DISTILLING INFORMATION FROM ASSET MANAGEMENT DATA

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$450 MILLION IN GRANT FUNDING AVAILABLE FOR CREATION OF ASSET MANAGEMENT PLANS

- **State of Michigan** received nearly 700 applications from municipalities
- **3 years** to complete
FOCUS – SANITARY COLLECTION SYSTEMS
ASSET MANAGEMENT

Inventory

Funding: O&M and Capital Improvement

Condition Assessment

Risk Analysis

Level of Service
Inventory
Condition Assessment

Level of Service

ASSET MANAGEMENT

Inventory

Condition Assessment

Level of Service

Funding: O&M and Capital Improvement
CONDITION INSPECTION

• Based on physical inspection of defects found within a sewer segment
Structural Defects:

- Crack
- Fracture
- Surface Damage
- Pipe Failures
- Joint
- Misc
- Deformed
- Lining Failure
- Point Repair
- Collapse

Overall, Crack is the most significant structural defect.
Deposits
Roots
Tap
Misc
Infiltration
Intruding Seal
Line
Vermin
Obstructions

O&M DEFECTS
CONDITION INSPECTION

- Based on physical inspection of defects found within a sewer segment.

- 0 No Defects
- 1
- 2
- 3
- 4
- 5 Failing
DATA MINING

Data

Information

simafore.com
A SIMPLIFIED CLASSIFICATION TREE EXAMPLE IN ONE COMMUNITY

- Age
  - >40 years
    - Material
      - Concrete
        - Diameter
          - >36”
      - Diameter
        - >18”
    - Material
      - Clay
        - Diameter
          - >12”
        - Diameter
          - <12”
        - Diameter
          - <18”
• 1950-1960s built, large diameter RCP pipes appear to be in worst structural condition.

BACKED UP BY THE DATA

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<thead>
<tr>
<th>Pipe Diameter</th>
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<td>8 in</td>
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SCORE LIKELIHOODS AND BENCHMARKING

Score Likelihood vs. System Average PACP Structural Index Score

- Log Pearson Type III Distribution
- 95% Confidence Interval
SCORE LIKELIHOODS AND BENCHMARKING

Score Likelihood graph showing the Log Pearson Type III Distribution and 95% Confidence Interval against System Average PACP O&M Index Score.
ASSET MANAGEMENT IS ESSENTIAL

• THIS IS A COMPLEX TASK
  • NEW ANALYTICAL METHODS AND TECHNIQUES
  • VISUALIZATIONS FOR UNDERSTANDING AND COMMUNICATION

• FUTURE IDEAS:
  • COLLABORATION TO LEVERAGE ALL THE DATA COLLECTION THROUGH AMPs
  • LET THE DATA HELP GUIDE FUTURE INSPECTIONS
  • COMPARISONS OF SANITARY AND STORM SYSTEMS
  • INCORPORATE RESULTS IN LONG TERM MODELING AND FUNDING STRATEGIES
THANK YOU!
QUESTIONS?

JOIN THE MWEA/AWWA ASSET AND INFRASTRUCTURE MANAGEMENT COMMITTEE

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