

Town of Canton, CT

Pavement Management Study



The cost estimate and funding scenarios provided in the presentation are preliminary and subject to change. This information is being provided for information only at this time. Final cost estimates and budget scenarios will be provided when the project is completed.

Presented by: Vanasse Hangen Brustlin, Inc.
January 19, 2011



Presentation Overview

- Pavement Management Concepts
- Pavement Management in Canton
 - ❖ Methodology
 - ❖ Current Conditions & Backlog
 - ❖ Budget Analysis
- Recommendations

Pavement Management Concepts

What is Pavement Management?

- The practice of planning for pavement maintenance and rehabilitation with the goal of maximizing the value and life of a pavement network.

Otherwise known as
“Getting the Biggest Bang for Your Buck”

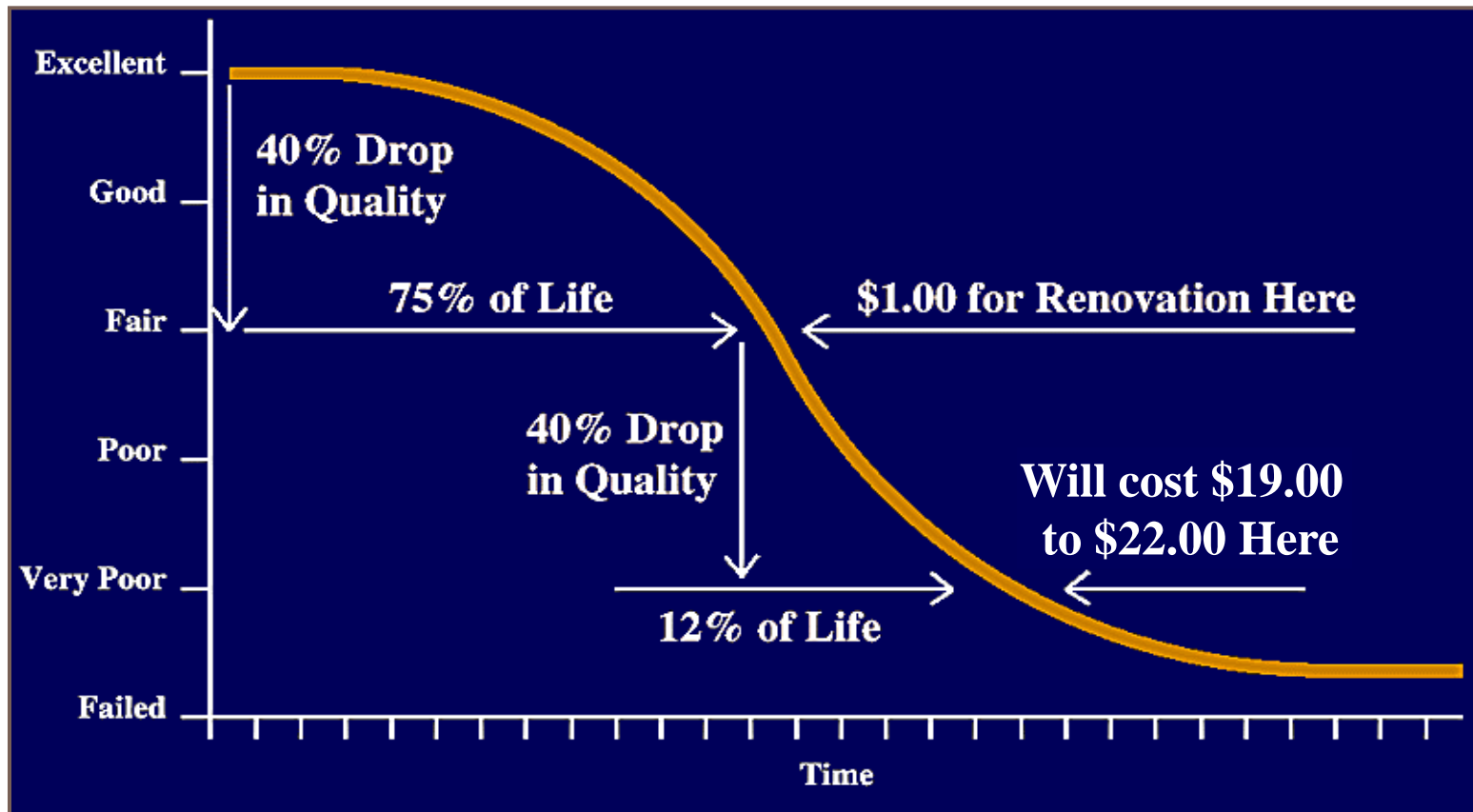
Pavement Management Concepts

The Process

- Pavement Section Inventory
- Pavement distress identification and quantification
(*Visual Inspection Only*)
- General Drainage Deficiency Assessment
- Pavement Condition Index (PCI) calculation on a 0 - 100 scale
- Define Treatment Options and Costs
- Test various Budget Scenarios
- Develop list of candidate projects
- Apply engineering and local judgment to define annual road program

Pavement Management Concepts

Pavement Deterioration Curve



Pavement Management Concepts

PCI = 99

No Immediate Maintenance (PCI 93-100)



Pavement Management Concepts

Routine Maintenance Condition (PCI 86-92)

PCI = 86



Treatment options – Crack sealing, patching

Pavement Management Concepts

Preventive Maintenance Condition (PCI 73-85)

PCI = 73



Treatment options – Crack sealing, chip seal, thin overlay

Pavement Management Concepts

Structural Improvement Condition (PCI 61-72)

PCI = 65



Treatment options – Overlay or Mill & Overlay or Cold In-place Recycling

Pavement Management Concepts

PCI = 43

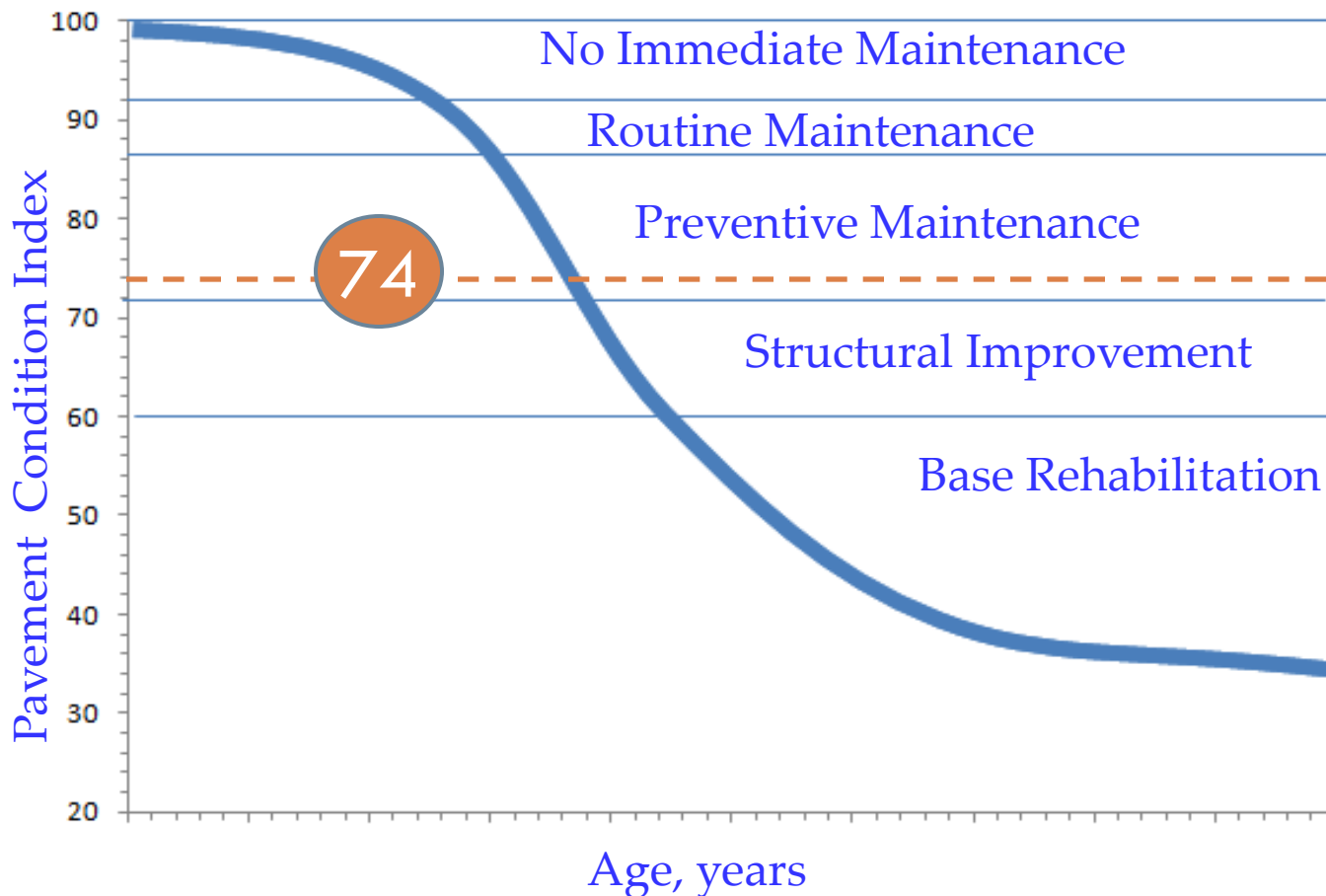
Base Rehabilitation Condition (PCI 0-60)



Treatment options – Reclamation, Reconstruction

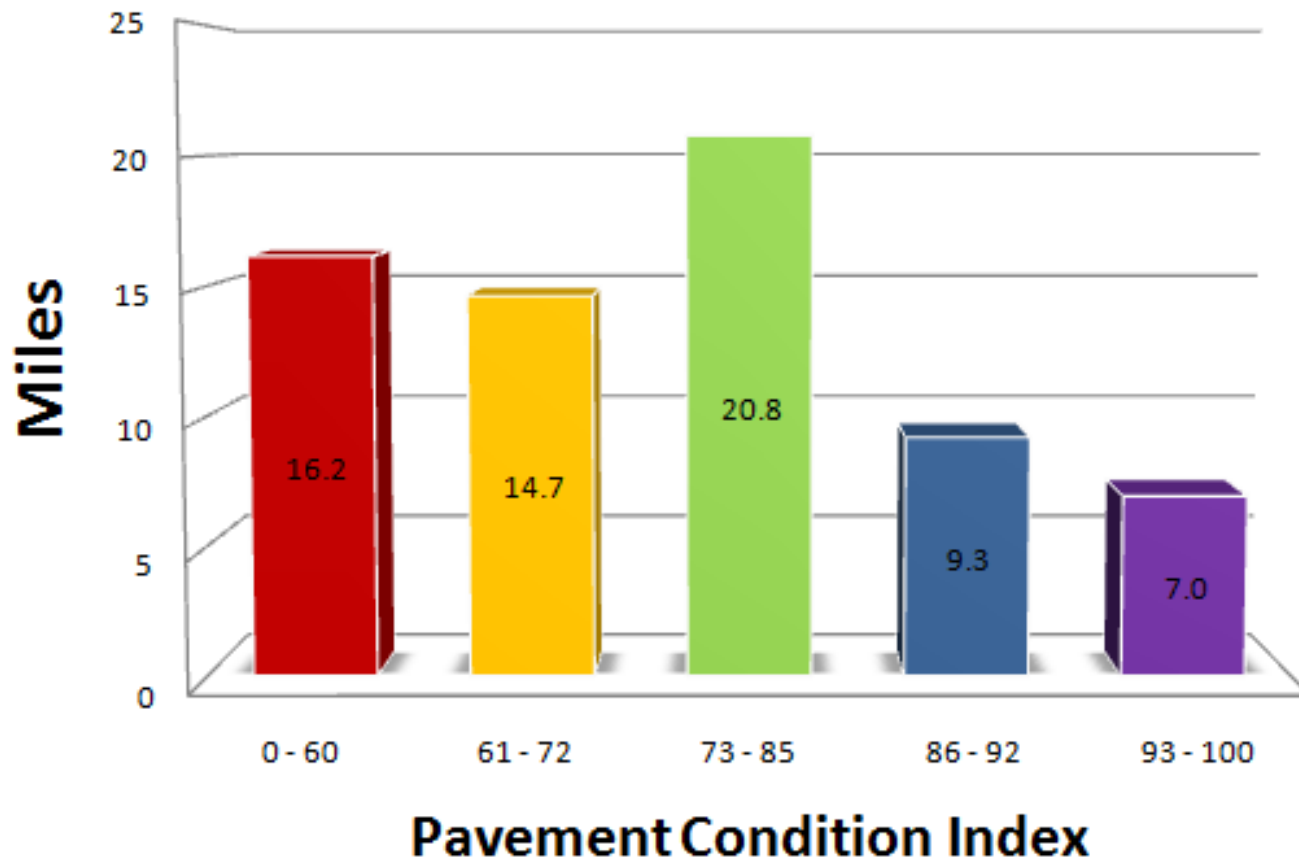
Pavement Management in Canton

Average Roadway Pavement Condition Index = 74

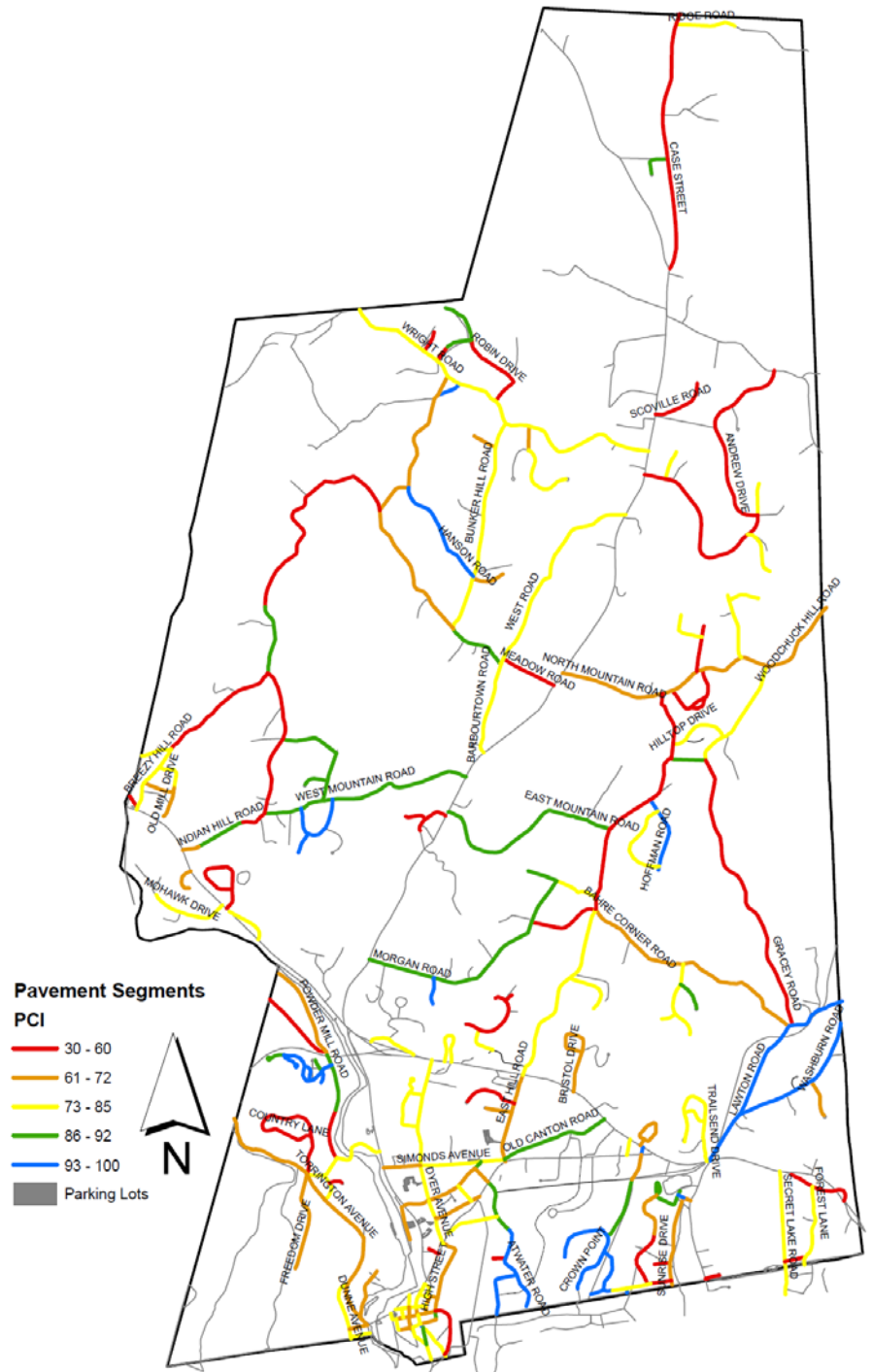


Pavement Management in Canton

Roadway Pavement Condition Index Distribution



GIS Map



Pavement Management in Canton

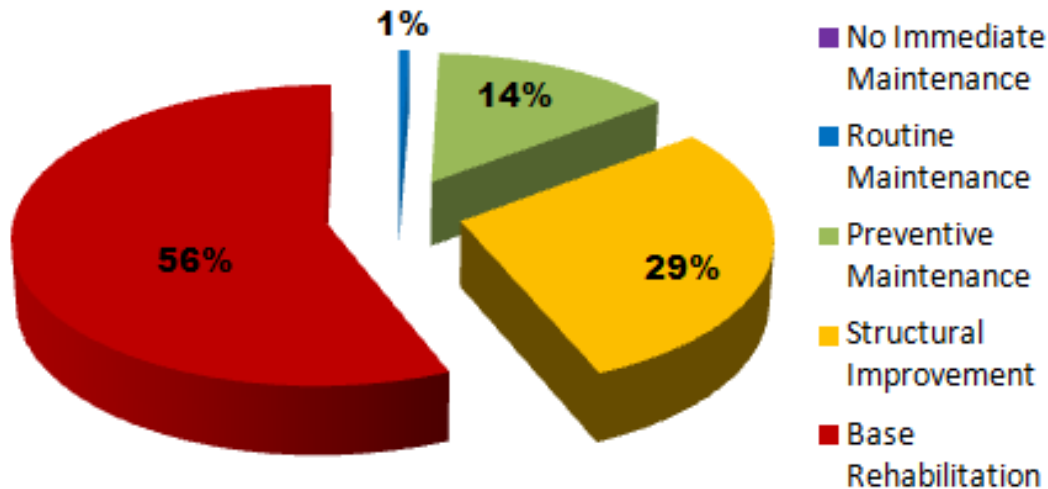
Current Roadway Pavement Backlog

Pavement Treatment Band	Miles	Cost
No Immediate Maintenance	7.0	\$0
Routine Maintenance	9.3	\$90,000
Preventative Maintenance	20.8	\$2,125,000
Structural Improvement	14.7	\$4,355,000
Base Rehabilitation	16.2	\$8,470,000
Pavement totals:	67.9	\$15,040,000

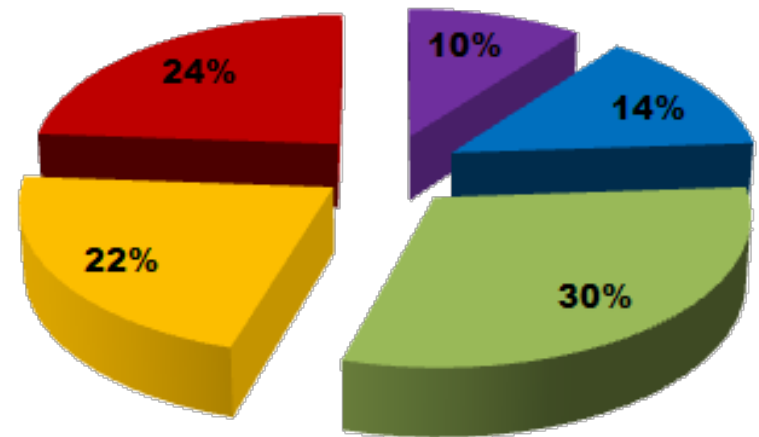
Pavement Management in Canton

Current Roadway Pavement Backlog Summary

COST



MILES



Pavement Management in Canton

Current Parking Lot Pavement Backlog

Pavement Treatment Band	Cost
No Immediate Maintenance	\$0
Routine Maintenance	\$0
Preventative Maintenance	\$120,000
Structural Improvement	\$170,000
Base Rehabilitation	\$0
Parking lot total:	\$290,000

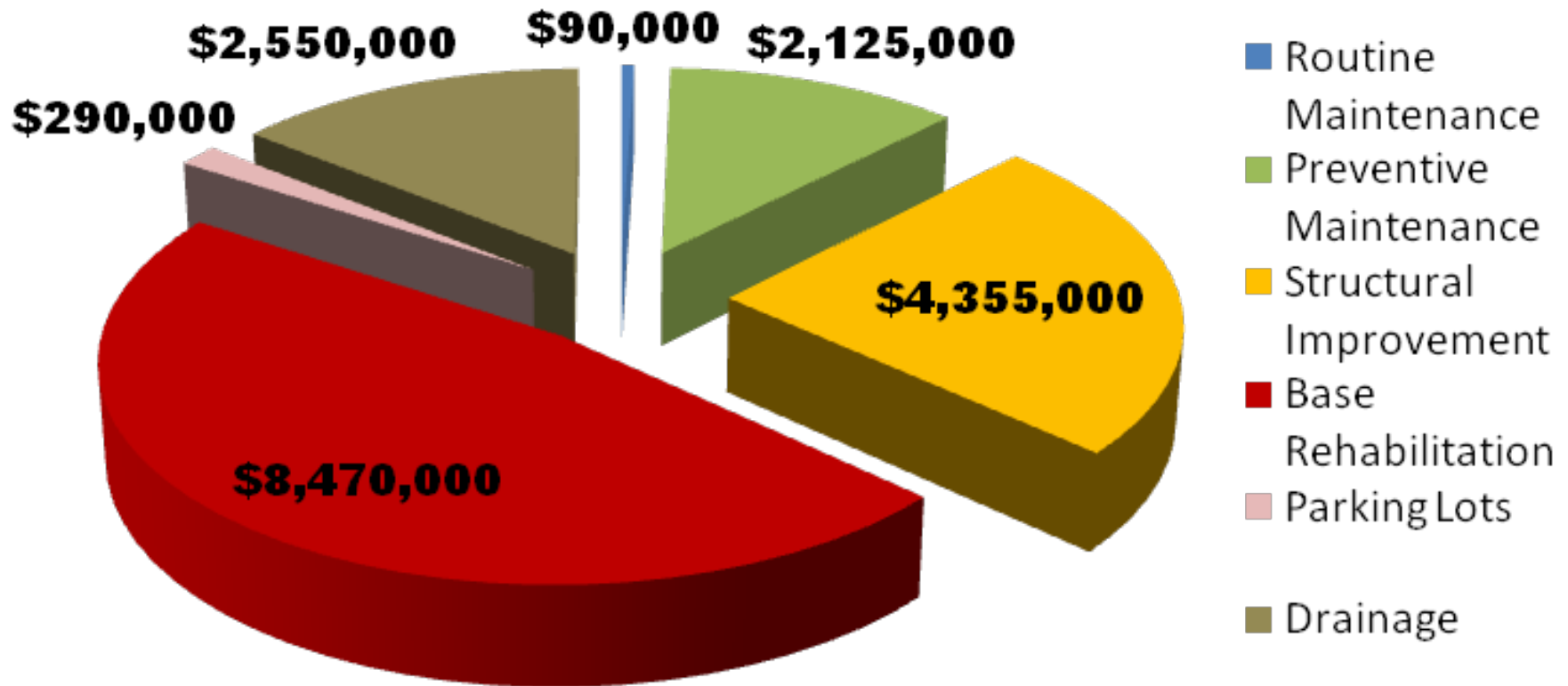
Pavement Management in Canton

Current Roadway Drainage Improvement Needs

Drainage Items	Cost
Replace Curbing	\$120,000
Install Ditch	\$310,000
Install Underdrain	\$25,000
Install Storm Drain	\$535,000
Install Catch Basins	\$400,000
Install Cross Culvert	\$990,000
Rock Removal	\$130,000
Install Paved Leakoffs	\$40,000
Drainage total:	\$2,550,000

Pavement Management in Canton

Total Backlog Summary = \$17,880,000



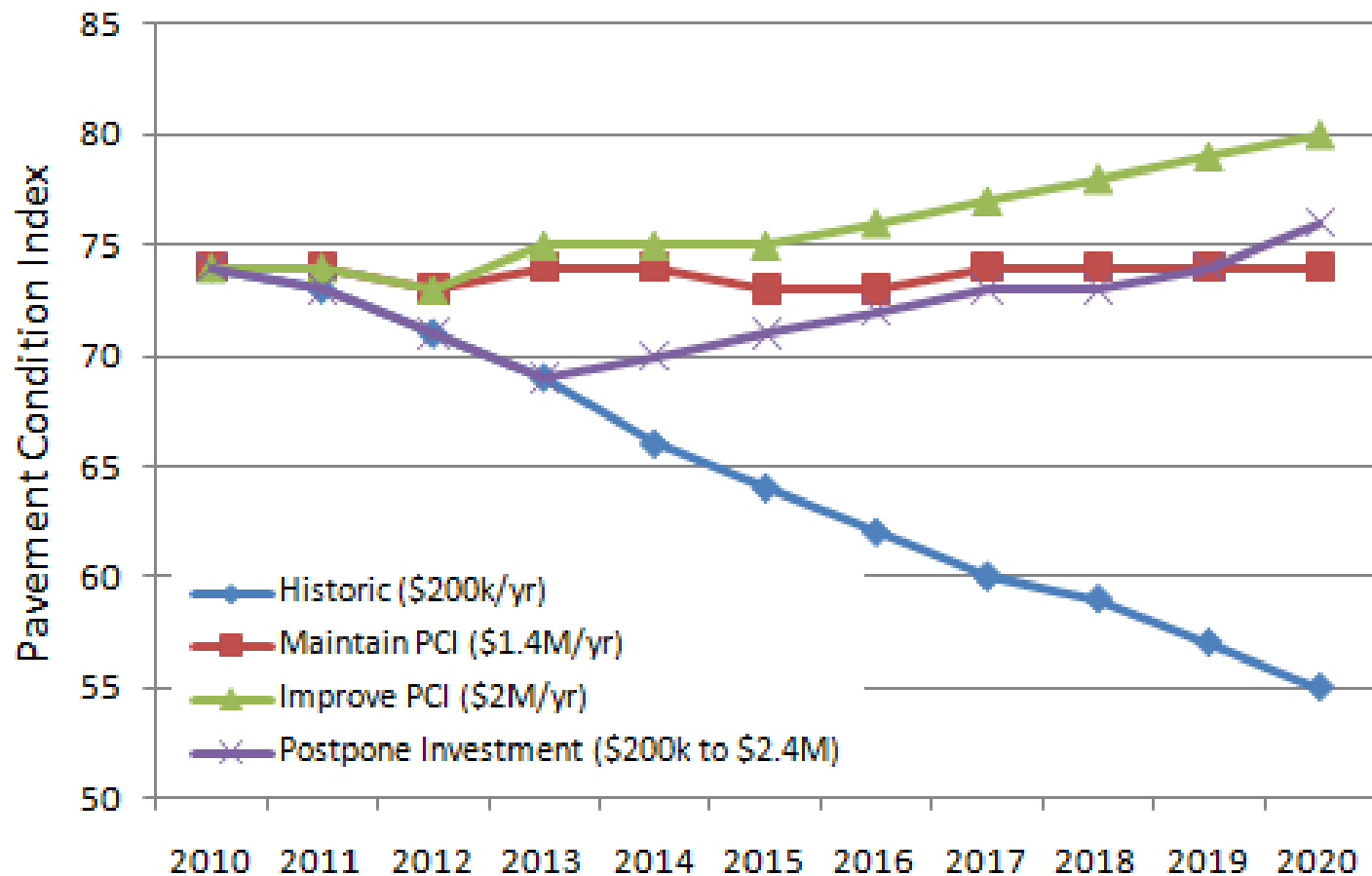
Pavement Management in Canton

Funding Scenarios (Roadway Pavement & Drainage)

- ❖ Historic Funding - \$200,000/yr for 10 years
- ❖ Maintain PCI - \$1,400,000/yr for 10 years
- ❖ Improve PCI - \$2,000,000/yr for 10 years
(PCI increases to 80)
- ❖ Postponed Investment Program - \$200,000 for 3 years then \$2,400,000 for 7 years.
(PCI increases to 76)

Pavement Management in Canton

Future Roadway Pavement Condition Comparison



Development of Annual Road Program

- ❑ Determine effective funding levels
- ❑ System recommends roads of highest benefit to the Town based on:
 - ❖ High Traffic Volume
 - ❖ Lower Repair Cost
 - ❖ Longer Repair Life Expectancy
 - ❖ Poorer Road Conditions
- ❑ The system allocates annual budget to high benefit roads and analyzes the effect on overall town wide conditions.
- ❑ Engineering judgment is used to adjust the program to reflect coordination with other projects, neighborhood programs, mobilization efficiencies, etc.

Recommendations

- Budget adequate funds to achieve pavement condition goals
- Use the Right Tool at the Right Time in the Right Place
- Make timely maintenance repairs
- Address major rehabilitation & drainage needs as funding allows

Next Steps

- Implement GIS based system
- Update system as work is done
- Fine tune treatment selections
- Evaluate alternative funding scenarios

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Questions and Answers

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