

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



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University of New Hampshire Technology Transfer Center
Statewide Asset Data Exchange System (SADES)

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1.0 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 we take pride in providing RSMS assessments to towns in the Nashua region.

2.0 INTRODUCTION

This Report prepared by the Nashua Regional Planning Commission (NRPC) contains the Road Surface Management System assessment (RSMS) completed for the Town of Amherst by NRPC in 2023. 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 3.0 of this Report, we describe the full RSMS process and its benefits. In section 4.0, we describe 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 I), and a forecasted repair scenario comparison (Phase 2). The road inventory assessment includes all paved, town-maintained roadways. We describe field inventory procedures in Section 5.0 and inventory results in Section 6.0. Appendix A contains road inventory data with road priority value and pavement condition index (PCI).

In Phase 2 of this project, we present 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. We describe our procedure for creating repair cost scenarios in Section 7.0, and in Section 8.0 we describe in detail two 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.

We hope this Report will assist the Town of Amherst in planning for road maintenance. We do **NOT** intend this Report to constrain the Town's decision-making process of selecting road maintenance. Instead, we hope this Report will serve as a tool for Town officials to assess current and future road condition and as a guide for budgeting the cost of future repairs.

3.0 BENEFITS OF DEVELOPING A ROAD SURFACE MANAGEMENT SYSTEM

A Road Surface Management System (RSMS) assessment will offer immediate benefits to the Town of Amherst. Below, we document key benefits of an RSMS assessment. These benefits will remain relevant years into the future. We hope to continue working with the Town of Amherst to keep road data accurate and track the cost of repair. We recommend updating the road assessment and forecasted repair scenarios in 5-10 years.

A. ROAD INVENTORY

A complete inventory of a Town-owned roads is critical for effective maintenance and planning. The Town of Amherst owns 216 roads totaling 122.2 miles (115.3 miles paved and 6.9 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 6.0 provide a summary of the 2022 road inventory assessment.

B. PRIORITIZING MAINTENANCE NEEDS

In Appendix A of this Report, we list 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 2022, 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) - 5 (high) for how critical a road segment is to the Town's road network. For Amherst, this also includes Traffic Volume. PCI 2022 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. In Section 9, we introduce two forecasted repair scenarios in which we assign repair treatments 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. In Section 8.0, we compare 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 increases 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.

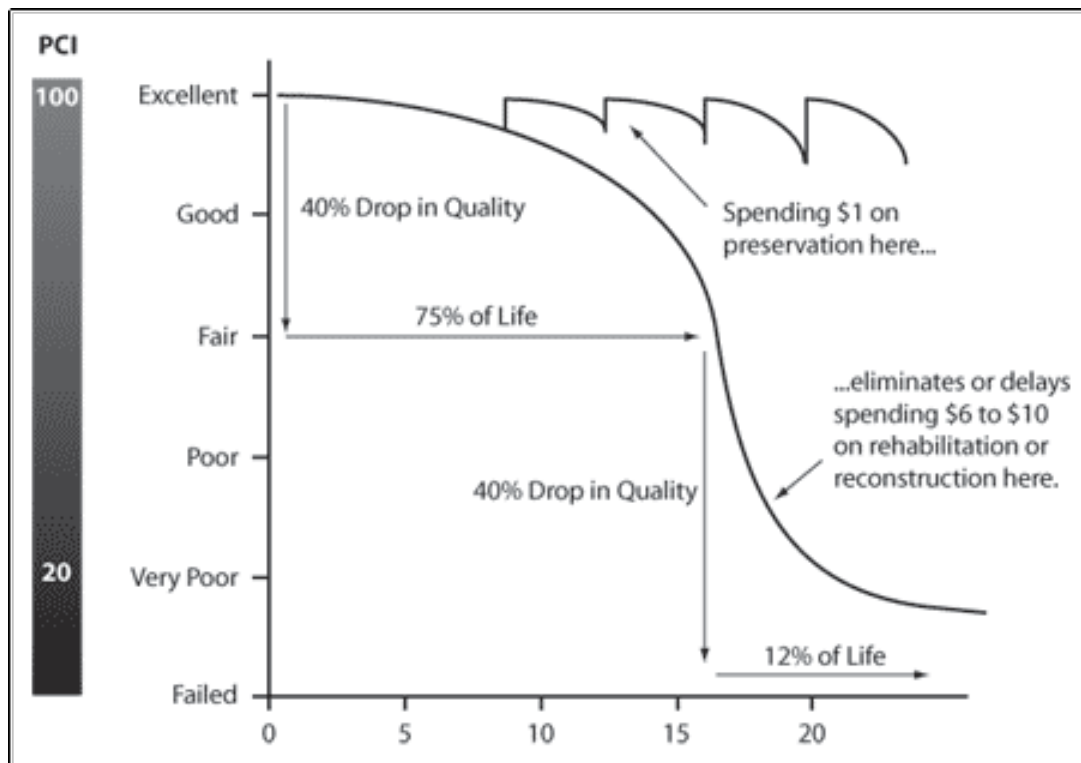


Figure 1: Pavement Deterioration

4.0 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 our forecasted repair scenarios (discussed in Sections 7.0 and 8.0) we use crack seal as a preservation treatment. Crack seal 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. We used several rehabilitative treatments in our cost-repair 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 which help to fill in road defects, such as rutting, and reshape 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 the 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 which 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. In Section 8.0, we use a full-depth reclamation treatment that includes soil injections for stabilization followed by a 4" asphalt overlay. This is the costliest repair option in our analyses, and The Town would like to reduce and limit the use of road reconstruction in favor of well-planned pavement preservation and rehabilitation work.

5.0 EVALUATION OF EXISTING ROADWAY CONDITIONS

In the Fall of 2022 NRPC assessed all paved town-maintained roads in Amherst. We divided each of the 216 paved town-maintained roads into 494 segments, each approximately 0.25 mile in length. We 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 7.0 and 8.0).

Our field assessment included eight categories of pavement distress, and for each category we also evaluated for 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)

6.0 2022 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). We used a 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. We classified segments with PCI scores 0-69.99 as poor, 70-79.99 as fair, 80-89.99 as good, and 90-100 as excellent.

Table 2: 2022 Paved Conditions

Condition Category	Number of Road Segments	Sum of Length (Miles)	% Mileage
Excellent (≥ 90 PCI)	224	53.2	46%
Good (80 - 89 PCI)	73	17.4	15%
Fair (70 - 79 PCI)	61	13.8	12%
Poor (< 70 PCI)	136	30.9	27%
Total	494	115.3	100.00%

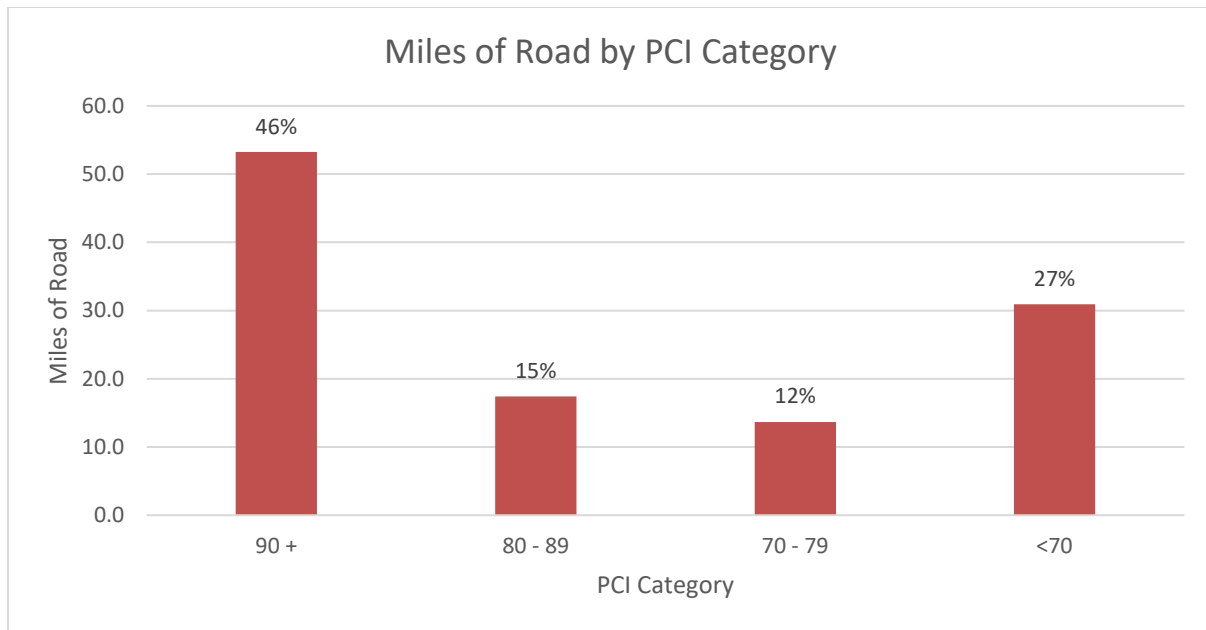


Figure 2: 2022 Paved Conditions

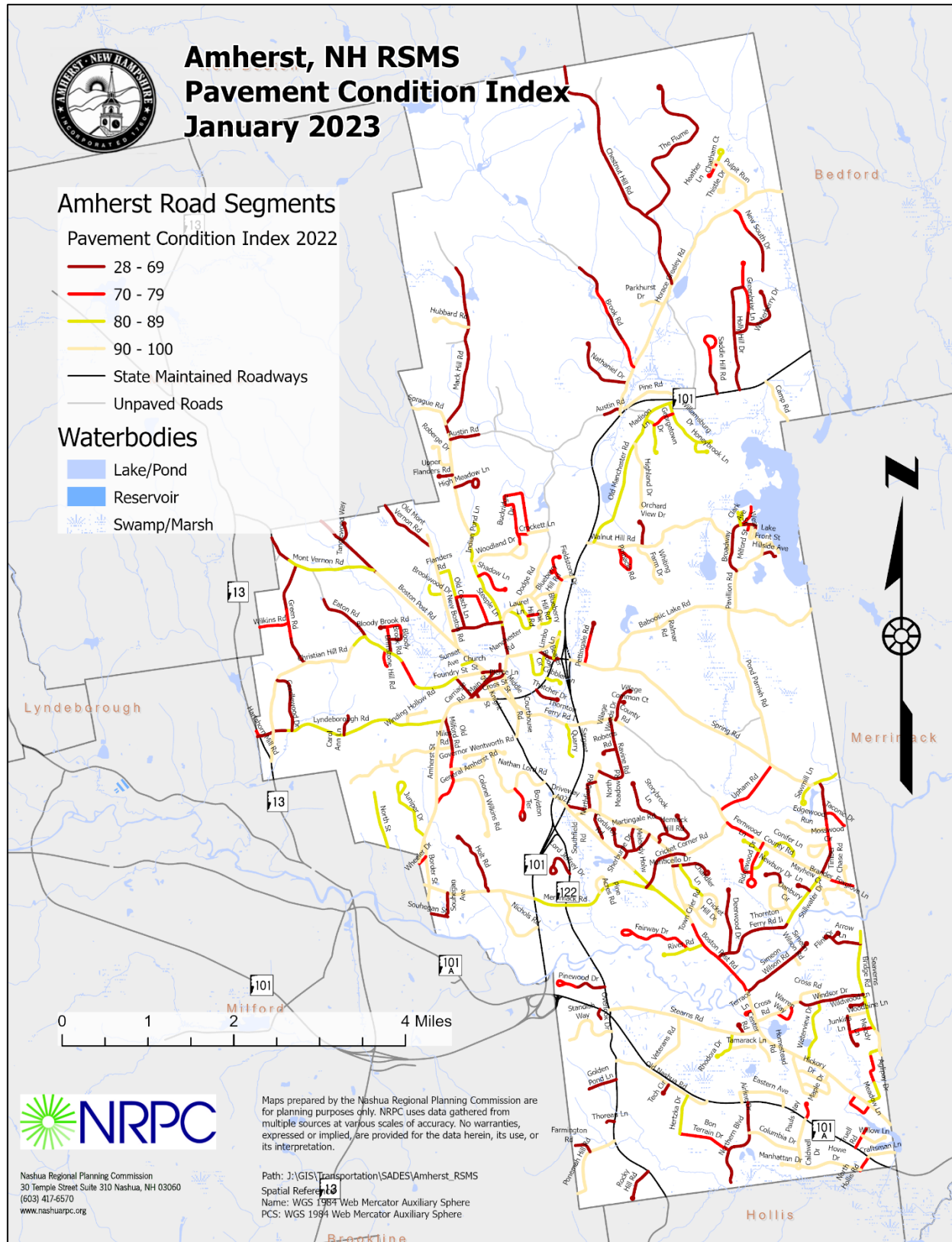


Figure 3: PCI Town-Maintained Paved Roads

7.0 PAVEMENT FORECASTING AND ANALYSIS

To evaluate pavement condition and repairs over 10 years, we forecasted multiple repair scenarios. Each scenario starts with the 2022 PCI value for each segment and subtracts 4% annually to represent the deterioration in pavement quality incurred over one year. Many decisions go into completing a scenario, such as which road segments get repairs, the repair type, and the repair 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, which we used to create a 10-year budget for each scenario that we will present in Section 8.0.

Table 3: Pavement Repair Treatments

Repair	Repair Category	Repair Cost	Repair Unit	% Increase to PCI	Lifespan (Years)	Comments
Crack Seal	Preservation	\$0.75	Lineal Foot	60	2.5	Price provided by Town of Amherst
HMA Overlay (1")	Rehabilitation	\$7.69	Yard ²	70	6	Price provided by Town of Amherst
HMA Overlay (1.25")	Rehabilitation	\$8.70	Yard ²	75	7	Price provided by Town of Amherst
HMA Overlay (1.5")	Rehabilitation	\$9.64	Yard ²	80	9	Price provided by Town of Amherst
Milling / HMA (1.5")	Rehabilitation	\$13.64	Yard ²	80	10	Price provided by Town of Amherst
Milling / HMA (3")	Rehabilitation	\$26.80	Yard ²	80	10	Price provided by Town of Amherst
HMA Shim (3/4")	Rehabilitation	\$6.28	Yard ²	65	4	Price provided by Town of Amherst
Double Chip Seal	Rehabilitation	\$5.25	Yard ²	70	7	Price provided by Town of Amherst
FDR & HMA (4")	Reconstruction	\$48.50	Yard ²	95	14	Price provided by Town of Amherst

FDR & HMA Base Coat (2.5")	Reconstruction	\$38.68	Yard ²	95	14	Price provided by Town of Amherst
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Scenario 1 represents the combined efforts of NRPC and Amherst's DPW to develop a balanced approach to road maintenance and repair. Both parties collaborated to create a 10-year plan that would utilize all three levels of repair (Preservation, Rehabilitation, and Reconstruction), and identify priority roads and cost-effective repairs which would fit into annual budgets. The annual budgets for this plan, as well as the first three years of repairs, align with plans already laid out by Amherst's DPW. In the following 7 years, the plan builds on those initial repairs and circles back to implement preservation treatments on roads which had been previously repaired. In the first year the budget is \$1.5 Million. The second year is \$1.6 Million, and the third year is \$1.7 Million. The budget stays at \$1.7 Million for the rest of the plan. Also in this plan is a separate \$50,000 which is designated for crack sealing.

Scenario 2 represents a "Worst First" approach to the road network. This scenario illustrates what can happen to the PCI of the network if preservation and rehabilitation techniques are underutilized and all attention and budget is given to rebuilding already failing roads. Scenario 2 builds off the same budget constraints and initial 3 years of repairs as Scenario 1.

8.0 SCENARIO FORECASTING RESULTS

A. SCENARIO 1: BALANCED APPROACH (2023-2033)

In Scenario 1, we assigned repairs to road segments within a 10-year horizon. In this scenario the annual budget was \$1.5 million for the year 2023, \$1.6 Million for 2024, and \$1.7 Million for 2025 and all the subsequent years.

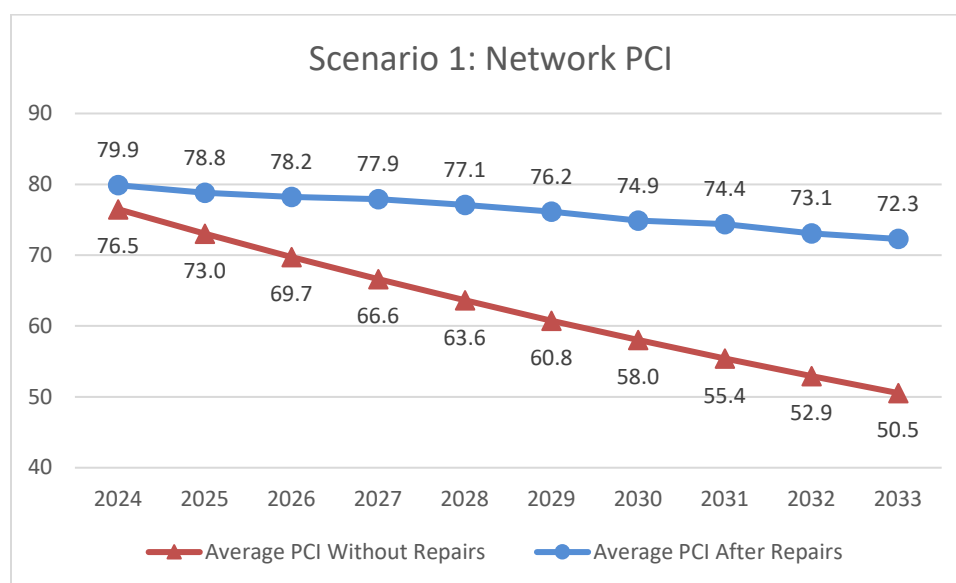


Figure 4: Network PCI by Year for Scenario 1

Over a 10-year period the average network PCI decreases from 80 in 2023 to 72.3 in 2033. Without any repairs, the network PCI will fall to 50.5 after 10 years. This is an overall improvement of the network PCI value of 21.8 points.

Over the years the overall network PCI still decreases, however the rate at which the PCI decreases is manageable thanks to the extensive amount of crack sealing being done. As illustrated below in Table 4, each year sees between 8 and 13 miles of crack sealing. While this does not fix all the defects of a road, it does serve as an effective way to buoy the condition of roads which have not degraded to the point of needing more extensive repairs. Crack sealing is the most cost effective strategy there is to prevent the overall road network from degrading at a fast pace. Table 6 shows that the money spent on crack sealing was only 3% of the total costs of the 10 year plan but covered 69% of the total miles addressed.

For roads that require moderate repairs, the plan is to use a combination of Hot Mixed Asphalt Shims and Overlays. Shims, Overlays, and the combination of the two cover about 20% of the roads in this plan (almost 30 miles) and take up about 36% of total repair costs. Shims and Overlays are the bread and butter of a balanced approach because these are effective ways to repair a road before it has degraded so far as to need a full depth reclaim. The cost per mile of applying a shim and overlay to a

road surface is \$248,276 whereas the cost per mile of a full depth reclaim is \$814,907. Shims and Overlays are consistently used in each year of this plan.

Full Depth Reclaim is needed this plan despite its high cost. Some roads are so far gone that this is the only option. About 10 miles of road will be reclaimed in this plan, with a total cost of \$8,108,768. This is 48% of all repair costs. While it is important to restore heavily damaged roads to functionality, it can lead to very high costs. This balanced approach tries to address some of those roads without losing sight of the goal, which is to improve the overall network using cost-effective means and prioritizing the maintenance of roads in which are still in decent condition.

Overall, this Scenario shows how much farther your money can go and how many more miles of road you can repair if roads are treated and repaired before they deteriorate too much. By using Preservation techniques like Crack Sealing, and Rehabilitation strategies like Shim + Overlays, expensive reconstruction efforts can be avoided, and the overall network condition can be maintained without exorbitant spending.

The following tables illustrate the repair costs, miles of treated roads and network PCI each year. The following Figure 5 and Figure 6 show which roads are scheduled for repair in years 1-5, and years 6-10. 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

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Average PCI Without Repairs	76.5	73.0	69.7	66.6	63.6	60.8	58.0	55.4	52.9	50.5
Average PCI After Repairs	79.9	78.8	78.2	77.9	77.1	76.2	74.9	74.4	73.1	72.3
PCI Change Year to Year		-1.1	-0.6	-0.4	-0.8	-0.9	-1.3	-0.5	-1.3	-0.8
Crack Seal Miles	13.40	10.74	10.75	10.01	10.90	9.78	9.67	9.67	8.79	8.35
Crack Sealing Cost	\$56,230	\$46,021	\$47,894	\$47,675	\$52,518	\$48,997	\$50,405	\$52,414	\$49,520	\$48,973
Crack Seal cost per mile	\$4,195	\$4,283	\$4,454	\$4,764	\$4,818	\$5,011	\$5,211	\$5,420	\$5,636	\$5,862
Planned Crack Seal Budget	\$50 K	\$50 K	\$50 K	\$50 K	\$50 K	\$50 K	\$50 K	\$50 K	\$50 K	\$50 K
Repair and Rebuild Miles	3.14	3.70	5.45	6.17	5.25	3.07	4.38	4.92	4.18	5.93
Repair and Rebuild Cost	\$1,474,275	\$1,553,707	\$1,664,042	\$1,658,250	\$1,679,165	\$1,654,407	\$1,639,700	\$1,613,067	\$1,658,523	\$1,661,703
Repair and rebuild cost per mile	\$470,130	\$419,885	\$305,069	\$268,654	\$320,088	\$539,286	\$374,646	\$328,170	\$396,470	\$280,320
Planned Repair and Rebuild Budget	\$1.5 M	\$1.6 M	\$1.7 M	\$1.7 M	\$1.7 M	\$1.7 M	\$1.7 M	\$1.7 M	\$1.7 M	\$1.7 M
Total Miles Treated	16.54	14.44	16.21	16.18	16.15	12.85	14.05	14.59	12.97	14.28
Total Repair Cost	\$1,530,505	\$1,599,728	\$1,711,935	\$1,705,926	\$1,731,683	\$1,703,404	\$1,690,105	\$1,665,481	\$1,708,043	\$1,710,676
Cost per Miles	\$92,541	\$110,746	\$105,632	\$105,430	\$107,248	\$132,598	\$120,298	\$114,178	\$131,700	\$119,774

Table 5: Scenario 1 - Repair Costs by Category

Repair	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total Spending	Percentage of Total Spending
Planned Crack Seal Budget	\$50 K	\$50 K	\$50 K	\$50 K	\$50 K	\$50 K	\$50 K	\$50 K	\$50 K	\$50 K		
Planned Repair Budget	\$1.5 M	\$1.6 M	\$1.7 M	\$1.7 M	\$1.7 M	\$1.7 M	\$1.7 M	\$1.7 M	\$1.7 M	\$1.7 M		
Preservation												
Crack Seal (Minor)	\$56,230	\$46,021	\$47,894	\$47,675	\$52,518	\$48,997	\$50,405	\$52,414	\$49,520	\$48,973	\$500,647	3.0%
Rehabilitation												
HMA Shim + Overlay	\$240,167	\$280,820	\$474,594	\$503,262	\$360,183	\$236,187	\$326,321	\$390,248	\$152,352	\$380,145	\$3,344,279	20.0%
HMA Overlay	\$10,260	\$122,457	\$21,771	\$240,344	\$159,964	\$84,845	\$317,492	\$408,233	\$424,993	\$881,063	\$2,671,421	15.9%
HMA Shim				\$75,962							\$75,962	0.5%
Mill + Fill			\$198,983	\$206,316	\$1,047,451	\$52,421			\$33,956		\$1,539,128	9.2%
Double Chip Seal			\$107,014								\$107,014	0.6%
Reconstruction												
Full Depth Reclaim	\$1,112,148	\$1,150,430	\$674,680	\$632,366		\$1,280,954	\$995,887	\$814,586	\$1,047,222	\$400,495	\$8,108,768	48.4%
Green Rd - Pave gravel section, HMA Shim + Overlay					\$111,567						\$111,567	0.7%
Amherst St rebuild with Sidepath Work			\$187,000								\$187,000	1.1%
Repave Parking Lots	\$111,700										\$111,700	0.7%
Totals	\$1,530,505	\$1,599,728	\$1,711,935	\$1,705,926	\$1,731,683	\$1,703,404	\$1,690,105	\$1,665,481	\$1,708,043	\$1,710,676	\$16,757,485	

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)	102.07	69%	\$500,647	3%	\$ 4,905
Rehabilitation					
HMA Shim + Overlay	13.47	9%	\$3,344,279	20%	\$ 248,276
HMA Overlay	15.56	10%	\$2,671,421	16%	\$ 171,692
HMA Shim	0.82	1%	\$75,962	0%	\$ 92,895
Mill + Fill	4.67	3%	\$1,539,128	9%	\$ 329,463
Double Chip Seal	1.46	1%	\$107,014	1%	\$ 73,256
Reconstruction					
Full Depth Reclaim	9.95	7%	\$8,108,768	48%	\$ 814,907
Green Rd - Pave gravel section, HMA Shim + Overlay					\$ 446,255
	0.25	0%	\$111,567	1%	
Amherst St rebuild with Sidepath Work					\$1,870,000
	0.10	0%	\$187,000	1%	
Repave Parking Lots			\$111,700	1%	
Totals	148.35		\$16,757,485		\$ 112,958
Totals W/O Crack Seal	46.28		\$16,256,839		\$ 351,270

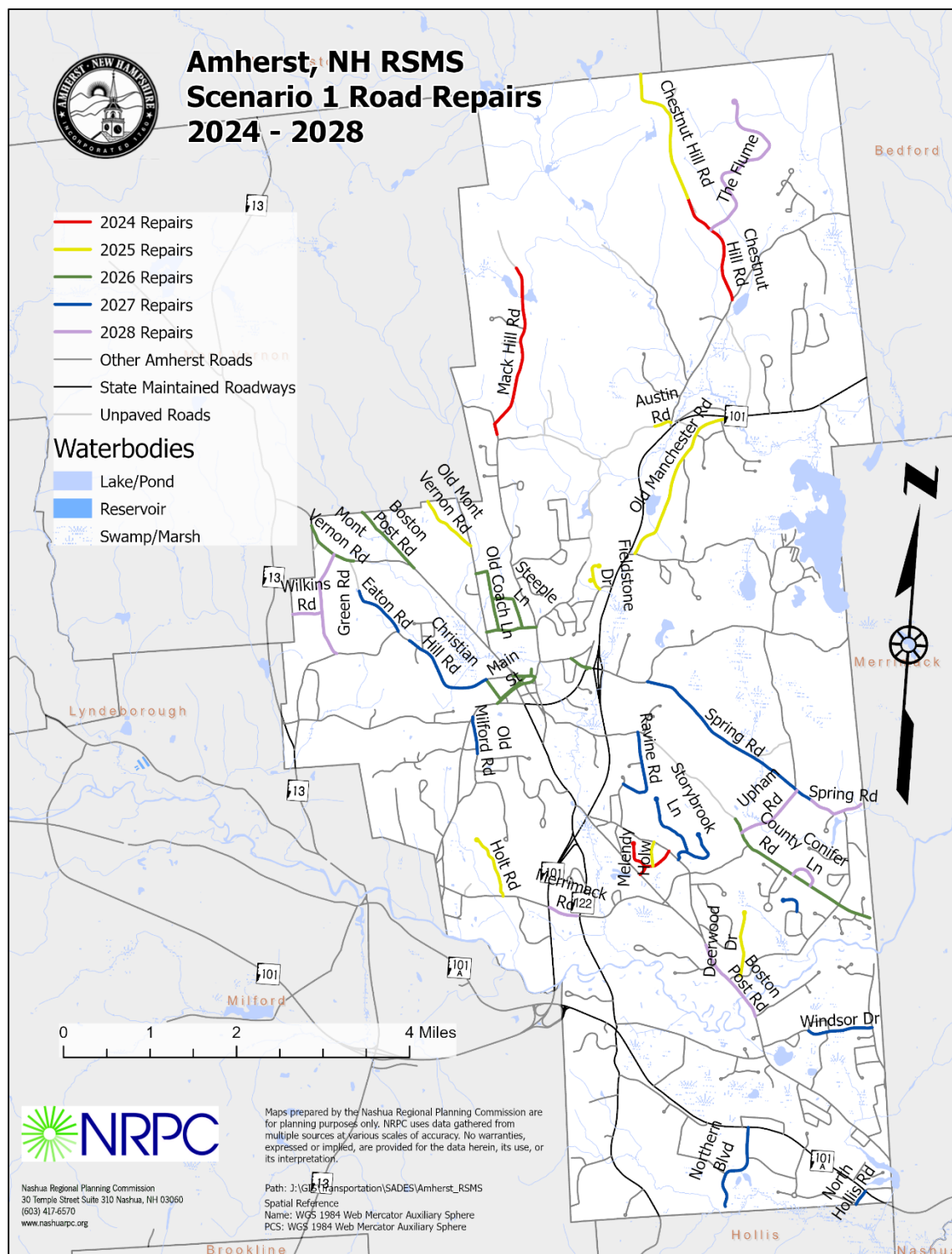


Figure 5: Repairs Years 1 - 5

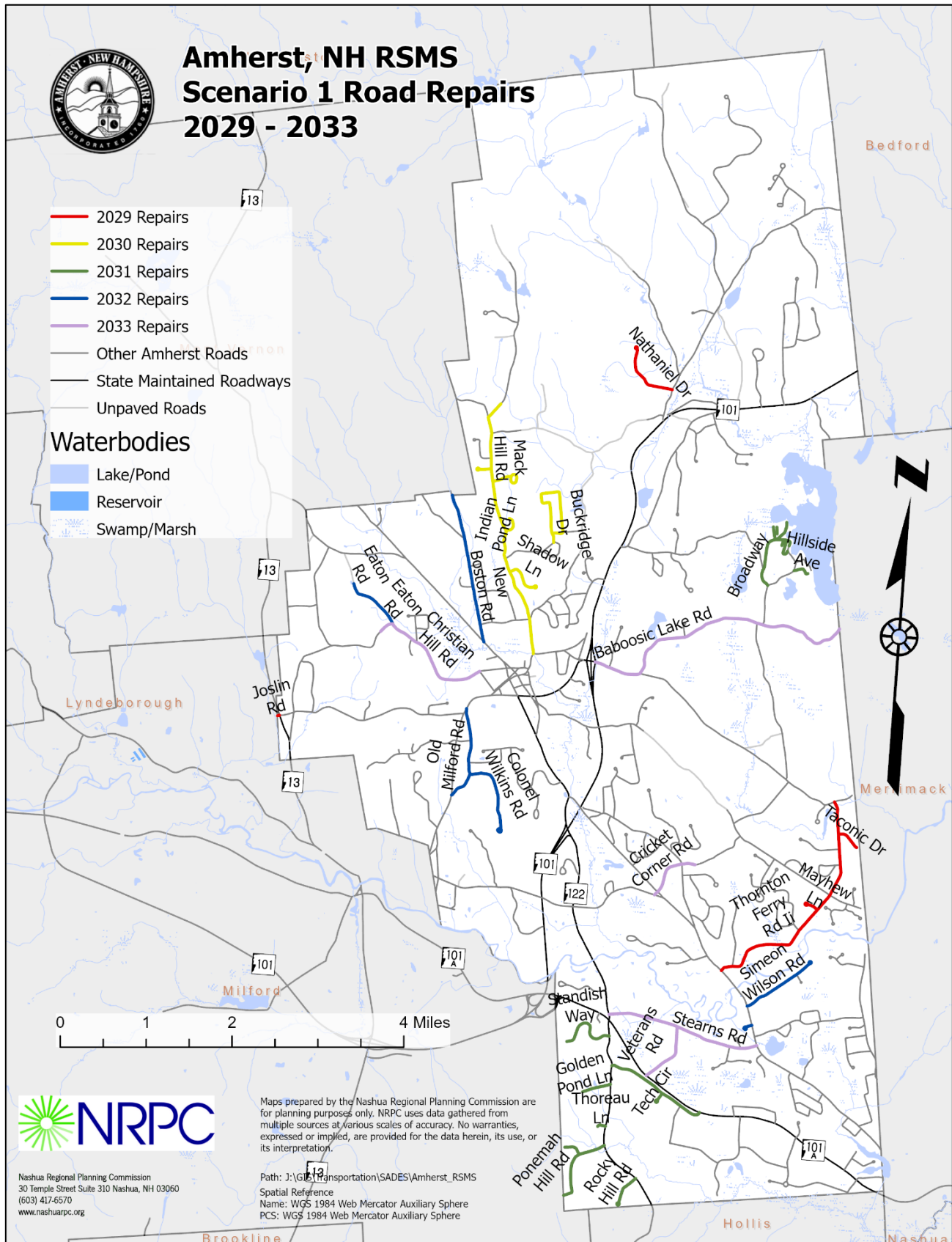


Figure 6: Repairs Years 5 - 10

B. SCENARIO 2: WORST FIRST APPROACH (2023 – 2033)

In Scenario 2, we assigned repairs to road segments within a 10-year horizon. In this scenario the annual budget was the same as Scenario 1: \$1.5 million for the year 2023, \$1.6 Million for 2024, and \$1.7 Million for 2025 and all the subsequent years. The first 3 years of Scenario 2 are the same as Scenario 1. These years (2024-2026) already had a plan developed by the town before the RSMS project started. Scenario 2 continues with a “Worst First” approach that seeks to fix the worst roads in the network.

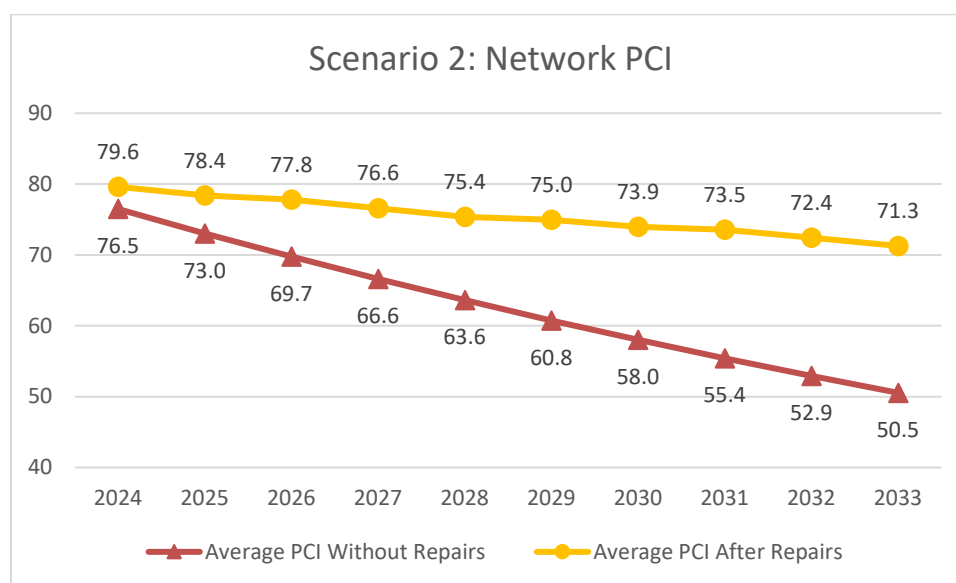


Figure 7: Network PCI by Year for Scenario 2

Over a 10-year period the average network PCI decreases from 80.08 in 2023 to 71.3 in 2033. Without any repairs, the network PCI will fall to 50.53 after 10 years. This is an overall improvement of the network PCI value by 20.77 points. Scenario 2 is focused on tackling the roads in worst condition first, and prioritizing reclaiming failed roads.

Full Depth Reclaim (FDR) is the choice for reconstructing roads which have deteriorated to a point where any other repair would be a waste of materials and money. The estimated cost per square yard for this is \$48.5. This is the most expensive treatment option. In this Scenario FDR makes up 66% of the total costs across all 10 years and addresses 13.59 miles of road (9% of the total miles).

This scenario also includes crack sealing, which addresses about 70% of the total miles in the network and accounts for 3.1% of total costs. Crack sealing is the most cost-effective strategy to preserve roads that

are in good condition, but it cannot address roads which require repairs such as Shim and Overlays. These repairs only cover 8% of the total miles and most of that takes place in the first three years of the plan. When looking at all repair miles and costs excluding crack sealing, this approach addresses only 30.67 miles, which comes to about \$509,639 per mile. In some years of the plan less than 2.5 miles of the road network are repaired.

The following tables illustrate the repair costs, miles of treated roads and network PCI for each year.

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

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Average PCI Without Repairs	76.5	73.0	69.7	66.6	63.6	60.8	58.0	55.4	52.9	50.5
Average PCI After Repairs	79.6	78.4	77.8	76.6	75.4	75.0	73.9	73.5	72.4	71.3
PCI Change Year to Year		-1.2	-0.6	-1.2	-1.2	-0.4	-1.0	-0.4	-1.1	-1.2
Crack Seal Miles	15.02	10.74	10.75	10.29	10.90	9.78	9.67	9.67	8.43	7.88
Crack Sealing Cost	\$56,230	\$46,021	\$47,894	\$47,675	\$52,518	\$48,997	\$50,405	\$52,414	\$49,520	\$48,973
Crack Seal cost per mile	\$3,744	\$4,283	\$4,454	\$4,633	\$4,818	\$5,011	\$5,211	\$5,420	\$5,873	\$6,213
Planned Crack Seal Budget	\$50 K	\$50 K	\$50 K	\$50 K	\$50 K	\$50 K	\$50 K	\$50 K	\$50 K	\$50 K
Repair and Rebuild Miles	3.14	3.10	5.96	2.03	2.87	3.84	2.73	3.20	2.16	1.56
Repair and Rebuild Cost	\$1,474,275	\$1,401,573	\$1,664,042	\$1,555,117	\$1,505,557	\$1,590,039	\$1,635,689	\$1,636,632	\$1,526,408	\$1,643,216
Repair and rebuild cost per mile	\$470,130	\$452,425	\$279,431	\$767,421	\$525,207	\$414,004	\$598,712	\$510,801	\$708,183	\$1,052,947
Planned Repair and Rebuild Budget	\$1.5 M	\$1.6 M	\$1.7 M	\$1.7 M	\$1.7 M	\$1.7 M	\$1.7 M	\$1.7 M	\$1.7 M	\$1.7 M
Total Miles Treated	18.15	13.84	16.71	12.32	13.77	13.62	12.40	12.88	10.59	9.44
Total Repair Cost	\$1,530,505	\$1,447,593	\$1,711,935	\$1,602,792	\$1,558,075	\$1,639,037	\$1,686,094	\$1,689,045	\$1,575,928	\$1,692,189
Cost per Miles	\$84,308	\$104,576	\$102,468	\$130,121	\$113,173	\$120,347	\$135,924	\$131,184	\$148,856	\$179,214

Table 8: Scenario 2 - Repair Costs by Category

Repair	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total Spending	Percentage of Total Spending
Planned Crack Seal Budget	\$50 K	\$50 K	\$50 K	\$50 K	\$50 K	\$50 K	\$50 K	\$50 K	\$50 K	\$50 K		
Planned Repair Budget	\$1.5 M	\$1.5 M	\$1.5 M	\$1.5 M	\$1.5 M	\$1.5 M	\$1.5 M	\$1.5 M	\$1.5 M	\$1.5 M		
Preservation												
Crack Seal (Minor)	\$56,230	\$46,021	\$47,894	\$47,675	\$52,518	\$48,997	\$50,405	\$52,414	\$47,523	\$46,201	\$495,877	3.1%
Rehabilitation												
HMA Shim + Overlay	\$240,167	\$128,686	\$474,594		\$136,221	\$377,950	\$230,395	\$608,605	\$280,120		\$2,476,739	15.4%
HMA Overlay	\$10,260	\$122,457	\$21,771								\$154,487	1.0%
HMA Shim												
Mill + Fill			\$198,983		\$822,205	\$322,323					\$1,343,510	8.3%
Double Chip Seal			\$107,014								\$107,014	0.7%
Reconstruction												
FDR & HMA (4")	\$1,112,148	\$1,150,430	\$674,680	\$1,555,117	\$547,131	\$889,766	\$1,284,623	\$1,028,027	\$1,246,288	\$1,643,216	\$11,131,426	69.0%
Green Rd - Pave gravel section							\$120,671				\$120,671	0.7%
Amherst St rebuild with Sidepath Work			\$187,000								\$187,000	1.2%
Repave Parking Lot	\$111,700										\$111,700	0.7%
Totals	\$1,530,505	\$1,447,593	\$1,711,935	\$1,602,792	\$1,558,075	\$1,639,037	\$1,686,094	\$1,689,045	\$1,573,931	\$1,689,417	\$16,128,424	

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)	103.14	70%	\$495,877	3%	\$ 4,808
Rehabilitation					
HMA Shim + Overlay	10.51	7%	\$2,476,739	15%	\$ 235,657
HMA Overlay	0.80	1%	\$154,487	1%	\$ 192,508
HMA Shim					
Mill + Fill	3.97	3%	\$1,343,510	8%	\$ 338,774
Double Chip Seal	1.46	1%	\$107,014	1%	\$ 73,297
Reconstruction					
Full Depth Reclaim	13.59	9%	\$11,131,426	66%	\$ 819,359
Green Rd - Pave gravel section, HMA Shim + Overlay	0.25	0%	\$120,671	1%	\$ 482,669
Amherst St rebuild with Sidepath Work	0.10	0%	\$187,000	1%	\$ 1,870,000
Repave Parking Lots			\$111,700	1%	
Totals	133.82		\$16,128,424		\$ 120,527
Totals W/O Crack Seal	30.67		\$15,632,548		\$ 509,639

9.0 SUMMARY

When comparing the two scenarios there are a few things that stand out. The first is how many more miles of roads are addressed by Scenario 1 than Scenario 2. Scenario 1 covers a total of 148.35 Miles, 46.28 excluding crack sealing. Scenario 2 covers a total of 133.82 miles, 30.67 excluding crack sealing. There are a couple of reasons for this gap, but the primary reason is the cost of Full Depth Reclamation (FDR). Because FDR is so expensive to perform, it limits how many roads you can rebuild each year. While Scenario 1 does not attempt to reclaim all of Amherst's poorest condition roads, it does use FDR strategically in conjunction with other road repairs. Even so, in Scenario 1 uses FDR on 9.95 miles of road and is about 48% of overall costs. Scenario 2 uses FDR on 13.59 miles of road and takes up 66% of overall costs. That difference represents about \$3 Million which could otherwise go toward Shim & Overlays, Mill & Overlays, and Crack Sealing. Those operations can go much farther in terms of miles treated.

At a glance the two scenarios don't seem to have much of a difference when it comes to network PCI. Most of the reason why each plan has a shallow decline in PCI is due to the generous amount of Crack Sealing being done. Spending about \$50,000 each year on crack sealing, is having a tremendous impact on the network PCI. In both scenarios this is a positive.

There is a clear reason why Scenario 1 is better for the town in the long run, and this is illustrated in Figures 11 and 12. Each chart shows over time the number of miles each scenario address and the change in cost per miles over time. In Figure 11 you can see that the number of repair and rebuild miles hovers around 5 and that the cost per miles each year easily stays under \$150,000. In Figure 12 you see that the repair and rebuild miles only once exceed 5 miles and that there is an increasing trend for cost per miles, climbing up to and over \$150,000. This trend will only get worse as fewer miles can be repaired and maintained. Scenario 2 does not address many roads which fall between needing crack

sealing and full depth reclamation. Over time those roads will reach a critical point where they will need more expensive treatments, and the cost effective strategies will no longer be an option.

In Figure 8 you can see the value of Amherst's road network categorized by Paved and Gravel roads. This figure calculates how much the road network is worth just in terms of raw materials, and calculates how much it depreciates each year. The Annualized Depreciation of Amherst's road network is \$2.6 Million. This means that the Town will have to spend around \$2.6 Million per year to prevent any deterioration and depreciation of the network's value. This amount is certainly higher than the current budget allows, 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 Amherst in planning for road maintenance. We hope this data-driven information proves valuable and results in an informed and cohesive strategy to maintain Amherst's roads well into the future.

PRESENT DAY VALUE OF ROAD NETWORK						
MILEAGE:			UNIT COSTS:			
	115.3	Paved	Pavement		\$80	/ ton
	6.9	Gravel	Gravel		\$30	/ ton
Depth (inches)	PAVED ROADS					
	Material	Cost/SY	Miles	Width (ft)	SY	Cost
4	Pavement	\$ 17.92	115.3	23	1,555,781	\$ 27,879,601
12	Gravel	\$ 13.58				\$ 21,119,732
TOTAL VALUE PAVED ROADS						\$ 48,999,333
Depth (inches)	GRAVEL ROADS					
	Material	Cost/SY	Miles	Width (ft)	SY	Cost
12	Gravel	\$ 13.58	6.9	18	72,864	\$ 989,129
TOTAL VALUE OF GRAVEL ROADS						\$ 989,129
TOTAL VALUE OF THE NETWORK:						\$ 49,988,462
ANNUALIZED DEPRECIATION AT				20	YEAR LIFE	\$ 2,499,423

Figure 8: Present Day Value of Amherst's Road Network

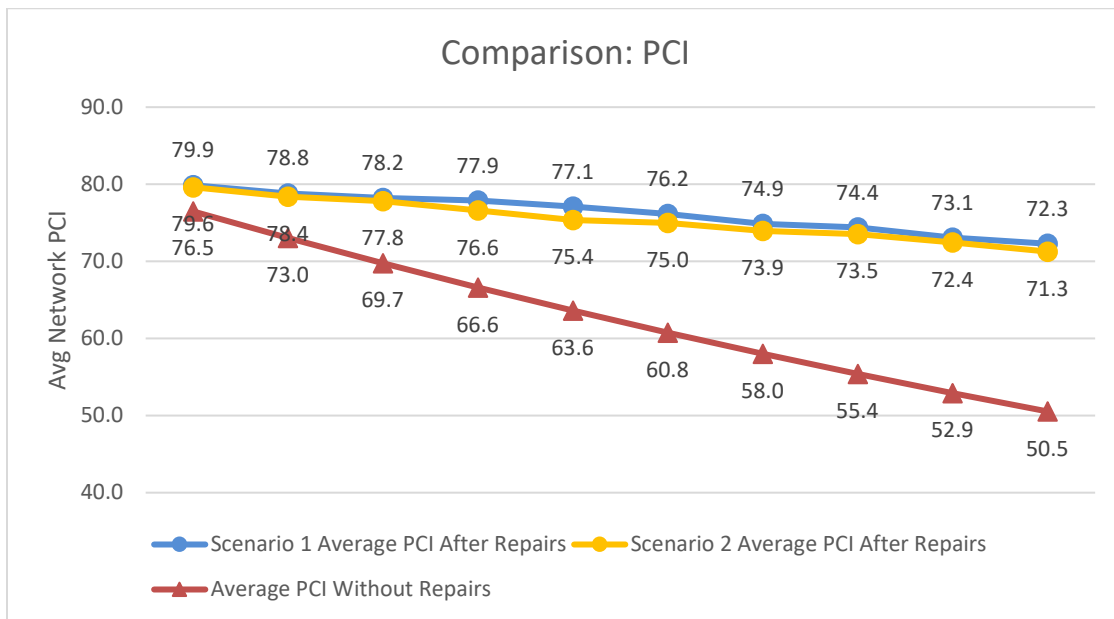


Figure 9: Scenario 1 & 2 Comparison - Network PCI

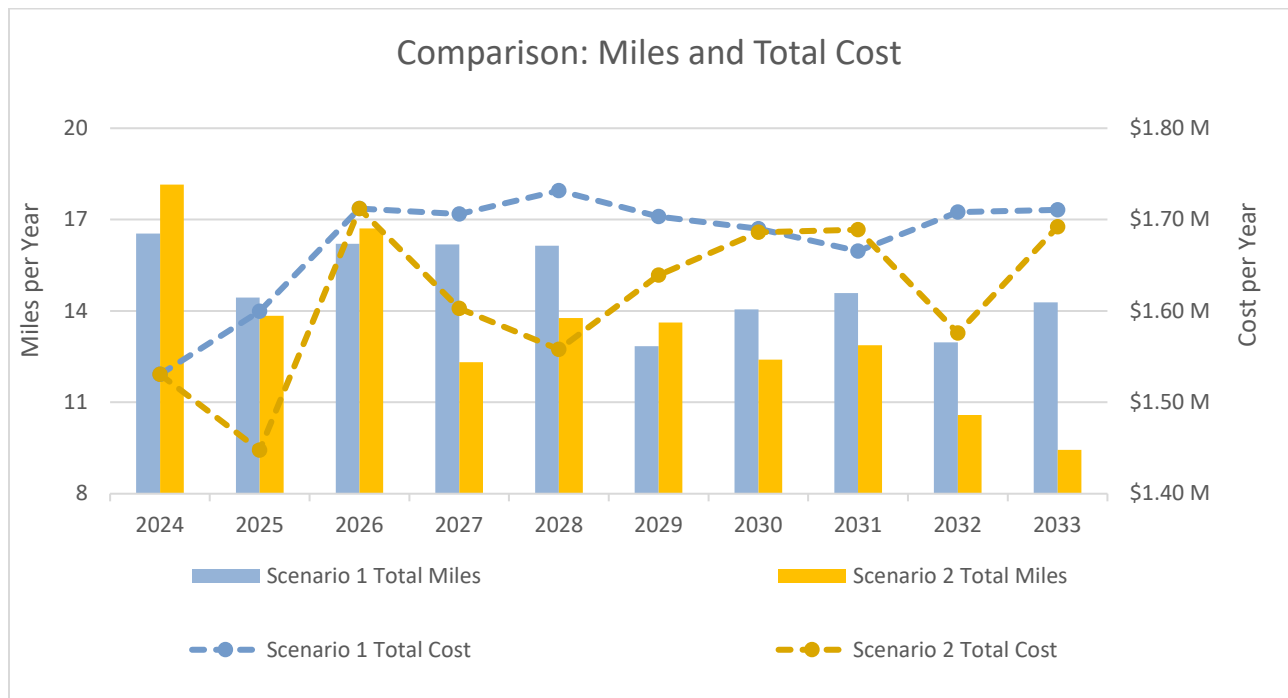


Figure 10: Scenario 1 & 2 Comparison - Cost

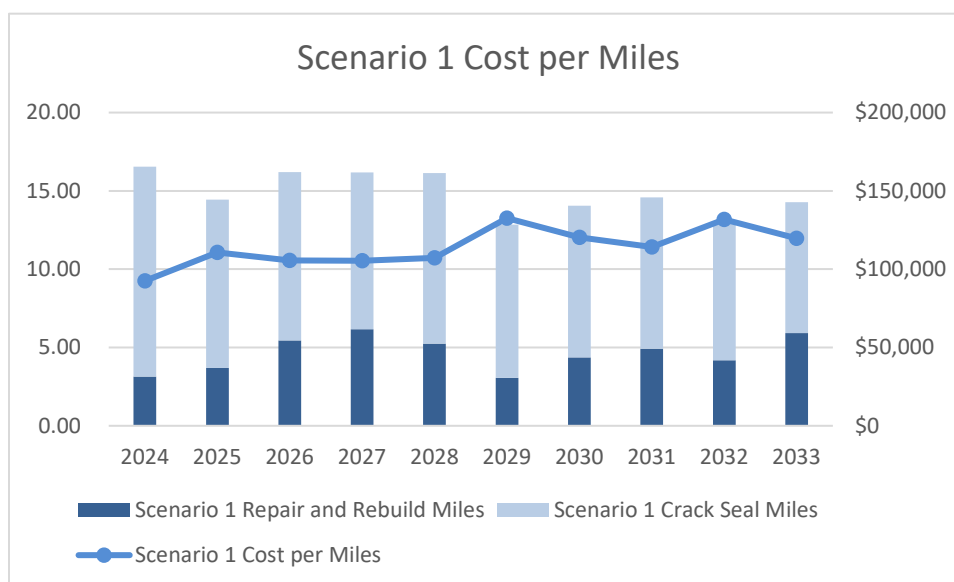


Figure 11: Scenario 1 Cost per Miles

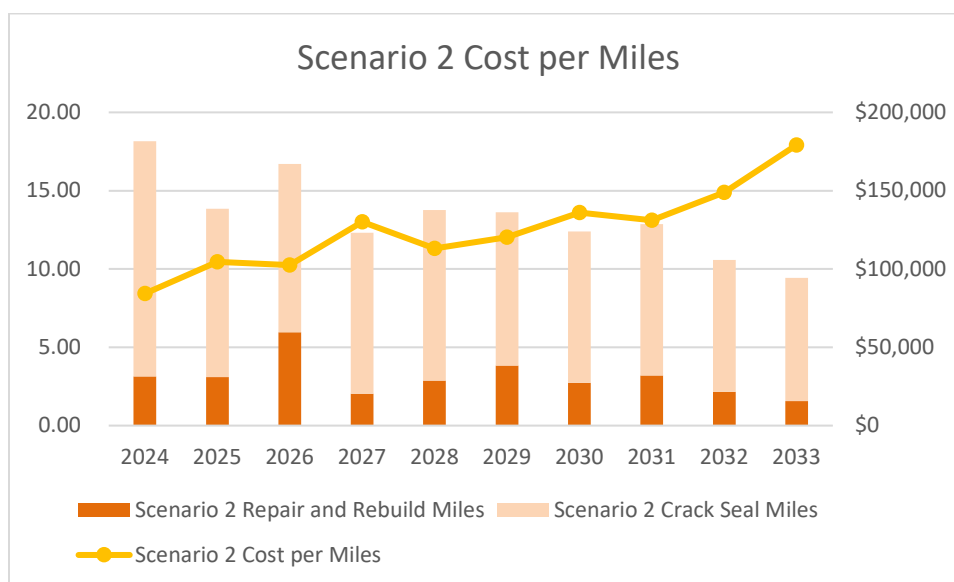


Figure 12: Scenario 2 Cost per Miles

APPENDIX A: ROAD INVENTORY

Street Name	Segment #	Importance Value	Road Width (Feet)	Length of Segment (Feet)	Number of Lanes	PCI 2022	Priority
Aglipay Dr	1	2	19	1320	2	81	20.75
Aglipay Dr	2	2	19	1321	2	77	21.75
Aglipay Dr	3	2	19	533	2	81	20.75
Airline Dr	1	1	30	479	2	100	8
Amherst St	1	5	28	1317	2	100	40
Amherst St	2	5	31	1320	2	94	41.5
Amherst St	3	5	31	1319	2	90	42.5
Amherst St	4	5	31	1319	2	90	42.5
Amherst St	5	5	27	1319	2	98	40.5
Amherst St	6	5	27	1323	2	100	40
Amherst St	7	5	28	1396	2	100	40
Arrow Ln	1	1	25	1935	2	56	19
Austin Rd	1	3	22	1320	2	50	36.5
Austin Rd	7	3	22	776	2	38	39.5
Baboosic Lake Rd	1	4	24	1321	2	95	33.25
Baboosic Lake Rd	2	4	24	1319	2	95	33.25
Baboosic Lake Rd	3	4	24	1323	2	95	33.25
Baboosic Lake Rd	4	4	24	1318	2	95	33.25
Baboosic Lake Rd	5	4	24	1320	2	95	33.25
Baboosic Lake Rd	6	4	24	1320	2	100	32
Baboosic Lake Rd	7	4	24	1322	2	100	32
Baboosic Lake Rd	8	4	24	1320	2	100	32
Baboosic Lake Rd	9	4	24	1320	2	95	33.25
Baboosic Lake Rd	10	4	24	1017	2	91	34.25
Bayberry Dr	1	3	23	1108	2	100	24
Beaver Brook Cir	1	1	21	1319	2	89	10.75
Beaver Brook Cir	2	1	21	886	2	89	10.75
Bloody Brook Rd	1	1	20	545	2	47	21.25
Bloody Brook Rd	1	1	24	1320	2	77	13.75
Bloody Brook Rd	2	1	20	1589	2	76	14
Blueberry Hill Rd	1	3	23	1318	2	95	25.25
Blueberry Hill Rd	1	1	23	1867	2	90	10.5
Blueberry Hill Rd	2	1	23	1694	2	89	10.75
Bon Terrain Dr	1	2	25	1319	2	75	22.25
Bon Terrain Dr	2	2	25	1087	2	79	21.25
Border St	1	2	22	1317	2	100	16
Border St	2	2	22	1441	2	100	16
Boston Post Rd	1	5	25	1270	2	95	41.25

Street Name	Segment #	Importance Value	Road Width (Feet)	Length of Segment (Feet)	Number of Lanes	PCI 2022	Priority
Boston Post Rd	2	5	25	1319	2	95	41.25
Boston Post Rd	3	5	25	1320	2	95	41.25
Boston Post Rd	4	5	25	1320	2	95	41.25
Boston Post Rd	5	5	25	1319	2	95	41.25
Boston Post Rd	6	5	25	1322	2	95	41.25
Boston Post Rd	7	5	25	1321	2	93	41.75
Boston Post Rd	8	5	23	1320	2	78	45.5
Boston Post Rd	9	5	23	1319	2	78	45.5
Boston Post Rd	10	5	23	1320	2	78	45.5
Boston Post Rd	11	5	24	1320	2	100	40
Boston Post Rd	12	4	24	1322	2	100	32
Boston Post Rd	13	4	23	1318	2	100	32
Boston Post Rd	14	4	23	1319	2	100	32
Boston Post Rd	15	4	23	1323	2	100	32
Boston Post Rd	16	4	23	1320	2	100	32
Boston Post Rd	17	4	23	1804	2	95	33.25
Boston Post Rd	18	5	27	1320	2	100	40
Boston Post Rd	19	5	28	1320	2	100	40
Boston Post Rd	20	5	24	1319	2	100	40
Boston Post Rd	21	5	24	1320	2	100	40
Boston Post Rd	22	5	24	1320	2	100	40
Boston Post Rd	23	5	24	1320	2	100	40
Boston Post Rd	24	5	22	1319	2	48	53
Boston Post Rd	25	1	22	1319	2	44	22
Boston Post Rd	26	1	22	786	2	54	19.5
Boylston Ter	1	1	26	1320	2	70	15.5
Boylston Ter	2	1	25	818	2	67	16.25
Brander Ct	1	1	25	591	2	100	8
Briarwood Ln	1	1	25	1286	2	85	11.75
Brimstone Hill Rd	1	2	24	783	2	70	23.5
Broadway	1	3	22	1318	2	95	25.25
Broadway	2	3	22	1320	2	95	25.25
Broadway	3	3	19	1316	2	51	36.25
Broadway	4	3	22	1969	2	52	36
Brook Rd	1	2	22	1320	2	72	23
Brook Rd	2	2	22	1320	2	66	24.5
Brook Rd	3	2	22	1320	2	76	22
Brook Rd	4	2	22	1320	2	55	27.25
Brookwood Dr	1	1	19	938	2	85	11.75

Street Name	Segment #	Importance Value	Road Width (Feet)	Length of Segment (Feet)	Number of Lanes	PCI 2022	Priority
Buckridge Dr	1	2	21	1322	2	79	21.25
Buckridge Dr	2	1	21	1319	2	79	13.25
Buckridge Dr	3	1	21	1319	2	79	13.25
Buckridge Dr	4	2	21	1714	2	79	21.25
Caldwell Dr	1	4	54	1320	2	100	32
Caldwell Dr	2	4	26	1413	2	95	33.25
Camp Rd	1	4	25	1320	2	95	33.25
Camp Rd	2	4	25	798	2	95	33.25
Candlewood Dr	1	1	25	1319	2	53	19.75
Candlewood Dr	2	1	25	1388	2	53	19.75
Carol Ann Ln	1	1	24	928	2	41	22.75
Carriage Rd	1	1	18	884	2	53	19.75
Center Rd	1	1	25	756	2	63	17.25
Chandler Ln	1	1	25	1731	2	86	11.5
Chatham Ct	1	1	25	1032	2	82	12.5
Chestnut Hill Rd	1	5	22	1319	2	47	53.25
Chestnut Hill Rd	2	5	22	1320	2	35	56.25
Chestnut Hill Rd	3	5	22	1320	2	41	54.75
Chestnut Hill Rd	4	5	22	1320	2	46	53.5
Chestnut Hill Rd	5	5	22	1320	2	40	55
Chestnut Hill Rd	6	5	22	1321	2	44	54
Chestnut Hill Rd	7	5	22	1320	2	43	54.25
Chestnut Hill Rd	8	5	22	1319	2	39	55.25
Chestnut Hill Rd	9	5	22	1211	2	41	54.75
Christian Hill Rd	1	3	21	1322	2	100	24
Christian Hill Rd	2	3	21	1319	2	100	24
Christian Hill Rd	3	3	20	1319	2	100	24
Christian Hill Rd	4	3	20	1321	2	100	24
Christian Hill Rd	5	3	24	1320	2	100	24
Christian Hill Rd	6	3	24	1320	2	100	24
Christian Hill Rd	7	3	24	1319	2	85	27.75
Christian Hill Rd	8	3	24	1319	2	80	29
Christian Hill Rd	9	3	25	1321	2	77	29.75
Christian Hill Rd	10	3	25	1954	2	80	29
Church St	1	3	23	1002	2	63	33.25
Clark Ave	1	1	12	960	1	73	14.75
Cobbler Ln	1	1	24	932	2	85	11.75
Colonel Wilkins Rd	1	1	21	1320	2	100	8
Colonel Wilkins Rd	2	1	21	1320	2	100	8

Street Name	Segment #	Importance Value	Road Width (Feet)	Length of Segment (Feet)	Number of Lanes	PCI 2022	Priority
Colonel Wilkins Rd	3	1	21	1324	2	100	8
Columbia Dr	1	4	25	1319	2	95	33.25
Columbia Dr	2	4	25	1129	2	95	33.25
Conifer Ln	1	1	25	1531	2	80	13
Corduroy Rd	1	5	23	1317	2	81	44.75
Corduroy Rd	2	5	23	1319	2	90	42.5
Corduroy Rd	3	5	23	1320	2	90	42.5
Corduroy Rd	4	5	23	931	2	90	42.5
County Rd	1	4	22	1113	2	76	38
County Rd	2	4	21	1318	2	90	34.5
County Rd	3	4	21	1318	2	90	34.5
County Rd	4	4	21	1321	2	90	34.5
County Rd	5	4	21	1320	2	76	38
County Rd	6	4	21	1322	2	93	33.75
County Rd	11	4	23	679	2	100	32
Courthouse Rd	1	4	23	1318	2	100	32
Courthouse Rd	2	4	22	1657	2	95	33.25
Craftsman Ln	1	3	44	1247	2	100	24
Crestwood Ct	1	1	25	1104	2	78	13.5
Cricket Corner Rd	1	2	19	1322	2	44	30
Cricket Corner Rd	2	2	19	1321	2	44	30
Cricket Corner Rd	3	3	21	1320	2	98	24.5
Cricket Corner Rd	4	3	21	1193	2	98	24.5
Cricket Hill Dr	1	1	23	1317	2	100	8
Cricket Hill Dr	2	1	23	1319	2	100	8
Cricket Hill Dr	3	1	23	1045	2	100	8
Crockett Ln	1	2	24	885	2	95	17.25
Cross Rd	1	1	25	1591	2	95	9.25
Cross Rd	2	4	24	1101	2	95	33.25
Cross Rd		4	24	1101	2	100	32
Cross St	1	1	20	775	2	100	8
Danbury Cir	1	1	21	1319	2	100	8
Danbury Cir	2	1	21	1322	2	100	8
Danbury Cir	3	1	21	1031	2	100	8
Davis Ln	1	4	20	1142	2	51	44.25
Deerwood Dr	1	1	23	1321	2	38	23.5
Deerwood Dr	2	1	23	1823	2	28	26
Dodge Rd	1	4	24	1318	2	100	32
Dodge Rd	2	4	24	1321	2	95	33.25

Street Name	Segment #	Importance Value	Road Width (Feet)	Length of Segment (Feet)	Number of Lanes	PCI 2022	Priority
Dodge Rd	3	4	24	1320	2	100	32
Douglas Dr	1	1	22	1318	2	95	9.25
Douglas Dr	2	1	22	1380	2	95	9.25
Driveway A022	1	1	20	872	2	55	19.25
Eastern Ave	1	1	21	1322	2	100	8
Eastern Ave	2	1	21	1135	2	100	8
Eaton Rd	1	2	20	1322	2	40	31
Eaton Rd	2	2	20	1319	2	37	31.75
Edgewood Run	1	1	25	1320	2	91	10.25
Edgewood Run	2	1	25	845	2	91	10.25
Fairway Dr	1	2	21	1319	2	76	22
Fairway Dr	2	1	21	1319	2	76	14
Fairway Dr	3	1	21	1314	2	76	14
Farmington Rd	1	1	25	838	2	41	22.75
Fernwood Ln	1	1	25	1072	2	86	11.5
Fieldstone Dr	1	1	25	1626	2	76	14
Flanders Rd	1	1	24	512	2	82	12.5
Flint Dr	1	1	25	612	2	52	20
Founders Way	1	2	26	969	2	100	16
Founders Way	2	2	26	968	2	100	16
Founders Way	3	2	26	969	2	100	16
Founders Way	4	2	26	968	2	100	16
Founders Way	5	2	26	655	2	100	16
Foundry St	1	4	25	1210	2	100	32
Foxglove Ln	1	1	25	1115	2	100	8
Gatchell Way	1	1	26	194	2	100	8
General Amherst Rd	1	2	24	1319	2	100	16
General Amherst Rd	2	2	24	702	2	100	16
Georgetown Dr	1	2	24	1965	2	86	19.5
Golden Pond Ln	1	1	25	1311	2	55	19.25
Governor Wentworth Rd	1	2	24	1516	2	100	16
Green Rd	1	2	20	1322	2	67	24.25
Green Rd	2	2	20	1320	2	76	22
Green Rd	3	2	21	1321	2	51	28.25
Green Rd	4	2	21	824	2	69	23.75
Greenbriar Ln	1	1	25	1319	2	63	17.25
Greenbriar Ln	2	1	25	1320	2	79	13.25
Greenbriar Ln	3	1	25	1263	2	74	14.5
Hartshorn Mill Rd	1	1	16	267	2	72	15

Street Name	Segment #	Importance Value	Road Width (Feet)	Length of Segment (Feet)	Number of Lanes	PCI 2022	Priority
Heather Ln	1	1	25	966	2	74	14.5
Hemlock Hill Rd	1	2	25	1322	2	57	26.75
Hemlock Hill Rd	2	1	25	1737	2	55	19.25
Hertzka Dr	1	2	25	1772	2	83	20.25
Hickory Dr	1	1	22	1320	2	95	9.25
Hickory Dr	2	1	22	1318	2	95	9.25
Hickory Dr	3	1	22	671	2	95	9.25
High Meadow Ln	1	1	25	1919	2	60	18
Highland Dr	1	2	24	1320	2	95	17.25
Highland Dr	2	2	24	1864	2	95	17.25
Hillside Ave	1	1	13	760	1	43	22.25
Holly Hill Dr	1	2	25	1320	2	58	26.5
Holly Hill Dr	2	2	25	1321	2	58	26.5
Holly Hill Dr	3	2	25	1321	2	58	26.5
Holly Hill Dr	4	2	25	1097	2	58	26.5
Holt Rd	1	1	25	1321	2	59	18.25
Holt Rd	2	1	25	1860	2	59	18.25
Homestead Rd	1	1	25	1229	2	91	10.25
Honeybrook Ln	1	1	24	1151	2	87	11.25
Horace Greeley Rd	1	5	29	1316	2	100	40
Horace Greeley Rd	2	5	29	1321	2	92	42
Horace Greeley Rd	3	5	23	1318	2	100	40
Horace Greeley Rd	4	5	23	1321	2	100	40
Horace Greeley Rd	5	5	23	1322	2	100	40
Horace Greeley Rd	6	5	23	1319	2	100	40
Horace Greeley Rd	7	5	23	1320	2	100	40
Horace Greeley Rd	8	5	23	1321	2	100	40
Horace Greeley Rd	9	5	23	1319	2	100	40
Horace Greeley Rd	10	5	23	1526	2	100	40
Howe Dr	1	4	26	1320	2	100	32
Howe Dr	2	4	26	1483	2	95	33.25
Hubbard Rd	1	1	26	1319	2	100	8
Hubbard Rd	2	1	26	717	2	100	8
Indian Pond Ln	1	1	25	842	2	83	12.25
Jones Rd	1	4	25	1130	2	47	45.25
Jones Rd	2	4	25	1130	2	32	49
Joslin Rd	1	2	20	97	2	47	29.25
Joslin Rd	1	2	20	97	2	47	29.25
Juniper Dr	1	1	21	1320	2	88	11

Street Name	Segment #	Importance Value	Road Width (Feet)	Length of Segment (Feet)	Number of Lanes	PCI 2022	Priority
Juniper Dr	2	1	21	1320	2	88	11
Juniper Dr	3	1	21	1209	2	88	11
Junkins Ln	1	1	25	1086	2	76	14
Knight St	1	1	19	326	2	66	16.5
Lake Front St	1	1	13	1015	1	95	9.25
Laurel Ln	1	1	22	597	2	74	14.5
Limbo Ln	1	4	29	1225	2	87	35.25
Lord Jeffrey Dr	1	1	20	1319	2	66	16.5
Lord Jeffrey Dr	2	1	20	976	2	66	16.5
Lyndeborough Rd	2	4	21	1318	2	85	35.75
Lyndeborough Rd	3	4	21	1321	2	85	35.75
Lyndeborough Rd	4	4	21	1322	2	85	35.75
Lyndeborough Rd	5	4	21	1321	2	85	35.75
Lyndeborough Rd	6	4	21	1321	2	85	35.75
Lyndeborough Rd	7	4	21	887	2	85	35.75
Mack Hill Rd	1	4	25	1319	2	40	47
Mack Hill Rd	2	4	24	1321	2	85	35.75
Mack Hill Rd	3	4	24	1321	2	85	35.75
Mack Hill Rd	4	4	24	1322	2	82	36.5
Mack Hill Rd	5	4	24	1321	2	95	33.25
Mack Hill Rd	6	4	24	1321	2	95	33.25
Mack Hill Rd	7	4	24	1319	2	97	32.75
Mack Hill Rd	8	4	23	1320	2	90	34.5
Mack Hill Rd	9	4	22	1320	2	56	43
Mack Hill Rd	10	2	22	1321	2	44	30
Mack Hill Rd	11	4	22	1321	2	52	44
Mack Hill Rd	12	4	22	1319	2	38	47.5
Mack Hill Rd	13	4	21	1321	2	53	43.75
Mack Hill Rd	14	4	21	1320	2	48	45
Madison Ln	1	1	23	1012	2	79	13.25
Main St	1	5	25	1323	2	46	53.5
Main St	2	5	27	810	2	67	48.25
Manchester Rd	1	4	25	1317	2	95	33.25
Manchester Rd	2	4	23	1929	2	100	32
Manhattan Dr	1	1	24	878	2	95	9.25
Maple Dr	1	1	22	410	2	95	9.25
Martingale Rd	1	1	21	1318	2	46	21.5
Martingale Rd	2	1	21	1588	2	50	20.5
Mayhew Ln	1	1	21	872	2	56	19

Street Name	Segment #	Importance Value	Road Width (Feet)	Length of Segment (Feet)	Number of Lanes	PCI 2022	Priority
Meadow Ln	1	1	22	1625	2	73	14.75
Melendy Holw	1	1	22	1100	2	41	22.75
Melody Ln	1	1	25	1692	2	57	18.75
Merrimack Rd	1	5	24	1320	2	80	45
Merrimack Rd	2	5	24	1319	2	85	43.75
Merrimack Rd	3	4	24	1318	2	85	35.75
Merrimack Rd	4	4	24	1323	2	85	35.75
Merrimack Rd	5	4	24	1321	2	85	35.75
Merrimack Rd	6	5	24	1321	2	80	45
Merrimack Rd	7	5	24	1319	2	100	40
Merrimack Rd	8	5	24	1317	2	100	40
Merrimack Rd	9	5	24	1322	2	100	40
Merrimack Rd	10	5	24	1178	2	100	40
Middle St	1	1	23	1319	2	95	9.25
Middle St	2	1	22	1323	2	95	9.25
Miles Rd	1	1	25	658	2	100	8
Milford St	1	1	13	897	1	96	9
Mont Vernon Rd	1	5	24	1319	2	86	43.5
Mont Vernon Rd	2	5	24	1319	2	86	43.5
Mont Vernon Rd	3	5	24	1318	2	86	43.5
Mont Vernon Rd	4	5	21	1315	2	54	51.5
Monticello Dr	1	1	24	1320	2	53	19.75
Monticello Dr	2	1	24	875	2	53	19.75
Mosswood Cir	1	1	25	1320	2	95	9.25
Mosswood Cir	2	1	25	1014	2	95	9.25
Narragansett Rd	1	4	23	301	2	58	42.5
Narragansett Rd	1	4	23	881	2	58	42.5
Nathan Lord Rd	1	2	24	1320	2	100	16
Nathan Lord Rd	2	2	24	1321	2	100	16
Nathan Lord Rd	3	2	24	1950	2	100	16
Nathaniel Dr	1	1	22	1320	2	56	19
Nathaniel Dr	2	1	22	1939	2	56	19
New Boston Rd	1	4	24	1318	2	95	33.25
New Boston Rd	2	4	24	1319	2	95	33.25
New Boston Rd	3	4	24	1320	2	95	33.25
New Boston Rd	4	4	24	1320	2	95	33.25
New Boston Rd	5	4	22	1495	2		57
New South Dr	1	1	25	1320	2	71	15.25
New South Dr	2	1	25	1965	2	67	16.25

Street Name	Segment #	Importance Value	Road Width (Feet)	Length of Segment (Feet)	Number of Lanes	PCI 2022	Priority
Newbury Dr	1	1	21	1309	2	51	20.25
Nichols Rd	1	1	20	1320	2	93	9.75
Nichols Rd	2	1	20	1954	2	93	9.75
North Hollis Rd	1	5	24	733	2	70	47.5
North Meadow Rd	1	3	23	1320	2	94	25.5
North Meadow Rd	2	3	23	1300	2	100	24
North St	1	2	20	1321	2	81	20.75
North St	2	2	20	1233	2	81	20.75
Northern Blvd	1	4	25	1321	2	46	45.5
Northern Blvd	2	2	25	1317	2	56	27
Northern Blvd	3	1	25	1665	2	53	19.75
Northfield Rd	1	1	22	1547	2	56	19
Norton St	1	1	13	272	1	77	13.75
Oak Hill Rd	1	1	22	1321	2	83	12.25
Oak Hill Rd	2	1	22	1409	2	83	12.25
Old Coach Ln	1	1	24	1319	2	63	17.25
Old Coach Ln	2	1	24	1362	2	82	12.5
Old Jailhouse Rd	1	1	15	302	1	44	22
Old Manchester Rd	1	3	23	1318	2	88	27
Old Manchester Rd	2	3	23	1318	2	88	27
Old Manchester Rd	3	3	23	1320	2	88	27
Old Manchester Rd	4	3	23	1319	2	88	27
Old Manchester Rd	5	3	23	1319	2	88	27
Old Manchester Rd	6	3	23	1531	2	88	27
Old Milford Rd	1	3	24	1321	2	77	29.75
Old Milford Rd	2	3	24	1316	2	77	29.75
Old Milford Rd	3	3	24	1676	2	41	38.75
Old Mont Vernon Rd	1	4	23	1319	2	53	43.75
Old Mont Vernon Rd	2	4	22	1520	2	40	47
Old Nashua Rd	1	3	23	1321	2	90	26.5
Old Nashua Rd	2	3	23	1321	2	90	26.5
Old Nashua Rd	3	3	23	1322	2	90	26.5
Old Nashua Rd	4	3	23	743	2	90	26.5
Olde Lantern Way	1	1	25	382	2	71	15.25
Orchard View Dr	1	1	25	1397	2	58	18.5
Overlook Dr	1	1	24	489	2	63	17.25
Parkhurst Dr	1	1	25	1212	2	100	8
Pauls Way	1	1	37	1001	2	79	13.25
Pavillion Rd	1	3	22	1797	2	95	25.25

Street Name	Segment #	Importance Value	Road Width (Feet)	Length of Segment (Feet)	Number of Lanes	PCI 2022	Priority
Pettingale Rd	1	1	23	1319	2	73	14.75
Pettingale Rd	2	1	23	845	2	55	19.25
Pierce Ln	1	1	20	306	2	95	9.25
Pine Acres Rd	1	1	21	1404	2	100	8
Pine Rd	1	1	22	1319	2	90	10.5
Pine Rd	2	1	22	1594	2	90	10.5
Pinewood Dr	1	1	19	1320	2	59	18.25
Pinewood Dr	2	1	19	1505	2	78	13.5
Pinnacle Rd	1	1	25	1319	2	71	15.25
Pinnacle Rd	2	1	25	986	2	71	15.25
Pond Parrish Rd	1	3	23	1319	2	95	25.25
Pond Parrish Rd	2	3	23	1319	2	95	25.25
Pond Parrish Rd	3	3	23	1320	2	100	24
Pond Parrish Rd	4	3	23	1319	2	100	24
Pond Parrish Rd	5	3	23	1320	2	94	25.5
Pond Parrish Rd	6	3	23	693	2	95	25.25
Ponemah Hill Rd	1	3	24	1319	2	100	24
Ponemah Hill Rd	2	3	24	1321	2	100	24
Ponemah Hill Rd	3	3	24	817	2	100	24
Potter Way	1	1	26	466	2	100	8
Pulpit Run	1	2	25	1322	2	100	16
Pulpit Run	2	2	25	1475	2	100	16
Ralmar Rd	1	1	25	881	2	100	8
Ravine Rd	1	3	23	1320	2	63	33.25
Ravine Rd	2	3	21	1321	2	47	37.25
Ravine Rd	3	3	23	1167	2	54	35.5
Rhodora Dr	1	1	25	1639	2	81	12.75
Ridgewood Dr	1	2	25	1315	2	74	22.5
Ridgewood Dr	2	2	25	1526	2	74	22.5
River Rd	1	1	21	1320	2	81	12.75
River Rd	2	1	21	812	2	83	12.25
Roberge Dr	1	1	22	1745	2	100	8
Roberts Rd	1	1	23	871	2	61	17.75
Rocky Hill Rd	1	1	25	1745	2	62	17.5
Saddle Hill Rd	1	1	25	1320	2	68	16
Saddle Hill Rd	2	1	25	1320	2	74	14.5
Saddle Hill Rd	3	1	25	1130	2	79	13.25
Sargent Quarry	1	1	23	1551	2	82	12.5
Sawmill Ln	1	1	24	1327	2	85	11.75

Street Name	Segment #	Importance Value	Road Width (Feet)	Length of Segment (Feet)	Number of Lanes	PCI 2022	Priority
School St	1	1	21	645	2	44	22
Seaverns Bridge Rd	1	4	27	1275	2	90	34.5
Seaverns Bridge Rd	2	4	24	1365	2	86	35.5
Seaverns Bridge Rd	3	4	24	1320	2	86	35.5
Seaverns Bridge Rd	4	4	24	1319	2	86	35.5
Seaverns Bridge Rd	5	4	24	513	2	86	35.5
Shadow Ln	1	1	21	1915	2	74	14.5
Sherburne Dr	1	2	21	451	2	55	27.25
Simeon Wilson Rd	1	1	18	575	2	100	8
Simeon Wilson Rd	1	4	25	1320	2	44	46
Simeon Wilson Rd	2	1	25	1320	2	66	16.5
Simeon Wilson Rd	3	1	25	1100	2	66	16.5
Souhegan Ave	1	1	18	1129	2	51	20.25
Souhegan St	1	1	18	766	2	56	19
Southfield Rd	1	1	22	1366	2	66	16.5
Sprague Rd	1	2	22	1895	2	95	17.25
Spring Rd	1	4	23	1320	2	92	34
Spring Rd	2	4	23	1320	2	100	32
Spring Rd	3	4	23	1320	2	100	32
Spring Rd	4	4	23	1320	2	100	32
Spring Rd	5	4	23	1319	2	100	32
Spring Rd	6	4	23	1320	2	95	33.25
Spring Rd	7	4	23	1321	2	95	33.25
Spring Rd	8	4	23	1321	2	95	33.25
Spring Rd	9	4	23	1176	2	81	36.75
Standish Way	1	1	25	1319	2	94	9.5
Standish Way	2	1	25	1631	2	94	9.5
Stearns Rd	1	4	25	1319	2	100	32
Stearns Rd	2	4	25	1319	2	100	32
Stearns Rd	3	4	25	1319	2	100	32
Stearns Rd	4	4	25	1320	2	100	32
Stearns Rd	5	4	25	1684	2	100	32
Steeple Ln	1	1	24	1319	2	70	15.5
Steeple Ln	2	1	24	971	2	70	15.5
Stillwater Dr	1	1	25	1752	2	95	9.25
Storybrook Ln	1	1	25	1319	2	50	20.5
Storybrook Ln	2	1	25	1926	2	50	20.5
Sunset Ave	1	1	17	497	2	85	11.75
Taconic Dr	1	1	25	1093	2	79	13.25

Street Name	Segment #	Importance Value	Road Width (Feet)	Length of Segment (Feet)	Number of Lanes	PCI 2022	Priority
Tamarack Ln	1	1	25	1322	2	92	10
Tanglewood Way	1	1	22	1098	2	67	16.25
Tech Cir	1	1	25	703	2	61	17.75
Terrace Ln	1	1	24	656	2	75	14.25
Thatcher Dr	1	1	25	1341	2	67	16.25
The Flume	1	3	34	1320	2	43	38.25
The Flume	2	3	34	1320	2	43	38.25
The Flume	3	3	34	1320	2	43	38.25
The Flume	4	3	25	1320	2	52	36
The Flume	5	3	25	1320	2	59	34.25
The Flume	6	3	34	1320	2	59	34.25
The Flume	7	3	34	1135	2	59	34.25
Thistle Dr	1	1	25	1435	2	100	8
Thoreau Ln	1	1	25	388	2	68	16
Thornton Ferry Rd I	1	3	23	1322	2	100	24
Thornton Ferry Rd I	2	3	23	1322	2	100	24
Thornton Ferry Rd I	3	3	22	1321	2	95	25.25
Thornton Ferry Rd I	4	3	22	855	2	95	25.25
Thornton Ferry Rd li	1	4	23	1160	2	39	47.25
Thornton Ferry Rd li	2	4	23	1320	2	39	47.25
Thornton Ferry Rd li	3	4	23	1321	2	39	47.25
Thornton Ferry Rd li	4	4	23	1319	2	89	34.75
Thornton Ferry Rd li	5	4	23	1319	2	89	34.75
Thornton Ferry Rd li	6	4	25	1318	2	66	40.5
Thornton Ferry Rd li	7	4	25	1317	2	72	39
Thornton Ferry Rd li	8	4	22	1802	2	67	40.25
Timber Chase Rd	1	1	25	1056	2	95	9.25
Town Crier Rd	1	1	23	790	2	100	8
Trask Way	1	1	26	422	2	100	8
Trueell Rd	1	1	18	992	2	72	15
Upham Rd	1	3	21	1320	2	71	31.25
Upham Rd	2	3	23	1898	2	71	31.25
Upper Flanders Rd	1	1	22	877	2	56	19
Veterans Rd	1	4	25	1319	2	93	33.75
Veterans Rd	2	4	25	1565	2	95	33.25
Village Common Ct	1	1	23	421	2	60	18
Village Woods Dr	1	1	25	1825	2	60	18
Walnut Hill Rd	1	3	25	1323	2	95	25.25
Walnut Hill Rd	2	3	25	1322	2	95	25.25

Street Name	Segment #	Importance Value	Road Width (Feet)	Length of Segment (Feet)	Number of Lanes	PCI 2022	Priority
Walnut Hill Rd	3	2	19	1320	2	90	18.5
Walnut Hill Rd	4	2	19	1321	2	90	18.5
Walnut Hill Rd	5	2	19	1320	2	90	18.5
Walnut Hill Rd	6	2	19	1541	2	90	18.5
Warren Way	1	1	22	1248	2	75	14.25
Washer Cove Rd	1	1	13	452	1	85	11.75
Waterview Dr	1	2	25	1320	2	80	21
Waterview Dr	2	2	25	1574	2	88	19
West St	1	1	13	588	1	85	11.75
Wheeler Dr	1	1	20	431	2	71	15.25
Whiting Farm Dr	1	1	25	1320	2	95	9.25
Whiting Farm Dr	2	1	25	1268	2	95	9.25
Whittemore Ln	1	1	24	845	2	100	8
Wildwood Ln	1	1	25	956	2	43	22.25
Wilkins Rd	1	1	21	1329	2	73	14.75
Williamsburg Dr	1	2	26	1325	2	81	20.75
Williamsburg Dr	2	2	26	1708	2	81	20.75
Willow Ln	1	1	21	1361	2	100	8
Winding Hollow Rd	1	1	24	1391	2	95	9.25
Windsor Dr	1	3	25	980	2	41	38.75
Windsor Dr	2	3	25	979	2	60	34
Windsor Dr	3	3	25	979	2	41	38.75
Winterberry Dr	1	1	25	1321	2	52	20
Winterberry Dr	2	1	25	1216	2	52	20
Woodbine Ln	1	1	25	929	2	100	8
Woodland Dr	1	1	24	1322	2	90	10.5
Woodland Dr	2	1	24	1319	2	90	10.5
Woodland Dr	3	1	22	1329	2	90	10.5

APPENDIX B: SCENARIO 1: BALANCED APPROACH 2024 - 2033

2024	Streets by Repair	Sum of Miles	Average PCI Initial Assessment	Average PCI After 2024	Sum of Cost 2024
	Crack Seal (Minor)	13.40	92.5	95.3	\$56,230
	Aglipay Dr	0.60	79.7	90.4	\$2,476
	Baboosic Lake Rd	2.44	96.1	96.7	\$10,061
	Border St	0.52	100.0	98.2	\$2,152
	Boston Post Rd	0.34	95.0	96.3	\$1,407
	Chandler Ln	0.33	86.0	92.9	\$1,350
	County Rd	0.25	93.0	95.5	\$1,031
	Cricket Hill Dr	0.70	100.0	98.2	\$2,872
	Cross Rd	0.72	96.7	96.9	\$2,958
	Juniper Dr	0.73	88.0	93.6	\$3,001
	Merrimack Rd	0.25	80.0	90.6	\$1,030
	Nichols Rd	0.62	93.0	95.5	\$2,553
	North Meadow Rd	0.50	97.0	97.1	\$2,044
	Pavillion Rd	0.34	95.0	96.3	\$1,402
	Pond Parrish Rd	1.38	96.5	96.9	\$5,687
	Seaverns Bridge Rd	1.10	86.8	93.2	\$4,518
	Southfield Rd	0.26	66.0	85.2	\$1,066
	Veterans Rd	0.55	94.0	95.9	\$2,249
	Walnut Hill Rd	1.54	91.7	95.0	\$6,354
	Whiting Farm Dr	0.49	95.0	96.3	\$2,019
	FDR & HMA (4")	1.25	44.4	97.1	\$1,112,148
	Chestnut Hill Rd	1.00	42.3	97.0	966,695
	Mack Hill Rd	0.25	53.0	97.5	145453.24
	HMA Overlay (1.5")	0.09	55.0	90.5	\$10,260
	Sherburne Dr	0.09	55.0	90.5	10,260
	HMA Overlay (1.5"); HMA Shim (3/4" avg)	1.80	47.7	96.2	\$240,167
	Mack Hill Rd	1.25	47.6	96.2	\$155,497
	Martingale Rd	0.55	48.0	96.2	84,670
	Repave DPW and Transfer Station Parking lots				\$111,700
	Grand Total	16.54	59.9	94.8	\$1,530,505

2025	Streets by Repair	Sum of Miles	Average PCI Initial Assessment	Average of PCI After 2025	Sum of Cost 2025
	Crack Seal (Minor)	10.74	85.3	91.1	\$46,021
	Beaver Brook Cir	0.42	89.0	92.5	\$1,788
	Briarwood Ln	0.24	85.0	91.0	\$1,043
	Brookwood Dr	0.18	85.0	91.0	\$761
	Chatham Ct	0.20	82.0	89.9	\$837
	Edgewood Run	0.41	91.0	93.2	\$1,757
	Fairway Dr	0.75	76.0	87.7	\$3,206
	Fernwood Ln	0.20	86.0	91.4	\$870
	Georgetown Dr	0.37	86.0	91.4	\$1,594
	Homestead Rd	0.23	91.0	93.2	\$997
	Honeybrook Ln	0.22	87.0	91.7	\$933
	Merrimack Rd	1.25	84.0	90.6	\$5,355
	North St	0.48	81.0	89.5	\$2,072
	Oak Hill Rd	0.52	83.0	90.3	\$2,214
	Old Manchester Rd	1.54	88.0	92.1	\$6,591
	Pine Rd	0.55	90.0	92.8	\$2,363
	Rhodora Dr	0.31	81.0	89.5	\$1,330
	River Rd	0.40	82.0	89.9	\$1,729
	Sawmill Ln	0.25	85.0	91.0	\$1,077
	Sunset Ave	0.09	85.0	91.0	\$403
	Tamarack Ln	0.25	92.0	93.6	\$1,072
	Waterview Dr	0.55	84.0	90.6	\$2,348
	Williamsburg Dr	0.57	81.0	89.5	\$2,460
	Woodland Dr	0.75	90.0	92.8	\$3,220
	FDR & HMA (4")	1.69	40.9	96.9	\$1,150,430
	Chestnut Hill Rd	1.23	41.4	96.9	\$832,367
	Deerwood Dr	0.25	38.0	96.7	\$177,041
	Melendy Holw	0.21	41.0	96.9	\$141,022
	HMA Overlay (1.5")	0.88	40.3	94.1	\$122,457
	Deerwood Dr	0.35	28.0	85.1	\$48,567
	Old Mont Vernon Rd	0.54	46.5	98.6	\$73,890
	HMA Overlay (1.5"); HMA Shim (3/4" avg)	1.13	60.6	91.7	\$280,820
	Austin Rd	0.15	38.0	95.4	\$32,655
	Fieldstone Dr	0.31	76.0	97.9	\$77,769
	Holt Rd	0.60	59.0	83.8	\$152,134
	Olde Lantern Way	0.07	71.0	97.5	\$18,262
	Grand Total	14.44	75.6	92.0	\$1,599,728

2026	Streets by Repair	Sum of Miles	Average PCI Initial Assessment	Average of PCI After 2026	Sum of Cost 2026
	Crack Seal (Minor)	10.75	92.6	92.5	\$47,894
	Amherst St	1.76	96.0	93.4	\$7,856
	Bloody Brook Rd	0.55	76.5	86.7	\$2,455
	Boston Post Rd	1.74	94.7	93.0	\$7,753
	Buckridge Dr	1.07	79.0	87.5	\$4,786
	Camp Rd	0.40	95.0	93.1	\$1,787
	Hertzka Dr	0.34	83.0	93.5	\$1,495
	Highland Dr	0.60	95.0	93.1	\$2,686
	Horace Greeley Rd	2.54	99.2	94.6	\$11,307
	Old Nashua Rd	0.89	90.0	91.4	\$3,970
	Sargent Quarry	0.29	82.0	93.3	\$1,308
	Standish Way	0.56	94.0	92.7	\$2,489
	Double Chip Seal - ASMG	1.46	85.8	92.7	\$107,014
	County Rd	1.46	85.8	92.7	\$107,014
	FDR & HMA (4")	0.90	49.8	97.4	\$674,680
	Jones Rd	0.43	39.5	96.7	\$342,438
	Mont Vernon Rd	0.25	54.0	98.7	\$167,432
	Narragansett Rd	0.22	58.0	97.5	\$164,810
	HMA Overlay (1.5")	0.18	44.0	87.7	\$21,771
	Old Jailhouse Rd	0.06	44.0	87.7	\$5,458
	School St	0.12	44.0	87.7	\$16,313
	HMA Overlay (1.5"); HMA Shim (3/4" avg)	1.94	66.6	97.1	\$474,594
	Boston Post Rd	0.65	48.7	96.0	\$149,842
	Flanders Rd	0.10	82.0	98.0	\$24,451
	Mont Vernon Rd	0.25	86.0	98.9	\$62,942
	Old Coach Ln	0.51	72.5	97.4	\$128,017
	Steeple Ln	0.43	70.0	97.3	\$109,342
	Milling / HMA (1.5")	0.98	56.0	89.8	\$198,983
	Carriage Rd	0.17	53.0	89.2	\$27,120
	Church St	0.19	63.0	91.0	\$39,290
	Davis Ln	0.22	51.0	88.9	\$38,945
	Main St	0.40	56.5	89.8	\$93,628
	Grand Total	16.21	81.4	93.1	\$1,524,935

2027	Streets by Repair	Sum of Miles	Average PCI Initial Assessment	Average of PCI After 2027	Sum of Cost 2027
	Crack Seal (Minor)	10.01	90.9	91.1	\$47,675
	Bon Terrain Dr	0.46	77.0	85.6	\$2,111
	Christian Hill Rd	0.87	79.0	86.3	\$4,030
	Colonel Wilkins Rd	0.75	100.0	94.2	\$3,477
	Columbia Dr	0.46	95.0	91.6	\$2,147
	Douglas Dr	0.51	95.0	91.6	\$2,368
	General Amherst Rd	0.38	100.0	94.2	\$1,773
	Hickory Dr	0.63	95.0	91.6	\$2,904
	Indian Pond Ln	0.16	83.0	87.6	\$739
	Junkins Ln	0.21	76.0	85.3	\$952
	Lyndeborough Rd	1.42	85.0	92.2	\$6,571
	Milford St	0.17	96.0	91.9	\$787
	Mosswood Cir	0.44	95.0	91.6	\$2,048
	Nathan Lord Rd	0.87	100.0	93.3	\$4,028
	New Boston Rd	1.28	95.0	93.5	\$5,942
	Old Milford Rd	0.50	77.0	85.6	\$2,314
	Ponemah Hill Rd	0.65	100.0	93.3	\$3,033
	Stillwater Dr	0.33	95.0	91.6	\$1,538
	Washer Cove Rd	0.09	85.0	88.3	\$397
	West St	0.11	85.0	88.3	\$516
	FDR & HMA (4")	0.78	49.0	97.0	\$632,366
	Ravine Rd	0.22	54.0	97.2	\$169,268
	Windsor Dr	0.56	47.3	97.0	\$463,098
	HMA Overlay (1.25")	1.75	97.4	95.3	\$240,344
	Spring Rd	1.75	97.4	95.3	\$240,344
	HMA Overlay (1.5"); HMA Shim (3/4" avg)	1.94	53.3	96.1	\$503,262
	Hemlock Hill Rd	0.58	56.0	96.3	\$158,278
	Newbury Dr	0.25	51.0	96.0	\$56,895
	Ravine Rd	0.50	55.0	96.2	\$120,224
	Storybrook Ln	0.61	50.0	95.9	\$167,865
	HMA Shim (3/4" avg)	0.82	39.3	76.5	\$75,962
	Eaton Rd	0.50	38.5	76.2	\$43,122
	Old Milford Rd	0.32	41.0	76.9	\$32,839
	Milling / HMA (1.5")	0.88	56.3	89.4	\$206,316
	North Hollis Rd	0.07	70.0	91.6	\$15,599
	Northern Blvd	0.81	51.7	88.6	\$190,717
	Grand Total	16.18	80.9	91.6	\$1,705,926

2028	Streets by Repair	Sum of Miles	Average PCI Initial Assessment	Average of PCI After 2028	Sum of Cost 2028
	Crack Seal (Minor)	10.90	99.3	92.0	\$52,518
	Airline Dr	0.09	100.0	91.8	\$437
	Boston Post Rd	3.00	100.0	91.8	\$14,455
	County Rd	0.13	100.0	91.8	\$619
	Courthouse Rd	0.56	97.5	92.4	\$2,714
	Craftsman Ln	0.24	100.0	92.7	\$1,138
	Cricket Corner Rd	0.48	98.0	92.4	\$2,293
	Danbury Cir	0.70	100.0	91.8	\$3,350
	Founders Way	0.86	100.0	92.7	\$4,132
	Foundry St	0.23	100.0	91.8	\$1,104
	Governor Wentworth Rd	0.29	100.0	91.8	\$1,384
	Hubbard Rd	0.39	100.0	91.8	\$1,858
	Middle St	0.50	95.0	92.0	\$2,411
	Pulpit Run	0.53	100.0	91.8	\$2,551
	Roberge Dr	0.33	100.0	91.8	\$1,592
	Sprague Rd	0.36	95.0	92.0	\$1,729
	Stearns Rd	1.32	100.0	91.8	\$6,352
	Thornton Ferry Rd I	0.91	97.5	92.4	\$4,398
	Green Rd - Pave gravel section; HMA Overlay (1.5"); HMA Shim (3/4" avg)	0.25	76.0	100.0	\$111,567
	Green Rd	0.25	76.0	100.0	\$111,567
	HMA Overlay (1"); HMA Shim (3/4" avg)	0.25	73.0	95.6	\$52,721
	Wilkins Rd	0.25	73.0	95.6	\$52,721
	HMA Overlay (1.5")	1.00	78.5	95.0	\$159,964
	Boston Post Rd	0.75	78.0	94.9	\$118,652
	Merrimack Rd	0.25	80.0	95.1	\$41,312
	HMA Overlay (1.5"); HMA Shim (3/4" avg)	1.27	65.8	96.7	\$307,463
	Green Rd	0.66	62.3	96.5	\$153,843
	Upham Rd	0.61	71.0	96.9	\$153,620
	HMA Shim (3/4" avg); Milling / HMA (1.5")	0.47	88.0	97.9	\$154,666
	Spring Rd	0.47	88.0	97.9	\$154,666
	Mill + Fill 3"	1.00	45.3	87.2	\$607,413
	The Flume	1.00	45.3	87.2	\$607,413
	Milling / HMA (1.5")	1.01	64.3	90.2	\$285,372
	Conifer Ln	0.29	80.0	92.7	\$70,580
	The Flume	0.72	59.0	89.4	\$214,792
	Grand Total	16.15	89.1	92.5	\$1,731,683

2029	Streets by Repair	Sum of Miles	Average PCI Initial Assessment	Average of PCI After 2029	Sum of Cost 2029
	Crack Seal (Minor)	9.78	77.6	89.8	\$48,997
	Bayberry Dr	0.21	100.0	90.3	\$1,051
	Blueberry Hill Rd	0.92	91.3	87.7	\$4,630
	Broadway	0.50	95.0	88.8	\$2,504
	Chestnut Hill Rd	1.00	42.3	90.8	\$5,010
	Corduroy Rd	0.93	87.8	89.7	\$4,638
	Dodge Rd	0.75	98.3	89.8	\$3,756
	Lake Front St	0.19	95.0	88.8	\$963
	Limbo Ln	0.23	87.0	86.4	\$1,163
	Mack Hill Rd	1.50	48.5	90.6	\$7,517
	Martingale Rd	0.55	48.0	90.6	\$2,758
	Merrimack Rd	0.97	100.0	90.3	\$4,873
	Mont Vernon Rd	0.50	86.0	89.5	\$2,504
	Pavillion Rd	0.34	95.0	90.6	\$1,705
	Seaverns Bridge Rd	1.10	86.8	89.6	\$5,497
	Sherburne Dr	0.09	55.0	88.8	\$428
	FDR & HMA (4")	1.50	47.5	96.8	\$1,280,954
	Mayhew Ln	0.17	56.0	97.1	\$124,913
	Lyndeborough Rd - RTE 13 to Christian Hill	0.10			\$71,000
	Nathaniel Dr	0.62	56.0	97.1	\$488,893
	Thornton Ferry Rd li	0.72	39.0	96.5	\$596,148
	HMA Overlay (1.5")	0.52	75.0	91.4	\$84,845
	Joslin Rd	0.02	47.0	87.1	\$2,623
	Thornton Ferry Rd li	0.50	89.0	93.5	\$82,222
	HMA Overlay (1.5"); HMA Shim (3/4" avg)	0.84	68.3	96.6	\$236,187
	Thornton Ferry Rd li	0.84	68.3	96.6	\$236,187
	Milling / HMA (1.5")	0.21	79.0	92.0	\$52,421
	Taconic Dr	0.21	79.0	92.0	\$52,421
	Grand Total	12.85	73.5	91.1	\$1,703,404

2030	Streets by Repair	Sum of Miles	Average PCI Initial Assessment	Average of PCI After 2030	Sum of Cost 2030
	Crack Seal (Minor)	9.67	77.7	89.9	\$50,405
	Amherst St	1.76	96.0	91.1	\$9,190
	Austin Rd	0.15	38.0	90.3	\$766
	Chestnut Hill Rd	1.23	41.4	90.8	\$6,406
	Christian Hill Rd	1.75	97.9	88.4	\$9,119
	Crockett Ln	0.17	95.0	87.5	\$873
	Deerwood Dr	0.60	33.0	88.9	\$3,102
	Fieldstone Dr	0.31	76.0	91.1	\$1,605
	Highland Dr	0.60	95.0	91.0	\$3,143
	Melendy Holw	0.21	41.0	90.8	\$1,085
	Old Manchester Rd	1.54	88.0	89.3	\$8,019
	Old Mont Vernon Rd	0.54	46.5	91.3	\$2,802
	Olde Lantern Way	0.07	71.0	91.0	\$377
	Woodland Dr	0.75	90.0	89.5	\$3,917
	FDR & HMA (4")	1.14	57.5	97.1	\$995,887
	High Meadow Ln	0.36	60.0	97.2	\$340,125
	Mack Hill Rd	0.25	40.0	96.4	\$233,765
	Shadow Ln	0.36	74.0	97.7	\$285,117
	Upper Flanders Rd	0.17	56.0	97.0	\$136,880
	HMA Overlay (1.25")	2.00	85.6	93.4	\$317,492
	Mack Hill Rd	2.00	85.6	93.4	\$317,492
	HMA Overlay (1.5"); HMA Shim (3/4" avg)	1.23	79.8	90.7	\$326,321
	Buckridge Dr	1.07	79.0	90.5	\$277,331
	Indian Pond Ln	0.16	83.0	91.7	\$48,990
	Grand Total	14.05	77.6	91.0	\$1,690,105

2031	Streets by Repair	Sum of Miles	Average PCI Initial Assessment	Average of PCI After 2031	Sum of Cost 2031
	Crack Seal (Minor)	9.67	77.2	89.6	\$52,414
	Boston Post Rd	0.65	48.7	90.5	\$3,513
	Caldwell Dr	0.52	97.5	87.0	\$2,805
	Carriage Rd	0.17	53.0	88.4	\$907
	Church St	0.19	63.0	88.9	\$1,029
	Columbia Dr	0.46	95.0	90.5	\$2,512
	County Rd	1.46	85.8	89.5	\$7,917
	Davis Ln	0.22	51.0	88.2	\$1,172
	Flanders Rd	0.10	82.0	91.1	\$526
	Horace Greeley Rd	2.54	99.2	90.0	\$13,757
	Howe Dr	0.53	97.5	87.0	\$2,877
	Jones Rd	0.43	39.5	90.7	\$2,319
	Main St	0.40	56.5	88.5	\$2,188
	Manhattan Dr	0.17	95.0	86.3	\$902
	Mont Vernon Rd	0.50	70.0	91.4	\$2,703
	Narragansett Rd	0.22	58.0	91.0	\$1,213
	Old Coach Ln	0.51	72.5	91.0	\$2,752
	Old Jailhouse Rd	0.06	44.0	87.9	\$310
	School St	0.12	44.0	87.9	\$662
	Steeple Ln	0.43	70.0	90.9	\$2,350
	FDR & HMA (4")	0.62	51.5	96.8	\$503,871
	Broadway	0.62	51.5	96.8	\$503,871
	FDR HMA 2.5" Amherst	0.50	38.5	98.2	\$310,715
	Eaton Rd	0.50	38.5	98.2	\$310,715
	HMA Overlay (1.5")	2.30	92.5	94.9	\$408,233
	Old Nashua Rd	0.89	90.0	94.5	\$158,673
	Ponemah Hill Rd	0.65	100.0	95.5	\$121,604
	Standish Way	0.56	94.0	94.7	\$108,128
	Washer Cove Rd	0.09	85.0	94.7	\$8,617
	West St	0.11	85.0	94.7	\$11,212
	HMA Overlay (1.5"); HMA Shim (3/4" avg)	1.49	64.0	80.9	\$390,248
	Clark Ave	0.18	73.0	82.7	\$27,889
	Farmington Rd	0.16	41.0	74.9	\$50,699
	Golden Pond Ln	0.25	55.0	78.3	\$79,370
	Hillside Ave	0.14	43.0	75.4	\$23,909
	Milford St	0.17	96.0	91.8	\$28,229
	Norton St	0.05	77.0	83.6	\$8,552
	Rocky Hill Rd	0.33	62.0	80.0	\$105,595
	Tech Cir	0.13	61.0	79.8	\$42,527
	Thoreau Ln	0.07	68.0	81.5	\$23,479
	Grand Total	14.59	76.1	89.8	\$1,665,481

2032	Streets by Repair	Sum of Miles	Average PCI Initial Assessment	Average of PCI After 2032	Sum of Cost 2032
	Crack Seal (Minor)	8.79	75.7	89.2	\$49,520
	Camp Rd	0.40	95.0	88.2	\$2,261
	Hemlock Hill Rd	0.58	56.0	90.6	\$3,266
	Lyndeborough Rd	1.42	85.0	89.3	\$7,995
	Newbury Dr	0.25	51.0	90.5	\$1,398
	North Hollis Rd	0.14	70.0	89.1	\$783
	Northern Blvd	0.81	51.7	88.2	\$4,593
	Ravine Rd	0.72	54.7	90.7	\$4,065
	Spring Rd	1.75	97.4	90.3	\$9,864
	Storybrook Ln	0.61	50.0	90.5	\$3,464
	Walnut Hill Rd	1.54	91.7	86.0	\$8,696
	Windsor Dr	0.56	47.3	90.8	\$3,137
	FDR & HMA (4")	1.07	59.8	97.8	\$1,047,222
	Old Milford Rd	0.82	65.0	98.3	\$794,047
	Simeon Wilson Rd	0.25	44.0	96.5	\$253,175
	HMA Overlay (1")	0.75	100.0	92.5	\$101,221
	Colonel Wilkins Rd	0.75	100.0	92.5	\$101,221
	HMA Overlay (1.5")	1.78	76.2	96.2	\$323,771
	Eaton Rd	0.50	38.5	98.8	\$80,535
	New Boston Rd	1.28	95.0	94.9	\$243,236
	HMA Overlay (1.5"); HMA Shim (3/4" avg)	0.46	66.0	80.3	\$152,352
	Simeon Wilson Rd	0.46	66.0	80.3	\$152,352
	Milling / HMA (1.5")	0.12	75.0	89.9	\$33,956
	Terrace Ln	0.12	75.0	89.9	\$33,956
	Grand Total	12.97	75.6	90.5	\$1,708,043

2033	Streets by Repair	Sum of Miles	Average PCI Initial Assessment	Average of PCI After 2033	Sum of Cost 2033
	Crack Seal (Minor)	8.35	78.2	88.8	\$48,973
	Boston Post Rd	0.75	78.0	90.2	\$4,395
	Conifer Ln	0.29	80.0	89.5	\$1,700
	Courthouse Rd	0.56	97.5	89.3	\$3,302
	Cross Rd	0.72	96.7	85.6	\$4,211
	Green Rd	0.91	65.8	90.9	\$5,314
	Hubbard Rd	0.39	100.0	89.2	\$2,260
	Manchester Rd	0.61	97.5	85.7	\$3,603
	Merrimack Rd	0.25	80.0	90.2	\$1,466
	North Meadow Rd	0.50	97.0	85.7	\$2,909
	Roberge Dr	0.33	100.0	89.2	\$1,937
	Spring Rd	0.47	88.0	91.1	\$2,772
	The Flume	1.72	51.1	88.0	\$10,054
	Upham Rd	0.61	71.0	90.8	\$3,573
	Wilkins Rd	0.25	73.0	90.4	\$1,476
	FDR & HMA (4")	0.50	44.0	96.4	\$400,495
	Cricket Corner Rd	0.50	44.0	96.4	\$400,495
	HMA Overlay (1.5")	4.31	97.0	93.3	\$881,063
	Baboosic Lake Rd	2.44	96.1	92.8	\$490,844
	Stearns Rd	1.32	100.0	94.6	\$275,910
	Veterans Rd	0.55	94.0	92.7	\$114,309
	HMA Overlay (1.5"); HMA Shim (3/4" avg)	1.12	80.5	88.6	\$380,145
	Christian Hill Rd	1.12	80.5	88.6	\$380,145
	Grand Total	14.28	82.8	90.4	\$1,710,676

APPENDIX C: SCENARIO 2: WORST FIRST APPROACH 2024 - 2033

2024	Streets by Repair	Sum of Miles	Average PCI Initial Assessment	Average PCI After 2024	Sum of Cost 2024
	Crack Seal (Minor)	13.65	92.5	95.3	\$56,230
	Aglipay Dr	0.60	79.7	90.4	\$2,476
	Baboosic Lake Rd	2.44	96.1	96.7	\$10,061
	Border St	0.52	100.0	98.2	\$2,152
	Boston Post Rd	0.34	95.0	96.3	\$1,407
	Chandler Ln	0.33	86.0	92.9	\$1,350
	County Rd	0.25	93.0	95.5	\$1,031
	Cricket Hill Dr	0.70	100.0	98.2	\$2,872
	Cross Rd	0.72	96.7	96.9	\$2,958
	Juniper Dr	0.73	88.0	93.6	\$3,001
	Merrimack Rd	0.25	80.0	90.6	\$1,030
	Nichols Rd	0.62	93.0	95.5	\$2,553
	North Meadow Rd	0.50	97.0	97.1	\$2,044
	Pavillion Rd	0.34	95.0	96.3	\$1,402
	Pond Parrish Rd	1.38	96.5	96.9	\$5,687
	Seaverns Bridge Rd	1.10	86.8	93.2	\$4,518
	Southfield Rd	0.26	66.0	85.2	\$1,066
	Veterans Rd	0.55	94.0	95.9	\$2,249
	Walnut Hill Rd	1.54	91.7	95.0	\$6,354
	Whiting Farm Dr	0.49	95.0	96.3	\$2,019
	FDR & HMA (4")	1.25	44.4	97.1	\$1,112,148
	Chestnut Hill Rd	1.00	42.3	97.0	966,695
	Mack Hill Rd	0.25	53.0	97.5	145453.24
	HMA Overlay (1.5")	0.09	55.0	90.5	\$10,260
	Sherburne Dr	0.09	55.0	90.5	10,260
	HMA Overlay (1.5"); HMA Shim (3/4" avg)	1.80	47.7	96.2	\$240,167
	Mack Hill Rd	1.25	47.6	96.2	\$155,497
	Martingale Rd	0.55	48.0	81.0	84,670
	Repave DPW and Transfer Station Parking lots				\$111,700
	Grand Total	16.79	59.9	94.8	\$1,530,505

2025	Streets by Repair	Sum of Miles	Average PCI Initial Assessment	Average of PCI After 2025	Sum of Cost 2025
	Crack Seal (Minor)	10.74	85.3	91.1	\$46,021
	Beaver Brook Cir	0.42	89.0	92.5	\$1,788
	Briarwood Ln	0.24	85.0	91.0	\$1,043
	Brookwood Dr	0.18	85.0	91.0	\$761
	Chatham Ct	0.20	82.0	89.9	\$837
	Edgewood Run	0.41	91.0	93.2	\$1,757
	Fairway Dr	0.75	76.0	87.7	\$3,206
	Fernwood Ln	0.20	86.0	91.4	\$870
	Georgetown Dr	0.37	86.0	91.4	\$1,594
	Homestead Rd	0.23	91.0	93.2	\$997
	Honeybrook Ln	0.22	87.0	91.7	\$933
	Merrimack Rd	1.25	84.0	90.6	\$5,355
	North St	0.48	81.0	89.5	\$2,072
	Oak Hill Rd	0.52	83.0	90.3	\$2,214
	Old Manchester Rd	1.54	88.0	92.1	\$6,591
	Pine Rd	0.55	90.0	92.8	\$2,363
	Rhodora Dr	0.31	81.0	89.5	\$1,330
	River Rd	0.40	82.0	89.9	\$1,729
	Sawmill Ln	0.25	85.0	91.0	\$1,077
	Sunset Ave	0.09	85.0	91.0	\$403
	Tamarack Ln	0.25	92.0	93.6	\$1,072
	Waterview Dr	0.55	84.0	90.6	\$2,348
	Williamsburg Dr	0.57	81.0	89.5	\$2,460
	Woodland Dr	0.75	90.0	92.8	\$3,220
	FDR & HMA (4")	2.03	39.3	96.8	\$1,150,430
	Chestnut Hill Rd	1.23	41.4	96.9	\$832,367
	Deerwood Dr	0.25	38.0	96.7	\$177,041
	Melendy Holw	0.21	41.0	96.9	\$141,022
	HMA Overlay (1.5")	0.54	46.5	98.6	\$122,457
	Deerwood Dr	0.35	28.0	85.1	\$48,567
	Old Mont Vernon Rd	0.54	46.5	98.6	\$73,890
	HMA Overlay (1.5"); HMA Shim (3/4" avg)	0.53	61.7	84.7	\$128,686
	Austin Rd	0.15	38.0	77.1	\$32,655
	Fieldstone Dr	0.31	76.0	89.3	\$77,769
	Olde Lantern Way	0.07	71.0	87.7	\$18,262
	Grand Total	13.84	76.2	91.8	\$1,447,593

2026	Streets by Repair	Sum of Miles	Average PCI Initial Assessment	Average of PCI After 2026	Sum of Cost 2026
	Crack Seal (Minor)	10.75	92.6	92.5	\$47,894
	Amherst St	1.76	96.0	93.4	\$7,856
	Bloody Brook Rd	0.55	76.5	86.7	\$2,455
	Boston Post Rd	1.74	94.7	93.0	\$7,753
	Buckridge Dr	1.07	79.0	87.5	\$4,786
	Camp Rd	0.40	95.0	93.1	\$1,787
	Hertzka Dr	0.34	83.0	93.5	\$1,495
	Highland Dr	0.60	95.0	93.1	\$2,686
	Horace Greeley Rd	2.54	99.2	94.6	\$11,307
	Old Nashua Rd	0.89	90.0	91.4	\$3,970
	Sargent Quarry	0.29	82.0	93.3	\$1,308
	Standish Way	0.56	94.0	92.7	\$2,489
	Double Chip Seal - ASMG	1.46	85.8	92.7	\$107,014
	County Rd	1.46	85.8	92.7	\$107,014
	FDR & HMA (4")	0.90	49.8	97.5	\$674,680
	Jones Rd	0.43	39.5	96.7	\$342,438
	Mont Vernon Rd	0.25	54.0	98.8	\$167,432
	Narragansett Rd	0.22	58.0	97.5	\$164,810
	HMA Overlay (1.5")	0.18	44.0	87.7	\$21,771
	Old Jailhouse Rd	0.06	44.0	87.7	\$5,458
	School St	0.12	44.0	87.7	\$16,313
	HMA Overlay (1.5"); HMA Shim (3/4" avg)	2.44	62.5	84.0	\$474,594
	Boston Post Rd	0.65	48.7	79.8	\$149,842
	Flanders Rd	0.10	82.0	90.0	\$24,451
	Mont Vernon Rd	0.25	86.0	91.2	\$62,942
	Old Coach Ln	0.51	72.5	87.1	\$128,017
	Steeple Ln	0.43	70.0	86.3	\$109,342
	Milling / HMA (1.5")	0.98	56.0	89.8	\$198,983
	Carriage Rd	0.17	53.0	89.2	\$27,120
	Church St	0.19	63.0	91.0	\$39,290
	Davis Ln	0.22	51.0	88.9	\$38,945
	Main St	0.40	56.5	89.8	\$93,628
	Grand Total	16.71	80.4	91.2	\$1,524,935

2027	Streets by Repair	Sum of Miles	Average PCI Initial Assessment	Average of PCI After 2027	Sum of Cost 2027
	Crack Seal (Minor)	10.29	90.9	91.1	\$47,675
	Bon Terrain Dr	0.46	77.0	85.6	\$2,111
	Christian Hill Rd	0.87	79.0	86.3	\$4,030
	Colonel Wilkins Rd	0.75	100.0	94.2	\$3,477
	Columbia Dr	0.46	95.0	91.6	\$2,147
	Douglas Dr	0.51	95.0	91.6	\$2,368
	General Amherst Rd	0.38	100.0	94.2	\$1,773
	Hickory Dr	0.63	95.0	91.6	\$2,904
	Indian Pond Ln	0.16	83.0	87.6	\$739
	Junkins Ln	0.21	76.0	85.3	\$952
	Lyndeborough Rd	1.42	85.0	92.2	\$6,571
	Milford St	0.17	96.0	91.9	\$787
	Mosswood Cir	0.44	95.0	91.6	\$2,048
	Nathan Lord Rd	0.87	100.0	93.3	\$4,028
	New Boston Rd	1.28	95.0	93.5	\$5,942
	Old Milford Rd	0.50	77.0	85.6	\$2,314
	Ponemah Hill Rd	0.65	100.0	93.3	\$3,033
	Stillwater Dr	0.33	95.0	91.6	\$1,538
	Washer Cove Rd	0.09	85.0	88.3	\$397
	West St	0.11	85.0	88.3	\$516
	FDR & HMA (4")	2.03	41.8	96.7	\$1,555,117
	Eaton Rd	0.50	38.5	96.6	\$333,030
	Mack Hill Rd	0.25	40.0	96.7	\$207,816
	Thornton Ferry Rd li	0.72	39.0	96.6	\$551,172
	Windsor Dr	0.56	47.3	97.0	\$463,098
	Grand Total	12.32	82.4	92.1	\$1,602,792

2028	Streets by Repair	Sum of Miles	Average PCI Initial Assessment	Average of PCI After 2028	Sum of Cost 2028
	Crack Seal (Minor)	10.90	99.3	92.0	\$52,518
	Airline Dr	0.09	100.0	91.8	\$437
	Boston Post Rd	3.00	100.0	91.8	\$14,455
	County Rd	0.13	100.0	91.8	\$619
	Courthouse Rd	0.56	97.5	92.4	\$2,714
	Craftsman Ln	0.24	100.0	92.7	\$1,138
	Cricket Corner Rd	0.48	98.0	92.4	\$2,293
	Danbury Cir	0.70	100.0	91.8	\$3,350
	Founders Way	0.86	100.0	92.7	\$4,132
	Foundry St	0.23	100.0	91.8	\$1,104
	Governor Wentworth Rd	0.29	100.0	91.8	\$1,384
	Hubbard Rd	0.39	100.0	91.8	\$1,858
	Middle St	0.50	95.0	92.0	\$2,411
	Pulpit Run	0.53	100.0	91.8	\$2,551
	Roberge Dr	0.33	100.0	91.8	\$1,592
	Sprague Rd	0.36	95.0	92.0	\$1,729
	Stearns Rd	1.32	100.0	91.8	\$6,352
	Thornton Ferry Rd I	0.91	97.5	92.4	\$4,398
	FDR & HMA (4")	0.65	41.0	96.6	\$547,131
	Carol Ann Ln	0.18	41.0	96.6	\$146,063
	Farmington Rd	0.16	41.0	96.6	\$137,308
	Old Milford Rd	0.32	41.0	96.6	\$263,761
	HMA Overlay (1.5"); HMA Shim (3/4" avg)	0.50	77.0	93.6	\$136,221
	Old Milford Rd	0.50	77.0	93.6	\$136,221
	Mill + Fill 3"	1.00	45.3	87.2	\$607,413
	The Flume	1.00	45.3	87.2	\$607,413
	Milling / HMA (1.5")	0.72	59.0	89.4	\$214,792
	The Flume	0.72	59.0	89.4	\$214,792
	Grand Total	13.77	89.7	91.8	\$1,558,075

2029	Streets by Repair	Sum of Miles	Average PCI Initial Assessment	Average of PCI After 2029	Sum of Cost 2029
	Crack Seal (Minor)	9.78	77.6	89.0	\$48,997
	Bayberry Dr	0.21	100.0	90.3	\$1,051
	Blueberry Hill Rd	0.92	91.3	87.7	\$4,630
	Broadway	0.50	95.0	88.8	\$2,504
	Chestnut Hill Rd	1.00	42.3	90.8	\$5,010
	Corduroy Rd	0.93	87.8	89.7	\$4,638
	Dodge Rd	0.75	98.3	89.8	\$3,756
	Lake Front St	0.19	95.0	88.8	\$963
	Limbo Ln	0.23	87.0	86.4	\$1,163
	Mack Hill Rd	1.50	48.5	86.8	\$7,517
	Martingale Rd	0.55	48.0	85.8	\$2,758
	Merrimack Rd	0.97	100.0	90.3	\$4,873
	Mont Vernon Rd	0.50	86.0	89.5	\$2,504
	Pavillion Rd	0.34	95.0	90.6	\$1,705
	Seaverns Bridge Rd	1.10	86.8	89.6	\$5,497
	Sherburne Dr	0.09	55.0	88.8	\$428
	FDR & HMA (4")	1.18	47.2	96.8	\$889,766
	Bloody Brook Rd	0.10	47.0	96.8	\$74,300
	Hillside Ave	0.14	43.0	96.6	\$67,342
	Pinewood Dr	0.25	59.0	97.2	\$170,989
	Ravine Rd	0.25	47.0	96.8	\$189,091
	Simeon Wilson Rd	0.25	44.0	96.7	\$225,072
	Wildwood Ln	0.18	43.0	96.6	\$162,972
	HMA Overlay (1.5"); HMA Shim (3/4" avg)	1.39	57.0	80.1	\$377,950
	Joslin Rd	0.02	47.0	77.5	\$4,331
	Pinewood Dr	0.29	78.0	85.7	\$63,995
	Ravine Rd	0.47	58.5	80.5	\$128,061
	Storybrook Ln	0.61	50.0	78.3	\$181,563
	Milling / HMA (1.5")	1.27	57.4	88.7	\$322,323
	Northern Blvd	0.81	51.7	87.8	\$206,280
	Simeon Wilson Rd	0.46	66.0	90.0	\$116,043
	Grand Total	13.62	70.5	88.8	\$1,639,037

2030	Streets by Repair	Sum of Miles	Average PCI Initial Assessment	Average of PCI After 2030	Sum of Cost 2030
	Crack Seal (Minor)	9.67	77.7	89.7	\$50,405
	Amherst St	1.76	96.0	91.1	\$9,190
	Austin Rd	0.15	38.0	84.5	\$766
	Chestnut Hill Rd	1.23	41.4	90.8	\$6,406
	Christian Hill Rd	1.75	97.9	88.4	\$9,119
	Crockett Ln	0.17	95.0	87.5	\$873
	Deerwood Dr	0.60	33.0	90.7	\$3,102
	Fieldstone Dr	0.31	76.0	88.4	\$1,605
	Highland Dr	0.60	95.0	91.0	\$3,143
	Melendy Holw	0.21	41.0	90.8	\$1,085
	Old Manchester Rd	1.54	88.0	89.3	\$8,019
	Old Mont Vernon Rd	0.54	46.5	91.3	\$2,802
	Olde Lantern Way	0.07	71.0	87.9	\$377
	Woodland Dr	0.75	90.0	89.5	\$3,917
	FDR & HMA (4")	1.58	52.3	96.9	\$1,284,623
	Broadway	0.62	51.5	96.9	\$484,491
	Flint Dr	0.12	52.0	96.9	\$108,492
	Souhegan Ave	0.21	51.0	96.8	\$144,112
	Souhegan St	0.15	56.0	97.0	\$97,767
	Winterberry Dr	0.48	52.0	96.9	\$449,760
	Green Rd - Pave gravel section; HMA Overlay (1.5"); HMA Shim (3/4" avg)	0.25	76.0	55.1	\$120,671
	Green Rd	0.25	76.0	55.1	\$120,671
	HMA Overlay (1.5"); HMA Shim (3/4" avg)	0.90	59.5	80.1	\$230,395
	Green Rd	0.66	62.3	80.8	\$166,396
	Newbury Dr	0.25	51.0	77.9	\$63,999
	Grand Total	12.40	72.8	89.3	\$1,686,094

2031	Streets by Repair	Sum of Miles	Average PCI Initial Assessment	Average of PCI After 2031	Sum of Cost 2031
	Crack Seal (Minor)	9.67	69.6	88.5	\$52,414
	Boston Post Rd	0.65	48.7	85.4	\$3,513
	Caldwell Dr	0.52	97.5	87.0	\$2,805
	Carriage Rd	0.17	53.0	88.4	\$907
	Church St	0.19	63.0	88.9	\$1,029
	Columbia Dr	0.46	95.0	90.5	\$2,512
	County Rd	1.46	85.8	89.5	\$7,917
	Davis Ln	0.22	51.0	88.2	\$1,172
	Flanders Rd	0.10	82.0	88.6	\$526
	Horace Greeley Rd	2.54	99.2	90.0	\$13,757
	Howe Dr	0.53	97.5	87.0	\$2,877
	Jones Rd	0.43	39.5	90.7	\$2,319
	Main St	0.40	56.5	88.5	\$2,188
	Manhattan Dr	0.17	95.0	86.3	\$902
	Mont Vernon Rd	0.50	70.0	90.2	\$2,703
	Narragansett Rd	0.22	58.0	91.0	\$1,213
	Old Coach Ln	0.51	72.5	87.7	\$2,752
	Old Jailhouse Rd	0.06	44.0	87.9	\$310
	School St	0.12	44.0	87.9	\$662
	Steeple Ln	0.43	70.0	87.4	\$2,350
	FDR & HMA (4")	1.13	54.5	96.9	\$1,028,027
	Candlewood Dr	0.51	53.0	96.8	\$499,240
	Nathaniel Dr	0.62	56.0	96.9	\$528,786
	HMA Overlay (1.5"); HMA Shim (3/4" avg)	2.07	59.8	82.4	\$608,605
	Brook Rd	1.00	67.3	83.6	\$281,226
	Golden Pond Ln	0.25	55.0	78.3	\$79,370
	Monticello Dr	0.42	53.0	82.6	\$127,536
	Pettingale Rd	0.41	64.0	85.1	\$120,473
	Grand Total	12.88	61.3	89.3	\$1,689,045

2032	Streets by Repair	Sum of Miles	Average PCI Initial Assessment	Average of PCI After 2032	Sum of Cost 2032
	Crack Seal (Minor)	8.43	71.2	87.4	\$47,523
	Camp Rd	0.40	95.0	88.2	\$2,261
	Lyndeborough Rd	1.42	85.0	89.3	\$7,995
	North Hollis Rd	0.14	70.0	78.5	\$783
	Northern Blvd	0.81	51.7	90.6	\$4,593
	Ravine Rd	0.72	54.7	89.9	\$4,065
	Spring Rd	2.22	95.3	85.2	\$12,530
	Storybrook Ln	0.61	50.0	87.3	\$3,464
	Walnut Hill Rd	1.54	91.7	86.3	\$8,696
	Windsor Dr	0.56	47.3	90.8	\$3,137
	FDR & HMA (4")	1.28	56.0	96.9	\$1,246,288
	Arrow Ln	0.37	56.0	96.9	\$371,068
	Hemlock Hill Rd	0.58	56.0	96.9	\$586,660
	Mayhew Ln	0.17	56.0	96.9	\$140,511
	Upper Flanders Rd	0.17	56.0	96.9	\$148,049
	HMA Overlay (1.5"); HMA Shim (3/4" avg)	0.88	57.0	84.4	\$280,120
	Melody Ln	0.32	57.0	78.2	\$106,523
	Northfield Rd	0.29	56.0	87.4	\$85,683
	Orchard View Dr	0.26	58.0	87.7	\$87,914
	Grand Total	10.59	74.2	88.4	\$1,573,931

2033	Streets by Repair	Sum of Miles	Average PCI Initial Assessment	Average of PCI After 2033	Sum of Cost 2033
	Crack Seal (Minor)	7.88	77.5	85.6	\$46,201
	Boston Post Rd	0.75	78.0	83.7	\$4,395
	Conifer Ln	0.29	80.0	80.2	\$1,700
	Courthouse Rd	0.56	97.5	89.3	\$3,302
	Cross Rd	0.72	96.7	85.6	\$4,211
	Green Rd	0.91	65.8	85.9	\$5,314
	Hubbard Rd	0.39	100.0	89.2	\$2,260
	Manchester Rd	0.61	97.5	85.7	\$3,603
	Merrimack Rd	0.25	80.0	83.9	\$1,466
	North Meadow Rd	0.50	97.0	85.7	\$2,909
	Roberge Dr	0.33	100.0	89.2	\$1,937
	The Flume	1.72	51.1	88.0	\$10,054
	Upham Rd	0.61	71.0	77.9	\$3,573
	Wilkins Rd	0.25	73.0	78.4	\$1,476
	FDR & HMA (4")	1.56	58.3	96.8	\$1,643,216
	Holly Hill Dr	0.96	58.0	96.8	\$1,008,920
	Holt Rd	0.60	59.0	96.9	\$634,296
	Grand Total	9.44	74.4	87.5	\$1,689,417