisions/Operations/Aviation
WHY PAVEMENT MAINTENANCE???
PAVEMENT NOTES

• Most airport pavements:
  – Do not fail because of load-induced damage.
  – Are eventually destroyed by the elements:
    • Most destructive element is excess moisture.
    • If protected from weather induced damage, service life of pavement can be prolonged indefinitely.
PAVEMENT MAINTENANCE

• Maintenance is the most cost-effective way to extend pavement life.
  – Retards Deterioration

• Proper Maintenance Management reduces total cost of system preservation.

• Pavement Maintenance Management Plan required for any rehabilitation/reconstruction project.
Prioritizing Projects and Pavement Condition
PRIORITIZING PROJECTS

• Demand for AIP funds exceeds availability.

• FAA bases distribution of limited funds on current national priorities and objectives.

• Higher priority = Higher consideration for funding.
NATIONAL PRIORITY RATING (NPR)

• Numerical model that is one of several tools FAA uses to prioritize airport development projects.
  – First evaluation factor and serves to categorize airport development in accordance with agency goals and objectives.
  – Yields the highest percentage of projects funded under the Airport Improvement Program (AIP).
  – Generates values between 1 and 100, with a higher number indicating higher priority.
  – NPR values for pavement rehabilitation projects range from 65 to 75.
**FAA POLICY**

- For any project to replace or reconstruct pavement, sponsor must assure the airport has implemented an effective pavement condition and management program.

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![Diagram of Pavement Life Cycle](image-url)
PAVEMENT MAINTENANCE MANAGEMENT PROGRAM (PMMP)
WHAT IS A PMMP?

• A Pavement Maintenance Management Program:
  – Details procedures to assure that proper pavement maintenance, both preventative and reparative, is performed.
  – Defines procedures for collecting, analyzing, maintaining, and reporting pavement data.
  – Assists in finding optimum strategies for maintaining pavements.
PMMP BENEFITS

- Increases pavement useful life

- Provides an objective and consistent evaluation of the condition of a network of pavements.

- Provides a systematic and documentable engineering basis for determining M&R needs including consideration of future operational needs and/or planned airport expansion projects.

- Identifies budget requirements necessary to maintain pavement functionality.

- Provides documentation on the present and future condition of the pavements.

- Provides Life Cycle Cost Analysis for various M & R alternatives.

- Identifies impact on pavement if no major repairs are performed.
PMMP COMPONENTS

• At a MINIMUM, the PMMP should include:
  – Pavement Inventory
    • Location of all runways, taxiways, and aprons.
    • Type of pavement
    • Year of construction or most recent major rehabilitation.
    • Dimensions.
  – Inspection Schedule
    • Detailed Inspection (must be performed at least once a year)
      – If a PCI survey is available, the frequency of inspections may be extended to 3 years.
    • Drive-by Inspection
      – Should be performed a minimum of once per month to detect unexpected changes in pavement condition.
PMMP COMPONENTS (CONTD.)

- **Record Keeping**
  - Complete information on findings of all detailed inspections and maintenance performed should be recorded and kept on file a minimum of 5 years.
  - Types of distress, their locations, and remedial action, scheduled or performed, should be documented.
  - Detailed Inspections - minimum information to be recorded:
    - Inspection date
    - Location
    - Distress Types
    - Maintenance scheduled or performed
  - Drive-by Inspections - minimum information to be recorded:
    - Inspection date
    - Maintenance performed
PAVEMENT CLASSIFICATION NUMBER (PCN)
WHAT IS PAVEMENT CLASSIFICATION NUMBER (PCN)?

• Standardized Method of Reporting Airport Pavement Strength
• Aircraft Classification Number (ACN)
WHAT IS PAVEMENT CLASSIFICATION NUMBER (PCN)?

- Airport should have PCN calculated and published as part of runway rehabilitation/reconstruction projects.
- PCN applies only to pavements 12,500 pounds or greater.

**QUESTION?....**

ACN ≥ PCN

Or

ACN ≤ PCN