

ROAD SURFACE MANAGEMENT SYSTEM (RSMS) ASSESSMENT For the TOWN OF WILTON, NEW HAMPSHIRE



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In Partnership with:
New Hampshire Department of Transportation
University of New Hampshire Technology Transfer Center
Statewide Asset Data Exchange System (SADES)

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1 ACKNOWLEDGEMENTS

The Nashua Regional Planning Commission (NRPC) wishes to acknowledge and thank the New Hampshire Statewide Asset Data Exchange System (SADES) for providing the technology platform, training, and support necessary to complete this project. SADES is a partnership between the University of New Hampshire Technology Transfer Center (UNHT²) and the New Hampshire Department of Transportation. Since 2014, UNHT² has supported all nine NH regional planning commissions in their efforts to provide Road Surface Management System (RSMS) assessments to their member communities. NRPC has benefited from this program and takes pride in providing RSMS assessments to towns in the Nashua region.

2 INTRODUCTION

This report prepared by the Nashua Regional Planning Commission (NRPC) contains the Road Surface Management System assessment (RSMS) for the Town of Wilton (herein referred to as the Town) which began in 2022 and was completed in 2024. Broadly, RSMS is a data-driven process for managing roads. The RSMS report includes an inventory of the road network and an analysis comparing repair strategies. In Section 3 this report describes the full RSMS process and its benefits. Section 4 describes the principles of pavement preservation. This section also includes basic concepts for pavement management that are essential to this report.

This RSMS project has two project phases: a road inventory assessment (Phase 1), and a forecasted repair scenario comparison (Phase 2). The road inventory assessment includes all paved, town-maintained roadways. The field inventory procedures are described in Section 5 and field inventory results are described in Section 6. Appendix A contains road inventory data with road priority value and pavement condition index (PCI). Phase 1 began in the fall of 2022 and was completed in the winter of 2023.

In Phase 2 of this project, NRPC worked with the Town's staff to create forecasted repair scenarios to model pavement condition and repair costs over a 10-year period. Phase 2 applies to the same paved, town-maintained roads which were assessed in Phase 1. The procedure for creating repair cost scenarios is in Section 7, and Section 8 describes in detail three scenarios for road maintenance. Each scenario is a 10-year period in which different repairs are selected for road segments based on priority values and PCI. Each scenario provides alternate strategies to maintain and repair the road network. These scenarios also reflect input from the Town to accurately depict costs and practical maintenance strategies. Phase 2 began in spring of 2023 and completed in the fall of 2024.

NRPC hopes this report will assist the Town of Wilton in planning for road maintenance. NRPC does **NOT** intend this Report to constrain the Town's decision-making process of selecting road maintenance. Instead, this report can serve as a tool for the Town's officials to assess current and future road condition and as a guide for budgeting the cost of future repairs.

3 BENEFITS OF DEVELOPING A ROAD SURFACE MANAGEMENT SYSTEM

A Road Surface Management System (RSMS) assessment will offer immediate benefits to the Town of Wilton. Below are the key benefits of an RSMS assessment. These benefits will remain relevant for years into the future. NRPC hopes to continue working with the Town of Wilton to keep road data accurate and track the cost of repair. NRPC recommends updating the road assessment and forecasted repair scenarios in 5-10 years.

A. ROAD INVENTORY

A complete inventory of town-owned roads is critical for effective maintenance and planning. The Town of Wilton owns 100 roads totaling 53.3 miles (41.3 miles paved and 12 miles unpaved). The Town's road network is both a critical asset and a major financial investment. The detailed road inventory in this report will provide the Town with information on road condition, location, and structure that will enhance on-going road maintenance and future planning.

Tables and maps in Section 6 provide a summary of the 2023 road inventory assessment.

B. PRIORITIZING MAINTENANCE NEEDS

Appendix A of this report lists all paved, town-maintained roads. This list will assist the Town in prioritizing their immediate maintenance needs. Each road is broken down into 0.25-mile segments. There are 494 segments total, each with accompanying attributes: Street Name, Segment #, Importance Value, Width (Feet), Length (Feet), Number of Lanes, PCI 2023, and Priority Value.

Segment ID is a unique number given to each 0.25-mile segment for identifying specific sections of road. If a road is approximately 0.25 miles long or shorter there is only one segment, and the segment ID is "1". If the road is greater than 0.25 miles long, it is divided into multiple segments with sequential ID numbers. Importance Value is a rating from 1 (low) to 5 (high) for how critical a road segment is to the Town's road network. The Traffic Volume is also a rating from 1 (low) to 5 (high) to represent traffic volumes on roads. PCI 2023 is the Pavement Condition Index value which was calculated based on the assessed cracking and defects in each road segment. This value ranges from 0 (low) to 100 (high). Priority is another calculated value which ranks each segment for maintenance preference. This calculation takes all the other values into consideration and is very helpful for forecasting which segments are in most need of maintenance.

C. JUSTIFYING MAINTENANCE BUDGET INCREASES

This Report will provide Town officials with a data-driven means for communicating road maintenance needs to elected officials and voters. Section 8 introduces three forecasted repair scenarios in which repair treatments are assigned to roads for a 10-year period. Scenarios track both the condition of individual road segments and the condition of the entire road network, factoring in repairs and pavement deterioration over time. Section 9 compares the results of our scenarios. This summary will demonstrate how pavement quality across the Town's road network is affected by two competing strategies, comparing costs, miles paved, and change in PCI over time.

D. MAKING EFFICIENT USE OF THE TOWN'S ROAD MAINTENANCE BUDGET

After the cost of installation, new pavement initially requires relatively little maintenance and will therefore be of little cost to a town. For about 75% of a pavement's designed lifespan, maintenance costs are generally less than one-fifth of the cost of pavement rehabilitation. However, if pavement enters the rapid deterioration stage in the last quarter of its designed life, maintenance cost will dramatically increase. Because pavement deteriorates at different rates, there is an "art" to good maintenance management in knowing when a road has reached the critical 75% mark. RSMS assessment and forecasting will help town officials track pavement deterioration across their road network. When critical pavement is identified, this will help town officials select cost-effective maintenance strategies.

Figure 1 (below) shows Pavement Condition Index (PCI) plotted over a 20-year period for hypothetical pavement. During the first 75% of the road's lifespan (15 years), there is a 40% drop in PCI. Beyond the 75%-mark, pavement deteriorates faster and will drop another 40% in just a few years. Once the pavement passes that threshold, the costs to improve that pavement's PCI increase dramatically. At that point, most pavement requires comprehensive rehabilitation or reconstruction rather than cost-effective preservation measures that can be taken advantage of when the pavement is still in decent condition.

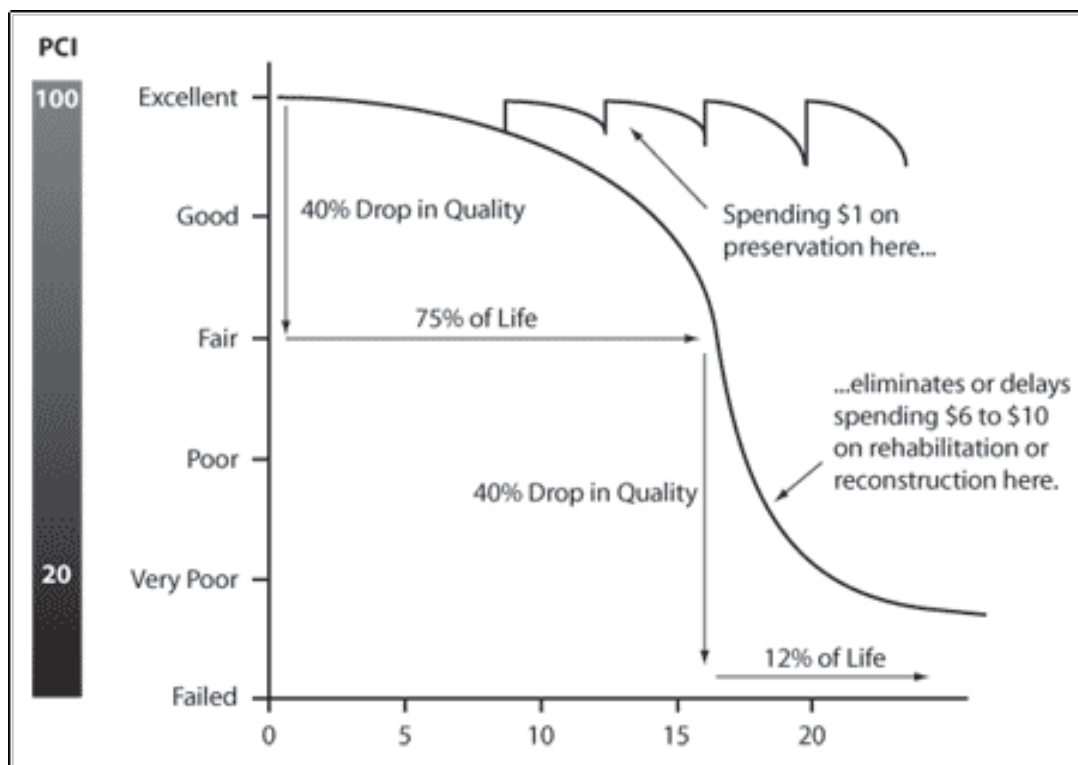


Figure 1: Pavement Deterioration

4 PAVEMENT PRESERVATION AND MAINTENANCE CONCEPTS

RSMS tools offer repair treatment types, organized into the following three general categories:

Preservation Rehabilitation Reconstruction

Preservation work is done to improve or sustain the condition of pavement when pavement is already in good condition. In addition to improving the paved surface condition, preservation work also seals the paved surface and prevents water intrusion. Preservation work will extend pavement life; however, preservation work will not add capacity or structural integrity to a road. In the forecasted repair scenarios (discussed in Sections 7 and 8) the plan uses crack sealing as a preservation treatment. Crack sealing fills in surface-level pavement cracks, making a water-tight surface. Preservation work is generally a fraction of the cost of rehabilitation and reconstruction work, and considerable cost savings are possible.

Rehabilitation is major repair work done to the surface layer of pavement, leaving the existing base. This category of work may include shimming and leveling, overlay, milling, or other treatments. Rehabilitation work will extend pavement life and have some structural benefits. Rehabilitation is more expensive than preservation, but less expensive than reconstruction. Several rehabilitative treatments are used in the scenarios, such as shims, overlays, and milling. Shims and overlays utilize Hot Mix Asphalt (HMA) to add a new fresh layer of pavement to a road. Shims are typically very thin overlays that help to fill in road defects, such as rutting, and reshaping the crown of the road. A thicker layer of asphalt will typically be installed on top of the shim, a new surface for the road. Milling involves grinding down of the top layer of the road, removing cracked old asphalt. A fresh overlay is added after this is complete. Another rehabilitation option is chip seal. Chip seal involves installing a layer of hot emulsion on the road and embedding it with finely graded aggregate. This provides a water-resistant surface that is more resistant to cracking than typical asphalt.

Reconstruction is costly work that involves excavation and modification to the road base and the application of new pavement. This level of repair is required if there has been inadequate maintenance, poor drainage, or improper base materials in place. The scenarios include Full-Depth Reclamation (FDR) treatment that includes soil injections for stabilization, a binder layer of asphalt, and top asphalt overlay. This is the most expensive repair option in the analyses. The Town has carefully planned that reclamation work would coincide with much needed improvements to underground infrastructure such as water mains.

5 EVALUATION OF EXISTING ROADWAY CONDITIONS

In the Fall of 2022 NRPC, assessed all paved town-maintained roads in Wilton. Using GIS, NRPC divided each paved town-maintained road into a total of 183 segments, each approximately 0.25 mile in length. NRPC individually assessed each road segment. Dividing whole roads into smaller segments is advantageous because it accounts for changes in pavement quality across a road, and it provides flexibility for when assigning maintenance in Phase II of this report (Section 7 and 8).

The field assessment included eight categories of pavement distress, including a severity level and/or extent (Table 1), following a procedure developed by SADES (Figure 2).

Table 1: Paved Road Field Inventory

Pavement Defect Category	Pavement Defect Attributes
Longitudinal or Transverse Cracking	Severity (No Defects, Low, Medium, High)
	Extent (Low, Medium, High)
Alligator Cracking	Severity (No Defects, Low, Medium, High)
	Extent (Low, Medium, High)
Edge Cracking	Severity (No Defects, Low, Medium, High)
	Extent (Low, Medium, High)
Patching or Potholes	Extent (No Defects, Low, Medium, High)
Drainage	Condition (Good, Fair, Poor)
Rutting	Severity (No Defects, Low, Medium, High)
	Extent (Low, Medium, High)
Roughness	Condition (Smooth, Noticeably Uneven, Rough, Very Rough)
Frost Heave Severity	Severity (None, Low, Medium, Severe)

6 ROAD INVENTORY RESULTS

A. ROAD INVENTORY

Below is a summary of the 2022 assessment of paved town-maintained roads (Table 2; Figure 3; Figure 4). NRPC used state-funded RSMS analysis software to generate a Pavement Condition Index (PCI) value to represent the condition of paved roads. PCI ranges from 0 (extremely poor condition) to 100 (perfect condition). The software generates a PCI value individually for each road segment based on our field observations of pavement defects. NRPC classified segments with PCI scores 0-50 as very poor, 50-69 as poor, 70-89 as fair, and 90-100 as good.

The average network PCI of Wilton's roads at the end of 2022 was 74. This value was calculated using a weighted average of all assessed paved road segments.

Table 2: Paved Conditions

Condition Category	Number of Paved Road Segments	Sum of Length (Miles)	% of Total Miles
Good (90-100 PCI)	45	9.59	23.2%
Fair (70 - 89 PCI)	52	12.64	30.5%
Poor (50 - 69 PCI)	61	14.31	34.6%
Very Poor (< 50 PCI)	26	4.85	11.7%
Total	183	41.4	100%

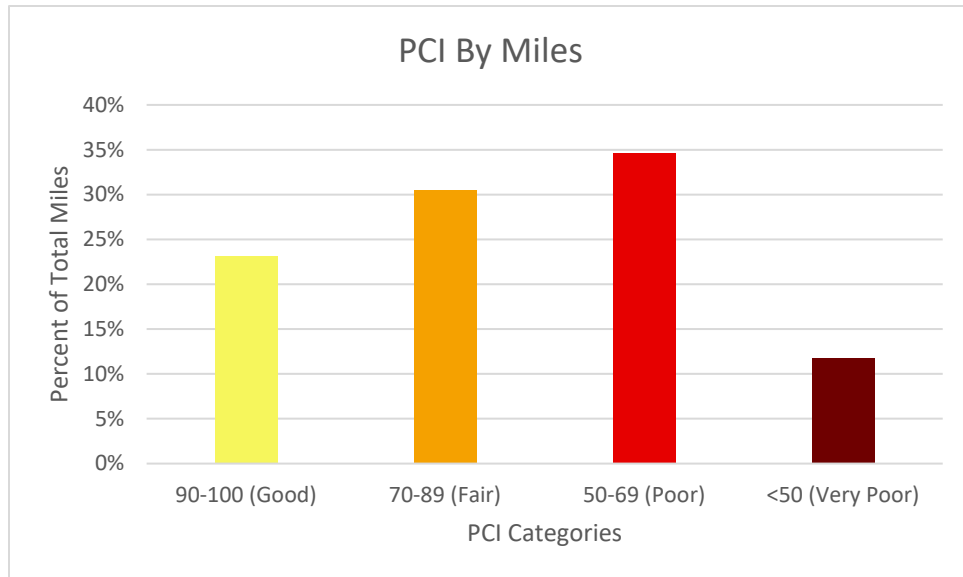


Figure 2: Paved Conditions

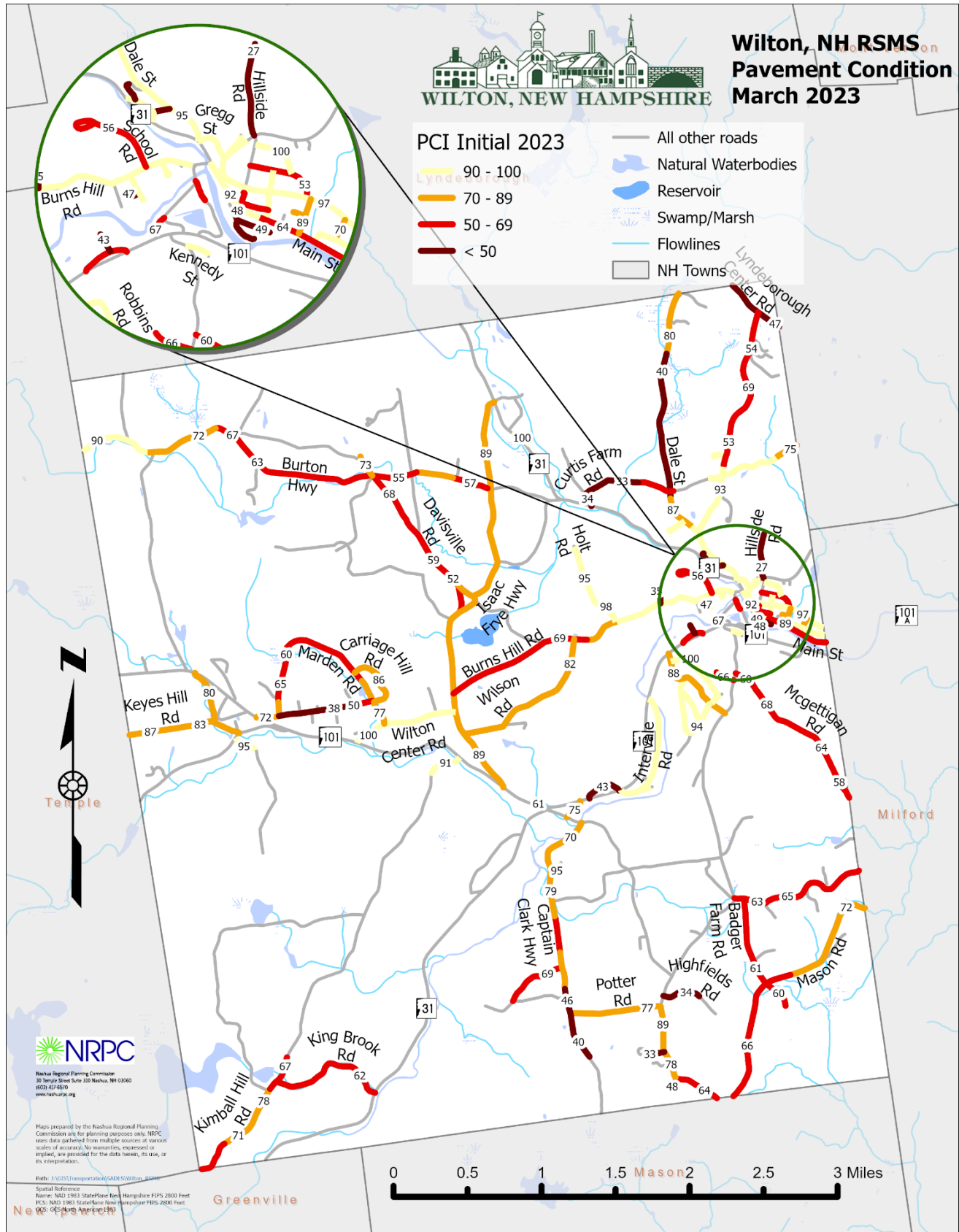


Figure 3: PCI Town-Maintained Paved Roads

7 PAVEMENT FORECASTING AND ANALYSIS

To evaluate pavement condition and repairs over 10 years, multiple repair scenarios were developed. Many decisions go into completing a scenario, such as which road segments get repairs, the repair type, and the year. When a repair is assigned to a road segment for a particular year, the PCI value for that segment increases according to the specifications below (Table 3). The software tracks the cost of each repair per year, inflation factored in. The PCI for each road deteriorates 4% annually.

Table 3: Pavement Repair Treatments

Repair	Repair Cost	Repair Unit	% Increase to PCI	Lifespan (Years)
Preservation				
Crack Seal (Minor)	\$1.27	Linear Foot	60	3.0
Rehabilitation				
HMA Shim	\$5.50	Yard ²	65	4.0
HMA Overlay (1.5")	\$8.07	Yard ²	80	9.0
Chip Seal	\$3.40	Yard ²	70	5.0
Rubberized Chip Seal	\$5.60	Yard ²	80	9.0
Mill + Fill 3"	\$26.80	Yard ²	80	10.0
Reconstruction				
FDR & HMA (2")	\$13.73	Yard ²	95	12.0
FDR & HMA (2.5")	\$14.93	Yard ²	95	12.0

Scenario 1 was developed to show what paving could be accomplished with an annual budget of \$450,000. This scenario focuses on Full Depth Reclamation (FDR) of poor and very poor roads, with application of rehabilitation methods on other roads. This plan also utilizes crack sealing to preserve the condition of the recently repaired roads.

Scenario 2 is basically the same plan as Scenario 1, but with a budget of \$500,000 in most years. The additional funds are used to add in over five more miles of chip sealing in four years of the plan.

Scenario 3 was developed with a long-term approach to improving the road network. In the 10 years of the plan there is more of a focus on using rehabilitation techniques such as milling and rubberized chip seal. There is little emphasis on crack sealing, except when used before applying chip seal.

8 SCENARIO FORECASTING RESULTS

A. SCENARIO 1

Scenario 1 was developed to show what paving could be accomplished with an annual budget of \$450,000. This scenario prioritizes reconstruction of poor and very poor roads that are vital to the overall network.

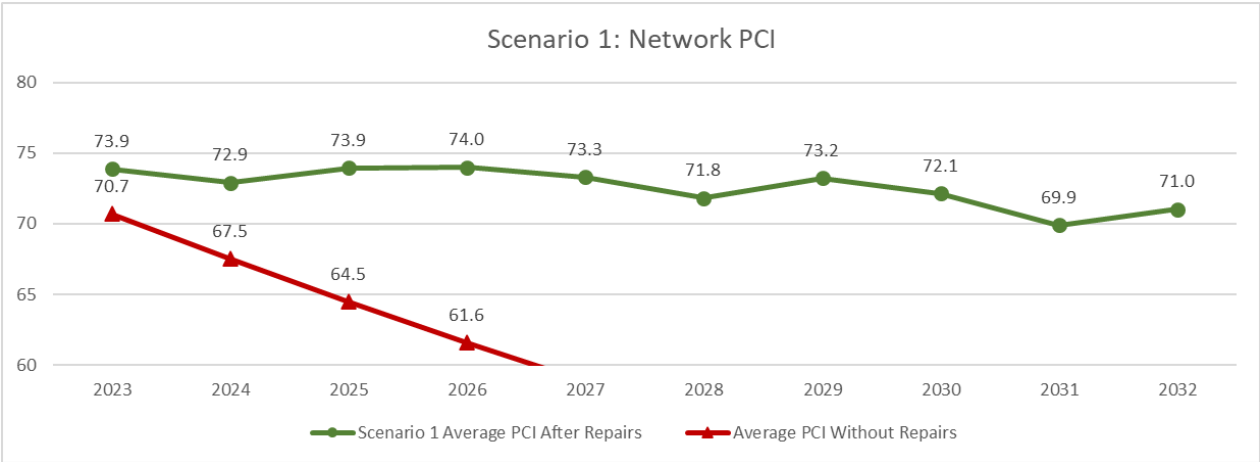


Figure 4: Network PCI by Year for Scenario 1

The average network PCI from the Fall of 2022 was 74. Without any repairs, that value is forecasted to drop to 46.7 in 2032. In Scenario 1, that value is forecasted to remain at 71.0 in 2033, an overall improvement of 24.3 points.

Scenario 1 addresses a total of 55.48 miles of road. Most of this mileage (29.88 miles, 54% of total) is due to the continued use of crack sealing. This strategy involves crack sealing each road five years after initial repair work is completed. Rehabilitation repairs cover 13.11 miles (24% of total) in this scenario. These repairs include chip seal and overlays. Reconstruction makes up 12.49 miles of this scenario (23% of total). This repair involves Full Depth Reclamation (FDR) of deteriorated roads with 2” of asphalt binder and a 1.5” asphalt overlay, though for many roads the overlay is applied a year or two after the reconstruction. On average, each year of this scenario repairs 5.55 miles of road: 2.99 miles of crack sealing and 2.56 miles of rehab and reconstruction work.

The total cost for Scenario 1 over 10 years is \$4,660,817, an average of \$466,82 per year. The cost for all crack sealing for this scenario is \$252,448, 5.4% of the total cost. The combined cost for all rehabilitation repairs (chip seal and overlays) is \$1,486,933, 31.9% of the total cost. The cost for all reconstruction repairs is \$2,921,436, 62.7% of the total cost.

The following tables (4,5, and 6) illustrate the repair costs, miles of treated roads and network PCI each year. Figure 5 shows which roads are scheduled for repair each year in Scenario 1. Appendix B contains detailed tables for Scenario 1 describing which roads are scheduled for repair, the cost of repairs, and number of miles of repairs.

Table 4: Scenario 1 - Network PCI, Miles Treated, and Cost per Mile

Scenario 1	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Average
Average PCI Without Repairs	70.7	67.5	64.5	61.6	58.8	56.2	53.6	51.2	48.9	46.7	
Average PCI After Repairs	73.9	72.9	73.9	74.0	73.3	71.8	73.2	72.1	69.9	71.0	72.6
PCI Change Year to Year		-1.0	1.0	0.0	-0.7	-1.5	1.4	-1.1	-2.2	1.1	-0.3
Crack Seal Miles	1.44	0.00	6.18	4.92	0.00	3.91	6.21	1.18	1.40	4.65	2.99
Crack Sealing Cost	\$10,008	\$0	\$46,583	\$38,613	\$0	\$33,140	\$53,734	\$10,844	\$13,400	\$46,126	\$25,245
Crack Seal cost per mile	\$6,974	\$0	\$7,543	\$7,845	\$0	\$8,485	\$8,648	\$9,177	\$9,544	\$9,926	\$6,814
Repair and Rebuild Miles	3.91	2.92	1.91	2.67	2.89	3.49	1.49	1.75	3.00	1.57	2.56
Repair and Rebuild Cost	\$443,757	\$488,462	\$402,530	\$412,209	\$528,950	\$420,321	\$380,311	\$445,008	\$477,671	\$409,149	\$440,837
Repair and Rebuild cost per mile	\$113,615	\$167,321	\$210,414	\$154,541	\$183,239	\$120,519	\$254,431	\$253,595	\$159,488	\$260,376	\$187,754
Planned Repair and Rebuild Budget	\$400,000	\$450,000	\$450,000	\$450,000	\$450,000	\$450,000	\$450,000	\$450,000	\$450,000	\$450,000	
Total Miles Treated	5.34	2.92	8.09	7.59	2.89	7.39	7.71	2.94	4.40	6.22	5.55
Total Repair Cost	\$453,765	\$488,462	\$449,113	\$450,823	\$528,950	\$453,460	\$434,046	\$455,852	\$491,071	\$455,275	\$466,082
Cost per Miles	\$84,961	\$167,321	\$55,523	\$59,400	\$183,239	\$61,333	\$56,311	\$155,242	\$111,632	\$73,214	\$100,817

Table 5: Scenario 1 - Repair Costs by Category

Repair	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total Spending	Percentage of Total Spending
Planned Repair Budget	\$400,000	\$450,000	\$450,000	\$450,000	\$450,000	\$450,000	\$450,000	\$450,000	\$450,000	\$450,000		
Preservation												
Crack Seal (Minor)	\$10,008		\$46,583	\$38,613		\$33,140	\$53,734	\$10,844	\$13,400	\$46,126	\$252,448	5.4%
Rehabilitation												
HMA Overlay (1.5")	\$154,957			\$179,827	\$83,014	\$420,321			\$477,671		\$1,315,790	28.2%
Chip Seal	\$102,579	\$68,564									\$171,143	3.7%
Reconstruction												
FDR & HMA (2"); HMA Overlay (1.5")	\$186,221	\$419,898						\$59,098			\$665,217	14.3%
FDR & HMA (2")			\$402,530	\$232,382	\$445,937		\$380,311	\$385,911		\$409,149	\$2,256,219	48.4%
Totals	\$453,765	\$488,462	\$449,113	\$450,823	\$528,950	\$453,460	\$434,046	\$455,852	\$491,071	\$455,275	\$4,660,817	

Table 6: Scenario 1 – Miles and Costs by Repair Category

Repair	Sum of Miles	% of Miles	Sum of Cost	% of Cost	Cost per Mile
Preservation					
Crack Seal (Minor)	29.88	54%	\$252,448	5%	\$ 8,447
Rehabilitation					
HMA Overlay (1.5")	9.90	18%	\$1,315,790	28%	\$ 132,881
Chip Seal					\$ 53,398
	3.21	6%	\$171,143	4%	
Reconstruction					
FDR & HMA (2"); HMA Overlay (1.5")	2.52	5%	\$665,217	14%	\$ 263,809
FDR & HMA (2")	9.97	18%	\$2,256,219	48%	\$ 226,368
Totals	55.48		\$4,660,817		\$ 84,008
Totals W/ O Crack Seal	25.60		\$ 4,408,369		\$ 172,231

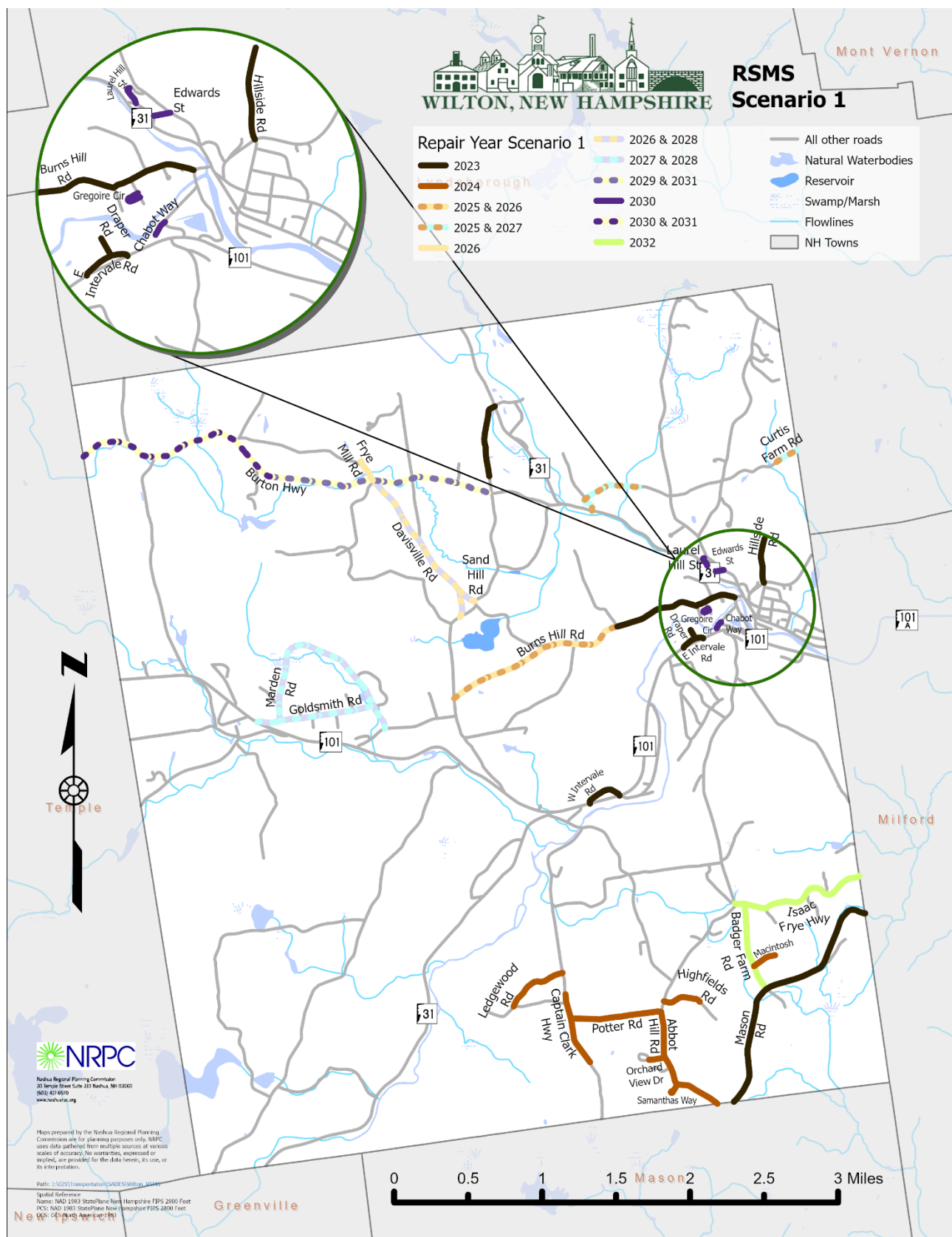


Figure 5: Scenario 1 Repairs by Year

B. SCENARIO 2

Scenario 2 was developed with the same approach as Scenario 1, but with an additional \$50,000 budget starting in Year 2026. This provided some more funding for rehabilitation repairs such as chip seal.

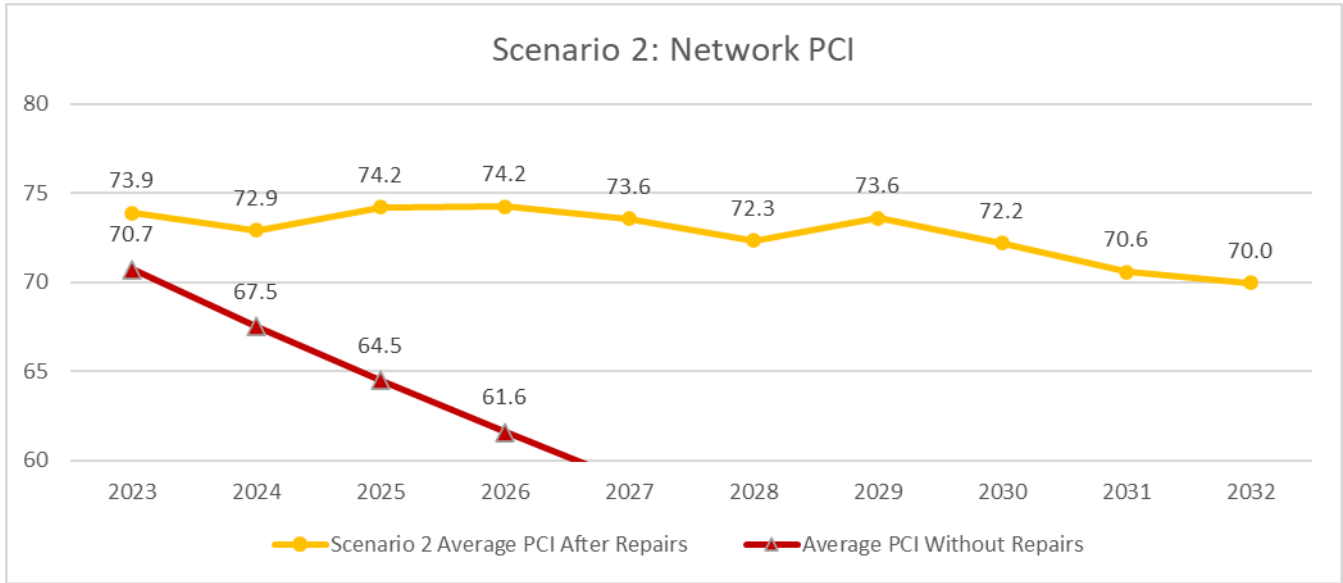


Figure 6: Network PCI by Year for Scenario 2

The average network PCI from the Fall of 2022 was 74. Without any repairs, that value is forecasted to drop to 46.7 in 2032. In Scenario 2, that value is forecasted to remain at 70 in 2033, an overall improvement of 23.3 points.

Scenario 2 covers a total of 56 miles of road. Most of this mileage (24.89 miles, 44% of total) is due to the continued use of crack sealing. This strategy involves crack sealing each road five years after initial repair work is completed. Rehabilitation repairs cover 18.62 miles (33% of total) in this scenario. These repairs include chip seal and overlays. Reconstruction makes up 12.49 miles of this scenario (22% of total). This repair involves full depth reclamation of deteriorated roads with 2” of asphalt binder and a 1.5” asphalt overlay, though for many roads the overlay is applied a year or two after the reconstruction. On average, each year of this scenario repairs 5.6 miles of road: 2.49 miles of crack sealing and 3.11 miles of rehab and reconstruction work.

The total cost for Scenario 2 over 10 years is \$5,008,451, an average of \$500,845 per year. The cost for all crack sealing for this scenario is \$205,353, 4% of the total cost. The combined cost for all rehabilitation repairs (chip seal & overlays) is \$1,796,324, 35.9% of the total cost. The cost for all reconstruction repairs is \$3,006,773, 60% of the total cost.

The following tables (7,8, and 9) illustrate the repair costs, miles of treated roads and network PCI each year. Figure 7 shows which roads are scheduled for repair each year in Scenario 2. Appendix C contains detailed tables for Scenario 2 describing which roads are scheduled for repair, the cost of repairs, and number of miles of repairs.

Table 7: Scenario 2 - Network PCI, Miles Treated, and Repair Costs

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Average
Average PCI Without Repairs	70.7	67.5	64.5	61.6	58.8	56.2	53.6	51.2	48.9	46.7	
Average PCI After Repairs	73.9	72.9	74.2	74.2	73.6	72.3	73.6	72.2	70.6	70.0	72.7
PCI Change Year to Year		-1.0	1.3	0.1	-0.7	-1.2	1.3	-1.4	-1.6	-0.6	-0.4
Crack Seal Miles	1.44	0.00	6.45	4.33	0.00	3.41	5.52	0.00	2.59	1.16	2.49
Crack Sealing Cost	\$10,008	\$0	\$48,634	\$33,984	\$0	\$28,895	\$47,619	\$0	\$24,677	\$11,536	\$20,535
Crack Seal cost per mile	\$6,974		\$7,543	\$7,845		\$8,485	\$8,626		\$9,544	\$9,926	\$8,420
Repair and Rebuild Miles	3.91	2.92	1.91	4.26	2.89	4.99	2.75	2.93	3.00	1.57	3.11
Repair and Rebuild Cost	\$443,757	\$488,462	\$402,530	\$491,448	\$528,950	\$503,592	\$452,517	\$519,684	\$477,671	\$494,485	\$480,310
Repair and rebuild cost per mile	\$113,615	\$167,321	\$210,414	\$115,437	\$183,239	\$100,975	\$164,843	\$177,620	\$159,488	\$314,683	\$170,763
Planned Repair and Rebuild Budget	\$400,000	\$450,000	\$450,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	
Total Miles Treated	5.34	2.92	8.36	8.59	2.89	8.39	8.27	2.93	5.58	2.73	5.60
Total Repair Cost	\$453,765	\$488,462	\$451,163	\$525,431	\$528,950	\$532,487	\$500,137	\$519,684	\$502,348	\$506,022	\$500,845
Cost per Miles	\$84,961	\$167,321	\$53,963	\$61,172	\$183,239	\$63,446	\$60,509	\$177,620	\$90,017	\$185,110	\$112,736

Table 8: Scenario 2 - Repair Costs by Category

Repair	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total Spending	Percentage of Total Spending
Planned Repair Budget	\$400,000	\$450,000	\$450,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000		
Preservation												
Crack Seal (Minor)	\$10,008		\$48,634	\$33,984		\$28,895	\$47,619		\$24,677	\$11,536	\$205,353	4.1%
Rehabilitation												
HMA Overlay (1.5")	\$154,957			\$179,827	\$83,014	\$420,321			\$477,671		\$1,315,790	26.3%
Chip Seal	\$102,579	\$68,564		\$79,238		\$83,272	\$72,206	\$74,676			\$480,534	9.6%
Reconstruction												
FDR & HMA (2"); HMA Overlay (1.5")	\$186,221	\$419,898						\$59,098		\$230,526	\$895,743	17.9%
FDR & HMA (2")			\$402,530	\$232,382	\$445,937		\$380,311	\$385,911		\$263,960	\$2,111,030	42.1%
Totals	\$453,765	\$488,462	\$451,163	\$525,431	\$528,950	\$532,487	\$500,137	\$519,684	\$502,348	\$506,022	\$5,008,451	

Table 9: Scenario 2 - Miles and Costs by Repair Category

Repair	Sum of Miles	% of Miles	Sum of Cost	% of Cost	Cost per Mile
Preservation					
Crack Seal (Minor)	24.89	44%	\$205,353	4%	\$ 8,251
Rehabilitation					
HMA Overlay (1.5")	9.90	18%	\$1,315,790	26%	\$ 132,881
Chip Seal	8.72	16%	\$480,534	10%	\$ 55,132
Reconstruction					
FDR & HMA (2"); HMA Overlay (1.5")	3.13	6%	\$895,743	18%	\$ 286,140
FDR & HMA (2")	9.36	17%	\$2,111,030	42%	\$ 225,581
Totals	56.00		\$5,008,451		\$ 89,444
Totals W/O Crack Seal	31.11		\$ 4,803,097		\$ 154,407

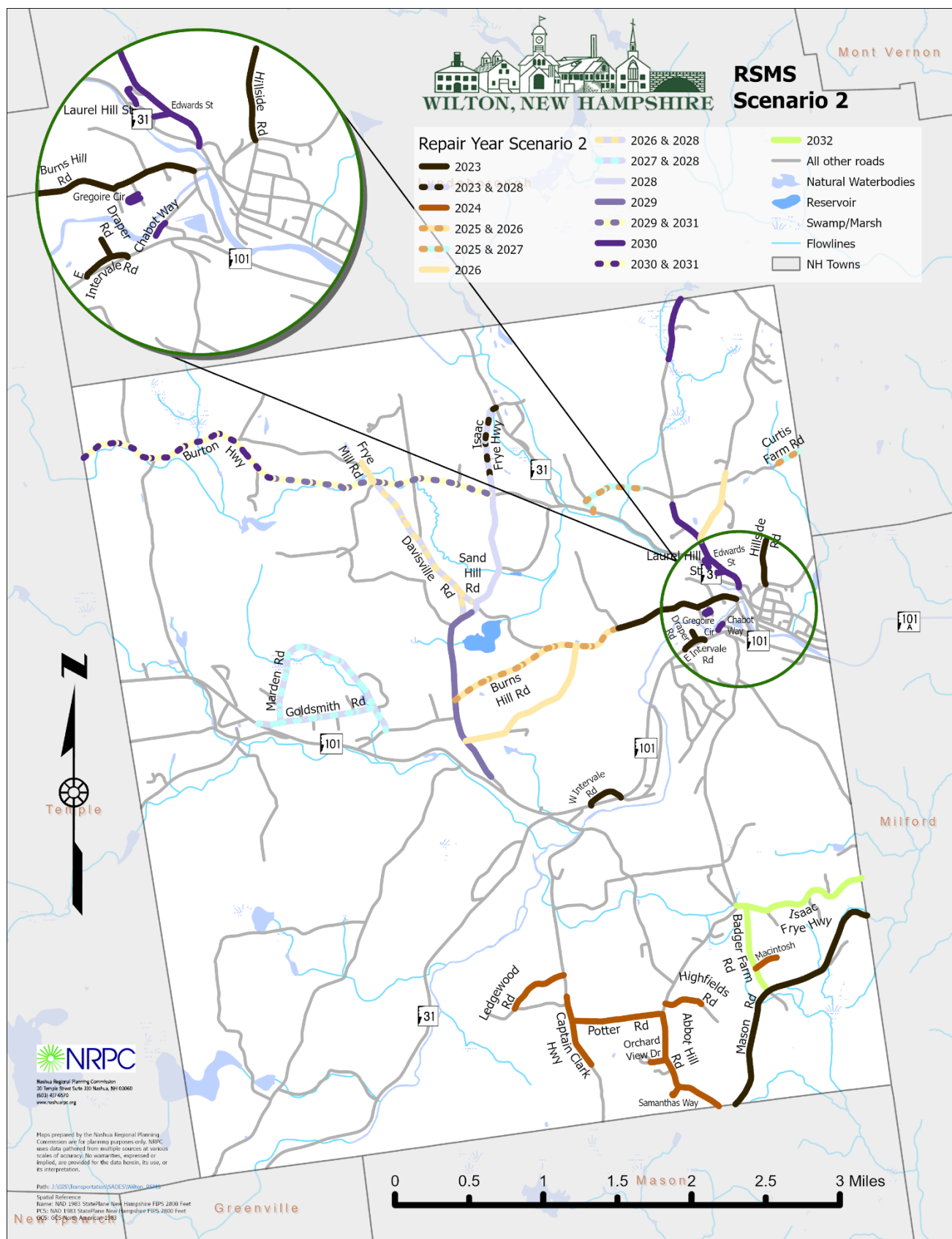


Figure 7: Scenario 2 Repairs by Year

C. SCENARIO 3

Scenario 3 was developed to be the first half of a comprehensive long-term paving plan for the town. This approach is a departure from the other scenarios. There is a strong emphasis on completing paving on roads which lack a top wearing surface, and a strategy for implementing rubberized chip seal, a rehabilitation technique that results in a more waterproof and crack-resistant surface than traditional chip seal. There is also a much smaller emphasis on crack sealing in this scenario, although it is the intention of the Town to crack seal roads outside of the scope of this scenario. This scenario was developed without a budget.

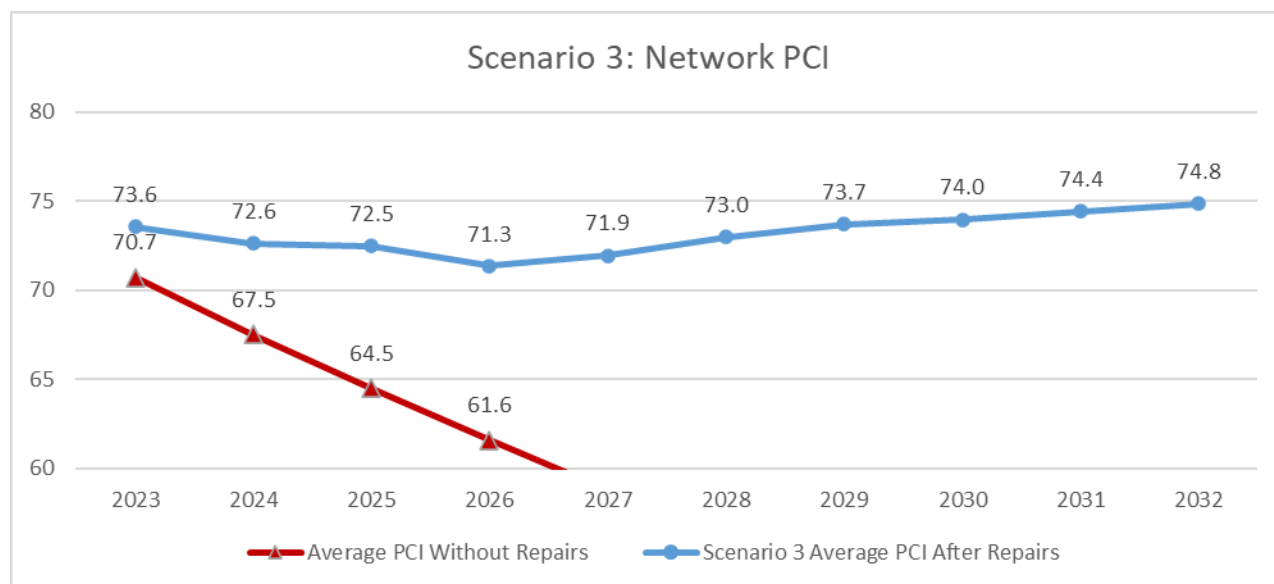


Figure 8: Network PCI by year for Scenario 3

The average network PCI from the Fall of 2022 was 74. Without any repairs, that value is forecasted to drop to 46.7 in 2032. In Scenario 3, that value is forecasted to be at 74.8 in 2033, an overall improvement of 28.1 points.

Scenario 3 covers a total of 49.18 miles. This scenario dedicates very little resources to crack sealing, 2.36 miles (5% of total) and only does so as preparation ahead of applying chip seal. The town intends to apply crack sealing each year on an as needed basis. Rehabilitation repairs cover 34.47 miles (70% of total) in this scenario. These repairs include milling, shims, overlays, chip seal, and rubberized chip seal. Over 16 miles of the road network (33% of total) are planned to receive chip seal or rubberized chip seal treatment. Reconstruction repairs make up 12.35 miles of this scenario (25% of total). This repair involves full depth reclamation of deteriorated roads with 2" or 2.5" of asphalt binder and a 1.5" asphalt overlay. On average, each year of this scenario repairs 4.92 miles of road

The total cost for Scenario 3 over 10 years is \$7,591,967, an average of \$759,197 per year. The cost for all crack sealing for this scenario is \$17,588, 0.2% of the total cost. The combined cost for all rehabilitation repairs (milling, shims, overlays, chip seal, rubberized chip seal) is \$3,767,358, 49.6% of the total cost. The cost for all reconstruction repairs is \$3,807,021, 50.2% of the total cost.

The following tables (10, 11, and 12) illustrate the repair costs, miles of treated roads and network PCI each year. Figure 9 shows which roads are scheduled for repair each year in Scenario 3. Appendix D contains detailed tables for Scenario 3 describing which roads are scheduled for repair, the cost of repairs, and number of miles of repairs.

Table 10: Scenario 3 - Network PCI, Miles Treated, and Repair Costs

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Average
Average PCI Without Repairs	70.7	67.5	64.5	61.6	58.8	56.2	53.6	51.2	48.9	46.7	
Average PCI After Repairs	73.6	72.6	72.5	71.3	71.9	73.0	73.7	74.0	74.4	74.8	73.2
PCI Change Year to Year		-0.9	-0.2	-1.1	0.6	1.0	0.7	0.2	0.5	0.4	0.1
Crack Seal Miles	1.44	0.00	0.00	0.00	0.75	0.17	0.00	0.00	0.00	0.00	0.24
Crack Sealing Cost	\$ 10,008	\$ -	\$ -	\$ -	\$ 6,128	\$ 1,452	\$ -	\$ -	\$ -	\$ -	\$1,759
Crack Seal cost per mile	\$ 6,974	\$ -	\$ -	\$ -	\$ 8,158	\$ -	\$ -	\$ -	\$ -	\$ -	\$1,513
Repair and Rebuild Miles	3.91	2.92	3.47	2.57	5.93	5.89	5.20	6.44	5.58	4.91	4.68
Repair and Rebuild Cost	\$439,317	\$541,984	\$565,572	\$461,675	\$1,029,007	\$1,095,668	\$760,698	\$742,778	\$1,049,094	\$891,042	\$757,683
Repair and rebuild cost per mile	\$112,478	\$185,655	\$162,882	\$179,582	\$ 173,508	\$ 186,077	\$146,230	\$115,267	\$ 187,930	\$181,638	\$163,125
Total Miles Treated	5.34	2.92	3.47	2.57	6.68	6.06	5.20	6.44	5.58	4.91	4.92
Total Repair Cost	\$446,291	\$541,984	\$565,572	\$461,675	\$1,037,165	\$1,095,668	\$760,698	\$742,778	\$1,049,094	\$891,042	\$759,197
Cost per Miles	\$ 83,561	\$185,655	\$162,882	\$179,582	\$ 155,223	\$ 180,823	\$146,230	\$115,267	\$ 187,930	\$181,638	\$157,879

Table 11: Scenario 3 – Repair Costs by Category

Repair	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total Spending	Percentage of Total Spending
Preservation												
Crack Seal (Minor)	\$10,008				\$6,128	\$1,452					\$17,588	0.2%
Rehabilitation												
HMA Shim			\$44,197	\$83,566	\$105,789	\$139,705	\$189,262	\$313,029	\$141,198	\$111,617	\$1,128,362	14.9%
HMA Overlay (1.5")	\$154,957				\$373,098			\$229,337			\$757,392	10.0%
Chip Seal	\$90,236	\$68,564									\$158,800	2.1%
Rubberized Chip Seal			\$101,376	\$46,801	\$88,489	\$177,614	\$163,467	\$200,411	\$331,469	\$149,516	\$1,259,143	16.6%
Mill + Fill 3"					\$463,661						\$463,661	6.1%
Reconstruction												
FDR & HMA (2"); HMA Overlay (1.5")	\$191,090	\$473,420									\$664,511	8.8%
FDR & HMA (2.5"); HMA Overlay (1.5")			\$294,640	\$331,309		\$776,897			\$576,426		\$1,979,272	26.1%
FDR & HMA (2.5")			\$125,359				\$407,969			\$629,909	\$1,163,238	15.3%
Totals	\$446,291	\$541,984	\$565,572	\$461,675	\$1,037,165	\$1,095,668	\$760,698	\$742,778	\$1,049,094	\$891,042	\$7,591,967	

Table 12: Scenario 3 – Miles and Costs by Repair Category

Repair	Sum of Miles	% of Miles	Sum of Cost	% of Cost	Cost per Mile
Preservation					
Crack Seal (Minor)	2.36	5%	\$17,588	0%	\$ 7,461
Rehabilitation					
HMA Shim	11.77	24%	\$1,128,362	15%	\$ 95,830
HMA Overlay (1.5")	5.85	12%	\$757,392	10%	\$ 129,500
Chip Seal	3.21	7%	\$158,800	2%	\$ 49,547
Rubberized Chip Seal	12.95	26%	\$1,259,143	17%	\$ 97,248
Mill + Fill 3"	0.69	1%	\$463,661	6%	\$ 668,520
Reconstruction					
FDR & HMA (2"); HMA Overlay (1.5")	2.27	5%	\$664,511	9%	\$ 293,114
FDR & HMA (2.5"); HMA Overlay (1.5")	5.39	11%	\$1,979,272	26%	\$ 367,435
FDR & HMA (2.5")	4.70	10%	\$1,163,238	15%	\$ 247,624
Totals	49.18		\$7,591,967		\$ 154,376
Totals W/O Crack Seal	46.82		\$ 7,574,379		\$ 161,773

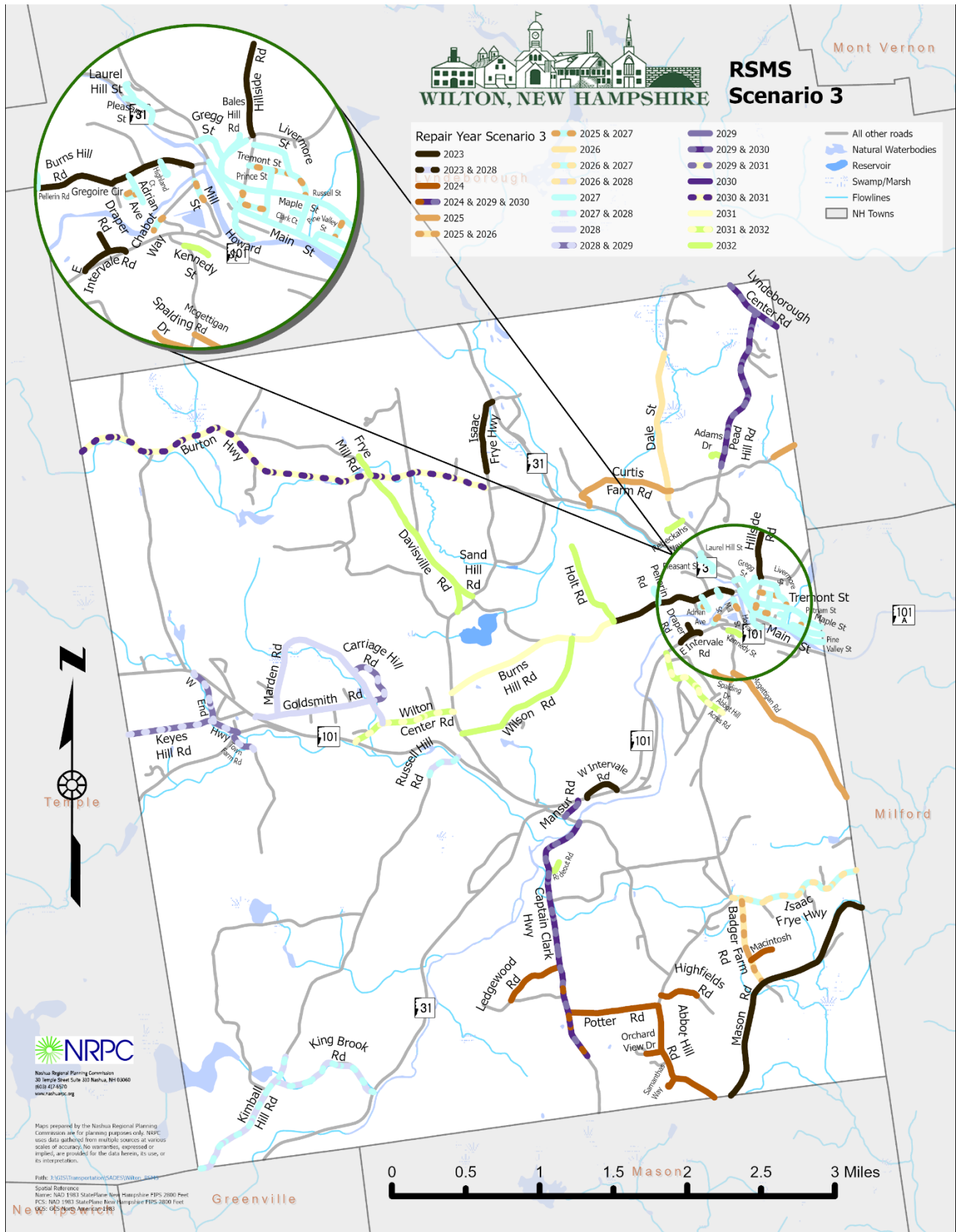


Figure 9: Scenario 3 Repairs by Year

9 SUMMARY

In this summary section all three scenarios will be compared. This comparison will look at changes in PCI over time, number of miles repaired, and overall costs for each scenario.

The overall network PCI for all town-maintained roads was 74 in the fall of 2022, when the roads were initially assessed. Typical deterioration of road surfaces is calculated to happen at a loss of 4.5% of the PCI each year. As repairs are made, each segment gets an improved PCI value, calculated by the type of repair assigned to that road segment. Then the PCI continues to drop at the same rate in the following years. This is consistent across all scenarios.

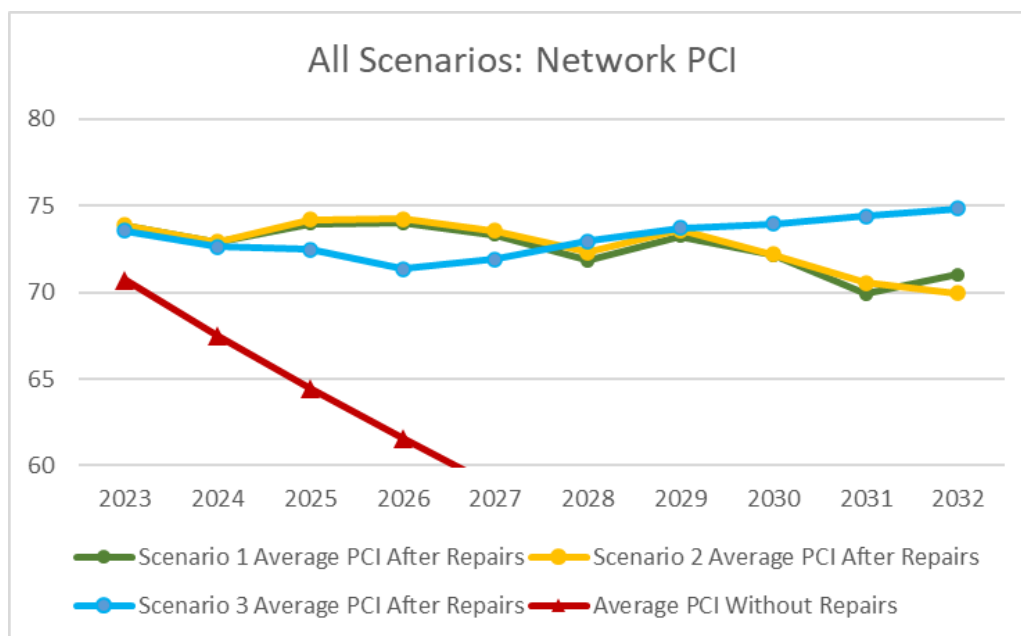


Figure 10: Scenario Comparison - Network PCI

In Scenario 1 the PCI finishes in 2033 at 71, with an average change per year of -0.3, which is about -.4%. In Scenario 2 the PCI finishes in 2033 at 70, with an average change per year of -0.4, which is about -.57%. In Scenario 3 the PCI finishes in 2033 at 74.8, with an average change per year of +0.1, which is about +0.02%. As seen in Table 4, scenario 1 has 4 years in which there is a positive change in PCI. Scenario 2 has 3 years (Table 7), and Scenario 3 has 6 years (Table 10).

You can see on the chart comparing the PCI changes of each scenario (Figure 10), that the general trend for Scenarios 1 and 2 is downward, with a slight improvement in 2029 and 2032 for Scenario 1. The trend in scenario 3 changes in the year 2027, with steady consistent improvement in all the following years. With proper planning, Scenario 3 appears to have the best potential to see multiple future years of PCI improvement.

There is a total of 41.28 miles in Wilton's paved road network. Looking at numbers of miles repaired in each scenario, there are significant differences between the three scenarios. Scenario 1 covers 55.87 miles, 25.6 miles without crack sealing. Scenario 2 covers 56 miles, 31.11 miles without crack sealing.

Scenario 3 covers 49.18 miles, 46.82 miles without crack sealing. These numbers, however, also include miles of the same roads that receive multiple years of repairs. The following numbers provide a better sense of how much actual network coverage each scenario provides. Scenario 1 plans for 17.2 miles (41.7%) of the total road network to receive rehabilitation or reconstruction repairs. Scenario 2 plans for 22.2 miles (53.8%). Scenario 3 plans for 33.4 miles (81%). Scenario 3 covers drastically more of the network in rehabilitation and reconstruction repairs than the other two scenarios.

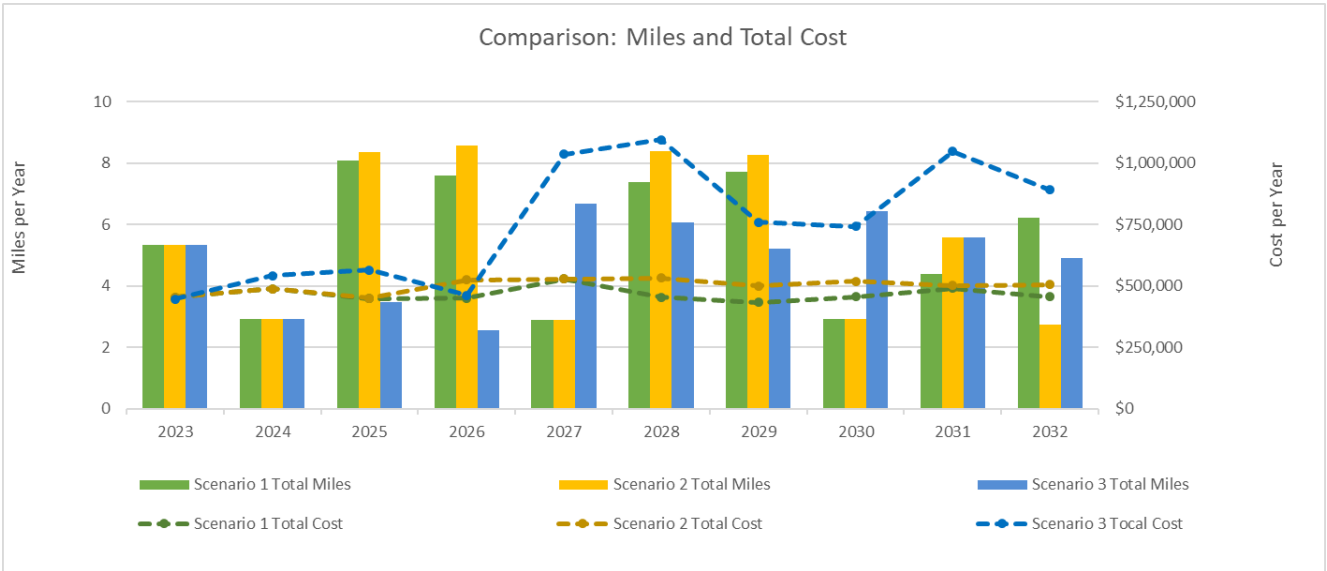


Figure 11: Scenario Comparison - Cost

To understand the value of Wilton’s road network, examine Figure 12. This breaks down the present-day value of Wilton’s paved road network simply in terms of material volume, without assigning value to its importance or usefulness to its residents. Wilton has 41.28 miles of paved roads, which on average contain 4 inches of pavement and 12 inches of gravel and are on average 24 ft wide. This calculates a total value of \$18,305,599. As the road surface degrades, this value depreciates. Over 20 years this depreciates at a rate of \$915,280 per year. This is the amount that the Town will have to spend per year to prevent any deterioration and depreciation of the network’s value. This amount is certainly higher than past paving budgets, however it can be a reminder to Town officials and the public of just how valuable an asset the road network is.

Maintaining a safe road network in good condition requires incredible effort. This effort is conducted in the office by DPW staff by planning and advocating for funding, and on the roads by the physically demanding work of the contractors hired to conduct road repairs. NRPC’s goal is to assist the Town of Wilton in planning for road maintenance. NRPC hopes this data-driven information proves valuable and results in an informed and cohesive strategy to maintain Wilton’s roads well into the future.

PRESENT DAY VALUE OF ROAD NETWORK						
MILEAGE:			UNIT COSTS:			
41.28		Paved	Pavement		\$80	/ ton
		Gravel	Gravel		\$30	/ ton
Depth (inches)	PAVED ROADS					
	Material	Cost/SY	Miles	Width (ft)	SY	Cost
4	Pavement	\$ 17.92	41.28	24	581,222	\$ 10,415,505
12	Gravel	\$ 13.58				\$ 7,890,094
TOTAL VALUE PAVED ROADS						\$ 18,305,599
Depth (inches)	GRAVEL ROADS					
	Material	Cost/SY	Miles	Width (ft)	SY	Cost
12	Gravel	\$ 13.58	0	16	0	\$ -
TOTAL VALUE OF GRAVEL ROADS						\$ -
TOTAL VALUE OF THE NETWORK:						\$ 18,305,599
ANNUALIZED DEPRECIATION AT				20	YEAR LIFE	\$ 915,280

Figure 12: Present Day Value of Wilton's Road Network

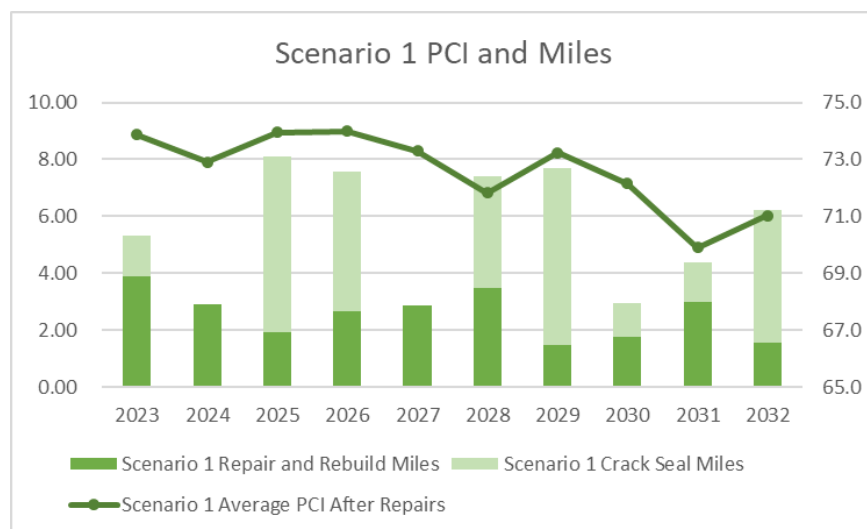


Figure 13: Scenario 1 PCI and Miles

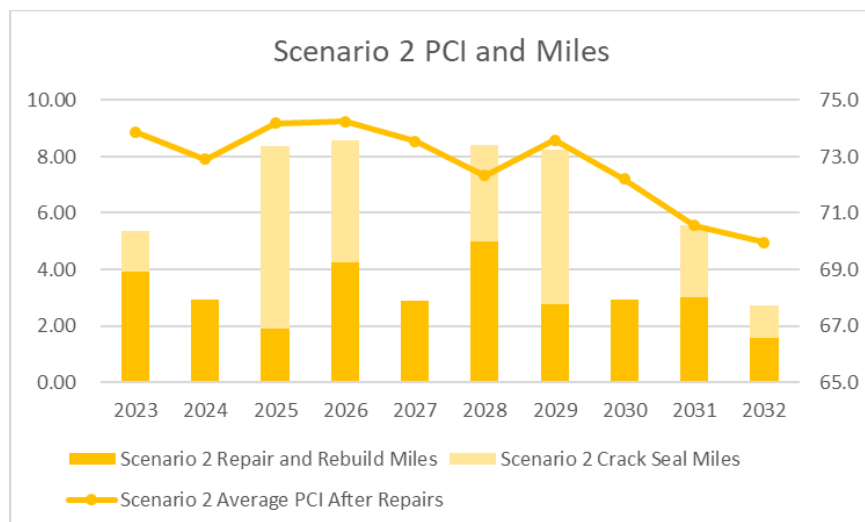


Figure 14: Scenario 2 PCI and Miles

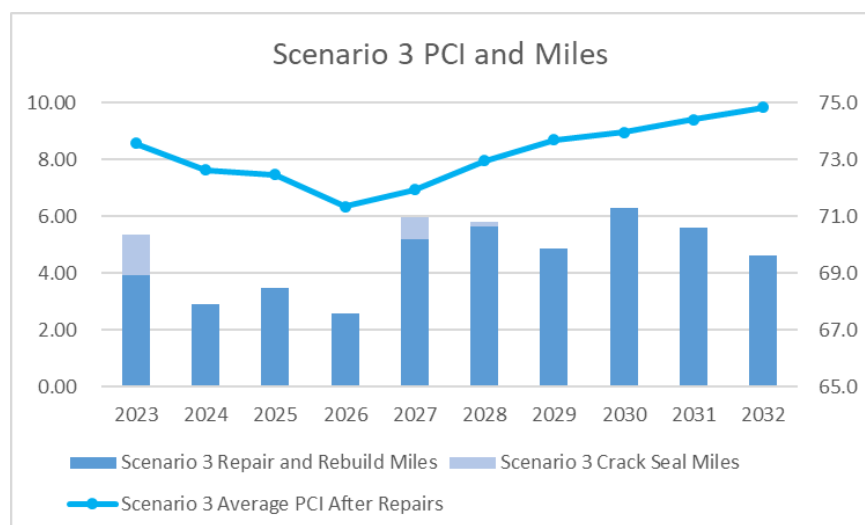


Figure 15: Scenario 3 PCI and Miles

10 APPENDIXES

APPENDIX A: ROAD INVENTORY

Road Name and Segment #	Surface Type	Road Width (Feet)	Number of Lanes	Length of Segment (Feet)	PCI Fall 2023	Importance Value	Traffic Volume Value	Priority Value
Abbot Hill Acres Rd - 1	Paved	23	2	1316.718	88	3	2	41
Abbot Hill Acres Rd - 2	Paved	23	2	1919.729	88	3	2	41
Abbot Hill Rd - 1	Paved	23	2	1318.751	89	2	1	25.75
Abbot Hill Rd - 2	Paved	23	2	1320.863	78	2	1	28.5
Abbot Hill Rd - 3	Paved	23	2	1699.118	64	2	1	32
Adams Dr - 1	Paved	25	2	580.4255	100	1	1	15
Adrian Ave - 1	Paved	18	2	515.6862	100	1	1	15
Badger Farm Rd - 1	Paved	20	2	1319.608	61	5	4	77.75
Badger Farm Rd - 2	Paved	20	2	1895.103	61	5	4	77.75
Bales Hill Rd - 1	Paved	17	1	433.8021	100	1	1	15
Barrett Hill Rd - 1	Unpaved			1319.03		2	1	48
Barrett Hill Rd - 2	Unpaved			1765.887		2	1	48
Bennington Battle Trl - 1	Unpaved			1319.619		1	1	40
Bennington Battle Trl - 2	Unpaved			754.9449		1	1	40
Brown Rd - 1	Unpaved			1321.312		1	1	40
Brown Rd - 2	Unpaved			1776.749		1	1	40
Burns Hill Rd - 1	Paved	24	2	1319.723	68	4	3	61
Burns Hill Rd - 2	Paved	24	2	1319.667	68	4	3	61
Burns Hill Rd - 3	Paved	24	2	1320.336	68	4	3	61
Burns Hill Rd - 4	Paved	24	2	1322.383	69	4	3	60.75
Burns Hill Rd - 5	Paved	24	2	1320.98	86	4	3	56.5
Burns Hill Rd - 6	Paved	24	2	1321.339	100	4	3	53
Burns Hill Rd - 7	Paved	24	2	1318.925	100	4	3	53
Burns Hill Rd - 8	Paved	24	2	1862.152	100	5	5	75
Burton Hwy - 1	Paved	22	2	1320.96	90	4	3	55.5
Burton Hwy - 10	Paved	23	2	1319.578	55	4	3	64.25
Burton Hwy - 11	Paved	23	2	1318.417	72	4	3	60
Burton Hwy - 12	Paved	23	2	1294.123	57	4	3	63.75
Burton Hwy - 2	Paved	22	2	1318.926	90	4	3	55.5
Burton Hwy - 3	Paved	23	2	1318.506	72	4	3	60
Burton Hwy - 4	Paved	23	2	1321.052	72	4	3	60
Burton Hwy - 5	Paved	25	2	1321.697	67	4	3	61.25
Burton Hwy - 6	Paved	25	2	1320.343	63	4	3	62.25
Burton Hwy - 7	Paved	25	2	1320.084	60	4	3	63
Burton Hwy - 8	Paved	25	2	1320.313	60	4	3	63
Burton Hwy - 9	Paved	25	2	1319.763	60	4	3	63
Captain Clark Hwy - 1	Paved	24	2	1319.453	70	4	3	60.5
Captain Clark Hwy - 2	Paved	24	2	1319.207	79	4	3	58.25
Captain Clark Hwy - 3	Paved	24	2	1319.2	79	4	3	58.25

Road Name and Segment #	Surface Type	Road Width (Feet)	Number of Lanes	Length of Segment (Feet)	PCI Fall 2023	Importance Value	Traffic Volume Value	Priority Value
Captain Clark Hwy - 4	Paved	24	2	1321.26	64	4	3	62
Captain Clark Hwy - 5	Paved	24	2	1319.166	70	4	3	60.5
Captain Clark Hwy - 6	Paved	24	2	1317.526	46	4	3	66.5
Captain Clark Hwy - 7	Paved	19	2	1319.693	40	4	3	68
Captain Clark Hwy - 8	Unpaved			1319.51		4	3	78
Captain Clark Hwy - 9	Unpaved			823.5587		4	3	78
Carriage Hill Rd - 1	Paved	22	2	2302.782	86	1	1	18.5
Chabot Way - 1	Paved	19	2	275.4139	67	1	1	23.25
Clark Ct - 1	Paved	20	2	210.2578	89	1	1	17.75
Coburn Rd - 1	Unpaved			1014.689		1	1	40
Collins Rd - 1	Unpaved			1321.35		1	1	40
Collins Rd - 2	Unpaved			1136.426		1	1	40
Crescent St - 1	Paved	22	2	649.4866	60	1	1	25
Curtis Farm Rd - 1	Paved	22	2	1322.031	34	3	1	47.5
Curtis Farm Rd - 2	Paved	22	2	1319.965	33	3	1	47.75
Curtis Farm Rd - 3	Paved	20	2	1320.063	57	3	1	41.75
Curtis Farm Rd - 4	Unpaved			1320.817		3	1	56
Curtis Farm Rd - 5	Paved	21	2	1318.266	100	3	3	45
Curtis Farm Rd - 6	Paved	21	2	1320.707	100	3	3	45
Curtis Farm Rd - 7	Paved	21	2	855.7401	75	3	3	51.25
Dale St - 1	Paved	24	2	1319.257	95	4	4	61.25
Dale St - 2	Paved	24	2	1315.873	95	4	4	61.25
Dale St - 3	Paved	21	2	1318.801	87	4	4	63.25
Dale St - 4	Paved	21	2	1319.413	40	4	4	75
Dale St - 5	Paved	21	2	1319.394	40	4	4	75
Dale St - 6	Paved	21	2	1319.248	40	4	4	75
Dale St - 7	Paved	21	2	1319.041	40	4	4	75
Dale St - 8	Paved	24	2	1319.678	80	4	4	65
Dale St - 9	Paved	24	2	909.4136	80	4	4	65
Davisville Rd - 1	Paved	21	2	1612.285	52	2	1	35
Davisville Rd - 2	Paved	21	2	1319.932	59	2	1	33.25
Davisville Rd - 3	Paved	18	2	1319.585	68	2	1	31
Davisville Rd - 4	Paved	18	2	1747.016	68	2	1	31
Draper Rd - 1	Paved	17	2	338.5601	43	1	1	29.25
Duggin Rd - 1	Unpaved			1319.05		1	1	40
Duggin Rd - 2	Unpaved			1319.115		1	1	40
Duggin Rd - 3	Unpaved			854.9845		1	1	40
Dwight Rd - 1	Unpaved			1320.171		1	1	40
Dwight Rd - 2	Unpaved			1320.025		1	1	40
Dwight Rd - 3	Unpaved			839.7518		1	1	40
E Intervale Rd - 1	Paved	20	2	844.3485	53	1	1	26.75
Edwards St - 1	Paved	12	2	285.8698	27	1	1	33.25
Frye Mill Rd - 1	Paved	16	2	809.8577	73	1	1	21.75

Road Name and Segment #	Surface Type	Road Width (Feet)	Number of Lanes	Length of Segment (Feet)	PCI Fall 2023	Importance Value	Traffic Volume Value	Priority Value
Goldsmith Rd - 1	Paved	23	2	1317.121	38	3	2	53.5
Goldsmith Rd - 2	Paved	23	2	1319.427	38	3	2	53.5
Goldsmith Rd - 3	Paved	23	2	761.1649	50	3	2	50.5
Greene St - 1	Paved	24	2	1351.493	100	1	1	15
Gregg St - 1	Paved	18	2	669.2161	100	1	1	15
Gregoire Cir - 1	Paved	13	1	446.1599	47	1	1	28.25
Heald Rd - 1	Unpaved			1319.295		1	1	40
Heald Rd - 2	Unpaved			1319.364		1	1	40
Heald Rd - 3	Unpaved			1678.459		1	1	40
Highfields Rd - 1	Paved	25	2	1375.674	34	1	1	31.5
Highland Ct - 1	Paved	13	2	354.5357	100	1	1	15
Hillside Rd - 1	Paved	16	2	1593.131	27	1	1	33.25
Holt Rd - 1	Paved	22	2	1319.094	98	1	1	15.5
Holt Rd - 2	Paved	22	2	1899.547	95	1	1	16.25
Howard St - 1	Paved	24	2	727.2023	48	1	1	28
Hutchinson Rd - 1	Paved	41	2	153.3478	61	1	1	24.75
Intervale Rd - 1	Paved	22	2	1322.289	100	2	1	23
Intervale Rd - 2	Paved	22	2	1320.405	100	2	1	23
Intervale Rd - 3	Paved	22	2	1679.475	100	2	1	23
Isaac Frye Hwy - 1	Paved	22	2	1320.786	89	3	4	54.75
Isaac Frye Hwy - 10	Paved	22	2	1322.26	89	3	4	54.75
Isaac Frye Hwy - 11	Paved	22	2	1319.803	89	3	4	54.75
Isaac Frye Hwy - 12	Paved	22	2	802.3247	89	3	4	54.75
Isaac Frye Hwy - 13	Unpaved			1320.604		3	4	77
Isaac Frye Hwy - 14	Unpaved			1310.297		3	4	77
Isaac Frye Hwy - 15	Paved	23	2	1317.89	63	3	4	61.25
Isaac Frye Hwy - 16	Paved	23	2	1319.364	65	3	4	60.75
Isaac Frye Hwy - 17	Paved	23	2	1320.07	65	3	4	60.75
Isaac Frye Hwy - 18	Paved	23	2	1124.839	65	3	4	60.75
Isaac Frye Hwy - 2	Paved	22	2	1320.564	89	3	4	54.75
Isaac Frye Hwy - 3	Paved	22	2	1320.793	89	3	4	54.75
Isaac Frye Hwy - 4	Paved	22	2	1320.405	89	3	4	54.75
Isaac Frye Hwy - 5	Paved	22	2	1320.041	89	3	4	54.75
Isaac Frye Hwy - 6	Paved	22	2	1315.813	89	3	4	54.75
Isaac Frye Hwy - 7	Paved	22	2	1320.328	89	3	4	54.75
Isaac Frye Hwy - 8	Paved	22	2	1319.767	89	3	4	54.75
Isaac Frye Hwy - 9	Paved	22	2	1319.93	89	3	4	54.75
Kennedy St - 1	Paved	20	2	453.3998	100	1	1	15
Keyes Hill Rd - 1	Paved	21	2	1320.56	87	1	1	18.25
Keyes Hill Rd - 2	Paved	21	2	1775.003	83	1	1	19.25
Kimball Hill Rd - 1	Paved	19	2	1319.943	67	1	1	23.25
Kimball Hill Rd - 2	Paved	19	2	1319.772	71	2	1	30.25
Kimball Hill Rd - 3	Paved	19	2	1320.291	78	2	1	28.5

Road Name and Segment #	Surface Type	Road Width (Feet)	Number of Lanes	Length of Segment (Feet)	PCI Fall 2023	Importance Value	Traffic Volume Value	Priority Value
Kimball Hill Rd - 4	Paved	19	2	1320.634	67	1	1	23.25
King Brook Rd - 1	Paved	21	2	1319.414	62	2	1	32.5
King Brook Rd - 2	Paved	21	2	1319.65	62	2	1	32.5
King Brook Rd - 3	Paved	21	2	1747.215	62	2	1	32.5
Laurel Hill St - 1	Paved	10	1	336.4109	27	1	1	33.25
Ledgewood Rd - 1	Paved	21	2	1319.042	69	1	1	22.75
Ledgewood Rd - 2	Paved	21	2	933.8906	69	1	1	22.75
Livermore St - 1	Paved	30	1	907.9002	100	5	5	75
Lorden Rd - 1	Unpaved			455.2365		1	1	40
Lyndeborough Center Rd - 1	Paved	22	2	1320.129	47	3	3	58.25
Lyndeborough Center Rd - 2	Paved	22	2	929.9605	47	3	3	58.25
Macintosh - 1	Paved	24	2	528	38	1	1	30.5
Main St - 1	Paved	49	2	1322.978	92	5	5	77
Main St - 2	Paved	27	2	1319.021	64	5	5	84
Main St - 3	Paved	27	2	1020.015	67	5	5	83.25
Mansur Rd - 1	Paved	26	2	780.5405	75	1	1	21.25
Maple St - 1	Paved	32	2	1318.401	95	4	2	47.25
Maple St - 2	Paved	24	2	1839.444	97	1	1	15.75
Marden Rd - 1	Paved	19	2	1320.138	72	2	1	30
Marden Rd - 2	Paved	20	2	1320.057	65	2	1	31.75
Marden Rd - 3	Paved	20	2	1320.057	60	2	1	33
Marden Rd - 4	Paved	20	2	1319.894	60	2	1	33
Marden Rd - 5	Paved	20	2	1319.691	65	2	1	31.75
Marden Rd - 6	Paved	18	2	1746.35	77	2	1	28.75
Mason Rd - 1	Paved	24	2	1320.566	66	4	4	68.5
Mason Rd - 2	Paved	24	2	1320.728	66	4	4	68.5
Mason Rd - 3	Paved	24	2	1320.789	66	4	4	68.5
Mason Rd - 4	Paved	25	2	1319.109	60	4	4	70
Mason Rd - 5	Paved	25	2	1318.775	72	4	4	67
Mason Rd - 6	Paved	25	2	1319.906	72	4	4	67
Mason Rd - 7	Paved	25	2	1425.486	72	4	4	67
Mcgettigan Rd - 1	Paved	21	2	1319.643	58	3	2	48.5
Mcgettigan Rd - 2	Paved	21	2	1319.358	64	3	2	47
Mcgettigan Rd - 3	Paved	21	2	1319.631	67	3	2	46.25
Mcgettigan Rd - 4	Paved	21	2	1319.647	68	3	2	46
Mcgettigan Rd - 5	Paved	21	2	960.5952	60	3	2	48
Mill St - 1	Paved	24	2	370.8799	53	1	1	26.75
Old County Farm Rd - 1	Unpaved			712.2363		1	1	40
Orchard View Dr - 1	Paved	24	2	528	33	1	1	31.75
Orchard View Dr - 2	Paved	24	2	991	33	1	1	31.75
Pead Hill Rd - 1	Paved	25	2	1318.658	93	3	2	39.75
Pead Hill Rd - 2	Paved	25	2	1318.826	93	3	2	39.75
Pead Hill Rd - 3	Paved	22	2	1319.563	53	3	2	49.75

Road Name and Segment #	Surface Type	Road Width (Feet)	Number of Lanes	Length of Segment (Feet)	PCI Fall 2023	Importance Value	Traffic Volume Value	Priority Value
Pead Hill Rd - 4	Paved	22	2	1320.227	53	3	2	49.75
Pead Hill Rd - 5	Paved	24	2	1320.11	69	3	2	45.75
Pead Hill Rd - 6	Paved	24	2	1318.665	54	3	2	49.5
Pead Hill Rd - 7	Paved	24	2	665.7556	54	3	2	49.5
Pellerin Rd - 1	Paved	16	2	567.376	35	1	1	31.25
Petty Rd - 1	Unpaved			427.465		1	1	40
Pine Valley St - 1	Paved	22	2	1295.04	100	1	1	15
Pleasant St - 1	Paved	20	2	717.4014	100	1	1	15
Potter Rd - 1	Paved	21	2	1320.896	77	4	3	58.75
Potter Rd - 2	Paved	21	2	1917.66	77	4	3	58.75
Prince St - 1	Paved	23	1	862.0765	100	5	5	75
Proctor Rd - 1	Paved	24	2	1319.217	94	2	1	24.5
Proctor Rd - 2	Paved	24	2	1319.612	100	2	1	23
Proctor Rd - 3	Paved	24	2	765.0916	100	2	1	23
Putnam Hill Rd - 1	Unpaved			1858.032		1	1	40
Putnam St - 1	Paved	21	2	376.3628	70	1	1	22.5
Rebeckahs Way - 1	Paved	24	2	773.9149	100	1	1	15
Rideout Rd - 1	Paved	18	2	579.2291	95	1	1	16.25
Ring Rd - 1	Unpaved			1731.107		1	1	40
Riverbend Way - 1	Paved	22	2	399.2174	100	1	1	15
Robbins Rd - 1	Paved	22	2	1321.875	100	2	1	23
Robbins Rd - 2	Paved	22	2	1472.918	100	2	1	23
Russell Hill Rd - 10	Unpaved			1320.255		1	1	40
Russell Hill Rd - 11	Unpaved			1320.206		1	1	40
Russell Hill Rd - 12	Unpaved			1320.135		1	1	40
Russell Hill Rd - 13	Unpaved			1320.213		1	1	40
Russell Hill Rd - 14	Paved	25	2	1326.089	91	1	1	17.25
Russell Hill Rd - 15	Unpaved			494.9577		1	1	40
Russell Hill Rd - 5	Unpaved			1320.263		1	1	40
Russell Hill Rd - 6	Unpaved			1320.107		1	1	40
Russell Hill Rd - 7	Unpaved			1320.202		1	1	40
Russell Hill Rd - 8	Unpaved			1320.147		1	1	40
Russell Hill Rd - 9	Unpaved			1320.235		1	1	40
Russell St - 1	Paved	22	2	622.9572	89	1	1	17.75
Samanthas Way - 1	Paved	24	2	514.8671	48	1	1	28
Sand Hill Rd - 1	Unpaved			1320.582		1	1	40
Sand Hill Rd - 2	Unpaved			1959.84		1	1	40
Sand Hill Rd - 3	Paved	20	2	671.6846	87	1	1	18.25
School Rd - 1	Paved	31	2	1976.548	56	5	5	86
Scott Rd - 1	Unpaved			1316.657		1	1	40
Souhegan St - 1	Paved	24	2	591.5169	49	2	1	35.75
Spalding Dr - 1	Paved	20	2	691.226	66	1	1	23.5
Stagecoach Rd - 1	Unpaved			1321.161		1	1	40

Road Name and Segment #	Surface Type	Road Width (Feet)	Number of Lanes	Length of Segment (Feet)	PCI Fall 2023	Importance Value	Traffic Volume Value	Priority Value
Stagecoach Rd - 2	Unpaved			845.5378		1	1	40
Stephens Rd - 1	Paved	15	2	1104.546	60	1	1	25
Stiles Farm Rd - 1	Unpaved			1320.643		1	1	40
Stiles Farm Rd - 2	Unpaved			1511.008		1	1	40
Tighe Farm Rd - 1	Unpaved			1318.185		1	1	40
Tighe Farm Rd - 2	Unpaved			755.5493		1	1	40
Town Farm Rd - 1	Unpaved			1320.374		1	1	40
Town Farm Rd - 2	Unpaved			1320.649		1	1	40
Town Farm Rd - 3	Unpaved			1320.6		1	1	40
Town Farm Rd - 4	Paved	21	2	903.32	95	1	1	16.25
Tremont St - 1	Paved	20	1	1252.673	53	5	5	86.75
W End Hwy - 1	Paved	22	2	1319.232	80	1	1	20
W End Hwy - 2	Paved	22	2	1635.488	83	1	1	19.25
W Intervale Rd - 1	Paved	19	2	1357.413	43	1	1	29.25
Waters Rd - 1	Paved	22	2	647.544	100	1	1	15
Whiting Hill Rd - 1	Paved	22	2	793.7875	100	4	3	53
Wilson Rd - 1	Paved	22	2	1321.165	86	4	3	56.5
Wilson Rd - 2	Paved	19	2	1320.162	82	4	3	57.5
Wilson Rd - 3	Paved	19	2	1320.282	82	4	3	57.5
Wilson Rd - 4	Paved	19	2	1795.938	82	4	3	57.5
Wilton Center Rd - 1	Paved	23	2	1320.545	100	4	3	53
Wilton Center Rd - 2	Paved	23	2	1320.574	100	4	3	53
Wilton Center Rd - 3	Paved	23	2	1180.417	100	4	3	53

APPENDIX B: SCENARIO DETAILS

(On following pages)

Scenario 1 Details Year by Year

2023	Streets by Repair	Sum Miles	Average PCI Initial 2022	Average PCI Before 2023	Average PCI After 2023	Sum Cost 2023
	3/8" Chip Seal - ASMG; Crack Seal - Wilton 2022	1.77	67.7	64.7	95.8	\$ 102,579
	Mason Rd	1.77	67.7	64.7	95.8	\$ 102,579
	Crack Seal - Wilton 2022	1.44	77.0	73.5	89.4	\$ 10,008
	Abbot Hill Rd	0.82	77.0	73.5	89.4	\$ 5,731
	Potter Rd	0.61	77.0	73.5	89.4	\$ 4,277
	FDR & HMA (2"); HMA Overlay (1.5")	0.78	41.5	39.6	99.4	\$ 186,221
	Draper Rd	0.06	43.0	41.1	99.4	\$ 14,499
	E Intervale Rd	0.16	53.0	50.6	99.5	\$ 42,540
	W Intervale Rd	0.26	43.0	41.1	99.4	\$ 64,970
	Hillside Rd	0.30	27.0	25.8	99.3	\$ 64,212
	HMA Overlay (1.5")	1.35	95.6	91.3	98.3	\$ 154,957
	Burns Hill Rd	0.85	100.0	95.5	99.1	\$ 100,768
	Isaac Frye Hwy	0.50	89.0	85.0	97.0	\$ 54,189
	Grand Total	5.34	71.57	68.4	95.5	\$ 453,765

2024	Streets by Repair	Sum Miles	Average PCI Initial 2022	Average PCI Before 2024	Average PCI After 2024	Sum Cost 2024
	3/8" Chip Seal - ASMG	1.44	77.0	70.2	95.6	\$ 68,564
	Abbot Hill Rd	0.82	77.0	70.2	95.6	\$ 40,775
	Potter Rd	0.61	77.0	70.2	95.6	\$ 27,789
	FDR & HMA (2"); HMA Overlay (1.5")	1.23	47.3	43.1	99.4	\$ 378,515
	Captain Clark Hwy	0.25	40.0	36.5	99.4	\$ 65,691
	Highfields Rd	0.26	34.0	31.0	99.3	\$ 90,102
	Ledgewood Rd	0.43	69.0	62.9	99.6	\$ 123,950
	Macintosh	0.10	38.0	34.7	99.3	\$ 33,199
	Orchard View Dr	0.10	33.0	30.1	99.3	\$ 33,199
	Samanthas Way	0.10	48.0	43.8	99.4	\$ 32,373
	FDR & HMA 2" (1/2 segment) - Wilton; HMA Overlay (1.5") - 1/2Segment Wilton	0.25	46.0	42.0	99.4	\$ 41,383
	Captain Clark Hwy	0.25	46.0	42.0	99.4	\$ 41,383
	Grand Total	2.92	58.62	53.5	98.0	\$ 488,462

2025	Streets by Repair	Sum Miles	Average PCI Initial 2023	Average PCI Before 2025	Average PCI After 2025	Sum Cost 2025
	Crack Seal - Wilton 2022	6.18	86.2	75.0	90.0	\$ 46,583
	Abbot Hill Acres Rd	0.61	88.0	76.6	90.7	\$ 4,624
	Adams Dr	0.11	100.0	87.1	94.8	\$ 829
	Burton Hwy	1.00	81.0	70.5	88.2	\$ 7,542
	Curtis Farm Rd	0.50	100.0	87.1	94.8	\$ 3,770
	Dale St	1.17	87.4	76.1	90.4	\$ 8,833
	Intervale Rd	0.82	100.0	87.1	94.8	\$ 6,175
	Mcgettigan Rd	1.18	63.4	55.2	82.1	\$ 8,913
	Pead Hill Rd	0.50	93.0	81.0	92.4	\$ 3,768
	Pleasant St	0.14	100.0	87.1	94.8	\$ 1,025
	Rebeckahs Way	0.15	100.0	87.1	94.8	\$ 1,106
	FDR & HMA (2")	1.91	62.6	54.5	97.7	\$ 402,530
	Curtis Farm Rd	0.66	47.3	41.2	97.1	\$ 130,581
	Burns Hill Rd	1.25	71.8	62.5	98.1	\$ 271,948
	Grand Total	8.09	80.62	70.2	91.8	\$ 449,113

2026	Streets by Repair	Sum Miles	Average PCI Initial 2023	Average PCI Before 2026	Average PCI After 2026	Sum Cost 2026
	Crack Seal - Wilton 2022	4.92	86.2	71.7	88.7	\$ 38,613
	Carriage Hill Rd	0.44	86.0	71.5	88.6	\$ 3,421
	Isaac Frye Hwy	2.25	89.0	74.0	89.6	\$ 17,649
	Keyes Hill Rd	0.59	85.0	70.7	88.3	\$ 4,599
	W End Hwy	0.56	81.5	67.8	87.1	\$ 4,390
	Wilson Rd	1.09	83.0	69.0	87.6	\$ 8,554
	FDR & HMA (2")	1.26	66.8	55.6	97.8	\$ 232,382
	Davisville Rd	1.14	61.8	51.4	97.6	\$ 208,407
	Sand Hill Rd	0.13	87.0	72.4	98.6	\$ 23,975
	HMA Overlay (1.5")	1.40	72.0	59.9	97.6	\$ 179,827
	Burns Hill Rd	1.25	71.8	59.7	98.7	\$ 166,235
	Frye Mill Rd	0.15	73.0	60.7	92.1	\$ 13,592
	Grand Total	7.59	79.93	66.5	92.1	\$ 450,823

2027	Streets by Repair	Sum Miles	Average PCI Initial 2023	Average PCI Before 2027	Average PCI After 2027	Sum Cost 2027
	FDR & HMA (2")	2.22	58.3	46.3	97.3	\$ 445,937
	Goldsmith Rd	0.64	42.0	33.4	96.7	\$ 145,047
	Marden Rd	1.58	66.5	52.8	97.6	\$ 300,889
	HMA Overlay (1.5")	0.66	47.3	37.6	97.7	\$ 83,014
	Curtis Farm Rd	0.66	47.3	37.6	97.7	\$ 83,014
	Grand Total	2.89	55.58	44.2	97.4	\$ 528,950

2028	Streets by Repair	Sum Miles	Average PCI Initial 2023	Average PCI Before 2028	Average PCI After 2028	Sum Cost 2028
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Crack Seal - Wilton 2022	3.91	69.9	53.0	91.0	\$	33,140
Burns Hill Rd	0.85	100.0	75.9	91.5	\$	7,235
Draper Rd	0.06	43.0	32.6	91.6	\$	544
E Intervale Rd	0.16	53.0	40.2	91.6	\$	1,357
Hillside Rd	0.30	27.0	20.5	91.5	\$	2,560
Isaac Frye Hwy	0.50	89.0	67.5	90.8	\$	4,245
Mason Rd	1.77	67.7	51.4	90.4	\$	15,018
W Intervale Rd	0.26	43.0	32.6	91.6	\$	2,181
HMA Overlay (1.5")	3.49	61.4	46.5	98.3	\$	420,321
Davisville Rd	1.14	61.8	46.8	97.8	\$	132,490
Goldsmith Rd	0.64	42.0	31.9	98.5	\$	88,664
Marden Rd	1.58	66.5	50.4	98.6	\$	183,926
Sand Hill Rd	0.13	87.0	66.0	98.0	\$	15,241
Grand Total	7.39	65.90	50.0	94.4	\$	453,460

2029	Streets by Repair	Sum Miles	Average PCI Initial 2023	Average PCI Before 2029	Average PCI After 2029	Sum Cost 2029
	Crack Seal - 1/2	0.25	46.0	33.3	91.6	\$ 1,110
	Captain Clark Hwy	0.25	46.0	33.3	91.6	\$ 1,110
	Crack Seal - Wilton 2022	5.96	81.1	58.8	89.4	\$ 52,625
	Abbot Hill Rd	0.82	77.0	55.8	90.4	\$ 7,251
	Captain Clark Hwy	0.25	40.0	29.0	91.6	\$ 2,206
	Clark Ct	0.04	89.0	64.5	85.8	\$ 351
	Greene St	0.26	100.0	72.4	89.0	\$ 2,259
	Gregg St	0.13	100.0	72.4	89.0	\$ 1,118
	Highfields Rd	0.26	34.0	24.6	91.6	\$ 2,299
	Ledgewood Rd	0.43	69.0	50.0	91.7	\$ 3,765
	Livermore St	0.17	100.0	72.4	89.0	\$ 1,517
	Macintosh	0.10	38.0	27.5	91.6	\$ 882
	Main St	0.25	92.0	66.7	86.7	\$ 2,211
	Maple St	0.60	96.0	69.5	87.8	\$ 5,277
	Orchard View Dr	0.10	33.0	23.9	91.6	\$ 882
	Pine Valley St	0.25	100.0	72.4	89.0	\$ 2,164
	Potter Rd	0.61	77.0	55.8	90.4	\$ 5,412
	Prince St	0.16	100.0	72.4	89.0	\$ 1,441
	Proctor Rd	0.64	98.0	71.0	88.4	\$ 5,689
	Robbins Rd	0.53	100.0	72.4	89.0	\$ 4,671
	Russell St	0.12	89.0	64.5	85.8	\$ 1,041
	Samanthas Way	0.10	48.0	34.8	91.6	\$ 860
	Whiting Hill Rd	0.15	100.0	72.4	89.0	\$ 1,327
	FDR & HMA (2")	1.49	60.7	44.0	97.2	\$ 380,311
	Burton Hwy	1.49	60.7	44.0	97.2	\$ 380,311
	Grand Total	7.71	76.63	55.5	90.8	\$ 434,046

2030	Streets by Repair	Sum Miles	Average PCI Initial 2023	Average PCI Before 2030	Average PCI After 2030	Sum Cost 2030
	Crack Seal - Wilton 2022	1.18	63.4	43.9	86.1	\$ 10,844
	Mcgettigan Rd	1.18	63.4	43.9	86.1	\$ 10,844
	FDR & HMA (2")	1.50	75.7	52.4	98.1	\$ 385,911
	Burton Hwy	1.50	75.7	52.4	98.1	\$ 385,911
	FDR & HMA (2"); HMA Overlay (1.5")	0.25	42.0	29.1	99.3	\$ 59,098
	Chabot Way	0.05	67.0	46.4	99.5	\$ 17,347
	Edwards St	0.05	27.0	18.7	99.2	\$ 11,372
	Gregoire Cir	0.08	47.0	32.5	99.3	\$ 19,227
	Laurel Hill St	0.06	27.0	18.7	99.2	\$ 11,152
	Grand Total	2.94	62.60	43.3	94.4	\$ 455,852

2031	Streets by Repair	Sum Miles	Average PCI Initial 2023	Average PCI Before 2031	Average PCI After 2031	Sum Cost 2031
	Crack Seal - Wilton 2022	1.40	72.0	47.6	91.0	\$ 13,400
	Burns Hill Rd	1.25	71.8	47.4	91.4	\$ 11,936
	Frye Mill Rd	0.15	73.0	48.2	89.3	\$ 1,464
	HMA Overlay (1.5")	3.00	68.2	45.0	98.2	\$ 477,671
	Burton Hwy	3.00	68.2	45.0	98.2	\$ 477,671
	Grand Total	4.40	69.44	45.9	95.8	\$ 491,071

2032	Streets by Repair	Sum Miles	Average PCI Initial 2023	Average PCI Before 2032	Average PCI After 2032	Sum Cost 2032
	Crack Seal - Wilton 2022	4.65	84.1	53.0	87.1	\$ 46,126
	Curtis Farm Rd	1.16	68.4	43.2	89.6	\$ 11,536
	Dale St	1.17	87.4	55.1	86.2	\$ 11,624
	Pead Hill Rd	0.50	93.0	58.7	86.8	\$ 4,958
	Wilson Rd	1.09	83.0	52.4	86.6	\$ 10,824
	Wilton Center Rd	0.72	100.0	63.1	85.2	\$ 7,184
	FDR & HMA (2")	1.57	63.3	40.0	97.0	\$ 409,149
	Badger Farm Rd	0.61	61.0	38.5	96.9	\$ 145,189
	Isaac Frye Hwy	0.96	64.5	40.7	97.0	\$ 263,960
	Grand Total	6.22	79.08	49.9	89.5	\$ 455,275

Scenario 2 Details Year by Year

2023	Streets by Repair	Sum Miles	Average PCI Initial 2022	Average PCI Before 2023	Average PCI After 2023	Sum Cost 2023
	3/8" Chip Seal - ASMG; Crack Seal - Wilton 2022	1.77	67.7	64.7	95.8	\$ 102,579
	Mason Rd	1.77	67.7	64.7	95.8	\$ 102,579
	Crack Seal - Wilton 2022	1.44	77.0	73.5	89.4	\$ 10,008
	Abbot Hill Rd	0.82	77.0	73.5	89.4	\$ 5,731
	Potter Rd	0.61	77.0	73.5	89.4	\$ 4,277
	FDR & HMA (2"); HMA Overlay (1.5")	0.78	41.5	39.6	99.4	\$ 186,221
	Draper Rd	0.06	43.0	41.1	99.4	\$ 14,499
	E Intervale Rd	0.16	53.0	50.6	99.5	\$ 42,540
	Hillside Rd	0.30	27.0	25.8	99.3	\$ 64,212
	W Intervale Rd	0.26	43.0	41.1	99.4	\$ 64,970
	HMA Overlay (1.5")	1.35	95.6	91.3	98.3	\$ 154,957
	Burns Hill Rd	0.85	100.0	95.5	99.1	\$ 100,768
	Isaac Frye Hwy	0.50	89.0	85.0	97.0	\$ 54,189
	Grand Total	5.34	71.57	68.4	95.5	\$ 453,765
2024	Streets by Repair	Sum Miles	Average PCI Initial 2022	Average PCI Before 2024	Average PCI After 2024	Sum Cost 2024
	3/8" Chip Seal - ASMG	1.44	77.0	70.2	95.6	\$ 68,564
	Abbot Hill Rd	0.82	77.0	70.2	95.6	\$ 40,775
	Potter Rd	0.61	77.0	70.2	95.6	\$ 27,789
	FDR & HMA (2"); HMA Overlay (1.5")	1.23	47.3	43.1	99.4	\$ 378,515
	Captain Clark Hwy	0.25	40.0	36.5	99.4	\$ 65,691
	Highfields Rd	0.26	34.0	31.0	99.3	\$ 90,102
	Ledgewood Rd	0.43	69.0	62.9	99.6	\$ 123,950
	Macintosh	0.10	38.0	34.7	99.3	\$ 33,199
	Orchard View Dr	0.10	33.0	30.1	99.3	\$ 33,199
	Samanthas Way	0.10	48.0	43.8	99.4	\$ 32,373
	FDR & HMA 2" (1/2 segment) - Wilton; HMA Overlay (1.5") - 1/2Segment Wilton	0.25	46.0	42.0	99.4	\$ 41,383
	Captain Clark Hwy	0.25	46.0	42.0	99.4	\$ 41,383
	Grand Total	2.92	58.62	53.5	98.0	\$ 488,462
2025	Streets by Repair	Sum Miles	Average PCI Initial 2023	Average PCI Before 2025	Average PCI After 2025	Sum Cost 2025
	Crack Seal - Wilton 2022	6.45	84.1	73.3	89.3	\$ 48,634
	Abbot Hill Acres Rd	0.61	88.0	76.6	90.7	\$ 4,624
	Adams Dr	0.11	100.0	87.1	94.8	\$ 829
	Burton Hwy	1.00	81.0	70.5	88.2	\$ 7,542
	Curtis Farm Rd	0.50	100.0	87.1	94.8	\$ 3,770
	Dale St	1.17	87.4	76.1	90.4	\$ 8,833
	Mcgettigan Rd	1.18	63.4	55.2	82.1	\$ 8,913
	Pead Hill Rd	0.50	93.0	81.0	92.4	\$ 3,768
	Pleasant St	0.14	100.0	87.1	94.8	\$ 1,025
	Rebeckahs Way	0.15	100.0	87.1	94.8	\$ 1,106
	Wilson Rd	1.09	83.0	72.3	88.9	\$ 8,225
	FDR & HMA (2")	1.91	62.6	54.5	97.7	\$ 402,530
	Burns Hill Rd	1.25	71.8	62.5	98.1	\$ 271,948
	Curtis Farm Rd	0.66	47.3	41.2	97.1	\$ 130,581
	Grand Total	8.36	79.23	69.0	91.2	\$ 451,163
2026	Streets by Repair	Sum Miles	Average PCI Initial 2023	Average PCI Before 2026	Average PCI After 2026	Sum Cost 2026
	3/8" Chip Seal - ASMG	1.59	86.3	71.8	95.8	\$ 79,238
	Pead Hill Rd	0.50	93.0	77.4	96.5	\$ 29,141
	Wilson Rd	1.09	83.0	69.0	95.5	\$ 50,098
	Crack Seal - Wilton 2022	4.33	87.4	72.7	89.6	\$ 33,984
	Carriage Hill Rd	0.44	86.0	71.5	88.6	\$ 3,421
	Isaac Frye Hwy	2.75	89.0	74.0	90.4	\$ 21,573
	Keyes Hill Rd	0.59	85.0	70.7	88.3	\$ 4,599
	W End Hwy	0.56	81.5	67.8	87.1	\$ 4,390
	FDR & HMA (2")	1.26	66.8	55.6	97.8	\$ 232,382
	Davisville Rd	1.14	61.8	51.4	97.6	\$ 208,407
	Sand Hill Rd	0.13	87.0	72.4	98.6	\$ 23,975
	HMA Overlay (1.5")	1.40	72.0	59.9	97.6	\$ 179,827
	Burns Hill Rd	1.25	71.8	59.7	98.7	\$ 166,235
	Frye Mill Rd	0.15	73.0	60.7	92.1	\$ 13,592
	Grand Total	8.59	81.27	67.6	93.4	\$ 525,431
2027	Streets by Repair	Sum Miles	Average PCI Initial 2023	Average PCI Before 2027	Average PCI After 2027	Sum Cost 2027
	FDR & HMA (2")	2.22	58.3	46.3	97.3	\$ 445,937
	Goldsmith Rd	0.64	42.0	33.4	96.7	\$ 145,047
	Marden Rd	1.58	66.5	52.8	97.6	\$ 300,889
	HMA Overlay (1.5")	0.66	47.3	37.6	97.7	\$ 83,014
	Curtis Farm Rd	0.66	47.3	37.6	97.7	\$ 83,014
	Grand Total	2.89	55.58	44.2	97.4	\$ 528,950
2028	Streets by Repair	Sum Miles	Average PCI Initial 2023	Average PCI Before 2028	Average PCI After 2028	Sum Cost 2028
	3/8" Chip Seal - ASMG	1.50	89.0	67.5	94.9	\$ 83,272
	Isaac Frye Hwy	1.50	89.0	67.5	94.9	\$ 83,272
	Crack Seal - Wilton 2022	3.41	67.1	50.9	91.0	\$ 28,895
	Burns Hill Rd	0.85	100.0	75.9	91.5	\$ 7,235
	Draper Rd	0.06	43.0	32.6	91.6	\$ 544
	E Intervale Rd	0.16	53.0	40.2	91.6	\$ 1,357
	Hillside Rd	0.30	27.0	20.5	91.5	\$ 2,560
	Mason Rd	1.77	67.7	51.4	90.4	\$ 15,018
	W Intervale Rd	0.26	43.0	32.6	91.6	\$ 2,181
	HMA Overlay (1.5")	3.49	61.4	46.5	98.3	\$ 420,321

Davisville Rd	1.14	61.8	46.8	97.8	\$	132,490
Goldsmith Rd	0.64	42.0	31.9	98.5	\$	88,664
Marden Rd	1.58	66.5	50.4	98.6	\$	183,926
Sand Hill Rd	0.13	87.0	66.0	98.0	\$	15,241
Grand Total	8.39	68.62	52.1	94.7	\$	532,487

2029	Streets by Repair	Sum Miles	Average PCI Initial 2023	Average PCI Before 2029	Average PCI After 2029	Sum Cost 2029
	3/8" Chip Seal - ASMG	1.25	89.0	64.5	93.4	\$ 72,206
	Isaac Frye Hwy	1.25	89.0	64.5	93.4	\$ 72,206
	Crack Seal - 1/2	0.25	46.0	33.3	91.6	\$ 1,110
	Captain Clark Hwy	0.25	46.0	33.3	91.6	\$ 1,110
	Crack Seal - Wilton 2022	5.27	76.0	55.0	90.2	\$ 46,510
	Abbot Hill Rd	0.82	77.0	55.8	90.4	\$ 7,251
	Captain Clark Hwy	0.25	40.0	29.0	91.6	\$ 2,206
	Dale St	1.17	87.4	63.3	90.1	\$ 10,333
	Greene St	0.26	100.0	72.4	89.0	\$ 2,259
	Highfields Rd	0.26	34.0	24.6	91.6	\$ 2,299
	Ledgewood Rd	0.43	69.0	50.0	91.7	\$ 3,765
	Macintosh	0.10	38.0	27.5	91.6	\$ 882
	Orchard View Dr	0.10	33.0	23.9	91.6	\$ 882
	Potter Rd	0.61	77.0	55.8	90.4	\$ 5,412
	Proctor Rd	0.64	98.0	71.0	88.4	\$ 5,689
	Robbins Rd	0.53	100.0	72.4	89.0	\$ 4,671
	Samanthas Way	0.10	48.0	34.8	91.6	\$ 860
	FDR & HMA (2")	1.49	60.7	44.0	97.2	\$ 380,311
	Burton Hwy	1.49	60.7	44.0	97.2	\$ 380,311
	Grand Total	8.27	74.34	53.9	91.9	\$ 500,137

2030	Streets by Repair	Sum Miles	Average PCI Initial 2023	Average PCI Before 2030	Average PCI After 2030	Sum Cost 2030
	3/8" Chip Seal - ASMG	1.17	87.4	60.5	95.8	\$ 74,676
	Dale St	1.17	87.4	60.5	95.8	\$ 74,676
	FDR & HMA (2")	1.50	75.7	52.4	98.1	\$ 385,911
	Burton Hwy	1.50	75.7	52.4	98.1	\$ 385,911
	FDR & HMA (2"); HMA Overlay (1.5")	0.25	42.0	29.1	99.3	\$ 59,098
	Chabot Way	0.05	67.0	46.4	99.5	\$ 17,347
	Edwards St	0.05	27.0	18.7	99.2	\$ 11,372
	Gregoire Cir	0.08	47.0	32.5	99.3	\$ 19,227
	Laurel Hill St	0.06	27.0	18.7	99.2	\$ 11,152
	Grand Total	2.93	70.60	48.8	97.6	\$ 519,684

2031	Streets by Repair	Sum Miles	Average PCI Initial 2023	Average PCI Before 2031	Average PCI After 2031	Sum Cost 2031
	Crack Seal - Wilton 2022	2.59	68.1	45.0	88.2	\$ 24,677
	Burns Hill Rd	1.25	71.8	47.4	91.4	\$ 11,936
	Frye Mill Rd	0.15	73.0	48.2	89.3	\$ 1,464
	Mcgettigan Rd	1.18	63.4	41.9	84.9	\$ 11,277
	HMA Overlay (1.5")	3.00	68.2	45.0	98.2	\$ 477,671
	Burton Hwy	3.00	68.2	45.0	98.2	\$ 477,671
	Grand Total	5.58	68.13	45.0	93.5	\$ 502,348

2032	Streets by Repair	Sum Miles	Average PCI Initial 2023	Average PCI Before 2032	Average PCI After 2032	Sum Cost 2032
	Crack Seal - Wilton 2022	1.16	68.4	43.2	89.6	\$ 11,536
	Curtis Farm Rd	1.16	68.4	43.2	89.6	\$ 11,536
	FDR & HMA (2")	0.96	64.5	40.7	97.0	\$ 263,960
	Isaac Frye Hwy	0.96	64.5	40.7	97.0	\$ 263,960
	FDR & HMA (2"); HMA Overlay (1.5")	0.61	61.0	38.5	99.4	\$ 230,526
	Badger Farm Rd	0.61	61.0	38.5	99.4	\$ 230,526
	Grand Total	2.73	65.64	41.4	94.1	\$ 506,022

Scenario 3 Details Year by Year

2023	Streets by Repair	Sum Miles	Average PCI Initial 2022	Average PCI Before 2023	Average PCI After 2023	Sum Cost 2023
	3/8" Chip Seal - ASMG	1.77	67.7	64.7	89.4	\$ 90,236
	Mason Rd	1.77	67.7	64.7	89.4	\$ 90,236
	Crack Seal - Wilton 2022	1.44	77.0	73.5	89.4	\$ 10,008
	Abbot Hill Rd	0.82	77.0	73.5	89.4	\$ 5,731
	Potter Rd	0.61	77.0	73.5	89.4	\$ 4,277
	FDR & HMA 2" - Wilton; HMA Overlay (1.5")	0.78	41.5	39.6	99.4	\$ 191,090
	Draper Rd	0.06	43.0	41.1	99.4	\$ 14,878
	E Intervale Rd	0.16	53.0	50.6	99.5	\$ 43,652
	Hillside Rd	0.30	27.0	25.8	99.3	\$ 65,891
	W Intervale Rd	0.26	43.0	41.1	99.4	\$ 66,669
	HMA Overlay (1.5")	1.35	95.6	91.3	98.3	\$ 154,957
	Burns Hill Rd	0.85	100.0	95.5	99.1	\$ 100,768
	Isaac Frye Hwy	0.50	89.0	85.0	97.0	\$ 54,189
	Grand Total	5.34	71.57	68.4	93.4	\$ 446,291

2024	Row Labels	Sum Length_Miles	Average PCI Initial 2023	Average PCI Before 2024	Average PCI After 2024	Sum Cost 2024
	3/8" Chip Seal - ASMG	1.44	77.0	70.2	95.6	\$ 68,564
	Abbot Hill Rd	0.82	77.0	70.2	95.6	\$ 40,775
	Potter Rd	0.61	77.0	70.2	95.6	\$ 27,789
	FDR & HMA 2" - Wilton; HMA Overlay (1.5")	1.48	44.2	40.3	99.4	\$ 473,420
	Highfields Rd	0.26	34.0	31.0	99.3	\$ 92,458
	Ledgewood Rd	0.43	69.0	62.9	99.6	\$ 127,191
	Macintosh	0.10	38.0	34.7	99.3	\$ 34,067
	Orchard View Dr	0.10	33.0	30.1	99.3	\$ 34,067
	Samanthas Way	0.10	48.0	43.8	99.4	\$ 33,220
	Captain Clark Hwy	0.50	43.0	39.2	99.4	\$ 152,417
	Grand Total	2.92	60.58	55.25	97.51	\$ 541,984

2025	Streets by Repair	Sum Miles	Average PCI Initial 2023	Average PCI Before 2025	Average PCI After 2025	Sum Cost 2025
	Asphalt Rubber SAM	1.31	63.8	55.6	91.1	\$ 101,376
	Mcgettigan Rd	1.18	63.4	55.2	91.0	\$ 91,700
	Spalding Dr	0.13	66.0	57.5	91.5	\$ 9,676
	HMA Overlay (1.5"); Reclaim w/ 2.5" Binder	0.91	49.8	43.3	99.3	\$ 294,640
	Curtis Farm Rd	0.91	49.8	43.3	99.3	\$ 294,640
	HMA Shim (3/4" avg)	0.61	61.0	53.1	83.6	\$ 44,197
	Badger Farm Rd	0.61	61.0	53.1	83.6	\$ 44,197
	Reclaim w/ 2.5" Binder	0.64	58.3	50.8	97.5	\$ 125,359
	Chabot Way	0.05	67.0	58.4	97.9	\$ 9,765
	Crescent St	0.12	60.0	52.3	97.6	\$ 26,663
	Gregoire Cir	0.08	47.0	40.9	97.0	\$ 10,823
	Mill St	0.07	53.0	46.2	97.3	\$ 16,610
	Putnam St	0.07	70.0	61.0	98.0	\$ 14,748
	Tremont St	0.24	53.0	46.2	97.3	\$ 46,750
	Grand Total	3.47	58.56	51.0	94.2	\$ 686,374

2026	Streets by Repair	Sum Miles	Average PCI Initial 2023	Average PCI Before 2026	Average PCI After 2026	Sum Cost 2026
	Asphalt Rubber SAM	0.61	61.0	50.7	96.0	\$ 46,801
	Badger Farm Rd	0.61	61.0	50.7	96.0	\$ 46,801
	HMA Overlay (1.5"); Reclaim w/ 2.5" Binder	1.00	40.0	33.3	99.2	\$ 331,309
	Dale St	1.00	40.0	33.3	99.2	\$ 331,309
	HMA Shim (3/4" avg)	0.96	64.5	53.7	83.8	\$ 83,566
	Isaac Frye Hwy	0.96	64.5	53.7	83.8	\$ 83,566
	Grand Total	2.57	55.2	45.9	93.0	\$ 461,675

2027	Streets by Repair	Sum Miles	Average of PCI Initial 2023	Average of PCI Before 2027	Average of PCI After 2027	Sum of Cost 2027
	Asphalt Rubber SAM	0.96	64.5	51.2	96.0	\$ 88,489
	Isaac Frye Hwy	0.96	64.5	51.2	96.0	\$ 88,489
	Crack Seal - Wilton 2022	0.75	80.0	63.5	85.4	\$ 6,128
	Russell Hill Rd	0.25	91.0	72.3	88.9	\$ 2,049
	Kimball Hill Rd	0.50	74.5	59.2	83.7	\$ 4,079
	HMA Overlay (1.5")	2.94	78.6	62.5	94.8	\$ 373,098
	Clark Ct	0.04	89.0	70.7	94.1	\$ 4,588
	Chabot Way	0.05	67.0	53.2	97.9	\$ 5,709
	Laurel Hill St	0.06	27.0	21.4	84.3	\$ 3,670
	Highland Ct	0.07	100.0	79.4	95.9	\$ 5,028
	Mill St	0.07	53.0	42.1	97.7	\$ 9,711
	Putnam St	0.07	70.0	55.6	97.9	\$ 8,622
	Bales Hill Rd	0.08	100.0	79.4	95.9	\$ 8,045
	Gregoire Cir	0.08	47.0	37.3	97.7	\$ 6,327
	Adrian Ave	0.10	100.0	79.4	95.9	\$ 10,126
	Pellerin Rd	0.11	35.0	27.8	85.6	\$ 9,903

Russell St	0.12	89.0	70.7	94.1	\$	14,951
Crescent St	0.12	60.0	47.7	97.8	\$	15,588
Gregg St	0.13	100.0	79.4	95.9	\$	13,141
Pleasant St	0.14	100.0	79.4	95.9	\$	15,653
Howard St	0.14	48.0	38.1	87.6	\$	19,040
Whiting Hill Rd	0.15	100.0	79.4	95.9	\$	19,051
Prince St	0.16	100.0	79.4	95.9	\$	21,631
Livermore St	0.17	100.0	79.4	95.9	\$	29,714
Tremont St	0.24	53.0	42.1	97.7	\$	27,332
Pine Valley St	0.25	100.0	79.4	95.9	\$	31,082
Maple St	0.60	96.0	76.3	95.3	\$	94,186
HMA Shim (3/4" avg)	1.33	64.0	50.8	82.8	\$	105,789
King Brook Rd	0.83	62.0	49.3	82.2	\$	68,486
Kimball Hill Rd	0.50	67.0	53.2	83.6	\$	37,303
Mill + Fill 3"	0.69	74.3	59.0	91.8	\$	463,661
Main St	0.69	74.3	59.0	91.8	\$	463,661
Grand Total	6.68	74.89	59.5	92.3	\$	1,037,165

2028	Streets by Repair	Sum Miles	Average PCI Initial 2023	Average PCI Before 2028	Average PCI After 2028	Sum Cost 2028
	Asphalt Rubber SAM	2.08	70.0	53.1	96.0	\$ 177,614
	Russell Hill Rd	0.25	91.0	69.0	97.0	\$ 26,101
	King Brook Rd	0.83	62.0	47.0	95.7	\$ 72,521
	Kimball Hill Rd	1.00	70.8	53.7	96.0	\$ 78,992
	Crack Seal - Wilton 2022	0.17	95.0	72.1	88.8	\$ 1,452
	Town Farm Rd	0.17	95.0	72.1	88.8	\$ 1,452
	HMA Overlay (1.5"); Reclaim w/ 2.5" Binder	2.22	58.3	44.3	97.2	\$ 776,897
	Goldsmith Rd	0.64	42.0	31.9	96.6	\$ 252,697
	Marden Rd	1.58	66.5	50.4	97.5	\$ 524,201
	HMA Shim (3/4" avg)	1.58	83.8	63.6	87.3	\$ 139,705
	W End Hwy	0.56	81.5	61.8	86.6	\$ 50,264
	Keyes Hill Rd	0.59	85.0	64.5	87.6	\$ 50,267
	Carriage Hill Rd	0.44	86.0	65.2	87.8	\$ 39,174
	Grand Total	6.06	69.52	52.7	94.3	\$ 1,095,668

2029	Streets by Repair	Sum Miles	Average PCI Initial 2023	Average PCI Before 2029	Average PCI After 2029	Sum Cost 2029
	Asphalt Rubber SAM	1.75	85.7	62.1	96.7	\$ 163,467
	Town Farm Rd	0.17	95.0	68.8	97.0	\$ 15,532
	W End Hwy	0.56	81.5	59.0	96.5	\$ 53,225
	Keyes Hill Rd	0.59	85.0	61.6	96.7	\$ 53,228
	Carriage Hill Rd	0.44	86.0	62.3	96.8	\$ 41,481
	HMA Shim (3/4" avg)	1.90	65.4	47.4	85.8	\$ 189,262
	Mansur Rd	0.15	75.0	54.3	84.0	\$ 16,320
	Captain Clark Hwy	1.75	64.0	46.4	86.0	\$ 172,942
	Reclaim w/ 2.5" Binder	1.55	53.9	39.0	97.0	\$ 407,969
	Pead Hill Rd	1.13	56.6	41.0	97.1	\$ 299,907
	Lyndeborough Center Rd	0.43	47.0	34.1	96.7	\$ 108,062
	Grand Total	5.20	67.33	48.8	92.6	\$ 760,698

2030	Streets by Repair	Sum Miles	Average PCI Initial 2023	Average PCI Before 2030	Average PCI After 2030	Sum Cost 2030
	Asphalt Rubber SAM	1.90	65.4	45.2	96.4	\$ 200,411
	Mansur Rd	0.15	75.0	51.9	96.0	\$ 17,281
	Captain Clark Hwy	1.75	64.0	44.3	96.4	\$ 183,130
	HMA Overlay (1.5")	1.55	53.9	37.3	98.5	\$ 229,337
	Pead Hill Rd	1.13	56.6	39.2	98.5	\$ 168,591
	Lyndeborough Center Rd	0.43	47.0	32.5	98.5	\$ 60,746
	HMA Shim (3/4" avg)	3.00	68.2	47.2	81.5	\$ 313,029
	Burton Hwy	3.00	68.2	47.2	81.5	\$ 313,029
	Grand Total	6.44	63.63	44.0	90.3	\$ 742,778

2031	Streets by Repair	Sum Miles	Average PCI Initial 2023	Average PCI Before 2031	Average PCI After 2031	Sum Cost 2031
	Asphalt Rubber SAM	3.00	68.2	45.0	95.6	\$ 331,469
	Burton Hwy	3.00	68.2	45.0	95.6	\$ 331,469
	HMA Overlay (1.5"); Reclaim w/ 2.5" Binder	1.25	71.8	47.4	99.3	\$ 576,426
	Burns Hill Rd	1.25	71.8	47.4	99.3	\$ 576,426
	HMA Shim (3/4" avg)	1.34	95.2	62.9	87.0	\$ 141,198
	Abbot Hill Acres Rd	0.61	88.0	58.1	85.4	\$ 64,747
	Wilton Center Rd	0.72	100.0	66.1	88.1	\$ 76,451
	Grand Total	5.58	75.14	49.6	94.5	\$ 1,049,094

2032	Streets by Repair	Sum Miles	Average PCI Initial 2023	Average PCI Before 2032	Average PCI After 2032	Sum Cost 2032
	Asphalt Rubber SAM	1.34	95.2	60.1	96.6	\$ 149,516
	Wilton Center Rd	0.72	100.0	63.1	96.8	\$ 80,955
	Abbot Hill Acres Rd	0.61	88.0	55.5	96.3	\$ 68,561
	HMA Shim (3/4" avg)	1.06	98.0	61.8	86.6	\$ 111,617

Holt Rd	0.61	96.5	60.9	86.3	\$	64,054
Kennedy St	0.09	100.0	63.1	87.1	\$	8,203
Rideout Rd	0.11	95.0	59.9	86.0	\$	9,431
Adams Dr	0.11	100.0	63.1	87.1	\$	13,126
Rebeckahs Way	0.15	100.0	63.1	87.1	\$	16,802
Reclaim w/ 2.5" Binder	2.51	73.9	46.6	97.3	\$	629,909
Frye Mill Rd	0.15	73.0	46.1	97.3	\$	31,818
Davisville Rd	1.14	61.8	39.0	96.9	\$	286,749
Wilson Rd	1.09	83.0	52.4	97.6	\$	278,355
Sand Hill Rd	0.13	87.0	54.9	97.7	\$	32,987
Grand Total	4.91	85.86	54.2	94.1	\$	891,042