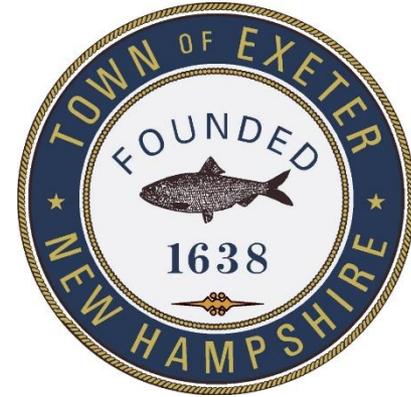


Pavement Management Plan

Town of Exeter, NH

Public Works Department

June 2017



Presentation Outline

- Pavement Management Concepts
- Conditions in Exeter
- 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

Micro PAVER Process – Industry Standard

1. Inventory
2. Inspection
3. Condition Analysis
4. Condition Prediction
5. Budget and Work Plan

Micro PAVER 5.2



*New Dimensions in Pavement
Maintenance Management*



Construction Engineering Research Laboratory

Pavement Management Concepts

Levels of Analysis

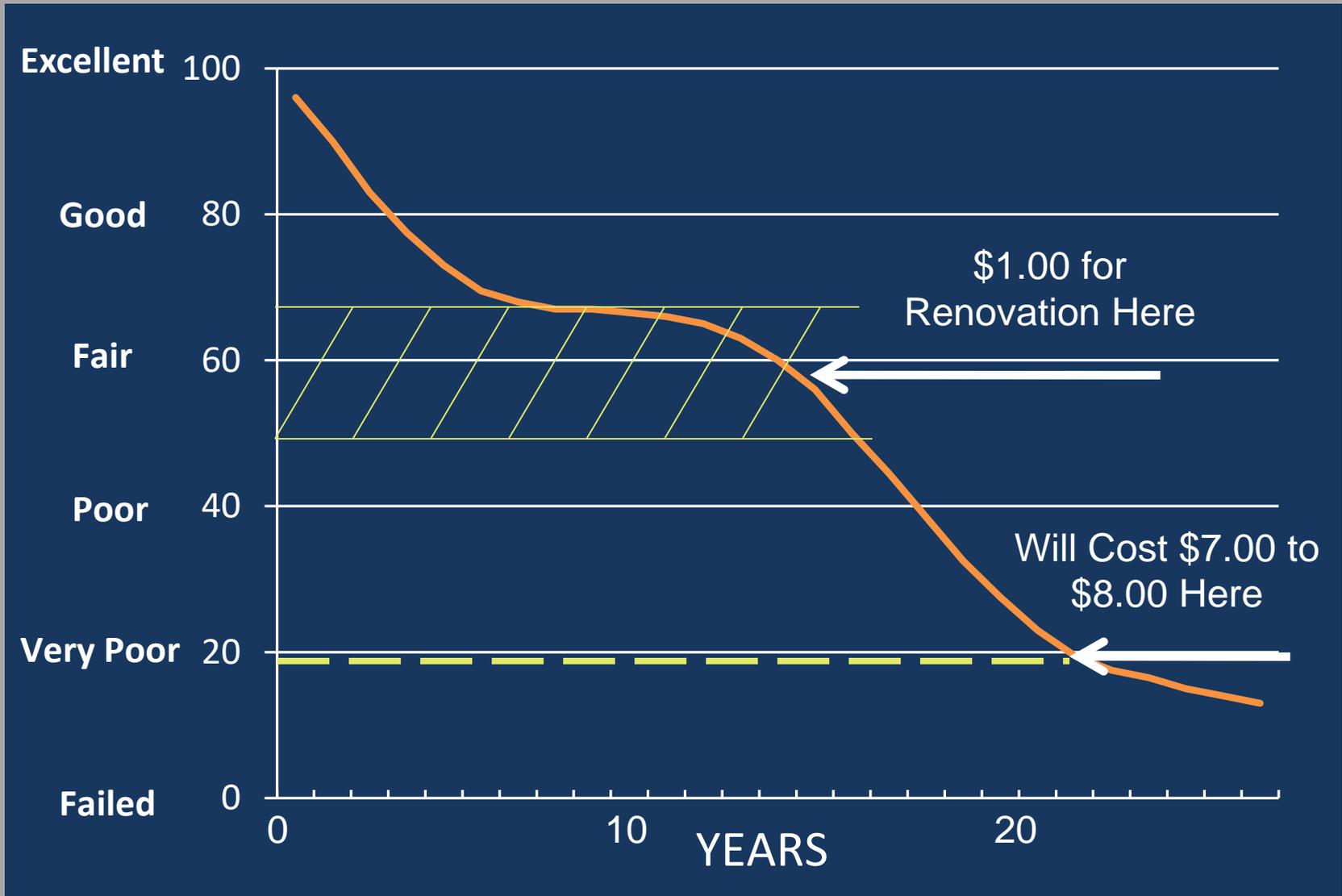
Network Level

VS.

Project Level

Pavement Management Concepts

Preventive Maintenance Approach

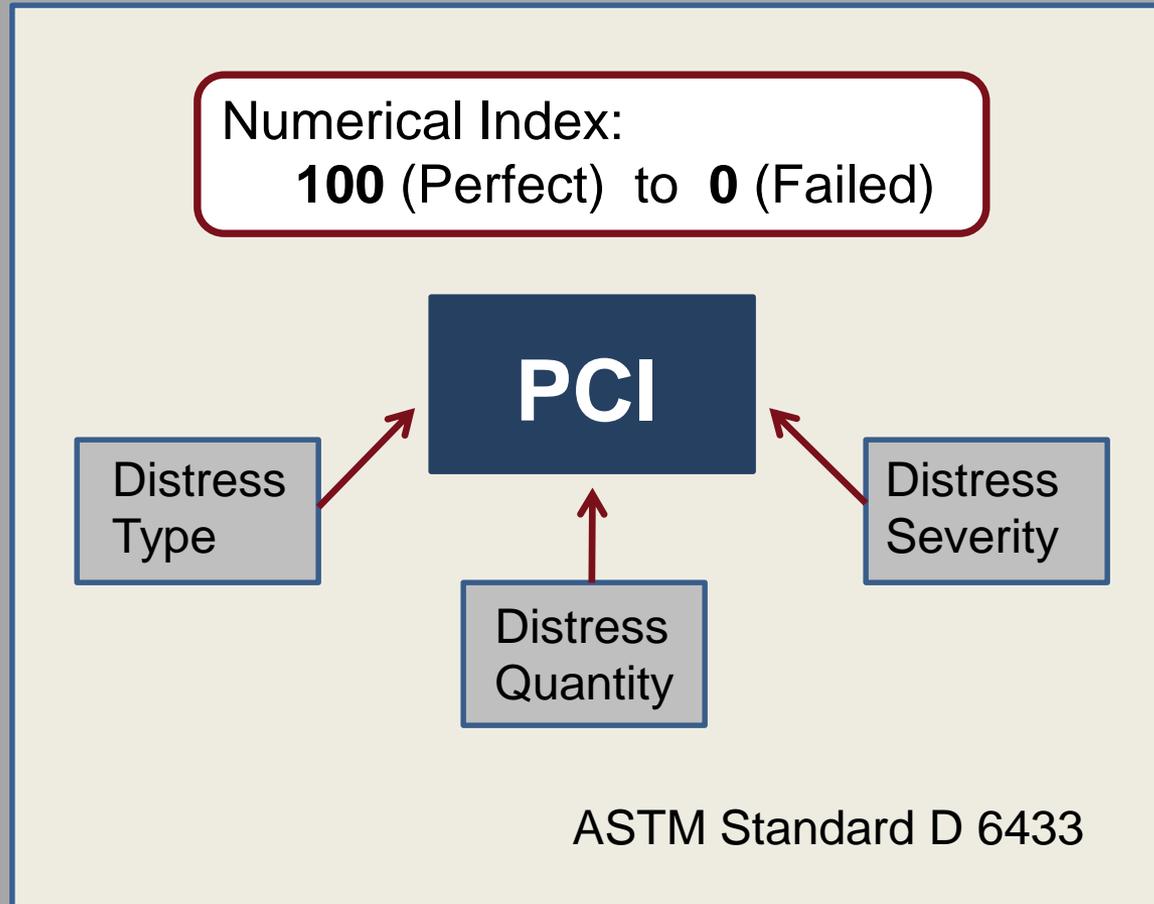


Pavement Management Concepts

- **Do the Right Thing,**
 - (use a variety of treatments)
- **At the Right Time,**
 - (not too early or too late)
- **In the Right Place**
 - (on the correct roads)
- **In the Right Way**
 - (use construction inspection & testing)

Pavement Management Concepts

Pavement Condition Index (PCI)



Conditions in Exeter

Repair Categories



Conditions in Exeter - 2010

Adequate – No Repairs Required



Woodridge Ln – PCI 100

Conditions in Exeter - 2010

Adequate – Spot Repair or Crack Seal



Elliot St – PCI 88

Conditions in Exeter - 2010

Degraded – Shim & Overlay



Gill St – PCI 59

Conditions in Exeter - 2010

Unsatisfactory – Thicker Overlay



Holland Way – PCI 45

Conditions in Exeter - 2010

Poor – Reclaim and Pave



Cragmere Heights – PCI 27

Conditions in Exeter - 2010

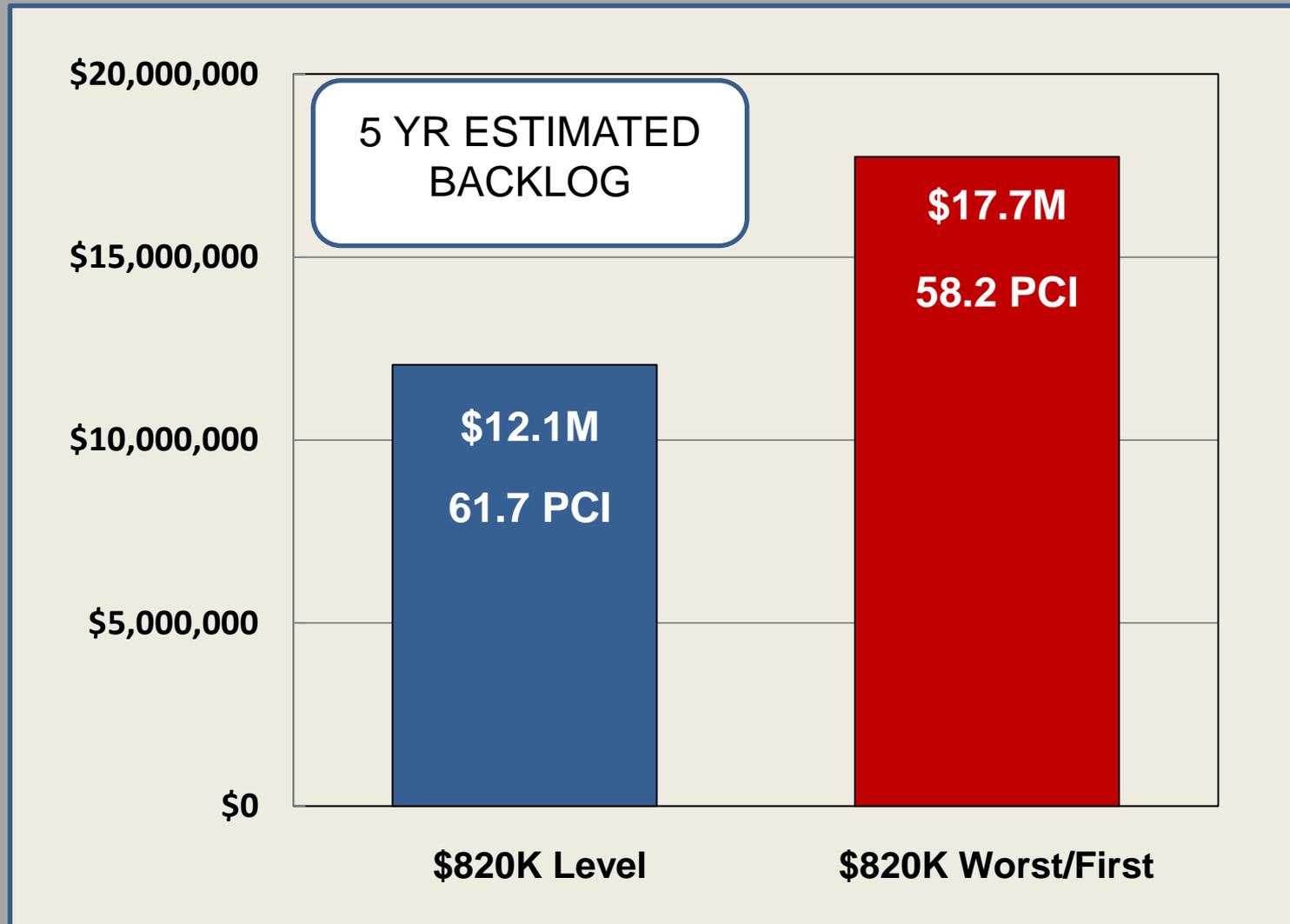
Very Poor or Failed – Reconstruction



Colcord Pond Rd– PCI 15

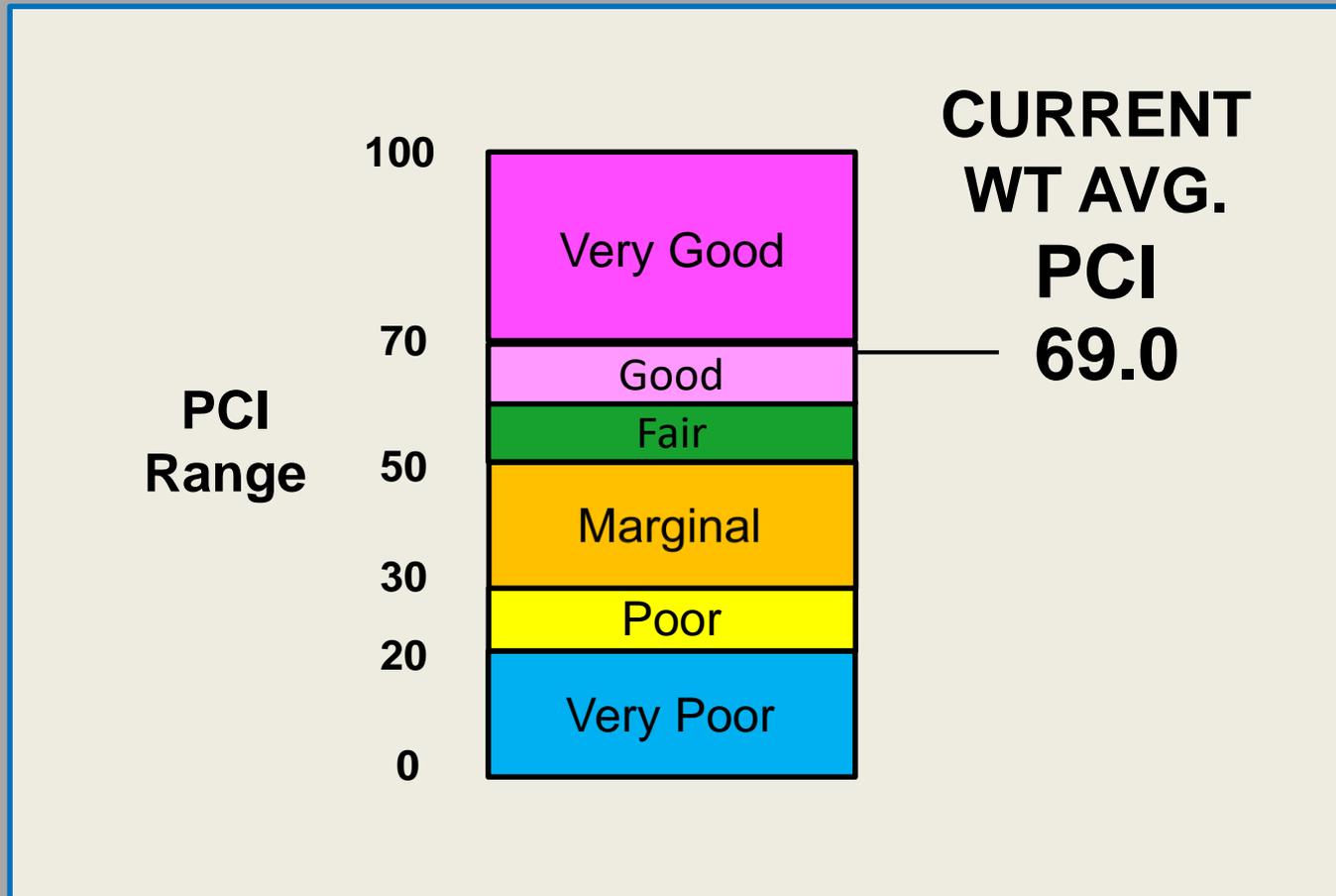
Conditions in Exeter

Pavement Management vs. “Worst / First”

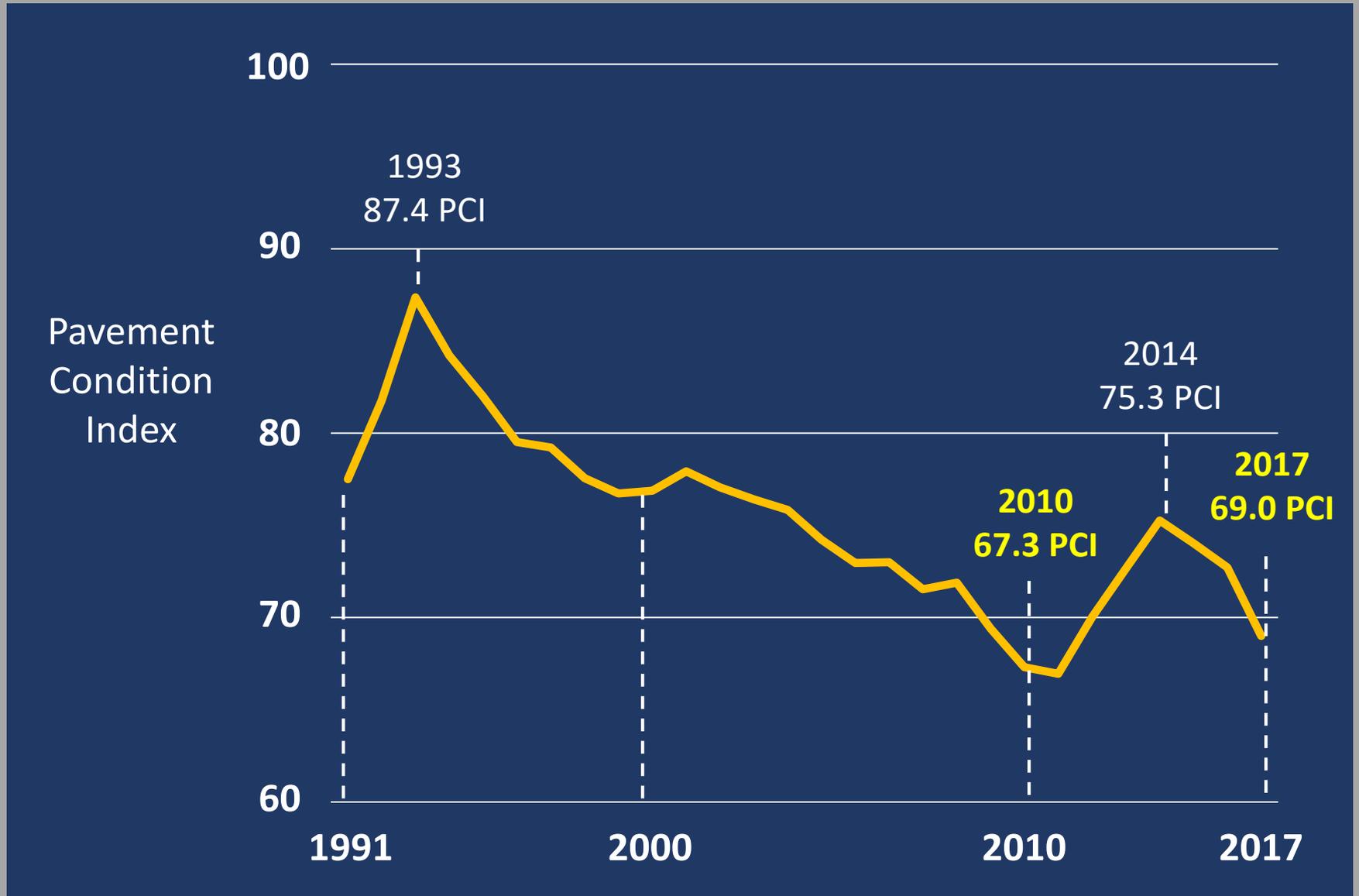


Conditions in Exeter

66.9 Town Maintained Road Miles

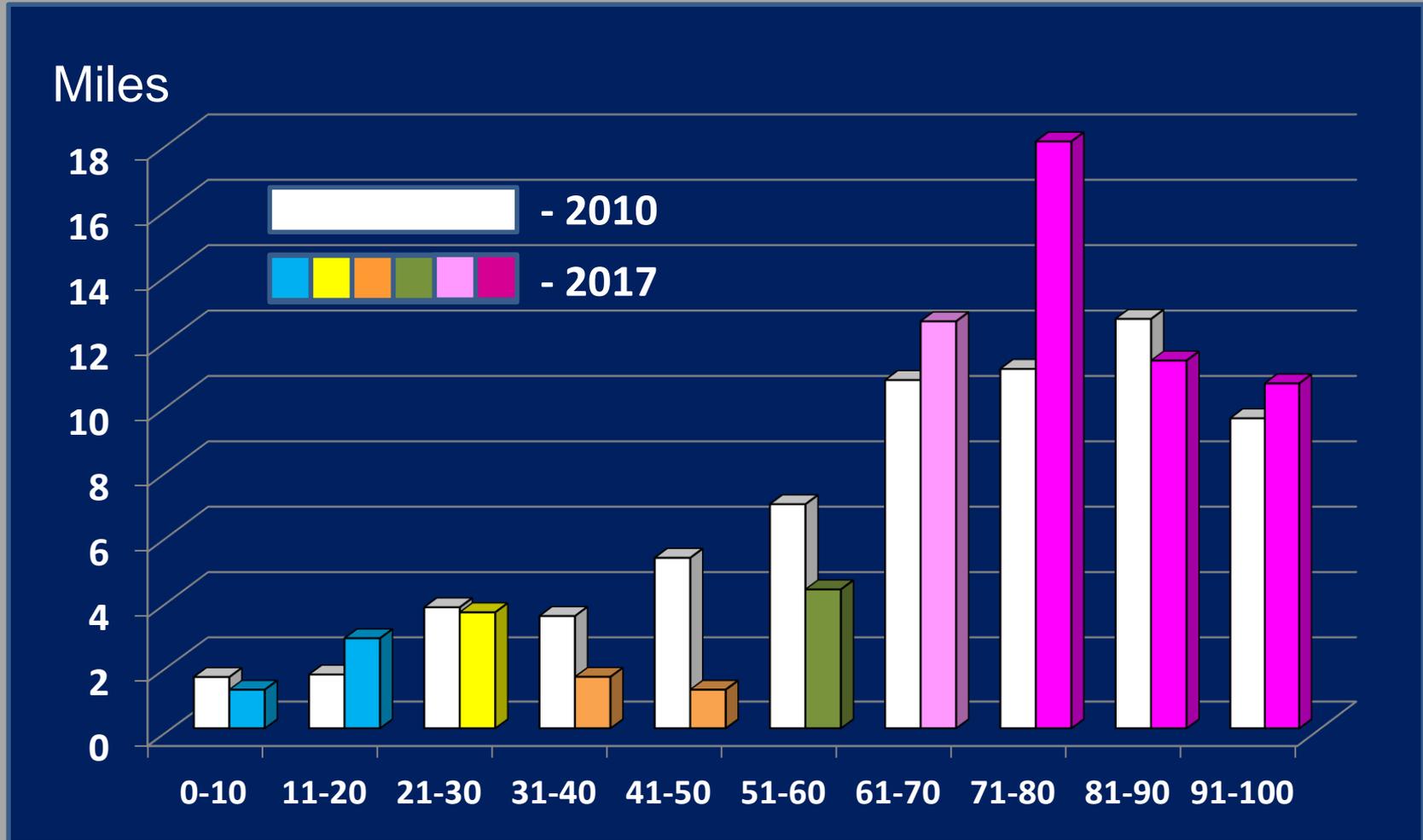


Conditions in Exeter



Conditions in Exeter

PCI Distribution

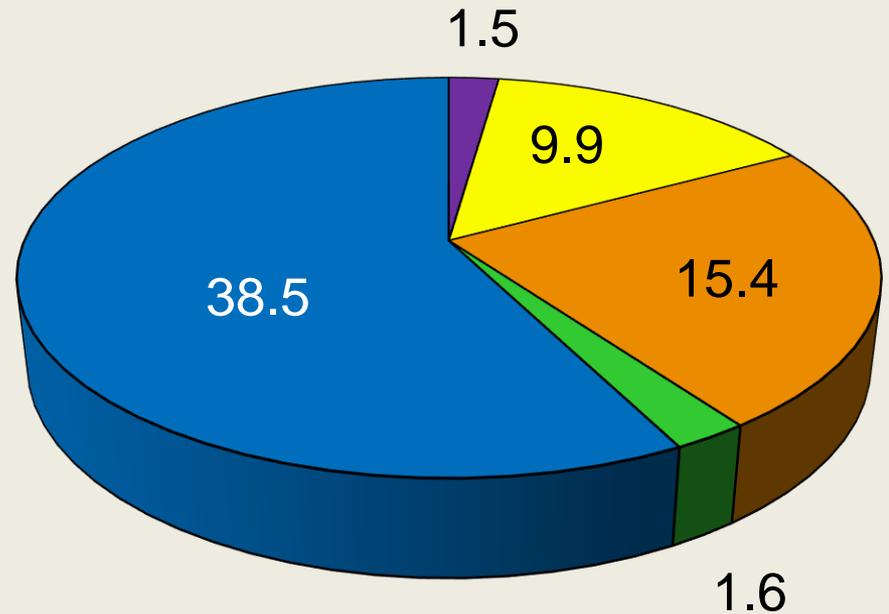
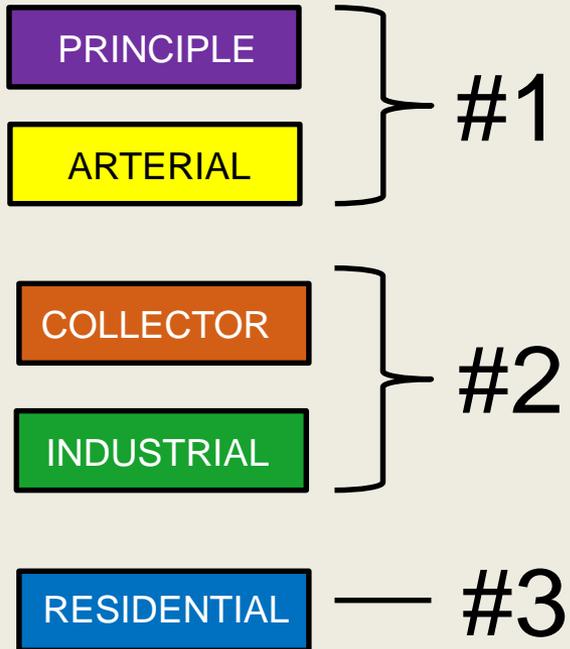


Conditions in Exeter

Priority / Roadway Function

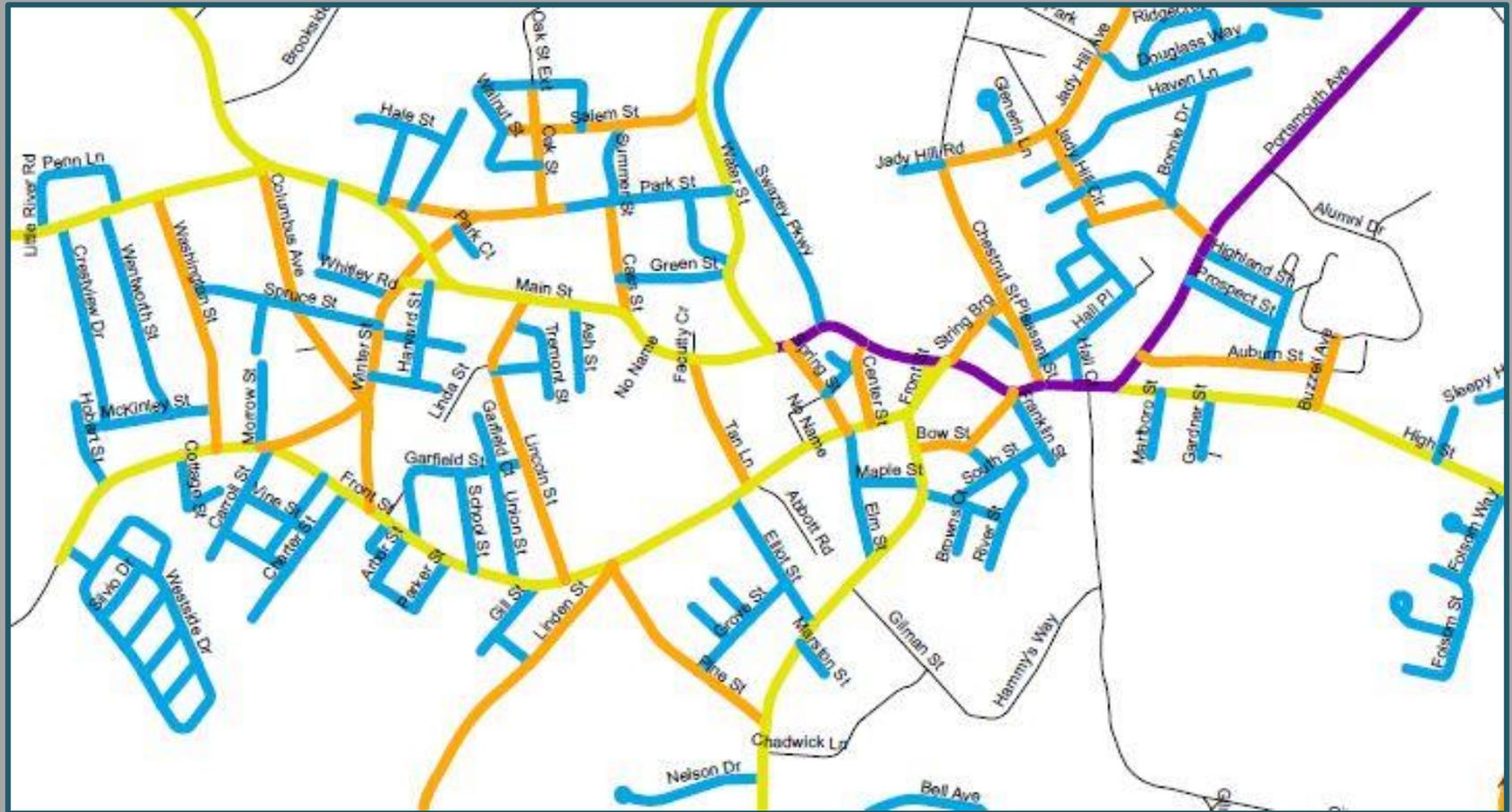
PRIORITY

MILES



Conditions in Exeter

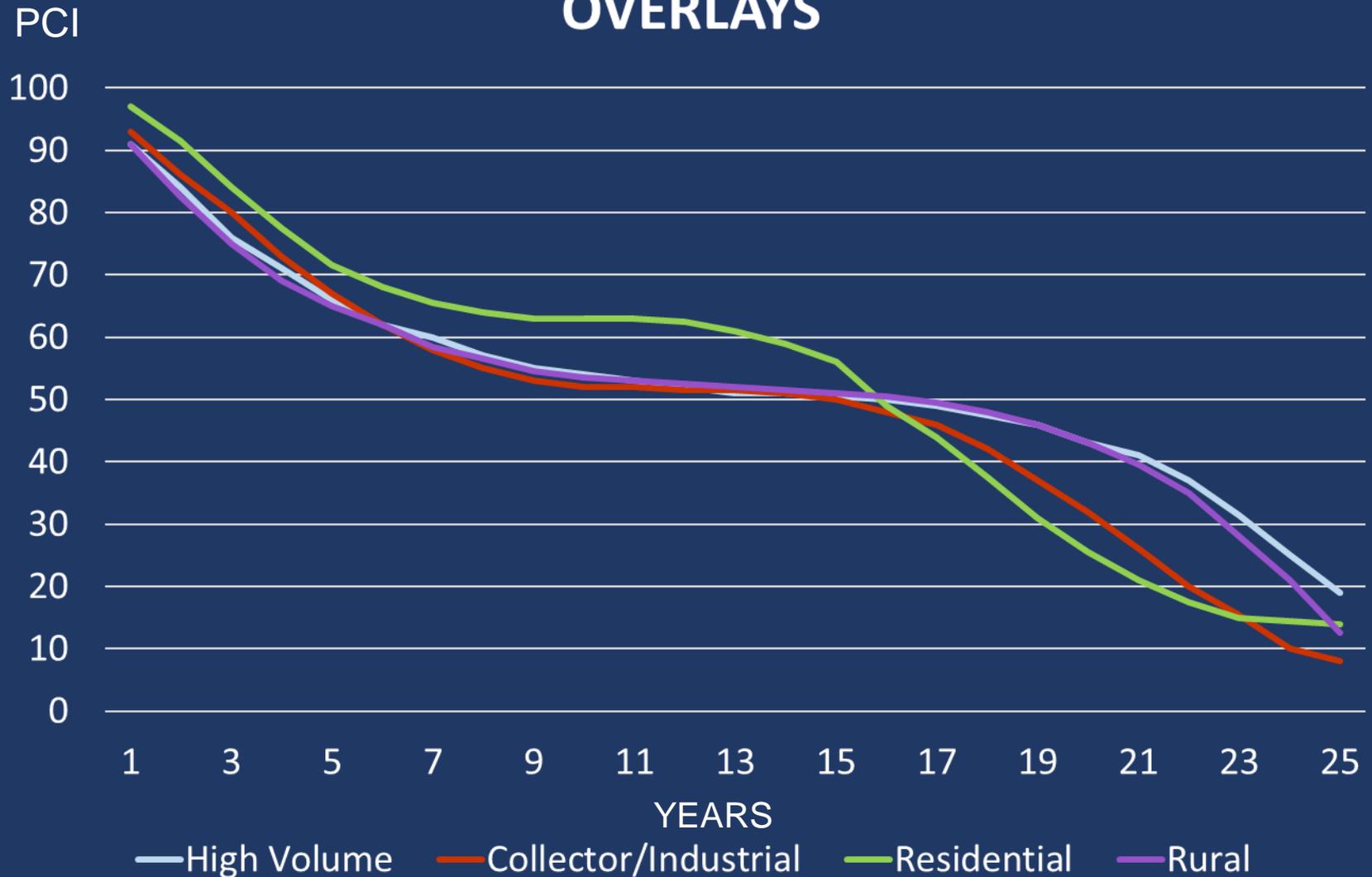
Functional Classification - Rank



Conditions in Exeter

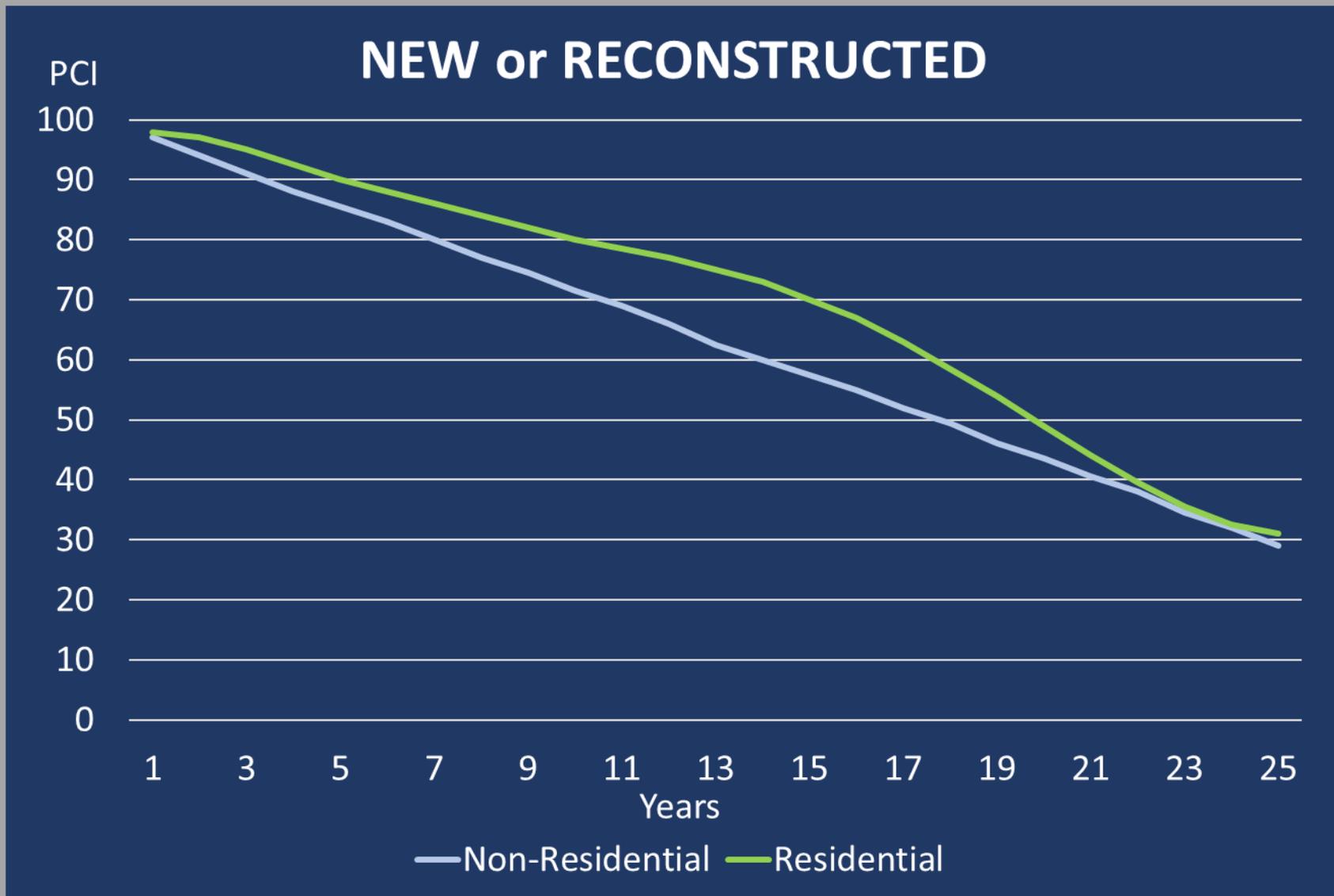
Family Prediction Curves

OVERLAYS



Conditions in Exeter

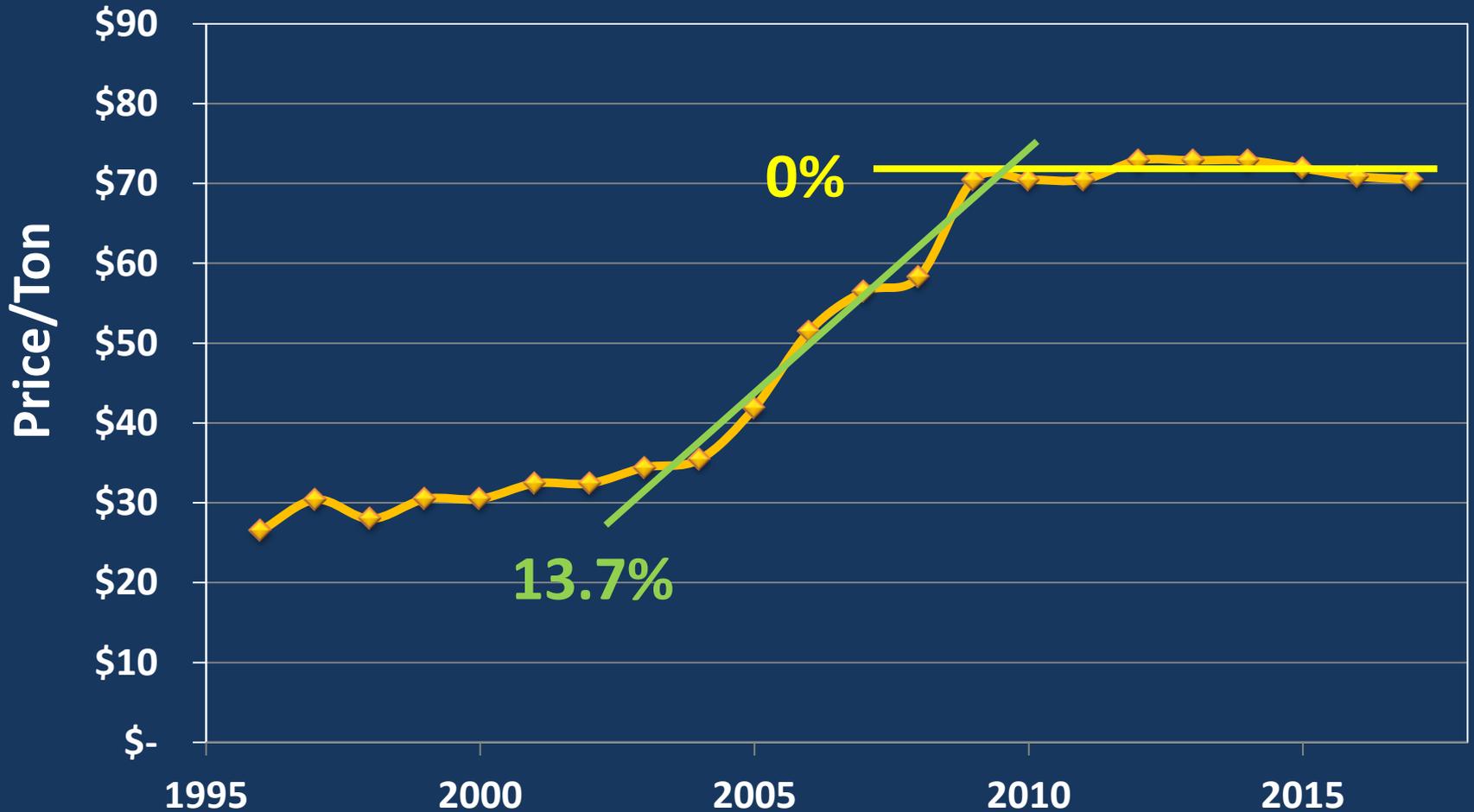
Family Prediction Curves



Budget Analysis

Historical Hot Mix Asphalt Cost

In-place Paving



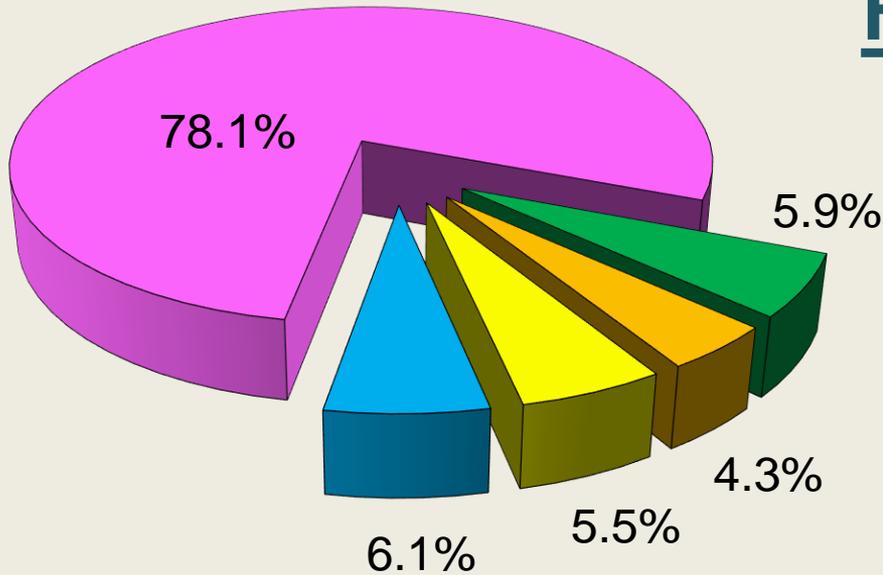
Budget Analysis

Treatment Unit Costs

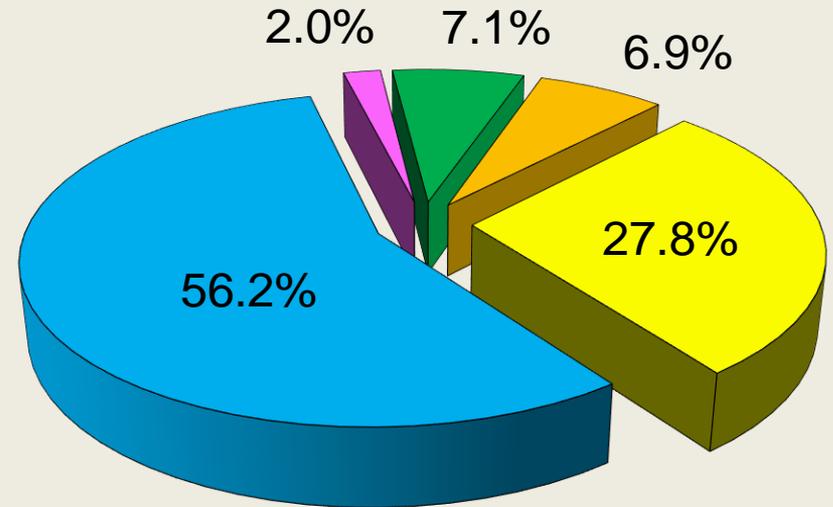
Treatments Used:	2017 (est)
-Crack Sealing	\$ 2.00/LF
-Pothole Patching	
-1" Overlay and Shim	\$ 0.80/SF
-2" Overlay	\$ 1.07/SF
-Reclaim plus 3" Surface	\$ 3.39/SF
-Reconstruct	\$ 6.37/SF

Budget Analysis

AREA



REPAIR COSTS \$6.2M

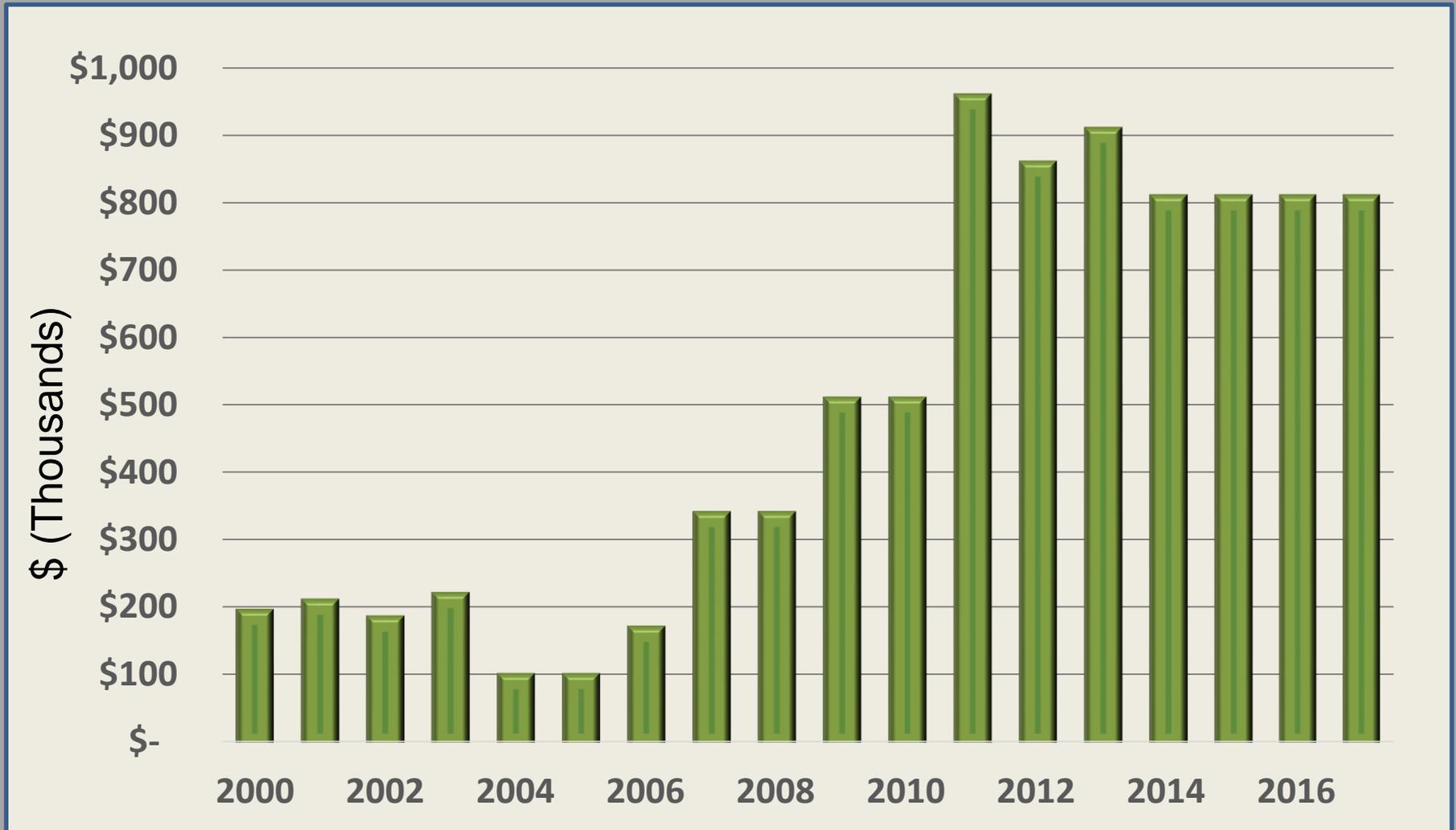


PCI 100-61	Spot Repairs
PCI 60-51	Shim & Overlay
PCI 50-31	Thicker Overlay
PCI 30-21	Reclaim & Pave
PCI 20-0	Reconstruction

(2010 - \$6.9M)

Budget Analysis

Historical Roadway Funding



Budget Analysis

Two Scenarios Analyzed (Pavement Only)

Funding Level	Cost
Current Budget	\$ 800,000/YR
Maintain 3-YR Level PCI	\$ 1,210,000/YR

Conclusions / Recommendations

MicroPAVER

- Document worked performed annually.
- Refine family prediction curves periodically.
- Evaluate funding levels periodically.
- Update condition ratings at least every 3 or 4 years.
- Multi-year programs no more than 3 years out.
- GIS link

Conclusions / Recommendations

Pavement Management

- Right thing, right time, right place, right way.
- Pavement preservation not Worst-first.
- Fix localized deterioration prior to overlay.
- Repair strategies appropriate to underlying conditions.

Conclusions / Recommendations

Budgets

- Large backlog of utility projects
 - Intermittent improvements
- Recommend staying at current funding level
 - \$800,000 annually
- Reinstate a cracksealing program
- 3YR Street Improvement List
 - Current Funding Level
 - Projected asphalt and construction costs
 - Utility replacement prioritization

Conclusions / Recommendations

2017 Proposed Street Improvement List

- Bow St - Court St to Clifford St
- Front St – Court St to Tan Ln
- High St – Portsmouth Ave to Drinkwater Rd
- Ann’s Ln
- Brown Ct
- Clifford St
- Conant Ln
- Dartmouth St
- Franklin St
- Great Hill Ct
- Harvard St
- Hickory Ln
- Lantern Ln
- Marlboro St
- Morrow St
- Orchard Cir
- Railroad Ave
- River St
- River St Ext
- Robin Ln
- Rockey Hill
- Rockingham St
- Sleepy Hollow
- Smith Ave
- South St
- Thornton Ave
- Towle Ave
- Wheelwright Ave
- Whitley St
- Winter St

Conclusions / Recommendations

2018 Proposed Street Improvement List

- Court St – Elm St to Crawford Ave
- High St – Great Bridge to Portsmouth Ave
- Linden St – Squamscott Commons to Little River
- Appledore Ave
- Bayberry Ln
- Bell Ave
- Clara St
- Cragmere Heights
- Elm St
- Gary Ln
- Kathleen Dr
- Langdon Ave
- Little Pine Ln
- Maple St
- Marilyn Ave
- Patricia Ave
- Star Ave
- Thelma Ave

Conclusions / Recommendations

2019 Proposed Street Improvement List

- Briar St
- Daniel St
- Folsom Ct
- Folsom St
- Fox Chapel Ct
- Granite St
- Holly Ct
- Laurel Ct
- Pine St
- Ridgewood Terrace
- Riverwoods Dr
- Tremont St

Town of Exeter Pavement Management Plan



Questions?