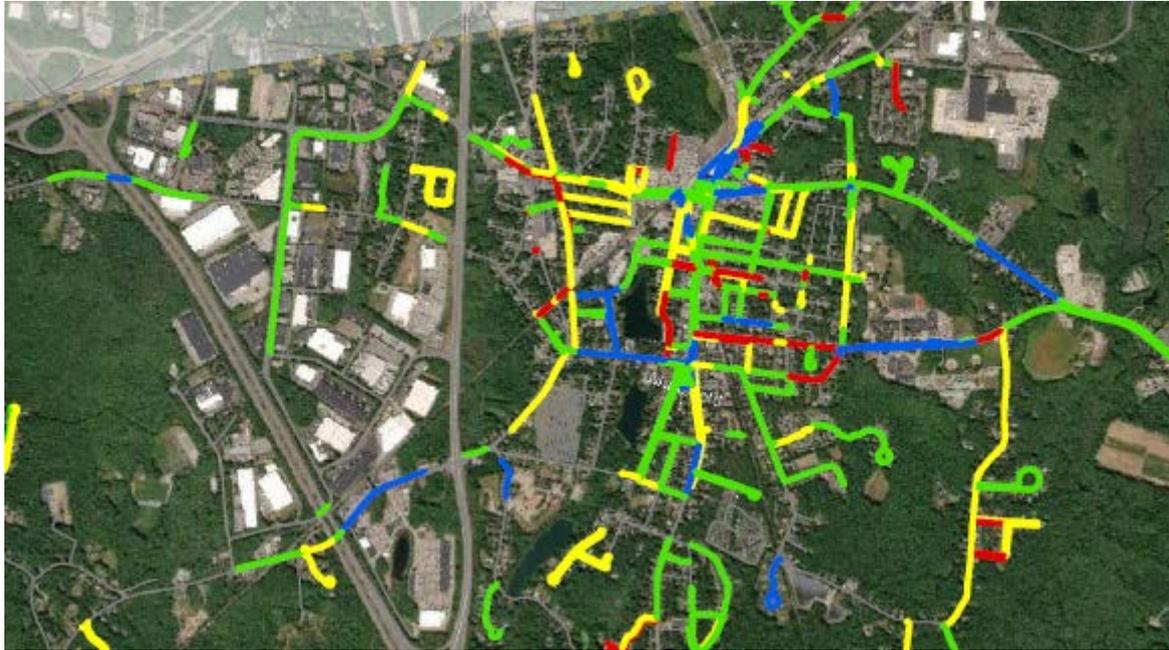


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# Pavement Management & Sidewalk Study



# Presentation Overview

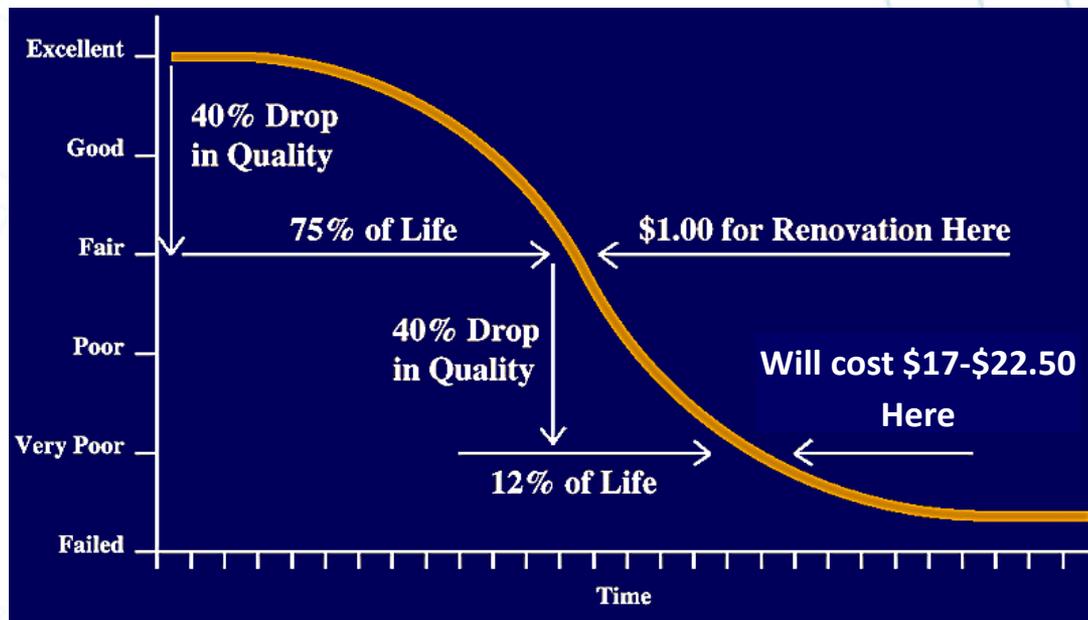
- **Pavement Management Introduction**
- **Pavement Management in Mansfield**
  - **Current Conditions**
  - **Projected Funding Needs**

# 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”**



# The Process

- Visual Pavement Condition Assessment
- Pavement Condition Index (PCI)
- Define Repair Strategies and Costs
- Test Budget Scenarios
- Develop list of candidate projects
- “Ground Truth”
  - Apply engineering judgement
  - Apply local knowledge
  - Organize work within neighborhoods
  - Consider funding opportunities
  - Coordinate with other work

# Pavement Treatment Bands

*Do Nothing Condition (PCI 93-100)*

**PCI = 100**



*Morse Court*

# Pavement Treatment Bands

*Routine Maintenance Condition (PCI 85-92)*

PCI = 89



*Fisher Lane*

**Treatment options – Crack sealing**

# Pavement Treatment Bands

*Preventive Maintenance Condition (PCI 73-85)*

PCI = 77



*Fruit Street*

**Treatment options – Crack Seal & Patch or  
Chip Seal**

# Pavement Treatment Bands

*Structural Improvement Condition (PCI 61-72)*

PCI = 67



*Fulton Street*

**Treatment options – Mill & Overlay or Overlay, both with patching preparation**

# Pavement Treatment Bands

*Base Rehabilitation Condition (PCI 0 - 60)*

**PCI = 42**



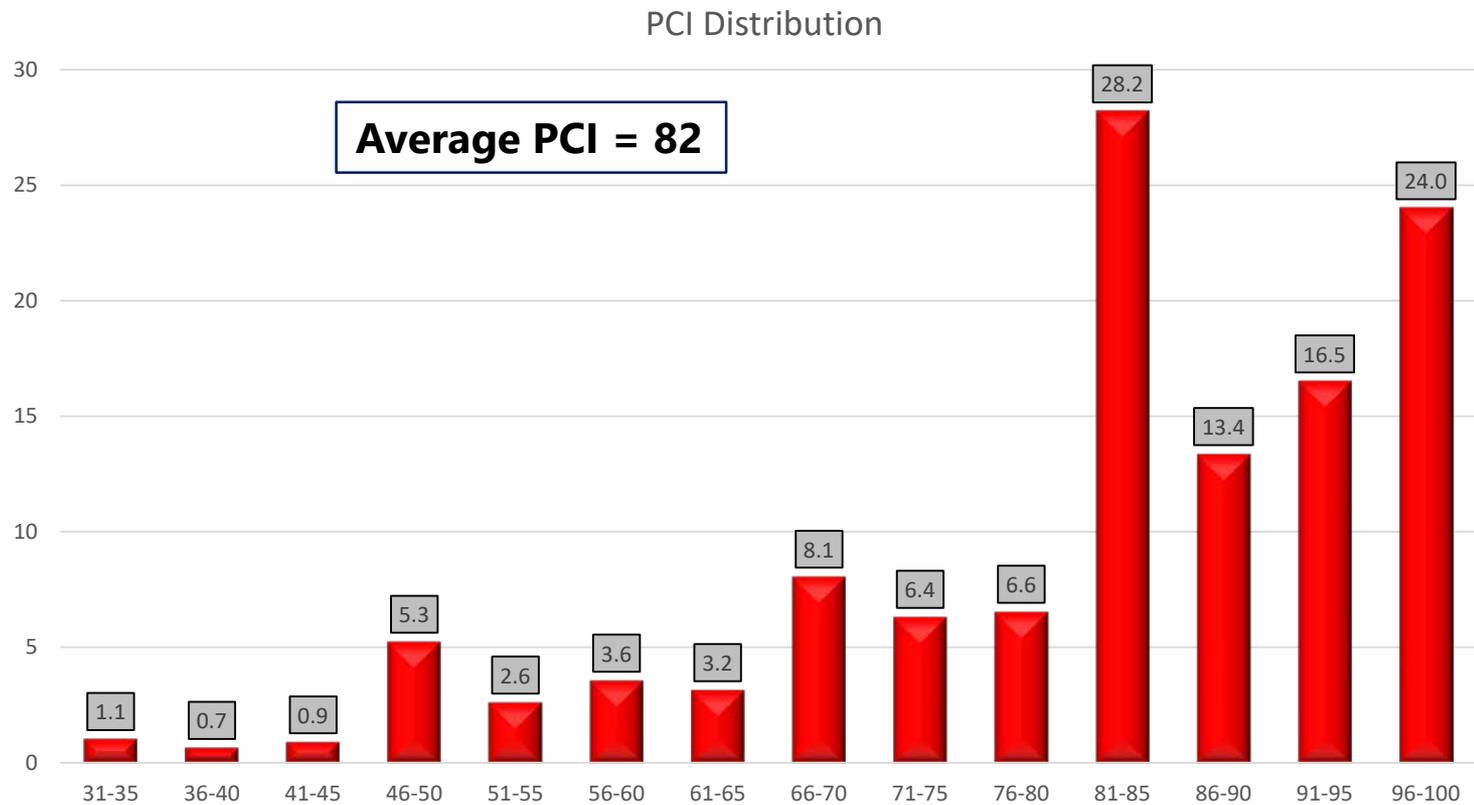
*Brown Avenue*

**Treatment options – Reclamation,  
Reconstruction**

# Pavement Management in Mansfield

- Town wide pavement evaluations in 2003, 2009, and 2017
- Average PCI has held steady at 82, 80, and 82, respectively
- Pavement network has been managed well, using variety of treatments (Reclaim, Mill & Overlay, Chip Seal, Crack Seal)
- Treatments have been used cost effectively (not "Worst First")
- In some cases, Chip Seal has been used as a "Stop Gap" treatment

# PCI Distribution

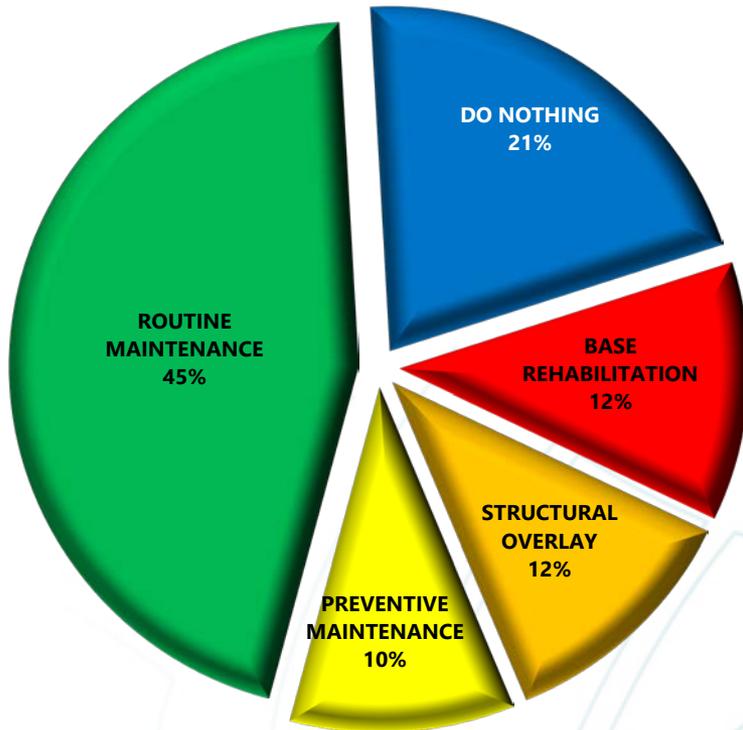


# Pavement Backlog Summary

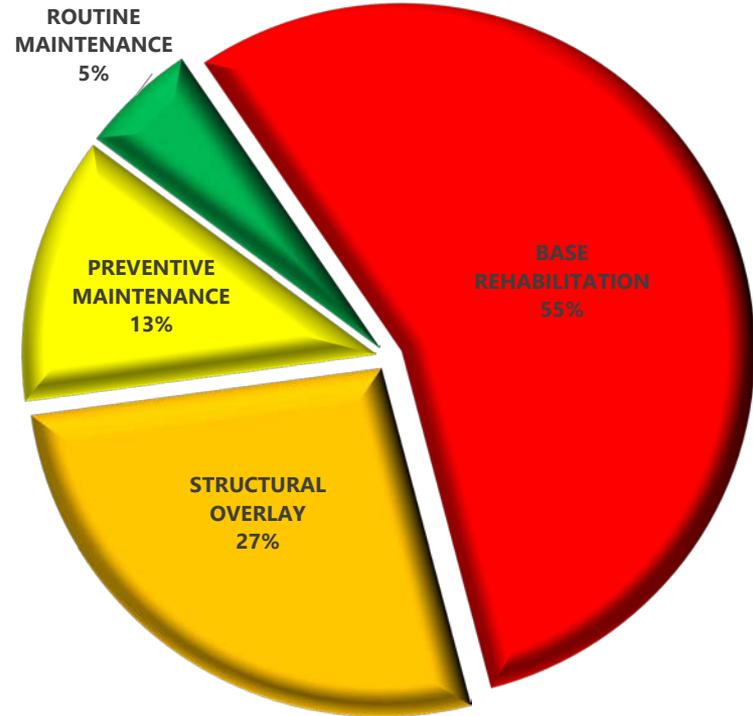
Treatment Band	Cost	Miles
Do Nothing	-	14.7
Routine Maintenance	\$871,000	14
Preventive Maintenance	\$2,038,000	12.5
Structural Improvement	\$4,420,000	54.3
Base Rehabilitation	\$9,092,000	25.2
<b>Grand Total</b>	<b>\$ 16,421,000</b>	<b>120.7</b>

# Pavement Backlog Summary

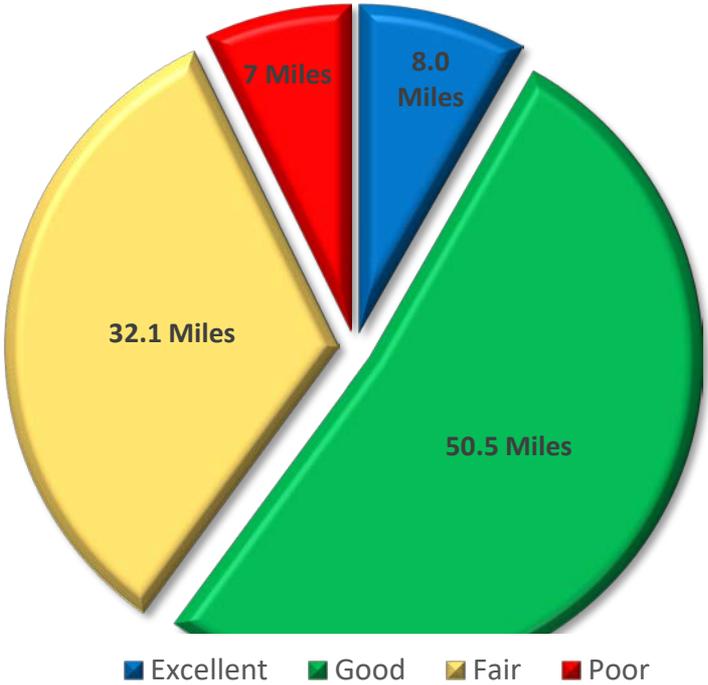
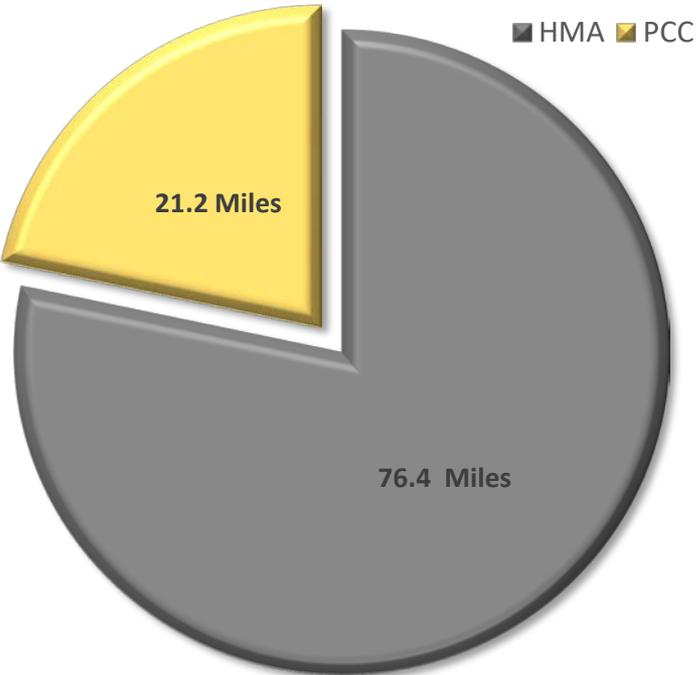
## Miles



## Dollars



# Sidewalk Material And Condition



# Sidewalk Backlog Summary

Material	Condition	Total Length	Total Cost
Portland Cement Concrete	Poor	7,415	\$576,505
	Fair	24,153	\$408,545
	Good	55,714	\$142,143
	Excellent	24,457	\$0
Hot Mix Asphalt	Poor	29,288	\$1,882,881
	Fair	145,427	\$1,766,379
	Good	211,076	\$766,469
	Excellent	17,585	\$0
<b>Grand Total</b>			<b>\$5,542,922</b>

# Ramp Backlog Summary

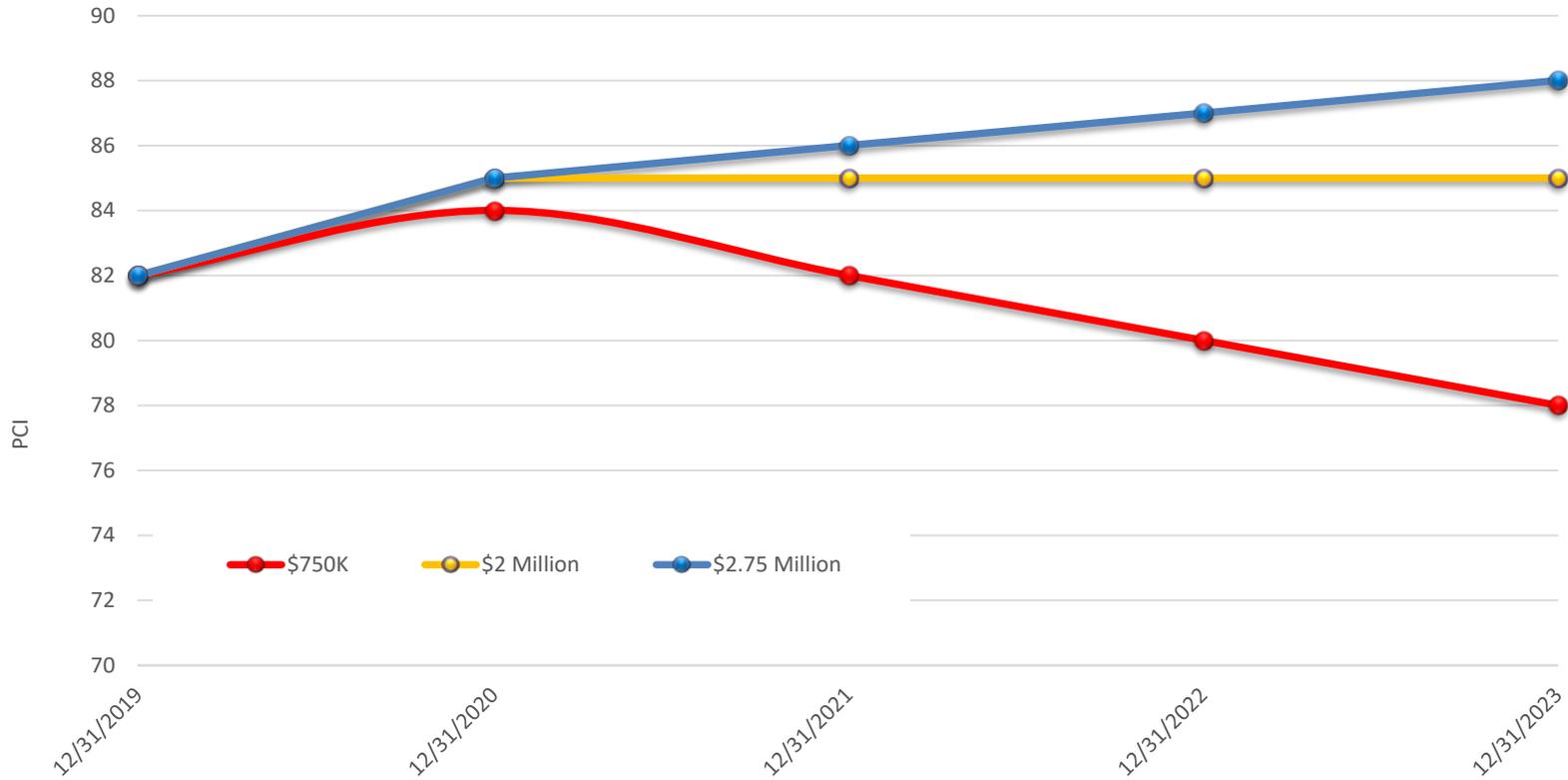
Material	Condition	Number to Replace	Total Cost
Portland Cement Concrete	Poor	12	\$26,400.00
	Fair	26	\$57,200.00
Hot Mix Asphalt	Poor	37	\$81,400.00
	Fair	98	\$215,600.00
<b>Grand Total</b>			<b>\$380,600</b>

# Pavement Funding Scenario Analysis

The predicted effects of 3 *pavement only* funding scenarios were compared:

- \$750,000 per year for 5 years (Chapter 90 Funding)
- \$2.0 Million per year for 5 years
- \$2.75 Million per year for 5 years

# Pavement Funding Scenario Analysis



# Funding Needs Summary

- The funding analysis estimates \$2M needed annually to maintain an average PCI of 85
- In addition, an estimated \$200k (10% of pavement cost) will be required for associated drainage improvements
- Also, approximately \$500k per year (25% of pavement cost) will be needed to improve sidewalk conditions

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# Questions & Answers

