



CMAP Pavement Management Program

**BOARD PRESENTATION – CITY OF CREST HILL
MAY 04, 2026**

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CMAP Pavement Management Work Plan

The Chicago Metropolitan Agency for Planning (CMAP) is the region's official comprehensive planning organization.

This program supports effective and efficient use of member agency resources using pavement management tools and incorporation of preservation approaches in agencies.

CMAP hired APTech to implement pavement management for the City.

Program Goals

- **Promote and support asset management at the local level**
- Implement the PAVER pavement management system
- Perform a comprehensive pavement condition survey
- Evaluate the impact of the City's existing funding level on future pavement conditions
- Determine funding levels required to:
 - ✓ Maintain current pavement conditions
 - ✓ Improve current pavement conditions
 - ✓ Eliminate rehabilitation and reconstruction backlog
- Recommend pavement preservation and rehabilitation projects



Why Pavement Management Makes Sense

- According to the AASHTO PM Guide, Pavement Management provides a systematic approach that enables agencies to evaluate consequences of investment decisions and determine most cost-effective use of resources.
- Agencies have reported benefits including:
 - Developing strategies to use resources more efficiently
 - Data-driven, performance-based decision making
 - Better understand current and future road needs
 - Better respond to queries both internal and external
 - Better communication
 - Improved transparency in decision making
 - Better credibility



CMAP PM Project Overview

- Working with the City;
 - Define pavement network
 - Assess treatment types and costs
 - Gather budget information
- Collect 2025 pavement condition information
- Update PAVER pavement management software
- Run “scenario” analyses and present results to the City
- Document work, results, and recommendations in report
- Provide PAVER training
- City Council presentation

Pavement Data Collection and Pavement Management System Implementation

City of Crest Hill, Illinois

Draft Report

PREPARED FOR
City of Crest Hill

IN ASSOCIATION WITH
Chicago Metropolitan Agency for Planning

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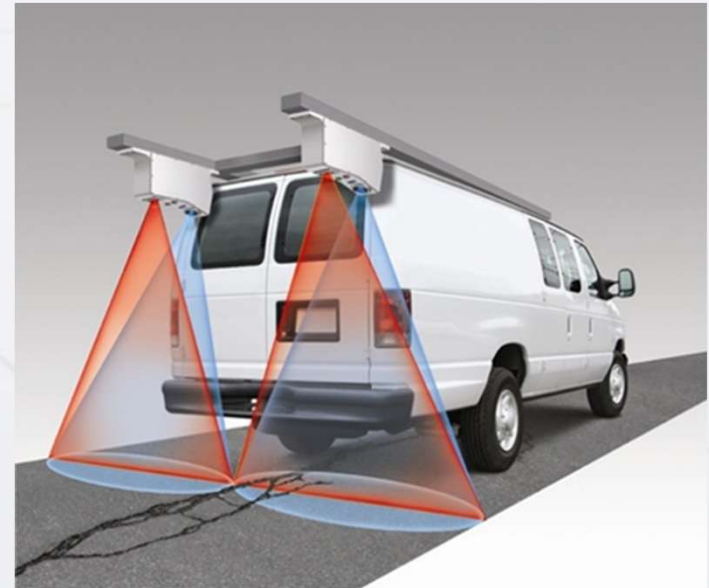
Data Collection

Data collection with APTech's EDGE van
September 24 - 25, 2025

- LCMS sensors
- Road Surface Profiler,
- ROW Cameras (front-facing 3 angles and rear-facing)
- GPS receivers for spatial positioning.

The van drove the City roadways with a driver watching the road and a separate technician reviewing data in real time.

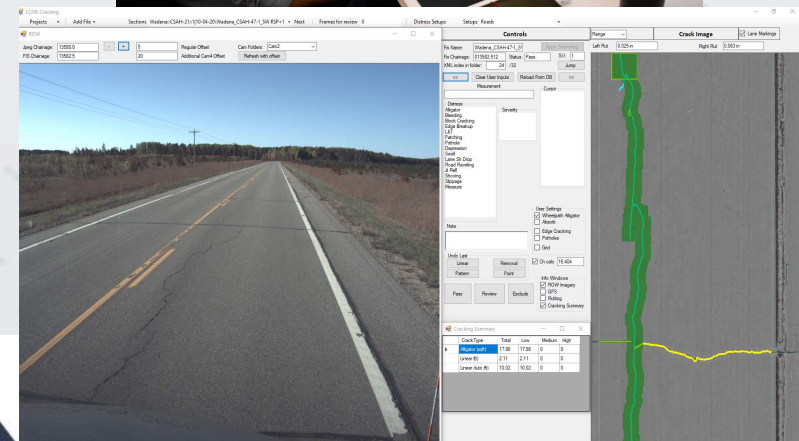
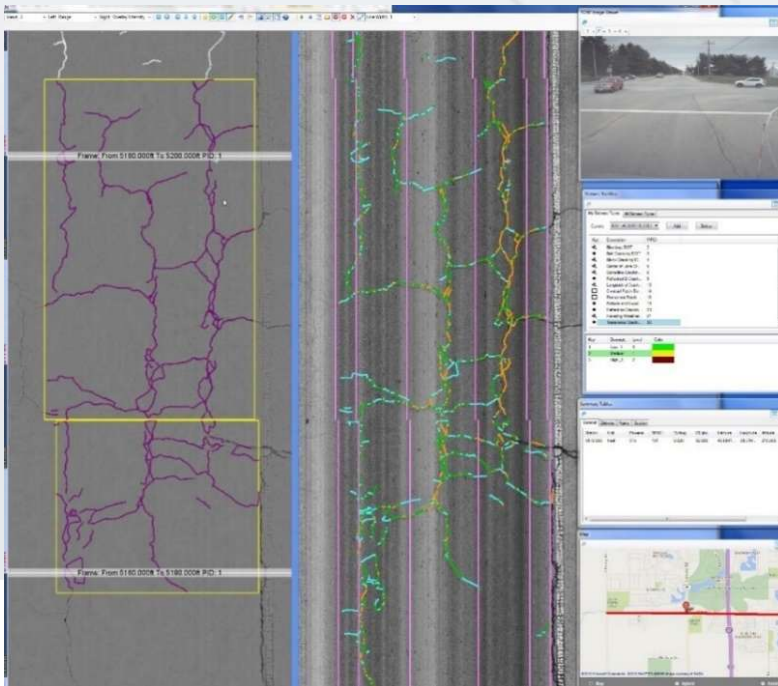
Safe, efficient, unobtrusive.



Distress Data Extraction

Laser Crack Measurement System produced range and intensity 3D images. Automated image processing algorithms initially identified distress.

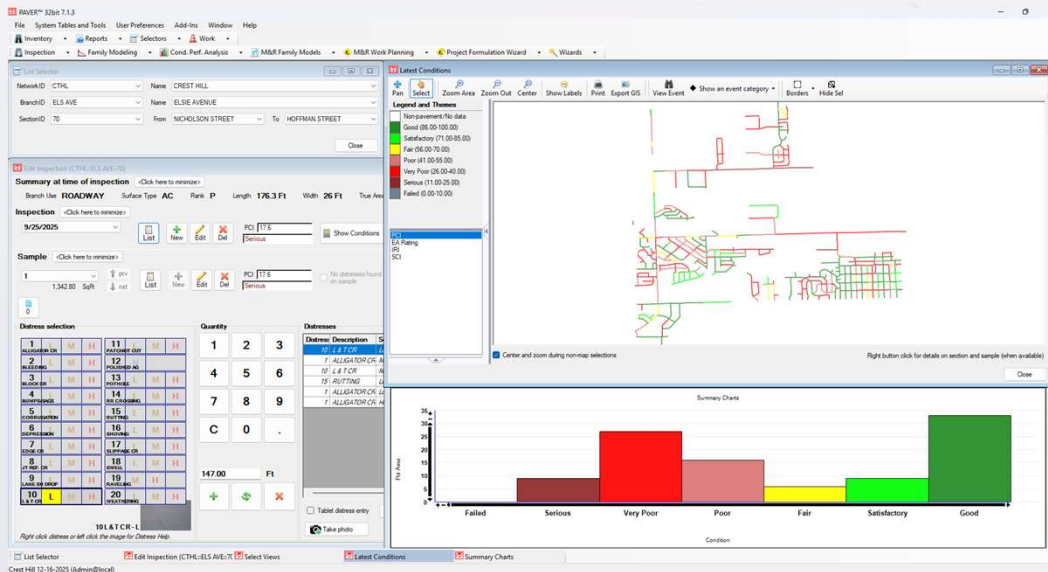
Trained surveyors reviewed on workstations to complete the surveys.



Calculation of Pavement Condition Index (PCI)

Distress

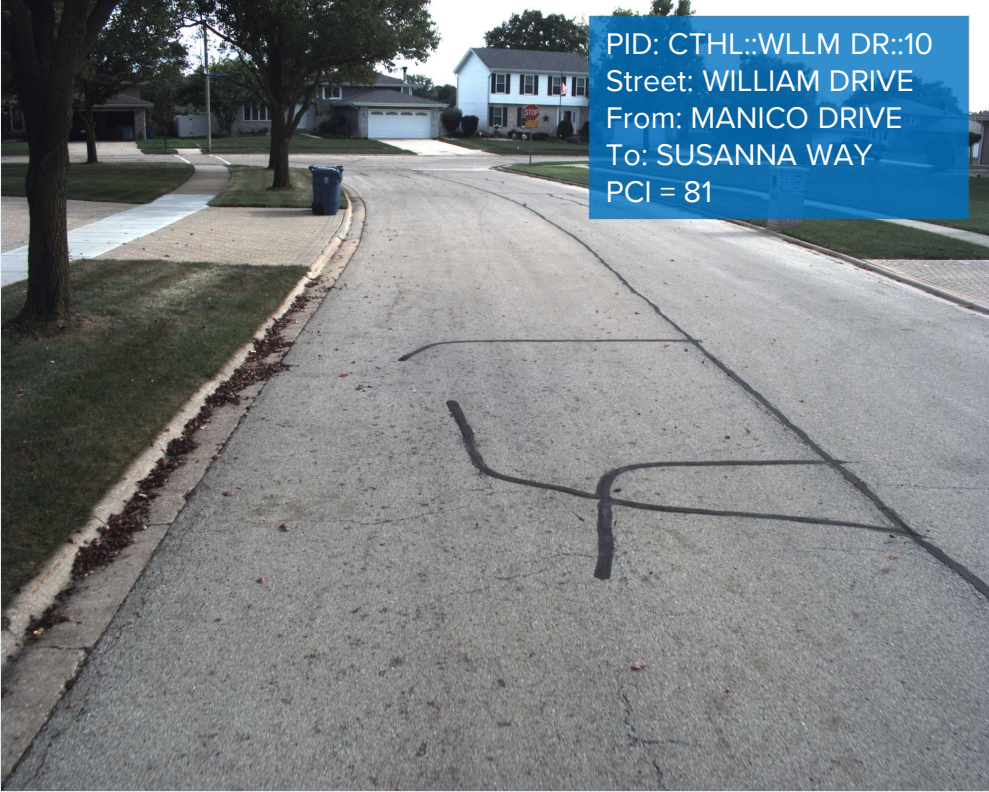
- Type
- Severity
- Extent



PCI Range		Condition Category	
100	86	Good	
85	71	Satisfactory	
70	56	Fair	
55	41	Poor	
40	26	Very Poor	
25	11	Serious	
10	0	Failed	



Pavement Condition Examples



Pavement Condition Examples (cont.)










Pavement Condition Examples (cont.)



Pavement Condition Examples (cont.)

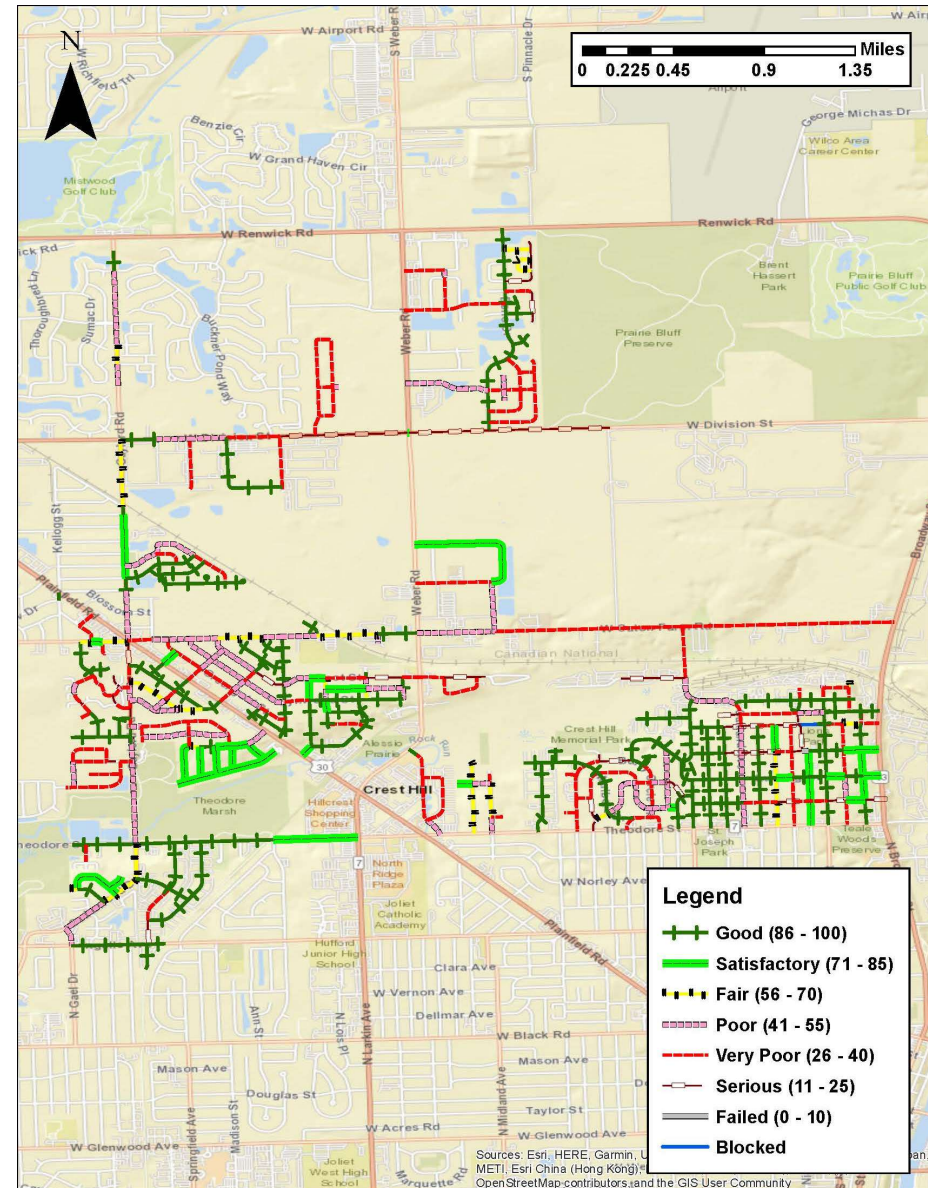


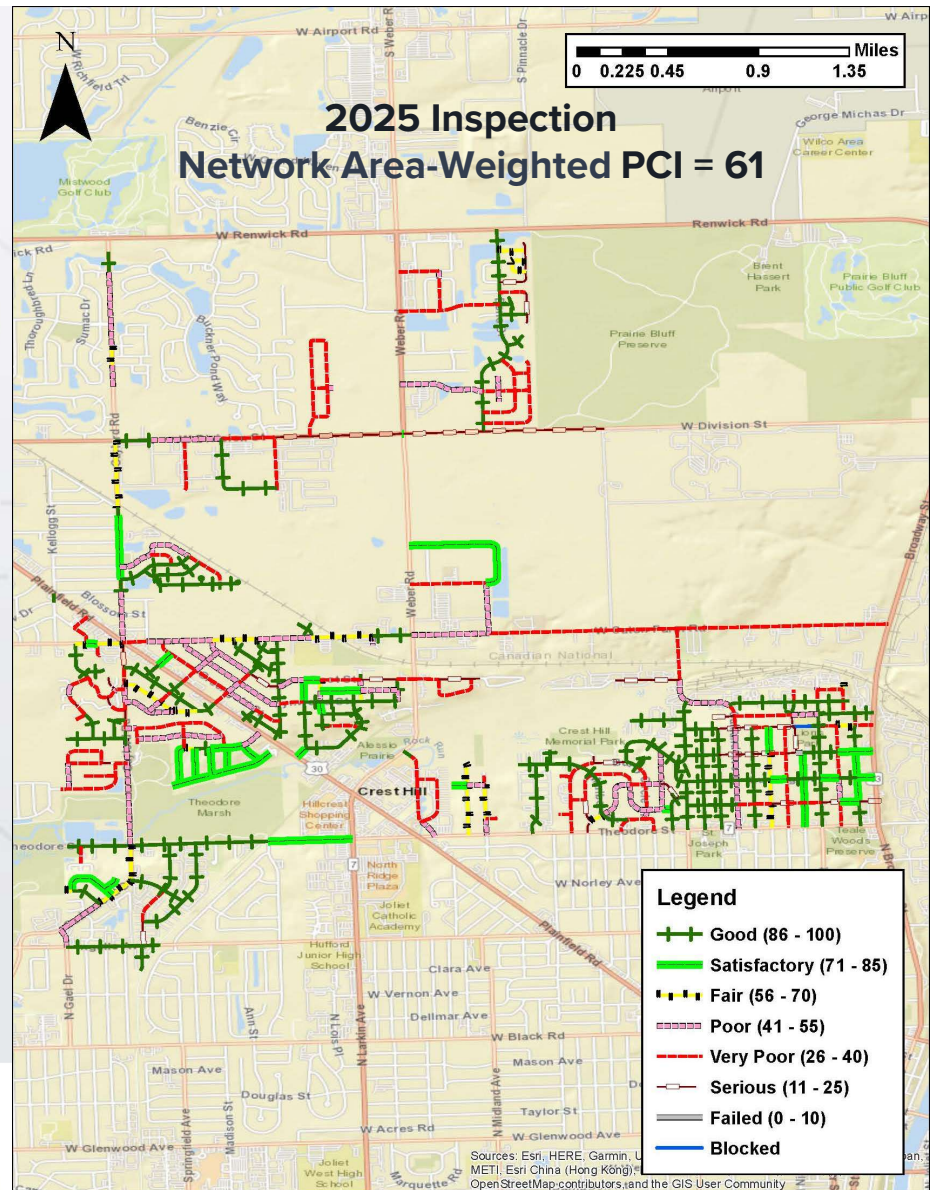
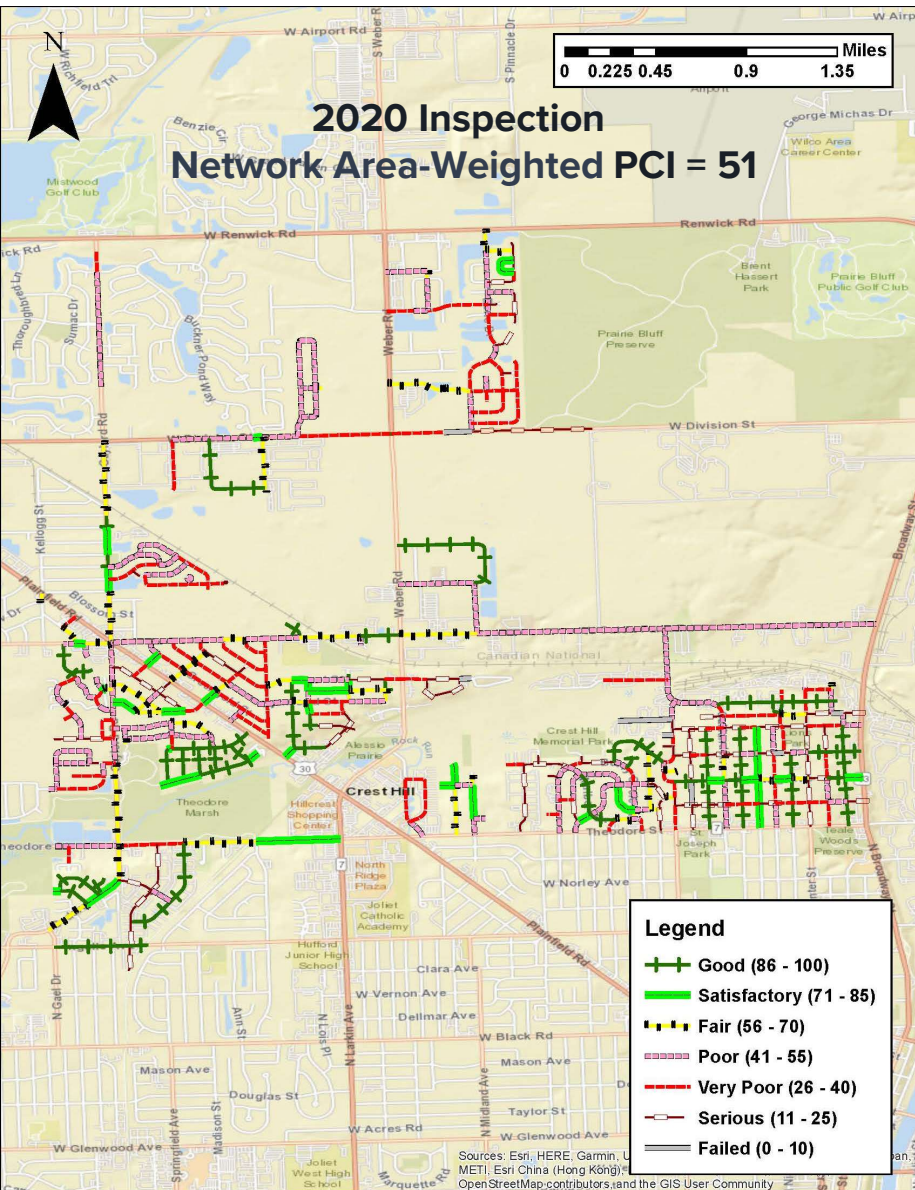
PCI Results

PCI Range		Condition Category	
100	86	Good	
85	71	Satisfactory	
70	56	Fair	
55	41	Poor	
40	26	Very Poor	
25	11	Serious	
10	0	Failed	








**Network Area-Weighted
PCI = 61**

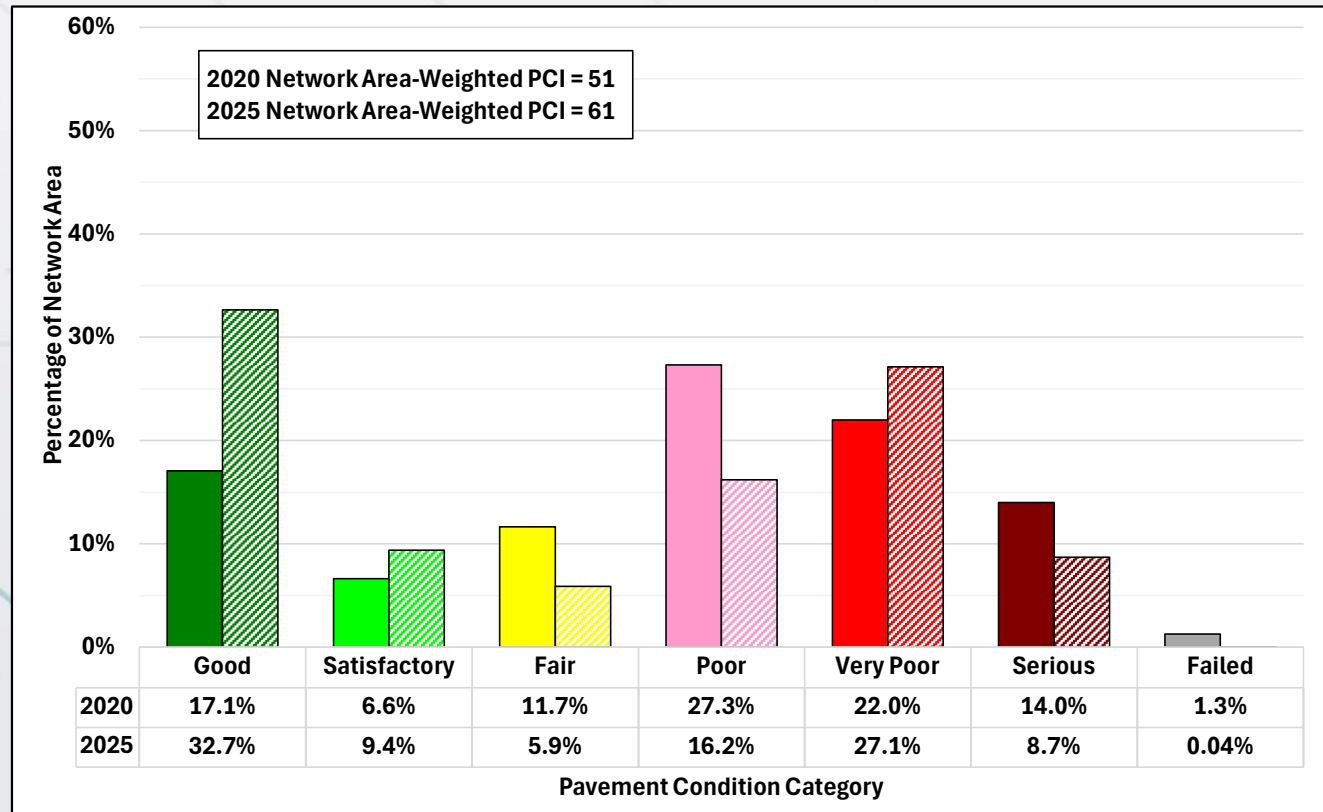
50.5 Total Centerline Miles





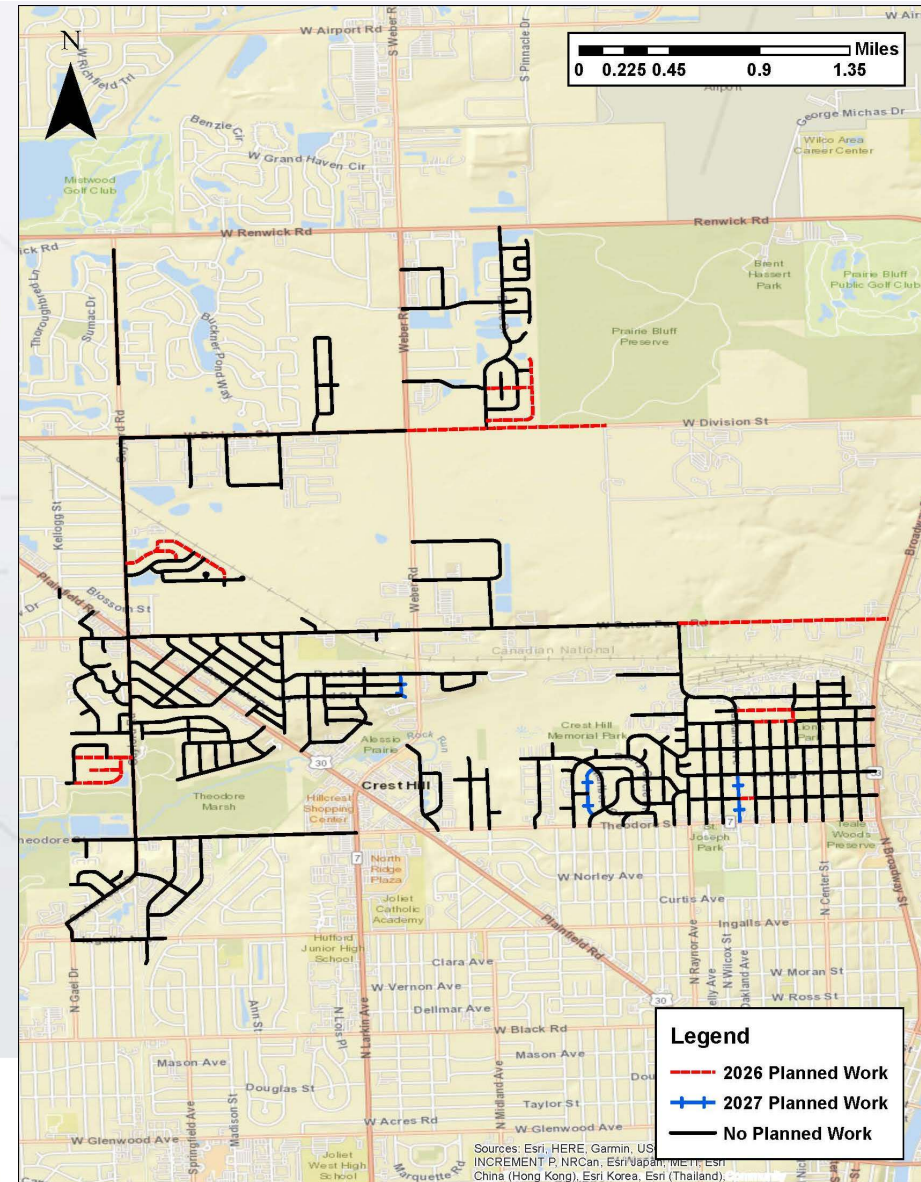
2020 vs 2025 PCI Results Network Level (Percentage of Area)

PCI Range		Condition Category	
100	86	Good	
85	71	Satisfactory	
70	56	Fair	
55	41	Poor	
40	26	Very Poor	
25	11	Serious	
10	0	Failed	



Planned Work (2026-2027)

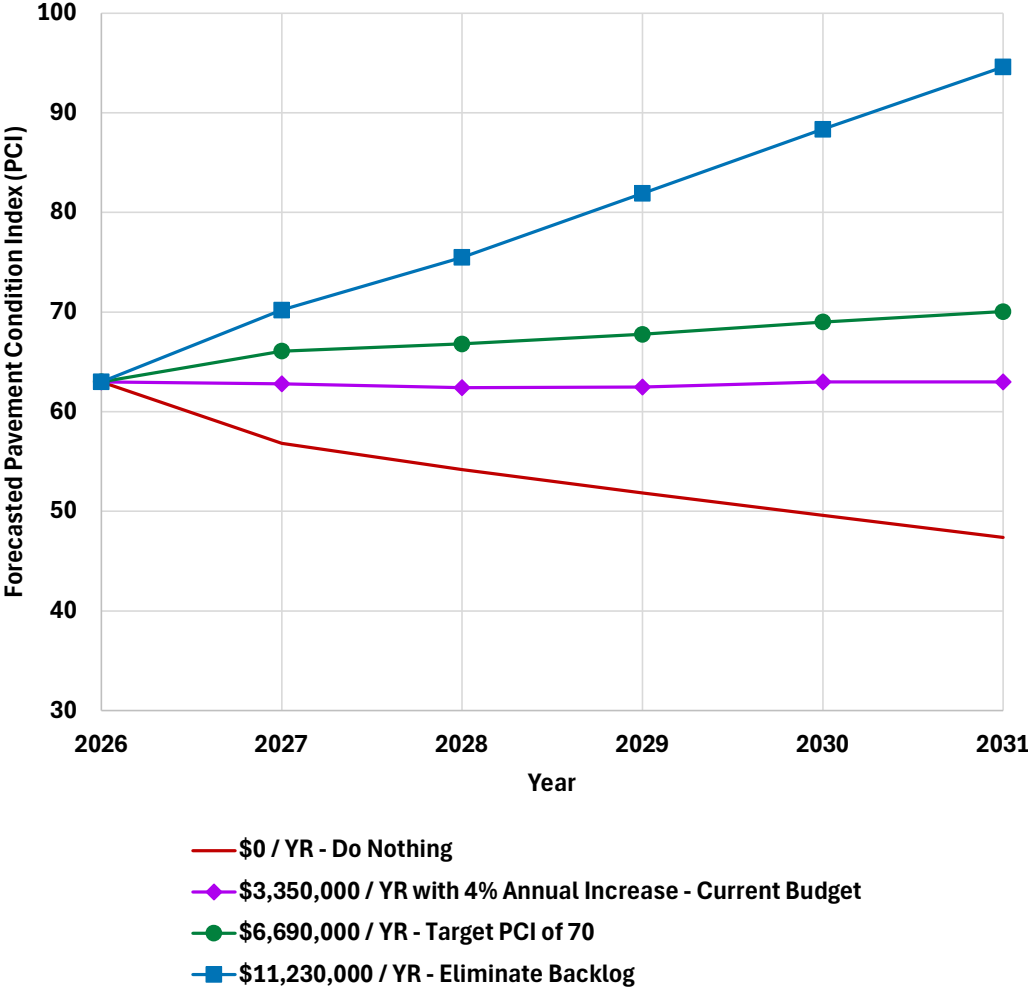
- **2026** – Street Rehabilitation and Division West of Weber Roadway Reconstruction
- **2027**– Water main replacement
 - Oakland from Ludwig to Theodore.
 - Imperial Dr. from Root to Lynwood (Plus Stormwater Updates)
 - Inner circle from Marlboro Dr. to Hosmer Ln



Budget Analyses Forecasted PCI (5-year analysis)

- \$0/yr (safety repairs only). Final PCI = 47
- \$3.35M/yr – Current Funding with a 4% Annual increase. Final PCI = 63
- \$6.69M/yr – Reach Target Condition. PCI = 70
- \$11.23M/yr – Eliminate Backlog. Final PCI = 95

All scenarios include planned work
4% inflation rate used for all scenarios



Overview of Budget Scenario Results

Funding Scenario	Total 5-Year Funded Costs	Remaining M&R Backlog in 2031	Total Funded + Backlog	Forecasted PCI in 2031
\$0 / YR - Do Nothing	\$0	\$82,224,593	\$82,224,593	47
\$3,350,000 / YR with 4% Annual Increase - Current Budget	\$18,051,207	\$52,604,933	\$70,656,140	63
\$6,690,000 / YR - Target PCI of 70	\$33,459,956	\$37,593,449	\$71,053,404	70
\$11,230,000 / YR - Eliminate Backlog	\$56,153,543	\$0	\$56,153,543	95

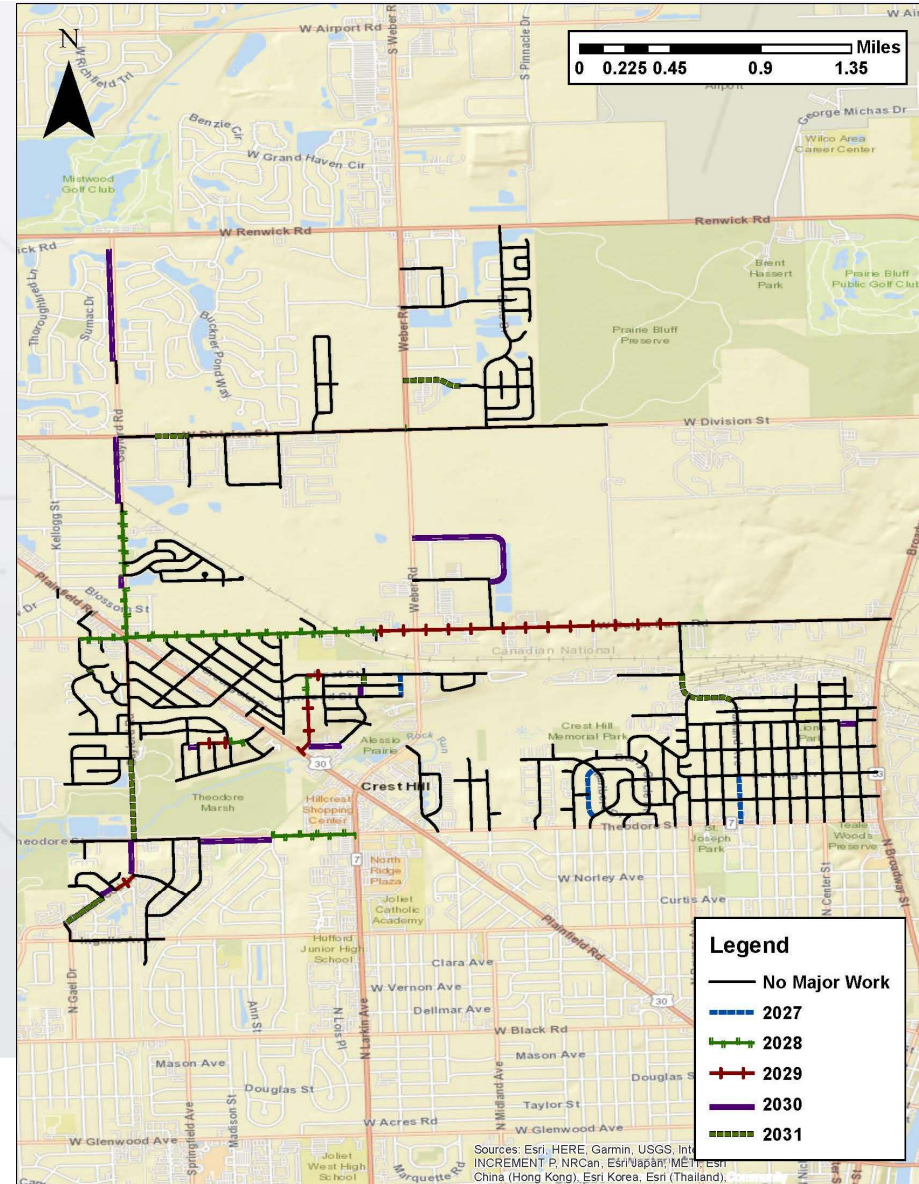
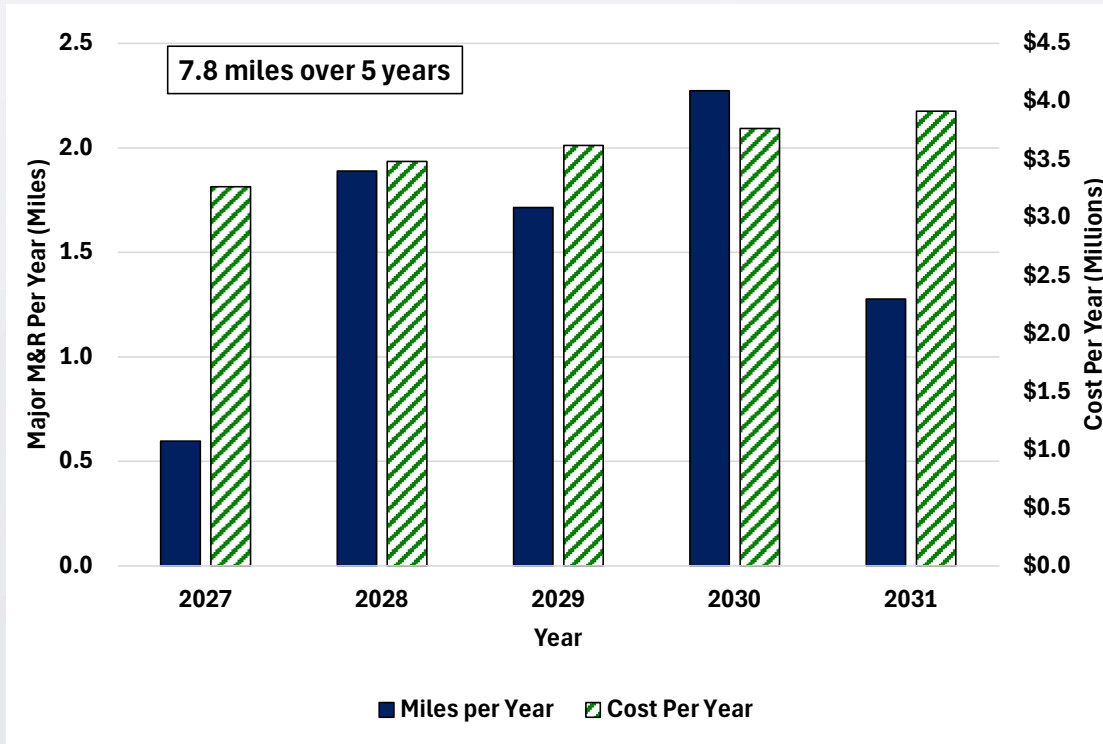
All scenarios include planned work

4% inflation rate used for all scenarios



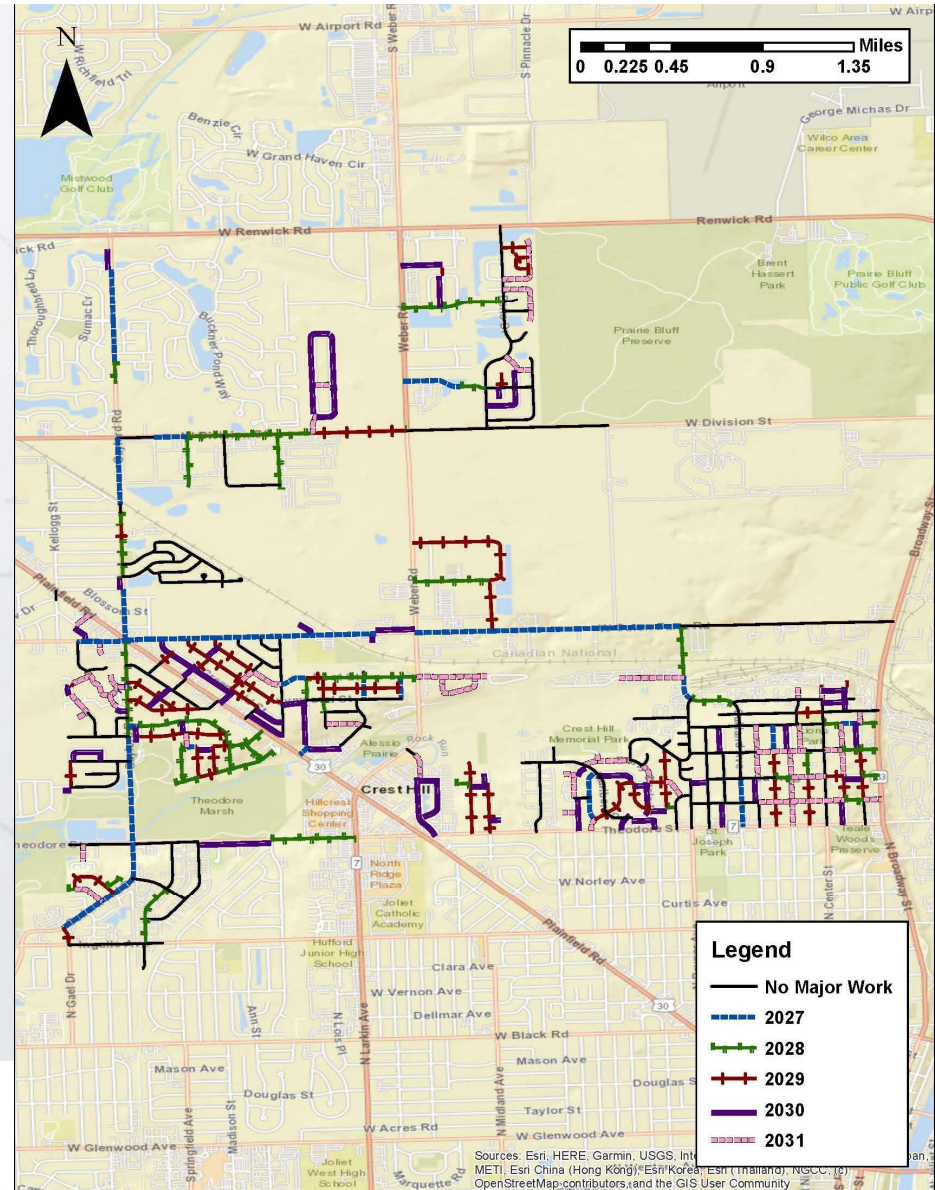
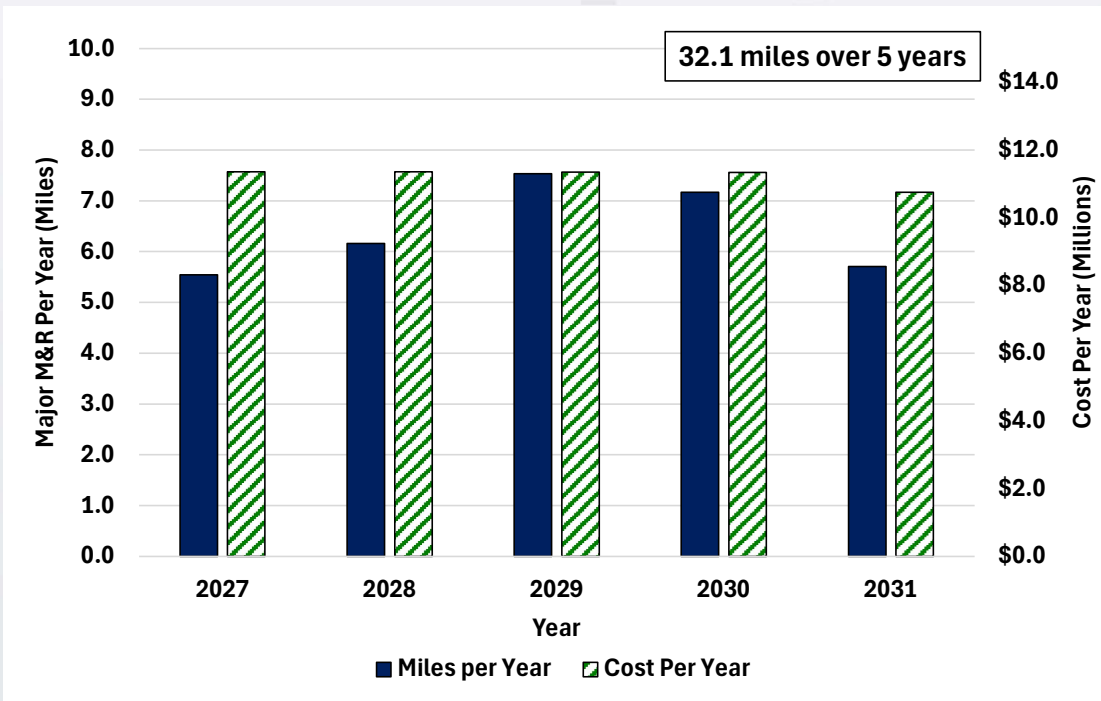
Current Funding 2027-2031

Major M&R

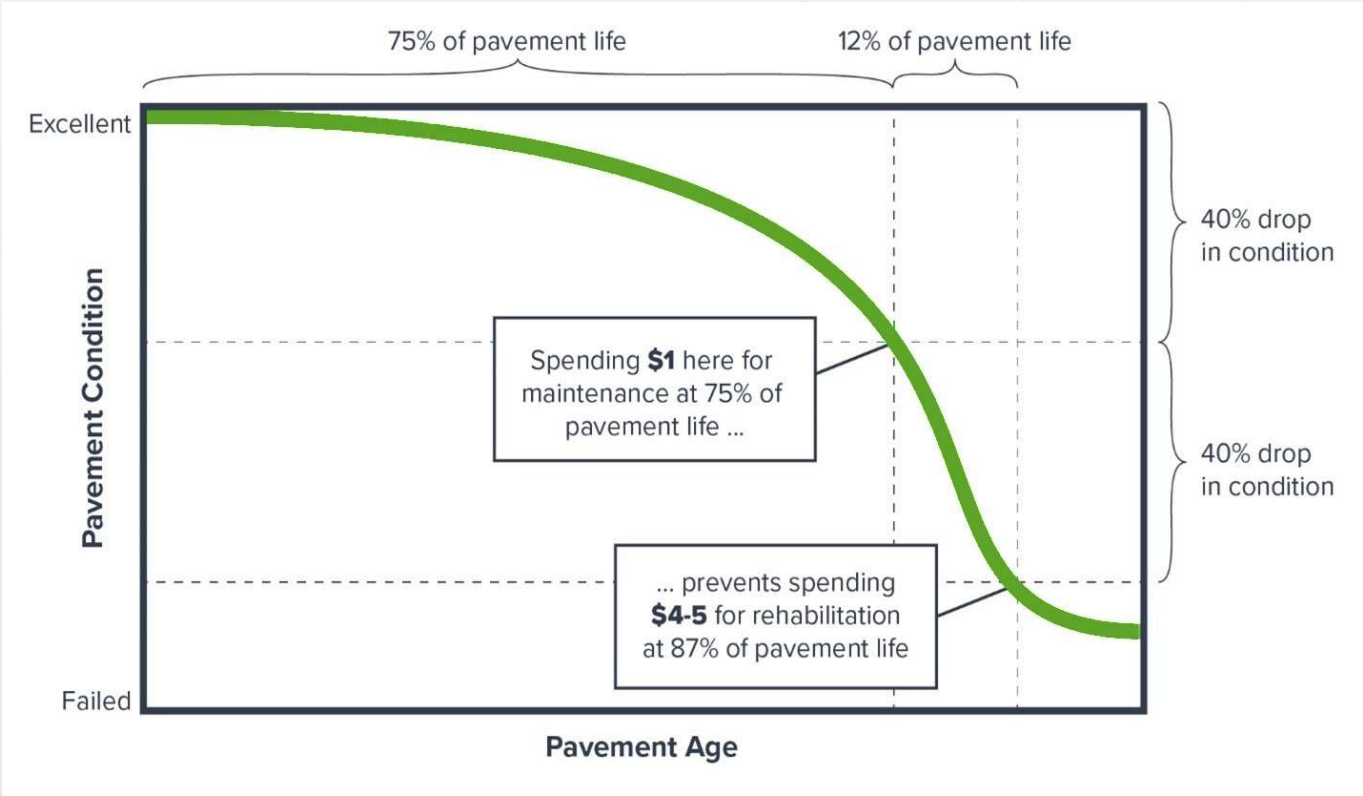


Eliminate Backlog 2027-2031

\$11.23M per Year – Major M&R



Pavement Life Cycle and Expected Costs



Recommendations

- Maintain the PMS
 - Annual updates to work history
 - Update condition data about every 3-5 years
 - Update treatment unit costs
- Use the PMS to make accountable, performance-based, data-driven decisions about work needs, and to demonstrate progress towards achieving goals.
- Use preventive maintenance (preservation) approaches to make the most effective use of available resources by extending pavement life.



Acknowledgements

- City of Crest Hill
- Chicago Metropolitan Agency for Planning (CMAP)
- AECOM – Program management support for CMAP



Discussion

- Thanks for your time attention!
- Any questions?



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