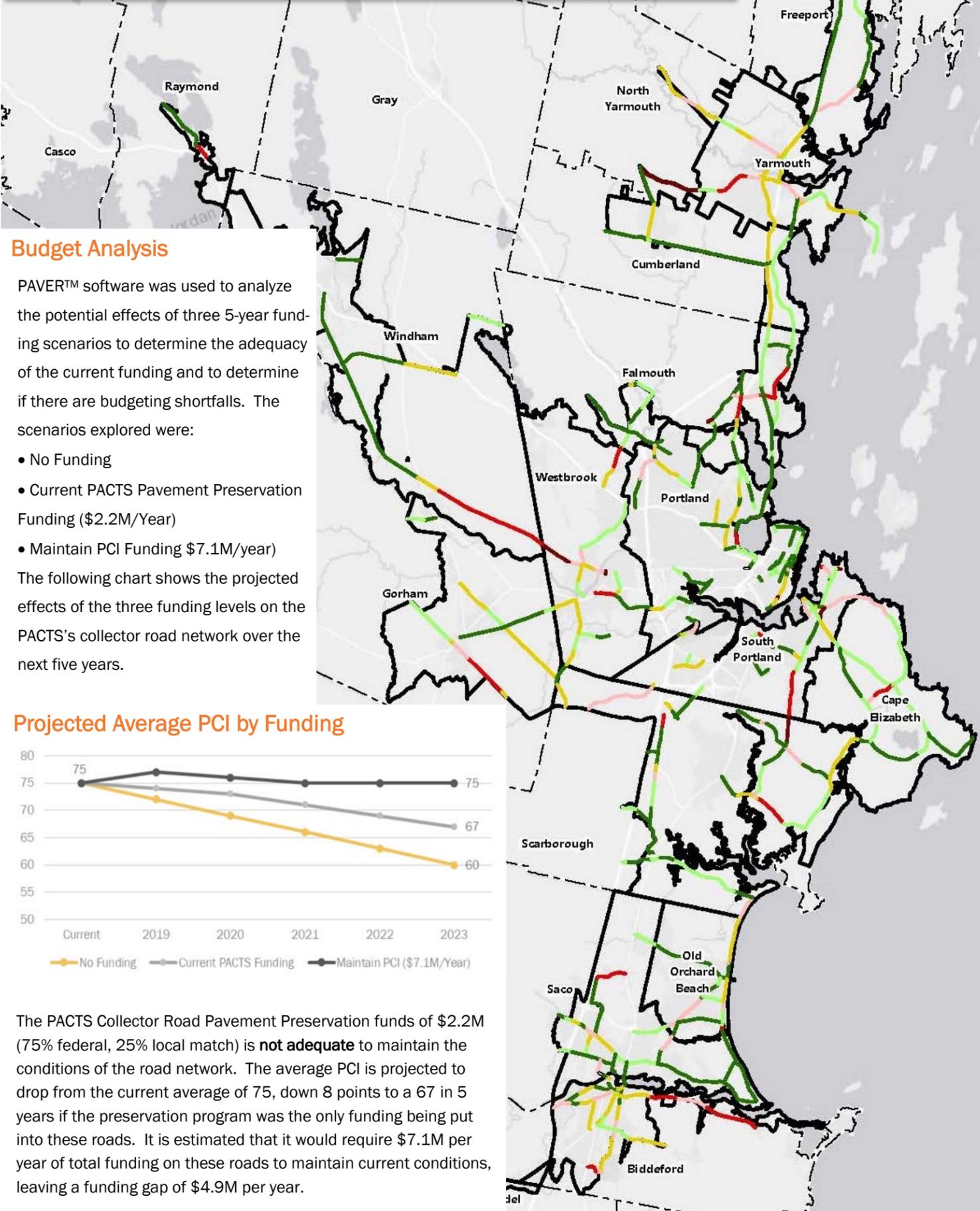




PACTS Collector Road Pavement Condition
Source Info: VHB, MaineGIS

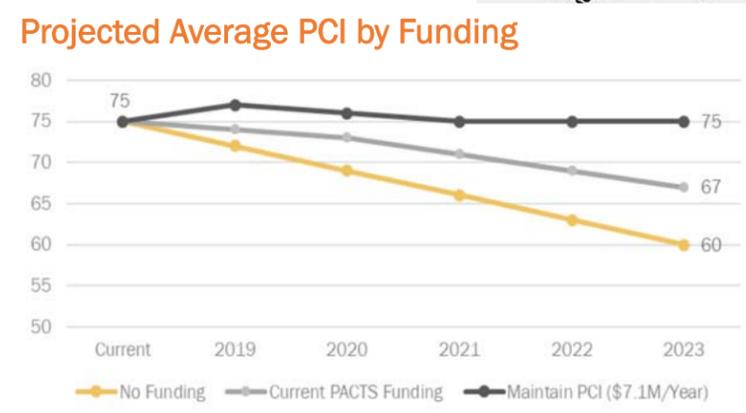


Budget Analysis

PAVER™ software was used to analyze the potential effects of three 5-year funding scenarios to determine the adequacy of the current funding and to determine if there are budgeting shortfalls. The scenarios explored were:

- No Funding
- Current PACTS Pavement Preservation Funding (\$2.2M/Year)
- Maintain PCI Funding \$7.1M/year)

The following chart shows the projected effects of the three funding levels on the PACTS's collector road network over the next five years.



The PACTS Collector Road Pavement Preservation funds of \$2.2M (75% federal, 25% local match) is **not adequate** to maintain the conditions of the road network. The average PCI is projected to drop from the current average of 75, down 8 points to a 67 in 5 years if the preservation program was the only funding being put into these roads. It is estimated that it would require \$7.1M per year of total funding on these roads to maintain current conditions, leaving a funding gap of \$4.9M per year.

PACTS Collector Road Pavement Condition Study Executive Summary

January 2019

DRAFT

Introduction

The Portland Area Comprehensive Transportation System (PACTS) hired Vanasse Hangen Brustlin, Inc (VHB) to perform a pavement condition assessment and management study on the collector roadways within its jurisdiction. This project will be performed over the course of 5 years in which time the pavement network will be field evaluated twice and updates will be performed in the other years. This report is based on the results of the first pavement evaluations performed between the fall of 2017 and spring of 2018. All municipalities within the PACTS region with federal aid eligible roadways were included in this study.

The primary goals of this project are to develop a prioritized list of pavement preservation candidates in the region for the PACTS pavement preservation paving and Municipal Partnership Initiative (MPI) programs, and to evaluate the overall condition of the road network and determine budget needs to maintain, preserve, and/or improve the network.

Pavement Conditions

A Pavement Condition Index (PCI) was generated by VHB using an ASTM standard method of pavement distress evaluation. PCI is measured on a scale of one hundred to zero, with one hundred representing a pavement in perfect condition and zero describing a road in impassable condition. The following photos show pavements in a range of different condition levels. The captions identify the name of the road and the pavement management section's PCI value.



Blackstrap Rd in Falmouth- PCI = 19



Ocean House Rd in Cape Elizabeth- PCI = 76

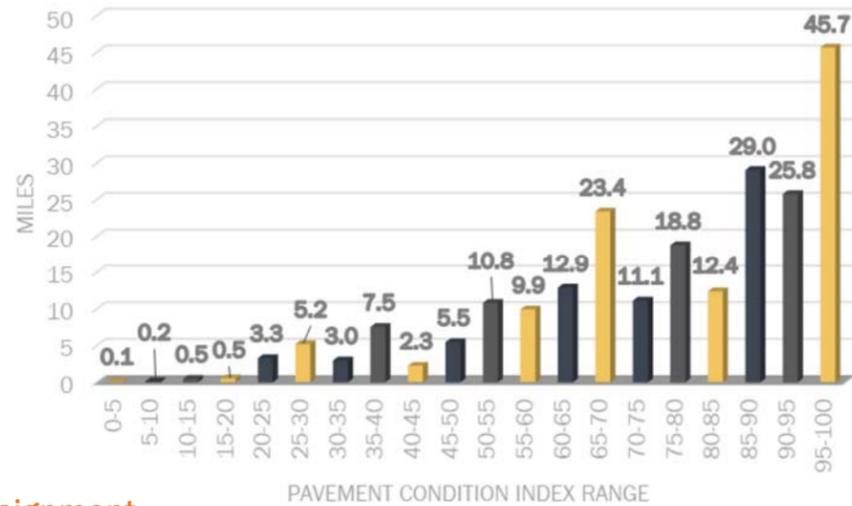


Cottage Rd in South Portland- PCI = 52



Saco St in Gorham PCI 90

The average PCI for the PACTS Collector Network is a 75. The following chart shows the distribution of miles of road in 5-point PCI bands.



Treatment Category Assignment

Using the PCI and other attributes of the pavement, a treatment category is assigned to each roadway segment. Multiple discussions with the PACTS Technical Committee and member towns lead to the selection of the following 7 “representative” categories of repair. Unit costs were developed using recent project costs and current MaineDOT bid prices.

Treatment Category	PCI	Unit Cost (/SY)	Estimated Life of Treatment (Yrs.)
Reconstruction	0-20	\$140.00	20
Pavement reconstruction removes the entire existing pavement structure to sub-grade and replaces it with new materials.			
Rehabilitation	20-35	\$65.00	15
Rehabilitation treatments include: full depth reclamation, Plant Mix Recycled Asphalt Pavement (PMRAP), foamed asphalt, and Portland cement base stabilization.			
Mill & Fill (2 in)*	30-55	\$23.90	10
Mill and fill projects require the removal (milling) of the existing pavement surface to a specified depth and replacement with a similar thickness of new hot mix asphalt.			
Shim & Overlay (1.25 in)*	56-65	\$21.50	10
Projects scoped for this treatment will receive a 1 ¼ inch HMA surface covering the travel-way and any adjacent paved shoulders. The travel-way lanes should receive a leveling course to correct cross slope and super-elevation.			
Ultrathin Overlay*	66-75	\$16.40	8
Ultra-Thin Bonded Wearing Course (UTBWC) is the placement of a thin (3/4”) HMA surface course over a polymer modified tack coat membrane placed by a spray paver.			
Local Maintenance	75-85	\$0.50	2
Minor localized sealing and/or surface rejuvenation may be appropriate.			
Do Nothing	85-100	\$0.00	0
Road section is not in need of maintenance or rehabilitation.			

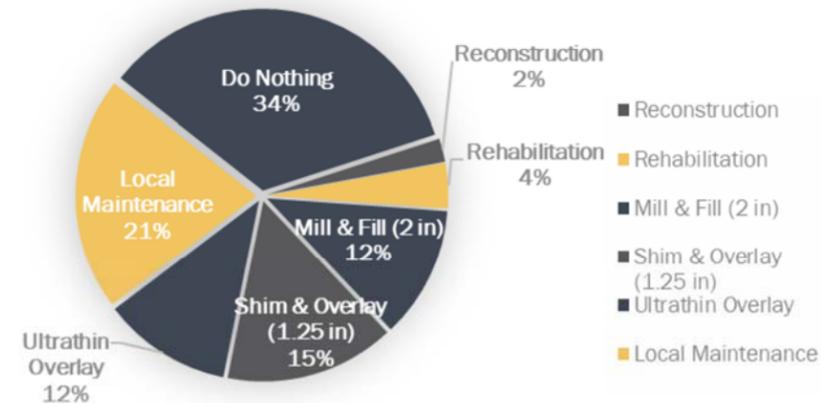
Backlog of Work (Projected to 2020)

The term “Backlog” is used to describe the volume of work required to bring all roads to a near perfect condition and is also used as a metric to evaluate the change in a road network over time. The following table and charts show the miles and dollar backlog of work projected to the year 2020; the first year this program will be used to develop PACTS preservation funding candidates.

Summary of Miles and Dollars of Outstanding Work

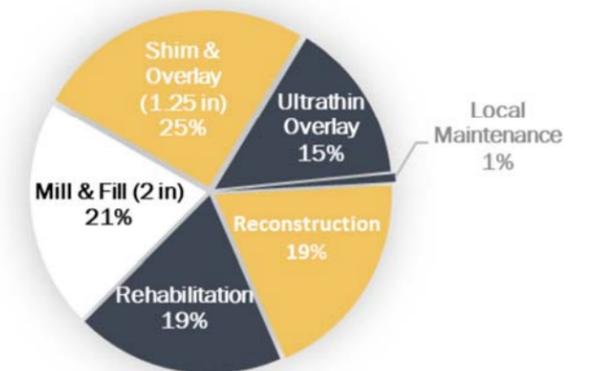
Treatment Category	Length (Miles)	Cost
Reconstruction	4.77	\$12,143,000
Rehabilitation	9.21	\$11,991,000
Mill & Fill (2 in)	27.02	\$13,038,000
Shim & Overlay (1.25 in)	34.59	\$16,032,000
Ultrathin Overlay	26.26	\$9,279,000
Local Maintenance	47.64	\$472,000
Do Nothing	78.41	\$0
Total	227.89	\$62,954,000

Miles of Outstanding Work



Backlog of Preservation work > \$38M

Dollars of Outstanding Work



Six percent of the miles of roadway are in the rehabilitation and reconstruction categories, which equates to 38% of the funding backlog, emphasizing the need to continue to fund preservation to keep the larger percentage of miles of road in better condition from deteriorating into the lower categories, and substantially increasing the backlog of work.