

# ROAD SURFACE MANAGEMENT SYSTEM ASSESSMENT

For the

**TOWN OF MASON, NEW HAMPSHIRE**



Prepared by:

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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)

February 4, 2021



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## 1.0 ACKNOWLEDGEMENTS

The Nashua Regional Planning Commission (NRPC) wishes to acknowledge and thank the New Hampshire Statewide Asset 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 (UNHT<sup>2</sup>) and the New Hampshire Department of Transportation. Since 2014, UNHT<sup>2</sup> has supported all nine NH regional planning commissions in their efforts to provide Road System Management System (RSMS) assessments to their member towns. 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 Mason by NRPC in 2020. Broadly, a RSMS is a data-driven process for managing roads. The RSMS includes an inventory of the road network and an analysis evaluating and 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 principals of pavement preservation; this section also includes basic concepts for pavement management that are essential to this report.

This RSMS assessment has two project phases: a road inventory (Phase I), and a repair cost scenario comparison (Phase 2). The road inventory includes all town-maintained roads, unpaved and paved. We describe field inventory procedures in Section 5.0 and inventory results in Section 6.0, which includes tables and maps with 2020 road condition. Appendix A contains complete road inventory data with road priority value and road condition value. In our supplementary materials, we include digital spreadsheets and printed copies of data. Additional prints and digital copies of data associated with this Report are available by request from NRPC.

In Phase 2 of this project, we created repair cost scenarios to model pavement condition and repair cost over a 10-year period. Phase 2 applies only to **PAVED** town-maintained roads. 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. We define “scenario” as a 10-year period with a fixed annual repair budget and a defined set of repairs. In each scenario, we choose road segments to repair in a given year. We selected road segments and determined the maintenance year by evaluating road condition and priority level. We also received input from the Mason Highway Department (MHD) on that guided our decision-making process in these scenarios.

We hope this Report will assist the MHD in road maintenance planning. We do **NOT** intended this Report to constrain the decision-making process of MHD in 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 Town of Mason. Below, we document key benefits of a RSMS. These benefits will remain relevant years into the future. We hope to continue working with the Town of Mason to keep road data accurate and track the cost of repair. We recommend updating this Report 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 Mason owns 43 roads totaling 39.5 miles (16.9 miles paved and 22.6 miles unpaved). 22 Town roads are entirely paved or paved in some section; 32 Town roads are entirely unpaved or unpaved in some section. 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 Mason Highway Department (MHD) 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 2020 road inventory. Appendix A contains a condensed version of the 2020 road inventory with roads divided into sample segments approximately 0.25 miles in length. We list each road segment with their priority value, condition value, and other attributes. Refer to the supplemental materials included with this report for spreadsheet, PDF, and other digital data containing the complete road inventory.

#### **B PRIORITIZING MAINTENANCE NEEDS**

Appendix A of this Report, which contains a list all town-maintained roads with a priority and condition value, will be useful for prioritizing immediate maintenance needs. This list provides an objective method for prioritizing maintenance projects when existing resources are insufficient to cover all repairs.

In Appendix A, we list paved and unpaved roads separately. Table A1 contains the Paved Road Inventory and Table A2 contains the Unpaved Road Inventory. In Table A1, we list paved road segments with seven attributes: street name, Segment ID, Importance Value, Traffic Value, Length, Initial PCI, and Priority. Segment ID is a unique number given to each 0.25-mile sample segment created by dividing roads greater than 0.25 miles into smaller pieces. If a road is 0.25 miles or less, there is one segment ID per road with Segment ID of "1". Importance value is a rating from 0 (low) - 5 (high) for how critical a road segment is. Traffic value is a traffic rating from 0 (low) – 5 (high). Initial PCI (Pavement Condition Index) is the pavement rating or score from 0 (low) – 100 (high). Priority is a computer-generated rating from 0 (low) to 100 (high) ranking paved roads for maintenance preference; this attribute is available only for paved segments.

In Table A2, we list unpaved roads by 0.25-mile segment with six attributes: street name, Segment ID, Importance Value, Traffic Value, Length, and Condition Value. These attributes mirror paved road attributes, except for Condition value, which is a simple aggregate or score from our rating. See Section 5.0 of this document for more information assessing paved and unpaved roads.

### C JUSTIFYING MAINTENANCE BUDGET INCREASES

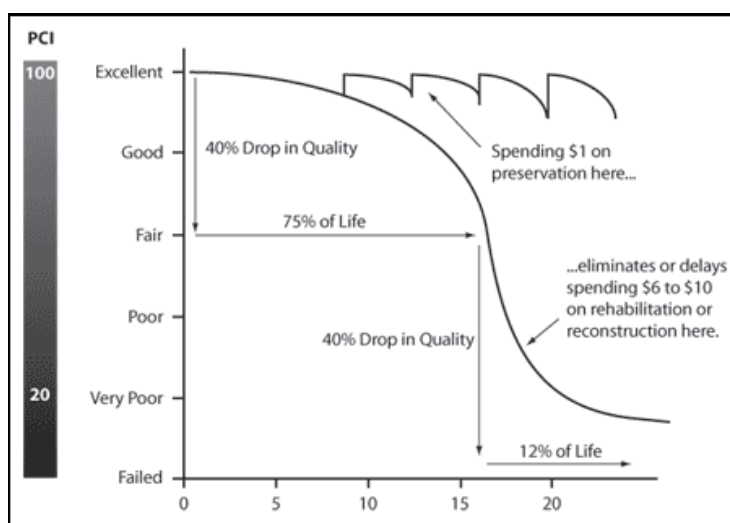
The repair cost scenarios created for this Report will provide Town officials with a data-driven means of communicating road maintenance needs to elected officials and voters. These scenarios, detailed in Section 8.0, describe how an increase in spending corresponds to an increase pavement quality across the Town's road network. These scenarios also communicate the consequences of deferred maintenance, both in terms of initial cost-savings and future pavement conditions.

### D MAKING EFFICIENT USE OF THE TOWN'S HIGHWAY 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. Often if pavement deteriorates to a point of serious visible distress, it is beyond the critical cost point. A RSMS will help town officials track pavement deterioration across their road network. When critical pavement is identified, the RSMS 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). PCI is a pavement quality rating from 0 (low) – 100 (high). From year zero to 15 (75% of the pavement's life), the maintenance cost is about one-quarter of the maintenance cost once the road has deteriorated beyond the 75% mark. Beyond the 75% mark, pavement deteriorates faster. During the first 75% of the roads lifespan (15 years), there is a 40% drop in quality. This road will drop another 40% in quality again shortly after passing the 75% mark of its service life.

**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** is work to improve or sustain the condition of pavement done 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 cost repair budget scenarios (Section 8.0) we use crack seal and double crack seal as preservation treatments. These treatments seal surface-level pavement cracks, making a water-tight surface. Preservation work is generally a fraction of rehabilitation and reconstruction work and considerable cost savings are possible .

**Rehabilitation** is major repair work to the surface layer of pavement, leaving the existing base. This category of work may include: patching and isolate repairs, 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 use shim paving as a rehabilitation treatment in repair cost budget scenarios (Section 8.0)

**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 with a 2” overlay; this is the costliest repair option in our analyses. The Town of Mason Highway Department 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 Summer and Fall of 2020, NRPC conducted field assessments on ALL Town-maintained roads in Mason (paved and unpaved). We divided each of the 44 Town-maintained roads into 171 segments, each approximately a 0.25 mile in length. We made road sample segments uniform by surface type, meaning that all segments are entirely paved or entirely unpaved. Dividing roads into smaller, sample 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).

We used separate field inventory procedures for sampling paved and unpaved roads. For paved roads, we evaluated eight categories of pavement distress for severity level and extent (see Table 2), following a procedure developed by SADES. For unpaved roads, we evaluated eight categories of road defects specific to gravel roads for severity and extent (see Table 3); this procedure was developed by NRPC based on existing conventions.



**FIGURE 2: PAVED ROAD FIELD INVENTORY**

|                                     |  |
|-------------------------------------|--|
| Longitudinal or Transverse Cracking | Severity (No Defects, Low, Medium, High)<br>Extent (Low, Medium, High) |
| Alligator Cracking                  | Severity (No Defects, Low, Medium, High)<br>Extent (Low, Medium, High) |
| Edge Cracking                       | Severity (No Defects, Low, Medium, High)<br>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)<br>Extent (Low, Medium, High) |
| Roughness                           | Condition (Smooth, Noticeably Uneven, Rough, Very Rough)               |
| Frost Heave Severity                | Severity (None, Low, Medium, Severe)                                   |

**FIGURE 3: UNPAVED ROAD FIELD INVENTORY**

|                   |  |
|-------------------|--|
| Rutting           | Severity (Low, Medium, High)<br>Extent (Low, Medium, High) |
| Loose Aggregate   | Severity (Low, Medium, High)<br>Extent (Low, Medium, High) |
| Corrugations      | Severity (Low, Medium, High)<br>Extent (Low, Medium, High) |
| Potholes          | Severity (Low, Medium, High)<br>Extent (Low, Medium, High) |
| Cross Section     | Severity (Good, Fair, Poor)                                |
| Roadside Drainage | Severity (Good, Fair, Poor)                                |
| Dust              | Severity (Good, Fair, Poor)                                |
| Exposed Rock      | Severity (Good, Fair, Poor)                                |

## 6.0 2020 ROAD INVENTORY RESULTS

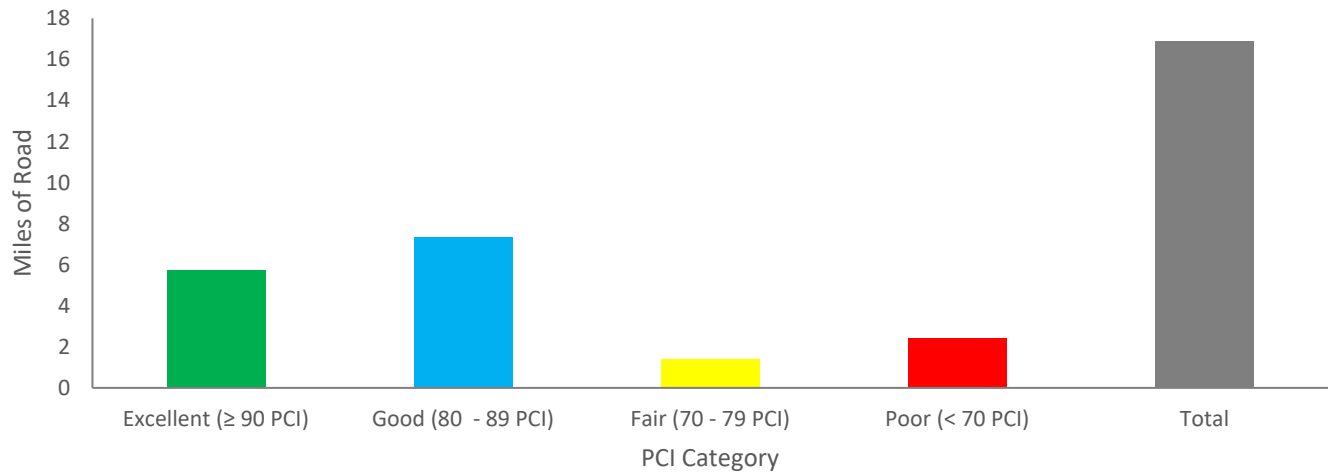
### A. PAVED ROAD INVENTORY

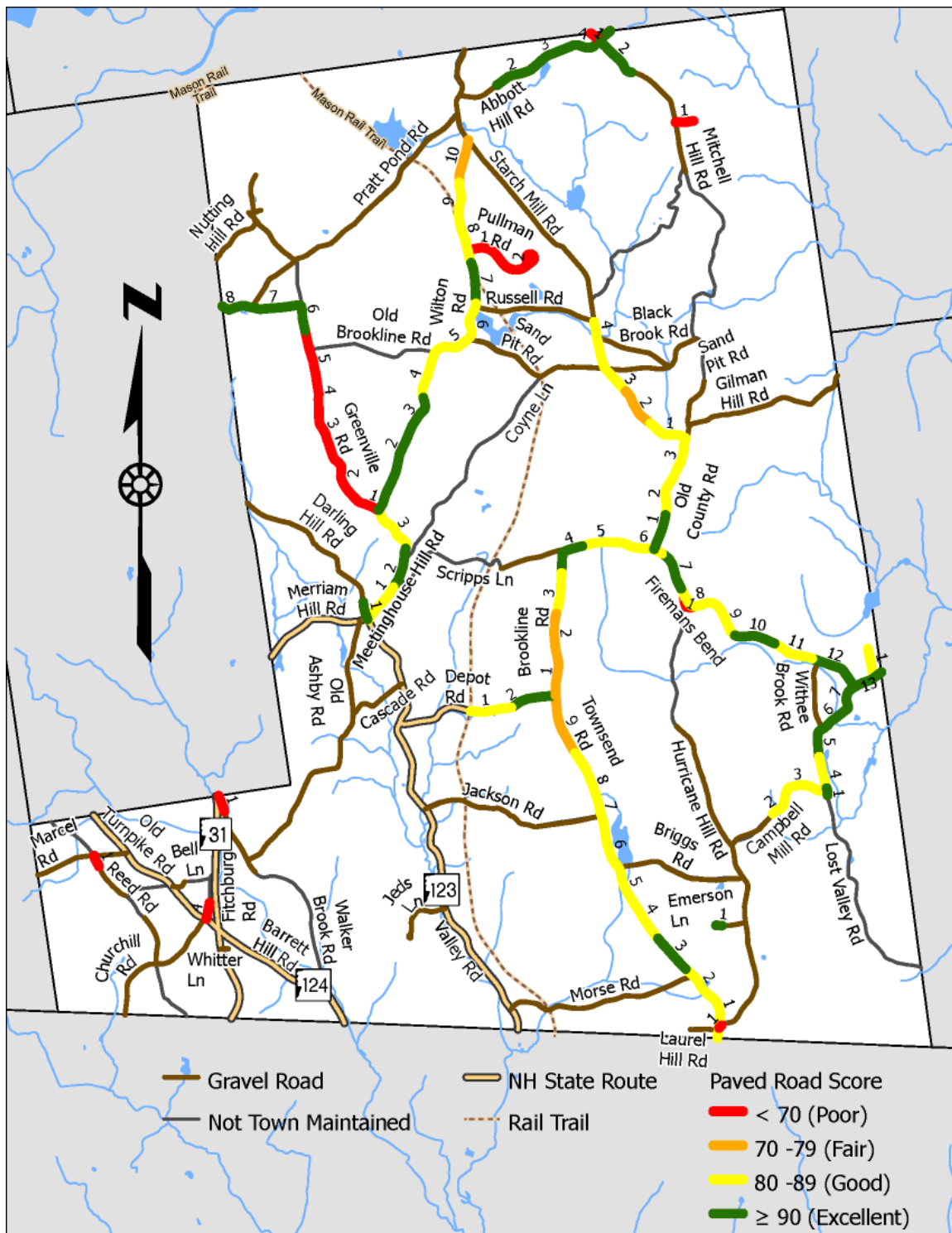
Below is a summary of 2020 road inventory results. For paved road segments, we used software to generate a pavement condition index (PCI) value from 0 (low) – 100 (high). We classified segments with PCI or score from 0-69.99 as poor, 70-79.99 as fair, 80-89.99 as good, and 90-100 as excellent.

**TABLE 1: 2020 PAVED CONDITIONS**

| Condition Category         | Sum of Length (Miles) | %              |
|----------------------------|-----------------------|----------------|
| Excellent ( $\geq 90$ PCI) | 5.72                  | 33.93%         |
| Good (80 - 89 PCI)         | 7.33                  | 43.43%         |
| Fair (70 - 79 PCI)         | 1.39                  | 8.22%          |
| Poor ( $< 70$ PCI)         | 2.43                  | 14.42%         |
| <b>Total</b>               | <b>16.87</b>          | <b>100.00%</b> |

**FIGURE 4: 2020 PAVED CONDITION**



**FIGURE 5: 2020 PAVED ROAD INVENTORY MAP**

Paved road segments are labeled with Segment ID – See Paved Road Inventory for inventory detail

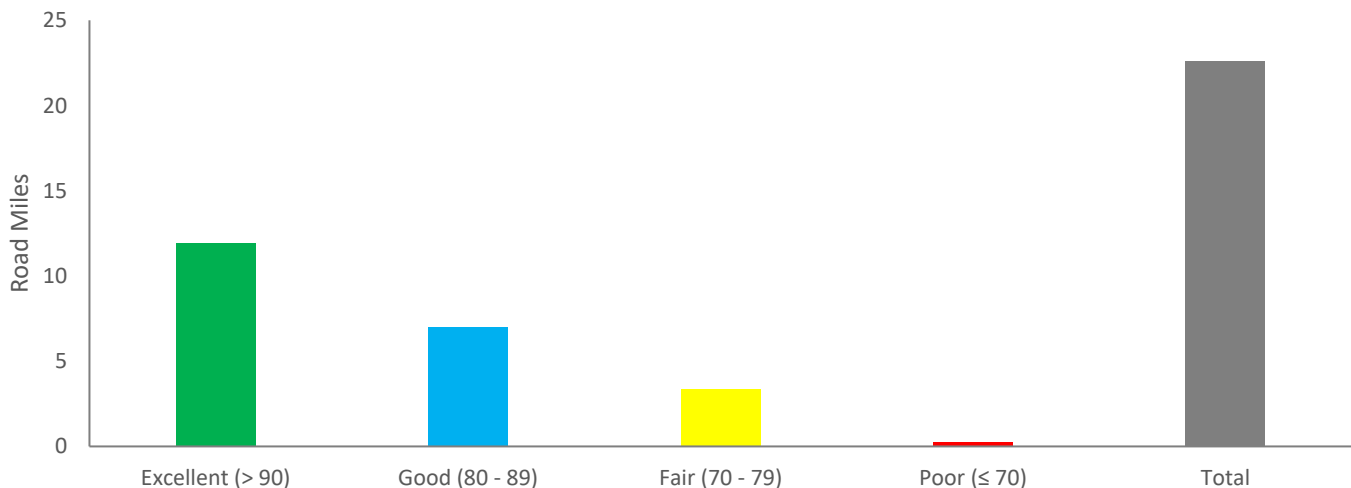
## B. UNPAVED ROAD INVENTORY

For unpaved road segments, we created a simple, unweighted score from 0 (low) – 100 (high). We calculated the road condition score for unpaved roads based on eight defects we evaluated for each road segment (Table 2). We classified segments with a score from 0-69.99 as poor, 70-79.99 as fair, 80-89.99 as good, and 90-100 as excellent.

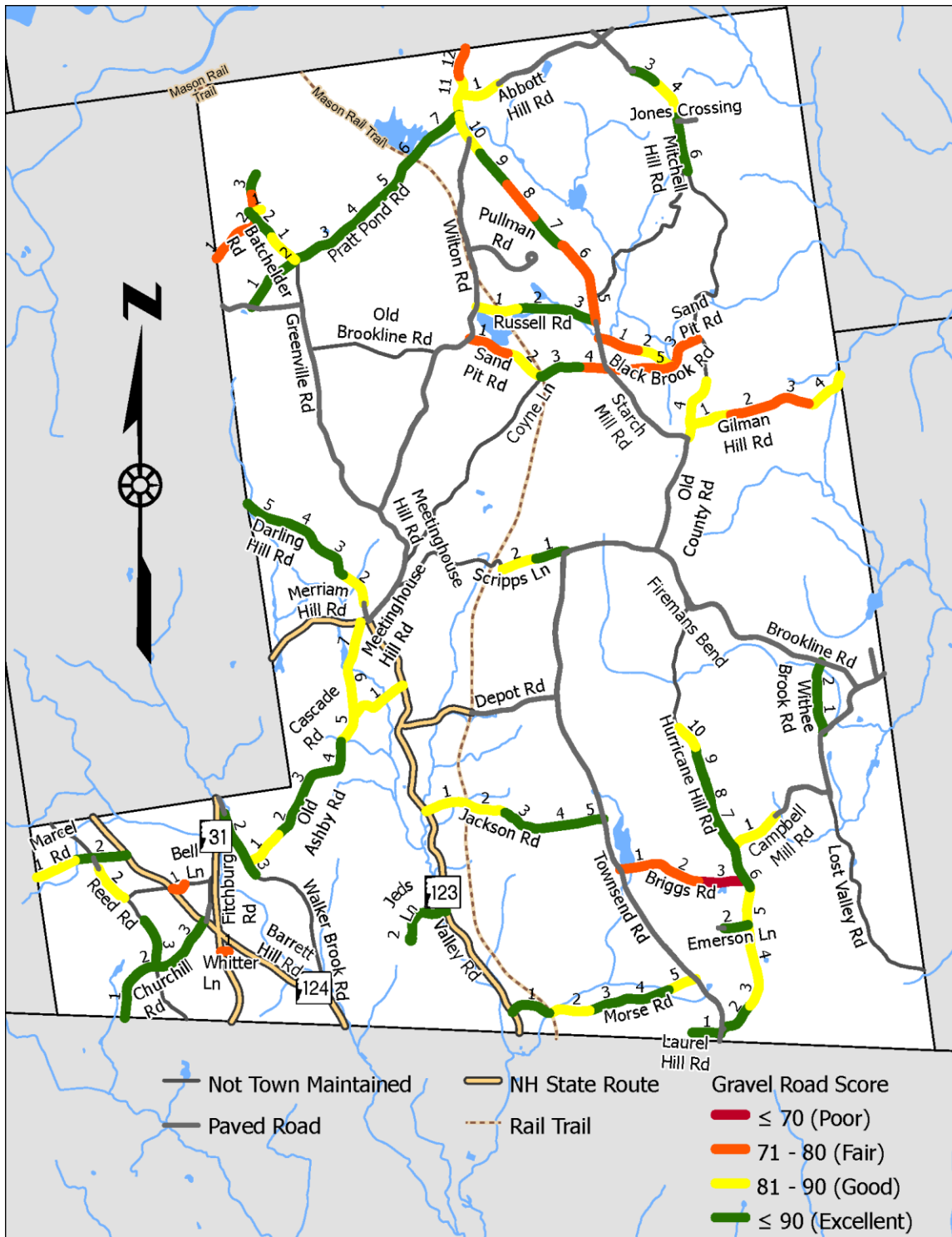
**TABLE 2: 2020 UNPAVED CONDITIONS**

| Condition Category | Total Length (Miles) | %       |
|--------------------|----------------------|---------|
| Excellent (> 90)   | 11.93                | 52.84%  |
| Good (80 - 89)     | 6.98                 | 30.90%  |
| Fair (70 - 79)     | 3.39                 | 15.01%  |
| Poor ( $\leq 70$ ) | 0.28                 | 1.25%   |
| Total              | 22.58                | 100.00% |

**FIGURE 6: 2020 UNPAVED CONDITIONS**



**FIGURE 7: 2020 UNPAVED ROAD INVENTORY MAP**



Unpaved road segments are labeled with Segment ID – See Unpaved Road Inventory

## 7.0 PAVEMENT FORECASTING & ANALYSIS

For paved roads only, we used computer software to generate a pavement condition index (PCI) from 0 (low) to 100 (high). We also used computer software to model PCI over time and track repair cost by year for each road segment. Working with the Mason Highway Department (MHD) and asphalt vendors, we developed a list of repair treatments for this analysis. For each repair, we configured the per unit area cost, lifespan, and a percentage increase to PCI (see Table 3).

**TABLE 3: 2020 UNPAVED CONDITIONS**

| Repair Treatment                               | Repair Cost | Repair Unit       | Comments                                      | Lifespan (Months) | % Increase to PCI |
|--|-------------|-------------------|---|-------------------|-------------------|
| Double Chip Seal                               | \$4.75      | Yard <sup>2</sup> | vendor price                                  | 84                | 70                |
| Single Chip Seal                               | \$2.60      | Yard <sup>2</sup> | vendor price                                  | 60                | 70                |
| Asphalt Shim Paving (3/4")                     | \$4.62      | Yard <sup>2</sup> | based on shim asphalt paving at \$110/Ton     | 48                | 65                |
| Full-Depth Reclamation with 2" Asphalt Overlay | \$11.01     | Yard <sup>2</sup> | based on asphalt at \$84.5/ton plus \$1.55/SY | 144               | 95                |

To compare repair strategies, we created two repair cost comparison scenarios using computer software. In each scenario, we input the repair treatment list above (Table 3) and used a fixed annual budget. Our fixed annual repair budget was \$260,000 in Scenario 1 and \$173,000 in Scenario 2. For each scenario, we assigned repair treatments to road segments based on their need in the appropriate year. We recorded the cost of each repair plus a 4.0% rate of annual inflation. After we assigned repairs, our software recalculated pavement condition, allowing us to track the impact of repairs and lifespan of repairs over a 10-year horizon.

In Section 8.0, we summarize the results from the repair cost comparison scenarios. There is more detailed information on scenario results in Appendix B (Scenario 1) and Appendix C (Scenario 2) and in the supplementary documents.

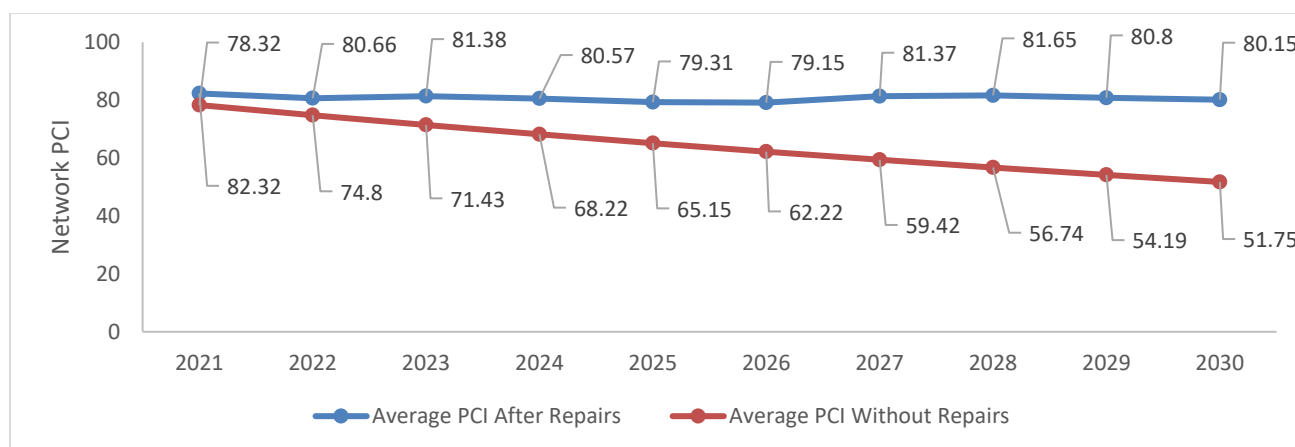
In both scenarios, repair costs include only the cost of pavement repair. Repair costs do not take into account other road maintenance costs including drainage (e.g., ditching, culverts, catch basins, underdrain, etc.), shoulders, signage, guardrail, sidewalks, utilities, curbing, and pavement markings.

## 8.0 SCENARIO FORECASTING RESULTS

### A FORECASTING SCENARIO 1: \$260, 000 ANNUAL SPENDING PER YEAR

In this scenario, we assigned repairs to road segments within a 10-year horizon. Our goal was to apply enough repairs so that the average condition of Town-owned pavement would remain the same for 10 years. The annual budget for this scenario (\$260,000) is more than the Town currently spends on maintenance; however, our analysis concludes that this amount is necessary to maintain the current network pavement condition index (PCI). In other words, it is necessary to spend \$260,000 per year on repairs in order to maintain the current average condition of the entire Town-owned, paved road network.

**FIGURE 8: NETWORK PCI BY YEAR – SCENARIO 1 \$260,000**



Over a 10-year period, network PCI will increase slightly from 78.32, the condition entering 2021, to 80.15 in 2030. Without any repairs, the network PCI will fall to 51.75 after 10 years.

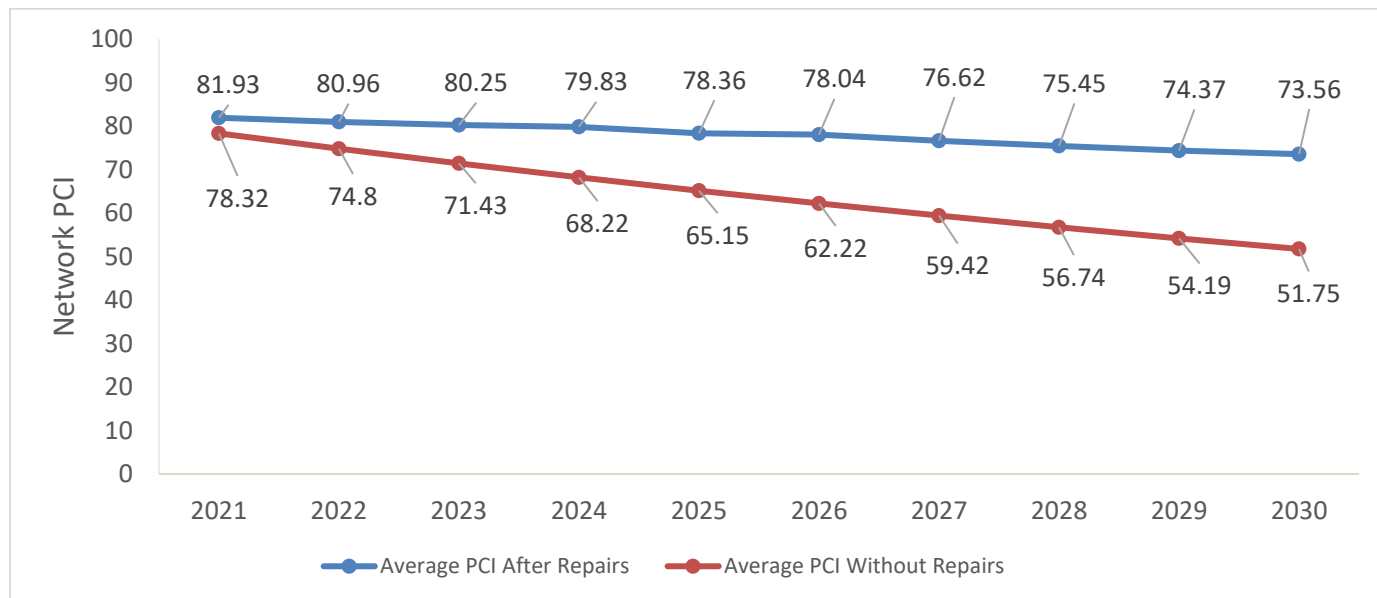
See Appendix B for a complete Scenario 1 results:

- Table B1: Annual repair cost (with 4.0% annual inflation).
- Table B2: Network PCI and cost by year.
- Table B3: Annual cost by repair treatment by year.
- Table B4: Repair details by year.

## B FORECASTING SCENARIO 2: \$173,000 ANNUAL SPENDING PER YEAR

In this scenario, we assigned repairs to road segments within a 10-year horizon with the goal of creating the best possible pavement conditions using an annual budget of \$173,000. This budget represents what the Town spent on pavement maintenance in recent years; \$123,000 for annual repairs plus a \$50,000 bond item.

**FIGURE 8: NETWORK PCI BY YEAR – SCENARIO 2 \$173,000**



Over a 10-year period, network PCI will decrease slightly from 78.32, the condition entering 2021, to 73.56 in 2030. Without any repairs, the network PCI will fall to 51.75 after 10 years.

See Appendix C for a complete lists of Scenario 2 results:

- Table C1: Annual repair cost (with 4.0% annual inflation).
- Table C2: Network PCI and cost by year.
- Table C3: Annual cost by repair treatment by year.
- Table C4: Repair detail by year.



## 9.0 SUMMARY

### A FORECASTING SCENARIO 1: \$260,000 ANNUAL SPENDING PER YEAR

In this scenario, we set the annual repair budget to \$260,000 with the goal of maintaining the current pavement conditions for 10 years. To evaluate average pavement condition, we used the network Pavement Condition Index (PCI) value which is the average PCI value of all a paved road segments in the road network. We calculated a network PCI value each year for 10 years (2021 – 2030); and, for comparison, we calculated a network PCI value before and after hypothetical repairs occurred.

Annual repair spending is \$260,000 in this scenario, approximately \$87,000 more than the Town currently spends. We selected \$260,000 because, according to our analysis, spending this amount per year on repairs will keep the network PCI constant 10 years. In plain terms, this means the average pavement condition will remain the same for 10 years if the Town implements this scenario.

Since it is unrealistic to assume that the Town will increase spending levels to this extent, the network PCI will likely fall over the next 10 year. However, many roads in Mason have low traffic volumes, and deferring maintenance on these roads may make sense- even if it lowers the network PCI. This will allow the Town to prioritize maintenance on roadways with higher traffic volumes and not be constrained by maintaining a network PCI. Also, the following five roads in Mason have short sections of pavement on roads that otherwise entirely unpaved: Lost Valley Road, Walker Brook Road, Hurricane Hill Road, Church Hill Road, and Reed Road. In our analysis, the condition of these short segments contributes to the network PCI. These short, paved areas will not require intensive pavement maintenance and they may be converted to gravel in the future, lowering maintenance costs.

Ultimately, this scenario does not provide a realistic roadmap for future maintenance because it exceeds the Town's annual repair budget significantly (50%). However, this scenario is a benchmark for comparison with others because the network PCI remains constant after 10 years. Also, data in this Report, specifically repair cost estimations, may be useful for guiding repair budgets. No scenario can supplement or replace local knowledge and expertise, and future repair strategies should be modified for unforeseen events. Regardless, data in this scenario (as well as throughout the report) will be of value for evaluating the cost, impacts, and lifespan of road repairs.

## B FORECASTING SCENARIO 2: \$173,000 ANNUAL SPENDING PER YEAR

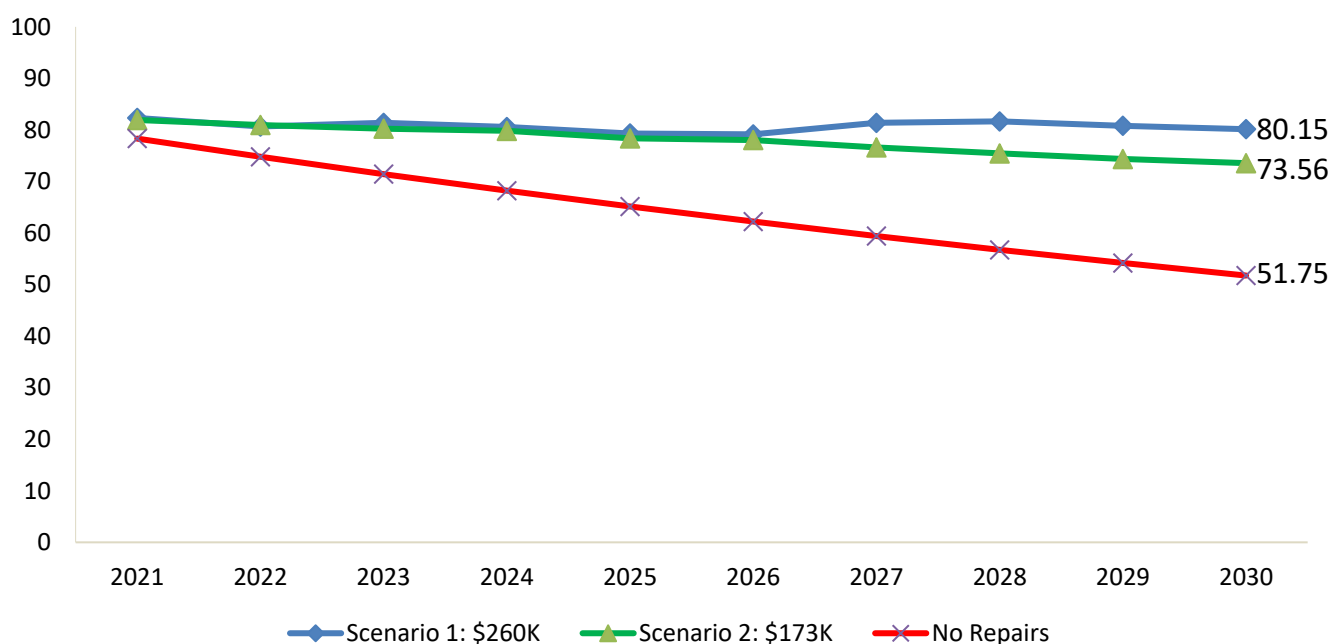
In this scenario, we set the annual repair budget to \$173,000 with the goal of achieving the best possible pavement conditions over 10 years. Like the previous scenario, we used annual network PCI to evaluate the average pavement condition on Town-owned roads. In this scenario, annual pavement repair spending (\$173,000) matches the Town's current level. The Town allocates \$123,000 annually to repairs with a \$50,000 bond item.

Results from this scenario indicate spending at this level will cause network PCI to decrease after 10 years, from 82.32 in 2021 after repairs are applied to 73.56 in 2030, if the town maintains its current spending level. However, as pointed out above, network PCI factors equally the condition of remote roads and roads low traffic values, such as Emerson Lane. Network PCI also factors in the condition of short, paved sections of otherwise gravel roads, such as: Lost Valley Road, Walker Brook Road, Hurricane Hill Road, Church Hill Road, and Reed Road.

If network PCI decreases over 10 years, as projected by this scenario, the impact can be minimized if the most important Town roads and roads with the highest traffic volumes are prioritized for maintenance. For important and high-traffic roads, preventative maintenance techniques, such as chip seal, will extend the life of pavement that is already in good condition and delay the need for more costly repairs. For less important roads with lower traffic volumes, rehabilitative techniques such as shim paving will allow roads to remain serviceable.

Figure 9 (below) displays both cost repair scenarios on a single graph for comparison with a “no maintenance” scenario.

**FIGURE 9: PROJECTED NETWORK PCI BY YEAR BY SCENARIO**



## APPENDIX A: ROAD IVENTORY:

### APPENDIX TABLE A1: PAVED ROAD INVENTORY

| Street Name      | Segment ID | Pavement Width (Ft) | Length (Ft) | 2020 PCI (0-100) | Importance (0-5) | Traffic (0-5) | Priority |
|------------------|------------|---------------------|-------------|------------------|------------------|---------------|----------|
| Abbott Hill Rd   | 2          | 23                  | 1320        | 100              | 5                | 5             | 75       |
| Abbott Hill Rd   | 3          | 22                  | 1320        | 93               | 5                | 5             | 76.75    |
| Abbott Hill Rd   | 4          | 22                  | 1568        | 95               | 5                | 5             | 76.25    |
| Babb Meadow Ln   | 1          | 23                  | 941         | 87               | 1                | 1             | 18.25    |
| Brookline Rd     | 1          | 24                  | 1319        | 79               | 5                | 5             | 80.25    |
| Brookline Rd     | 2          | 24                  | 1319        | 76               | 5                | 5             | 81       |
| Brookline Rd     | 3          | 24                  | 1319        | 84               | 5                | 5             | 79       |
| Brookline Rd     | 4          | 23                  | 1319        | 90               | 5                | 5             | 77.5     |
| Brookline Rd     | 5          | 23                  | 1319        | 84               | 5                | 5             | 79       |
| Brookline Rd     | 6          | 23                  | 1319        | 81               | 5                | 5             | 79.75    |
| Brookline Rd     | 7          | 23                  | 1319        | 90               | 5                | 5             | 77.5     |
| Brookline Rd     | 8          | 24                  | 1319        | 87               | 5                | 5             | 78.25    |
| Brookline Rd     | 9          | 23                  | 1320        | 89               | 5                | 5             | 77.75    |
| Brookline Rd     | 10         | 23                  | 1320        | 95               | 5                | 5             | 76.25    |
| Brookline Rd     | 11         | 24                  | 1320        | 87               | 5                | 5             | 78.25    |
| Brookline Rd     | 12         | 24                  | 1322        | 95               | 5                | 5             | 76.25    |
| Brookline Rd     | 13         | 23                  | 1326        | 92               | 5                | 5             | 77       |
| Campbell Mill Rd | 2          | 21                  | 707         | 84               | 3                | 3             | 4        |
| Campbell Mill Rd | 3          | 19                  | 1319        | 89               | 3                | 3             | 47.75    |
| Campbell Mill Rd | 4          | 21                  | 1319        | 85               | 3                | 3             | 48.75    |

| Street Name          | Segment ID | Pavement Width (Ft) | Length (Ft) | 2020 PCI (0-100) | Importance (0-5) | Traffic (0-5) | Priority |
|----------------------|------------|---------------------|-------------|------------------|------------------|---------------|----------|
| Campbell Mill Rd     | 5          | 21                  | 875         | 95               | 3                | 3             | 46.25    |
| Campbell Mill Rd     | 6          | 21                  | 1000        | 95               | 3                | 3             | 46.25    |
| Campbell Mill Rd     | 7          | 20                  | 1109        | 95               | 3                | 3             | 46.25    |
| Churchill Rd         | 4          | 20                  | 529         | 41               | 3                | 3             | 59.75    |
| Darling Hill Rd      | 1          | 25                  | 559         | 100              | 5                | 2             | 54       |
| Depot Rd             | 1          | 23                  | 1320        | 87               | 5                | 3             | 64.25    |
| Depot Rd             | 2          | 23                  | 1504        | 95               | 5                | 3             | 62.25    |
| Emerson Ln           | 1          | 11                  | 190         | 95               | 1                | 1             | 16.25    |
| Fireman's Bend       | 1          | 15                  | 601         | 49               | 1                | 1             | 27.75    |
| Greenville Rd        | 1          | 22                  | 1319        | 57               | 3                | 3             | 55.75    |
| Greenville Rd        | 2          | 20                  | 1320        | 58               | 3                | 3             | 55.5     |
| Greenville Rd        | 3          | 21                  | 1320        | 42               | 3                | 3             | 59.5     |
| Greenville Rd        | 4          | 21                  | 1320        | 31               | 3                | 3             | 62.25    |
| Greenville Rd        | 5          | 22                  | 1320        | 37               | 3                | 3             | 60.75    |
| Greenville Rd        | 6          | 23                  | 1320        | 97               | 3                | 3             | 45.75    |
| Greenville Rd        | 7          | 23                  | 1320        | 100              | 3                | 3             | 45       |
| Greenville Rd        | 8          | 23                  | 767         | 100              | 3                | 3             | 45       |
| Hurricane Hill Rd    | 1          | 18                  | 106         | 59               | 3                | 3             | 55.25    |
| Jones Xing           | 1          | 19                  | 581         | 63               | 1                | 1             | 24.25    |
| Lost Valley Rd       | 1          | 23                  | 245         | 100              | 1                | 1             | 15       |
| Meetinghouse Hill Rd | 1          | 26                  | 1322        | 88               | 5                | 4             | 71       |
| Meetinghouse Hill Rd | 2          | 25                  | 1322        | 95               | 5                | 4             | 69.25    |

| Street Name          | Segment ID | Pavement Width (Ft) | Length (Ft) | 2020 PCI (0-100) | Importance (0-5) | Traffic (0-5) | Priority |
|----------------------|------------|---------------------|-------------|------------------|------------------|---------------|----------|
| Meetinghouse Hill Rd | 3          | 24                  | 1596        | 89               | 5                | 4             | 70.75    |
| Mitchell Hill Rd     | 1          | 21                  | 366         | 47               | 4                | 3             | 66.25    |
| Mitchell Hill Rd     | 2          | 21                  | 1448        | 100              | 4                | 3             | 53       |
| Old County Rd        | 1          | 21                  | 1152        | 91               | 4                | 4             | 62.25    |
| Old County Rd        | 2          | 22                  | 1357        | 81               | 4                | 4             | 64.75    |
| Old County Rd        | 3          | 22                  | 1242        | 88               | 4                | 4             | 63       |
| Pullman Rd           | 1          | 21                  | 1320        | 66               | 1                | 1             | 23.5     |
| Pullman Rd           | 2          | 21                  | 1822        | 65               | 1                | 1             | 23.75    |
| Reed Rd              | 1          | 17                  | 380         | 46               | 3                | 4             | 65.5     |
| Starch Mill Rd       | 1          | 22                  | 1292        | 86               | 4                | 4             | 63.5     |
| Starch Mill Rd       | 2          | 23                  | 1320        | 79               | 4                | 4             | 65.25    |
| Starch Mill Rd       | 3          | 23                  | 1320        | 84               | 4                | 4             | 64       |
| Starch Mill Rd       | 4          | 23                  | 1199        | 87               | 4                | 4             | 63.25    |
| Townsend Rd          | 1          | 23                  | 1318        | 88               | 5                | 4             | 71       |
| Townsend Rd          | 2          | 23                  | 1319        | 83               | 5                | 4             | 72.25    |
| Townsend Rd          | 3          | 23                  | 1320        | 90               | 5                | 4             | 70.5     |
| Townsend Rd          | 4          | 23                  | 1320        | 82               | 5                | 4             | 72.5     |
| Townsend Rd          | 5          | 22                  | 1320        | 85               | 5                | 4             | 71.75    |
| Townsend Rd          | 6          | 23                  | 1318        | 89               | 5                | 4             | 70.75    |
| Townsend Rd          | 7          | 24                  | 1320        | 83               | 5                | 5             | 79.25    |
| Townsend Rd          | 8          | 23                  | 1321        | 85               | 5                | 5             | 78.75    |
| Townsend Rd          | 9          | 23                  | 1971        | 79               | 5                | 5             | 80.25    |

| Street Name     | Segment ID | Pavement Width (Ft) | Length (Ft) | 2020 PCI (0-100) | Importance (0-5) | Traffic (0-5) | Priority |
|-----------------|------------|---------------------|-------------|------------------|------------------|---------------|----------|
| Walker Brook Rd | 1          | 20                  | 536         | 47               | 2                | 2             | 43.25    |
| Wilton Rd       | 1          | 23                  | 1319        | 90               | 5                | 4             | 70.5     |
| Wilton Rd       | 2          | 23                  | 1319        | 100              | 5                | 4             | 68       |
| Wilton Rd       | 3          | 21                  | 1319        | 95               | 5                | 4             | 69.25    |
| Wilton Rd       | 4          | 21                  | 1319        | 87               | 5                | 4             | 71.25    |
| Wilton Rd       | 5          | 22                  | 1318        | 87               | 5                | 4             | 71.25    |
| Wilton Rd       | 6          | 21                  | 1318        | 86               | 5                | 4             | 71.5     |
| Wilton Rd       | 7          | 22                  | 1319        | 100              | 5                | 4             | 68       |
| Wilton Rd       | 8          | 22                  | 1320        | 85               | 5                | 4             | 71.75    |
| Wilton Rd       | 9          | 21                  | 1321        | 82               | 5                | 4             | 72.5     |
| Wilton Rd       | 10         | 20                  | 1390        | 78               | 5                | 4             | 73.5     |

**APPENDIX TABLE A2: UNPAVED ROAD INVENTORY**

| <b>Street Name</b> | <b>Segment ID</b> | <b>Road Surface Width</b> | <b>2020 Road Score (0-100)</b> | <b>Length (FT)</b> | <b>Importance (0-5)</b> | <b>Traffic Volume (0-5)</b> |
|--------------------|-------------------|---------------------------|--------------------------------|--------------------|-------------------------|-----------------------------|
| Abbott Hill Rd     | 1                 | 21                        | 82                             | 1320               | 5                       | 5                           |
| Batchelder Rd      | 1                 | 16                        | 90                             | 1051               | 2                       | 2                           |
| Batchelder Rd      | 2                 | 16                        | 92                             | 1098               | 1                       | 1                           |
| Bell Ln            | 1                 | 14                        | 78                             | 470                | 1                       | 1                           |
| Black Brook Rd     | 1                 | 12                        | 75                             | 1319               | 2                       | 2                           |
| Black Brook Rd     | 2                 | 13                        | 89                             | 1221               | 2                       | 2                           |
| Black Brook Rd     | 3                 | 18                        | 79                             | 1301               | 2                       | 2                           |
| Blueberry Ln       | 1                 | 12                        | 81                             | 247                | 1                       | 1                           |
| Briggs Rd          | 1                 | 24                        | 73                             | 1320               | 2                       | 2                           |
| Briggs Rd          | 2                 | 21                        | 80                             | 1321               | 2                       | 2                           |
| Briggs Rd          | 3                 | 19                        | 67                             | 1490               | 2                       | 2                           |
| Campbell Mill Rd   | 1                 | 18                        | 83                             | 1718               | 3                       | 3                           |
| Cascade Rd         | 1                 | 15                        | 84                             | 1961               | 3                       | 3                           |
| Churchill Rd       | 1                 | 19                        | 98                             | 1321               | 4                       | 3                           |
| Churchill Rd       | 2                 | 18                        | 92                             | 1320               | 4                       | 3                           |
| Churchill Rd       | 3                 | 17                        | 91                             | 1789               | 3                       | 3                           |
| Darling Hill Rd    | 2                 | 17                        | 90                             | 1210               | 5                       | 2                           |
| Darling Hill Rd    | 3                 | 16                        | 92                             | 1406               | 4                       | 2                           |
| Darling Hill Rd    | 4                 | 16                        | 92                             | 1392               | 4                       | 2                           |

| <b>Street Name</b> | <b>Segment ID</b> | <b>Road Surface Width</b> | <b>2020 Road Score (0-100)</b> | <b>Length (FT)</b> | <b>Importance (0-5)</b> | <b>Traffic Volume (0-5)</b> |
|--------------------|-------------------|---------------------------|--------------------------------|--------------------|-------------------------|-----------------------------|
| Darling Hill Rd    | 5                 | 17                        | 94                             | 1229               | 4                       | 2                           |
| Emerson Ln         | 2                 | 12                        | 97                             | 766                | 1                       | 1                           |
| Gilman Hill Rd     | 1                 | 21                        | 84                             | 1342               | 3                       | 3                           |
| Gilman Hill Rd     | 2                 | 16                        | 73                             | 1289               | 3                       | 3                           |
| Gilman Hill Rd     | 3                 | 18                        | 72                             | 1310               | 3                       | 3                           |
| Gilman Hill Rd     | 4                 | 19                        | 86                             | 1483               | 3                       | 3                           |
| Hurricane Hill Rd  | 2                 | 18                        | 91                             | 1171               | 3                       | 3                           |
| Hurricane Hill Rd  | 3                 | 21                        | 90                             | 1205               | 3                       | 3                           |
| Hurricane Hill Rd  | 4                 | 17                        | 86                             | 1415               | 3                       | 3                           |
| Hurricane Hill Rd  | 5                 | 17                        | 90                             | 1272               | 3                       | 3                           |
| Hurricane Hill Rd  | 6                 | 19                        | 98                             | 1371               | 3                       | 3                           |
| Hurricane Hill Rd  | 7                 | 20                        | 98                             | 1218               | 2                       | 2                           |
| Hurricane Hill Rd  | 8                 | 16                        | 92                             | 1274               | 2                       | 2                           |
| Hurricane Hill Rd  | 9                 | 17                        | 97                             | 1000               | 2                       | 2                           |
| Hurricane Hill Rd  | 10                | 18                        | 87                             | 823                | 2                       | 2                           |
| Jackson Rd         | 1                 | 16                        | 86                             | 1320               | 4                       | 3                           |
| Jackson Rd         | 2                 | 13                        | 83                             | 1320               | 4                       | 3                           |
| Jackson Rd         | 3                 | 14                        | 98                             | 1320               | 4                       | 3                           |
| Jackson Rd         | 4                 | 15                        | 92                             | 1320               | 4                       | 3                           |
| Jackson Rd         | 5                 | 17                        | 93                             | 692                | 4                       | 3                           |
| Jeds Ln            | 1                 | 18                        | 92                             | 1321               | 1                       | 1                           |



| <b>Street Name</b> | <b>Segment ID</b> | <b>Road Surface Width</b> | <b>2020 Road Score (0-100)</b> | <b>Length (FT)</b> | <b>Importance (0-5)</b> | <b>Traffic Volume (0-5)</b> |
|--------------------|-------------------|---------------------------|--------------------------------|--------------------|-------------------------|-----------------------------|
| Jeds Ln            | 2                 | 24                        | 93                             | 703                | 1                       | 1                           |
| Laurel Hill Rd     | 1                 | 18                        | 98                             | 906                | 1                       | 1                           |
| Marcel Rd          | 1                 | 19                        | 88                             | 1321               | 4                       | 4                           |
| Marcel Rd          | 2                 | 21                        | 95                             | 1661               | 4                       | 4                           |
| Mitchell Hill Rd   | 3                 | 16                        | 92                             | 771                | 4                       | 3                           |
| Mitchell Hill Rd   | 4                 | 17                        | 85                             | 1384               | 4                       | 3                           |
| Mitchell Hill Rd   | 6                 | 18                        | 94                             | 990                | 4                       | 3                           |
| Mitchell Hill Rd   | 5                 | 17                        | 92                             | 768                | 4                       | 3                           |
| Morse Rd           | 1                 | 18                        | 91                             | 1320               | 4                       | 3                           |
| Morse Rd           | 2                 | 19                        | 86                             | 1320               | 4                       | 3                           |
| Morse Rd           | 3                 | 16                        | 91                             | 1320               | 4                       | 3                           |
| Morse Rd           | 4                 | 16                        | 91                             | 1320               | 4                       | 3                           |
| Morse Rd           | 5                 | 16                        | 83                             | 935                | 4                       | 3                           |
| Nutting Hill Rd    | 1                 | 16                        | 72                             | 1319               | 2                       | 3                           |
| Nutting Hill Rd    | 2                 | 23                        | 76                             | 1342               | 1                       | 1                           |
| Nutting Hill Rd    | 3                 | 16                        | 92                             | 672                | 1                       | 1                           |
| Old Ashby Rd       | 1                 | 16                        | 84                             | 1321               | 4                       | 4                           |
| Old Ashby Rd       | 2                 | 17                        | 98                             | 1320               | 4                       | 4                           |
| Old Ashby Rd       | 3                 | 17                        | 92                             | 1321               | 4                       | 4                           |
| Old Ashby Rd       | 4                 | 17                        | 93                             | 1321               | 4                       | 4                           |
| Old Ashby Rd       | 5                 | 15                        | 85                             | 1321               | 4                       | 4                           |

| <b>Street Name</b> | <b>Segment ID</b> | <b>Road Surface Width</b> | <b>2020 Road Score (0-100)</b> | <b>Length (FT)</b> | <b>Importance (0-5)</b> | <b>Traffic Volume (0-5)</b> |
|--------------------|-------------------|---------------------------|--------------------------------|--------------------|-------------------------|-----------------------------|
| Old Ashby Rd       | 6                 | 16                        | 86                             | 1320               | 4                       | 4                           |
| Old Ashby Rd       | 7                 | 17                        | 85                             | 1383               | 4                       | 4                           |
| Old County Rd      | 4                 | 21                        | 84                             | 1983               | 3                       | 3                           |
| Pratt Pond Rd      | 1                 | 16                        | 97                             | 1319               | 2                       | 2                           |
| Pratt Pond Rd      | 2                 | 17                        | 91                             | 1319               | 2                       | 2                           |
| Pratt Pond Rd      | 3                 | 14                        | 96                             | 1320               | 2                       | 2                           |
| Pratt Pond Rd      | 4                 | 18                        | 92                             | 1320               | 2                       | 2                           |
| Pratt Pond Rd      | 5                 | 18                        | 98                             | 1320               | 2                       | 2                           |
| Pratt Pond Rd      | 6                 | 19                        | 99                             | 1320               | 2                       | 2                           |
| Pratt Pond Rd      | 7                 | 17                        | 91                             | 1320               | 2                       | 4                           |
| Reed Rd            | 2                 | 18                        | 82                             | 1260               | 3                       | 4                           |
| Reed Rd            | 3                 | 15                        | 92                             | 1598               | 3                       | 3                           |
| Russell Rd         | 1                 | 19                        | 85                             | 1319               | 4                       | 3                           |
| Russell Rd         | 2                 | 18                        | 95                             | 1319               | 4                       | 3                           |
| Russell Rd         | 3                 | 19                        | 98                             | 1261               | 4                       | 3                           |
| Sand Pit Rd        | 1                 | 19                        | 80                             | 1319               | 2                       | 3                           |
| Sand Pit Rd        | 2                 | 17                        | 87                             | 1319               | 2                       | 3                           |
| Sand Pit Rd        | 3                 | 15                        | 92                             | 1321               | 2                       | 3                           |
| Sand Pit Rd        | 4                 | 15                        | 78                             | 866                | 2                       | 3                           |
| Sand Pit Rd        | 5                 | 18                        | 72                             | 2097               | 2                       | 2                           |
| Scripps Ln         | 1                 | 14                        | 91                             | 975                | 2                       | 2                           |

| <b>Street Name</b> | <b>Segment ID</b> | <b>Road Surface Width</b> | <b>2020 Road Score (0-100)</b> | <b>Length (FT)</b> | <b>Importance (0-5)</b> | <b>Traffic Volume (0-5)</b> |
|--------------------|-------------------|---------------------------|--------------------------------|--------------------|-------------------------|-----------------------------|
| Scripps Ln         | 2                 | 17                        | 89                             | 1134               | 2                       | 2                           |
| Starch Mill Rd     | 5                 | 18                        | 71                             | 1441               | 4                       | 4                           |
| Starch Mill Rd     | 6                 | 17                        | 79                             | 1320               | 4                       | 4                           |
| Starch Mill Rd     | 7                 | 19                        | 92                             | 1320               | 4                       | 4                           |
| Starch Mill Rd     | 8                 | 17                        | 73                             | 1320               | 4                       | 4                           |
| Starch Mill Rd     | 9                 | 18                        | 96                             | 1320               | 4                       | 4                           |
| Starch Mill Rd     | 10                | 19                        | 85                             | 1398               | 5                       | 4                           |
| Starch Mill Rd     | 11                | 15                        | 82                             | 1317               | 5                       | 4                           |
| Starch Mill Rd     | 12                | 15                        | 79                             | 933                | 5                       | 4                           |
| Walker Brook Rd    | 2                 | 16                        | 98                             | 987                | 2                       | 2                           |
| Walker Brook Rd    | 3                 | 15                        | 97                             | 1227               | 2                       | 2                           |
| Whitter Ln         | 1                 | 11                        | 76                             | 245                | 1                       | 1                           |
| Withee Brook Rd    | 1                 | 18                        | 92                             | 1319               | 3                       | 3                           |
| Withee Brook Rd    | 2                 | 17                        | 96                             | 971                | 3                       | 3                           |

**APPENDIX B SCENARIO 1 – \$260K ANNUAL BUDGET:****APPENDIX TABLE B1: ANNUAL REPAIR COST**

| <b>Year</b>  | <b>Cost</b>        |
|--------------|--------------------|
| <b>2021</b>  | \$259,931          |
| <b>2022</b>  | \$265,575          |
| <b>2023</b>  | \$258,098          |
| <b>2024</b>  | \$251,660          |
| <b>2025</b>  | \$261,687          |
| <b>2026</b>  | \$268,879          |
| <b>2027</b>  | \$257,743          |
| <b>2028</b>  | \$263,312          |
| <b>2029</b>  | \$267,195          |
| <b>2030</b>  | \$254,712          |
| <b>Total</b> | <b>\$2,608,790</b> |

**APPENDIX TABLE B2: NETWORK PCI AND COST BY YEAR**

|                                    | 2021      | 2022      | 2023      | 2024      | 2025      | 2026      | 2027      | 2028      | 2029      | 2030      |
|------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| <b>Average PCI After Repairs</b>   | 82.32     | 80.66     | 81.38     | 80.57     | 79.31     | 79.15     | 81.37     | 81.65     | 80.80     | 80.15     |
| <b>Average PCI Without Repairs</b> | 78.32     | 74.80     | 71.43     | 68.22     | 65.15     | 62.22     | 59.42     | 56.74     | 54.19     | 51.75     |
| <b>Total Miles Treated</b>         | 1.87      | 2.51      | 4.91      | 3.70      | 2.60      | 3.10      | 2.50      | 3.25      | 2.84      | 1.23      |
| <b>Total Repair Cost</b>           | \$259,931 | \$265,575 | \$258,098 | \$251,660 | \$261,687 | \$268,879 | \$257,743 | \$263,312 | \$267,195 | \$254,712 |

**APPENDIX TABLE B3: COST BY REPAIR TREATMENT BY YEAR**

| Repair                        | 2021             | 2022             | 2023             | 2024             | 2025             | 2026             | 2027             | 2028             | 2029             | 2030             |
|-------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| <b>3/8" Chip Seal</b>         | \$0              | \$26,425         | \$91,035         | \$125,253        | \$79,342         | \$90,848         | \$45,419         | \$25,680         | \$10,285         | \$0              |
| <b>Double Chip Seal</b>       | \$41,550         | \$121,234        | \$108,474        | \$16,296         | \$0              | \$0              | \$0              | \$20,966         | \$0              | \$0              |
| <b>FDR with HMA 2"</b>        | \$177,968        | \$0              | \$0              | \$0              | \$0              | \$0              | \$174,816        | \$33,571         | \$55,140         | \$254,712        |
| <b>HMA Shim Paving (3/4")</b> | \$40,413         | \$117,916        | \$58,588         | \$110,110        | \$182,345        | \$178,031        | \$37,508         | \$183,096        | \$201,770        | \$0              |
| <b>Total</b>                  | <b>\$259,931</b> | <b>\$265,575</b> | <b>\$258,098</b> | <b>\$251,660</b> | <b>\$261,687</b> | <b>\$268,879</b> | <b>\$257,743</b> | <b>\$263,312</b> | <b>\$267,195</b> | <b>\$254,712</b> |

**APPENDIX TABLE B4: REPAIR DETAIL BY YEAR**

| <b>Year</b> | <b>Street</b>              | <b>Segment</b> | <b>Repair Category</b>            | <b>Repair</b>          | <b>Miles Treated</b> | <b>Cost</b>      |
|-------------|----------------------------|----------------|-----------------------------------|------------------------|----------------------|------------------|
| 2021        | Greenville Rd              | 1              | Rehabilitate and Rebuild          | FDR with HMA 2"        | 0.25                 | \$36,932         |
|             | Greenville Rd              | 2              | Rehabilitate and Rebuild          | FDR with HMA 2"        | 0.25                 | \$33,581         |
|             | Greenville Rd              | 3              | Rehabilitate and Rebuild          | FDR with HMA 2"        | 0.25                 | \$35,259         |
|             | Greenville Rd              | 4              | Rehabilitate and Rebuild          | FDR with HMA 2"        | 0.25                 | \$35,257         |
|             | Greenville Rd              | 5              | Rehabilitate and Rebuild          | FDR with HMA 2"        | 0.25                 | \$36,940         |
|             | Townsend Rd                | 8              | Pavement Preservation/Maintenance | Double Chip Seal       | 0.25                 | \$16,672         |
|             | Townsend Rd                | 8              | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25                 | \$16,216         |
|             | Townsend Rd                | 9              | Pavement Preservation/Maintenance | Double Chip Seal       | 0.37                 | \$24,877         |
|             | Townsend Rd                | 9              | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.37                 | \$24,196         |
|             | <b>Total for Year 2021</b> |                |                                   |                        | <b>2.50</b>          | <b>\$259,931</b> |

| <b>Year</b> | <b>Street</b> | <b>Segment</b> | <b>Repair Category</b>            | <b>Repair</b>          | <b>Miles Treated</b> | <b>Cost</b> |
|-------------|---------------|----------------|-----------------------------------|------------------------|----------------------|-------------|
| 2022        | Townsend Rd   | 1              | Pavement Preservation/Maintenance | Double Chip Seal       | 0.25                 | \$17,301    |
|             | Townsend Rd   | 1              | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25                 | \$16,827    |
|             | Townsend Rd   | 2              | Pavement Preservation/Maintenance | Double Chip Seal       | 0.25                 | \$17,317    |
|             | Townsend Rd   | 2              | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25                 | \$16,843    |
|             | Townsend Rd   | 3              | Pavement Preservation/Maintenance | Double Chip Seal       | 0.25                 | \$17,327    |
|             | Townsend Rd   | 3              | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25                 | \$16,853    |
|             | Townsend Rd   | 4              | Pavement Preservation/Maintenance | Double Chip Seal       | 0.25                 | \$17,325    |
|             | Townsend Rd   | 4              | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25                 | \$16,851    |
|             | Townsend Rd   | 5              | Pavement Preservation/Maintenance | Double Chip Seal       | 0.25                 | \$16,572    |
|             | Townsend Rd   | 5              | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25                 | \$16,119    |
|             | Townsend Rd   | 6              | Pavement Preservation/Maintenance | Double Chip Seal       | 0.25                 | \$17,309    |

| Year | Street                     | Segment | Repair Category                   | Repair                 | Miles Treated | Cost             |
|------|----------------------------|---------|-----------------------------------|------------------------|---------------|------------------|
| 2022 | Townsend Rd                | 6       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$16,835         |
|      | Townsend Rd                | 7       | Pavement Preservation/Maintenance | Double Chip Seal       | 0.25          | \$18,083         |
|      | Townsend Rd                | 7       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$17,588         |
|      | Wilton Rd                  | 8       | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25          | \$9,075          |
|      | Wilton Rd                  | 9       | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25          | \$8,666          |
|      | Wilton Rd                  | 10      | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.26          | \$8,683          |
|      | <b>Total for Year 2022</b> |         |                                   |                        | <b>4.26</b>   | <b>\$265,575</b> |

| Year | Street           | Segment | Repair Category                   | Repair                 | Miles Treated | Cost     |
|------|------------------|---------|-----------------------------------|------------------------|---------------|----------|
| 2023 | Campbell Mill Rd | 2       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.13          | \$8,569  |
|      | Campbell Mill Rd | 3       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$14,471 |
|      | Campbell Mill Rd | 5       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.17          | \$10,616 |
|      | Campbell Mill Rd | 6       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.19          | \$12,124 |
|      | Campbell Mill Rd | 7       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.21          | \$12,807 |
|      | Greenville Rd    | 6       | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25          | \$9,862  |
|      | Greenville Rd    | 7       | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25          | \$9,864  |
|      | Greenville Rd    | 8       | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.15          | \$5,730  |
|      | Pullman Rd       | 1       | Pavement Preservation/Maintenance | Double Chip Seal       | 0.25          | \$16,457 |
|      | Pullman Rd       | 2       | Pavement Preservation/Maintenance | Double Chip Seal       | 0.35          | \$22,713 |
|      | Starch Mill Rd   | 1       | Pavement Preservation/Maintenance | Double Chip Seal       | 0.24          | \$16,880 |
|      | Starch Mill Rd   | 2       | Pavement Preservation/Maintenance | Double Chip Seal       | 0.25          | \$18,028 |

| Year | Street                     | Segment | Repair Category                   | Repair           | Miles Treated | Cost             |
|------|----------------------------|---------|-----------------------------------|------------------|---------------|------------------|
| 2023 | Starch Mill Rd             | 3       | Pavement Preservation/Maintenance | Double Chip Seal | 0.25          | \$18,021         |
|      | Starch Mill Rd             | 4       | Pavement Preservation/Maintenance | Double Chip Seal | 0.23          | \$16,376         |
|      | Wilton Rd                  | 1       | Pavement Preservation/Maintenance | 3/8" Chip Seal   | 0.25          | \$9,861          |
|      | Wilton Rd                  | 2       | Pavement Preservation/Maintenance | 3/8" Chip Seal   | 0.25          | \$9,861          |
|      | Wilton Rd                  | 3       | Pavement Preservation/Maintenance | 3/8" Chip Seal   | 0.25          | \$9,003          |
|      | Wilton Rd                  | 4       | Pavement Preservation/Maintenance | 3/8" Chip Seal   | 0.25          | \$9,004          |
|      | Wilton Rd                  | 5       | Pavement Preservation/Maintenance | 3/8" Chip Seal   | 0.25          | \$9,421          |
|      | Wilton Rd                  | 6       | Pavement Preservation/Maintenance | 3/8" Chip Seal   | 0.25          | \$8,996          |
|      | Wilton Rd                  | 7       | Pavement Preservation/Maintenance | 3/8" Chip Seal   | 0.25          | \$9,433          |
|      | <b>Total for Year 2023</b> |         |                                   |                  | <b>4.91</b>   | <b>\$258,098</b> |



| Year | Street                     | Segment | Repair Category                   | Repair                 | Miles Treated | Cost             |
|------|----------------------------|---------|-----------------------------------|------------------------|---------------|------------------|
| 2024 | Brookline Rd               | 1       | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25          | \$10,700         |
|      | Brookline Rd               | 1       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$19,013         |
|      | Brookline Rd               | 2       | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25          | \$10,702         |
|      | Brookline Rd               | 2       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$19,017         |
|      | Brookline Rd               | 3       | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25          | \$10,700         |
|      | Brookline Rd               | 3       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$19,013         |
|      | Brookline Rd               | 4       | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25          | \$10,253         |
|      | Brookline Rd               | 4       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$18,219         |
|      | Brookline Rd               | 5       | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25          | \$10,253         |
|      | Brookline Rd               | 5       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$18,219         |
|      | Campbell Mill Rd           | 2       | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.13          | \$5,015          |
|      | Campbell Mill Rd           | 3       | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25          | \$8,470          |
|      | Campbell Mill Rd           | 4       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$16,628         |
|      | Campbell Mill Rd           | 5       | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.17          | \$6,213          |
|      | Campbell Mill Rd           | 6       | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.19          | \$7,096          |
|      | Campbell Mill Rd           | 7       | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.21          | \$7,496          |
|      | Greenville Rd              | 1       | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25          | \$9,810          |
|      | Greenville Rd              | 2       | Pavement Preservation/Maintenance | Double Chip Seal       | 0.25          | \$16,296         |
|      | Greenville Rd              | 3       | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25          | \$9,366          |
|      | Greenville Rd              | 4       | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25          | \$9,366          |
|      | Greenville Rd              | 5       | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25          | \$9,812          |
|      | <b>Total for Year 2024</b> |         |                                   |                        | <b>4.95</b>   | <b>\$251,660</b> |

| Year | Street                     | Segment | Repair Category                   | Repair                 | Miles Treated | Cost             |
|------|----------------------------|---------|-----------------------------------|------------------------|---------------|------------------|
| 2025 | Abbott Hill Rd             | 2       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$18,966         |
|      | Abbott Hill Rd             | 3       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$18,138         |
|      | Abbott Hill Rd             | 4       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.30          | \$21,551         |
|      | Brookline Rd               | 6       | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25          | \$10,664         |
|      | Brookline Rd               | 6       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$18,950         |
|      | Brookline Rd               | 7       | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25          | \$10,665         |
|      | Brookline Rd               | 7       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$18,951         |
|      | Brookline Rd               | 8       | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25          | \$11,124         |
|      | Brookline Rd               | 8       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$19,767         |
|      | Campbell Mill Rd           | 4       | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25          | \$9,732          |
|      | Meetinghouse Hill Rd       | 1       | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25          | \$12,079         |
|      | Meetinghouse Hill Rd       | 1       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$21,464         |
|      | Meetinghouse Hill Rd       | 2       | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25          | \$11,615         |
|      | Meetinghouse Hill Rd       | 2       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$20,639         |
|      | Meetinghouse Hill Rd       | 3       | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.30          | \$13,461         |
|      | Meetinghouse Hill Rd       | 3       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.30          | \$23,920         |
|      | <b>Total for Year 2025</b> |         |                                   |                        | <b>4.15</b>   | <b>\$261,687</b> |

| Year | Street                     | Segment | Repair Category                   | Repair                 | Miles Treated | Cost             |
|------|----------------------------|---------|-----------------------------------|------------------------|---------------|------------------|
| 2026 | Abbott Hill Rd             | 2       | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25          | \$11,100         |
|      | Abbott Hill Rd             | 3       | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25          | \$10,616         |
|      | Abbott Hill Rd             | 4       | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.30          | \$12,613         |
|      | Brookline Rd               | 9       | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25          | \$11,097         |
|      | Brookline Rd               | 9       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$19,718         |
|      | Brookline Rd               | 10      | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25          | \$11,096         |
|      | Brookline Rd               | 10      | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$19,717         |
|      | Brookline Rd               | 11      | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25          | \$11,582         |
|      | Brookline Rd               | 11      | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$20,580         |
|      | Brookline Rd               | 12      | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25          | \$11,595         |
|      | Brookline Rd               | 12      | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$20,604         |
|      | Brookline Rd               | 13      | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25          | \$11,149         |
|      | Brookline Rd               | 13      | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$19,811         |
|      | Mitchel Hill Rd            | 1       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.07          | \$4,991          |
|      | Mitchel Hill Rd            | 2       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.27          | \$19,754         |
|      | Old County Rd              | 1       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.22          | \$15,712         |
|      | Old County Rd              | 2       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.26          | \$19,395         |
|      | Old County Rd              | 3       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.24          | \$17,750         |
|      | <b>Total for Year 2026</b> |         |                                   |                        | <b>4.35</b>   | <b>\$268,879</b> |

| Year | Street                     | Segment | Repair Category                   | Repair                 | Miles Treated | Cost             |
|------|----------------------------|---------|-----------------------------------|------------------------|---------------|------------------|
| 2027 | Churchill Rd               | 4       | Rehabilitate and Rebuild          | FDR with HMA 2"        | 0.10          | \$17,017         |
|      | Darling Hill Rd            | 1       | Rehabilitate and Rebuild          | FDR with HMA 2"        | 0.11          | \$22,500         |
|      | Depot Rd                   | 1       | Rehabilitate and Rebuild          | FDR with HMA 2"        | 0.25          | \$48,861         |
|      | Depot Rd                   | 2       | Rehabilitate and Rebuild          | FDR with HMA 2"        | 0.28          | \$55,701         |
|      | Hurricane Hill Rd          | 1       | Rehabilitate and Rebuild          | FDR with HMA 2"        | 0.02          | \$3,086          |
|      | Mitchel Hill Rd            | 1       | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.07          | \$2,921          |
|      | Mitchel Hill Rd            | 2       | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.27          | \$11,562         |
|      | Old County Rd              | 1       | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.22          | \$9,196          |
|      | Old County Rd              | 2       | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.26          | \$11,352         |
|      | Old County Rd              | 3       | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.24          | \$10,389         |
|      | Reed Rd                    | 1       | Rehabilitate and Rebuild          | FDR with HMA 2"        | 0.07          | \$10,394         |
|      | Walker Brook Rd            | 1       | Rehabilitate and Rebuild          | FDR with HMA 2"        | 0.10          | \$17,259         |
|      | Wilton Rd                  | 9       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$18,735         |
|      | Wilton Rd                  | 10      | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.26          | \$18,773         |
|      | <b>Total for Year 2027</b> |         |                                   |                        | <b>2.50</b>   | <b>\$257,743</b> |

| Year | Street         | Segment | Repair Category                   | Repair                 | Miles Treated | Cost     |
|------|----------------|---------|-----------------------------------|------------------------|---------------|----------|
| 2028 | Depot Rd       | 1       | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25          | \$12,000 |
|      | Depot Rd       | 2       | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.28          | \$13,680 |
|      | Fireman's Bend | 1       | Rehabilitate and Rebuild          | FDR with HMA 2"        | 0.11          | \$15,092 |
|      | Jones Xing     | 1       | Rehabilitate and Rebuild          | FDR with HMA 2"        | 0.11          | \$18,479 |
|      | Starch Mill Rd | 1       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.24          | \$19,975 |
|      | Starch Mill Rd | 2       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$21,334 |
|      | Wilton Rd      | 1       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$21,318 |
|      | Wilton Rd      | 2       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$21,320 |
|      | Wilton Rd      | 3       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$19,464 |
|      | Wilton Rd      | 4       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$19,465 |

| Year | Street | Segment | Repair Category | Repair | Miles Treated | Cost |
|------|--------|---------|-----------------|--------|---------------|------|
|------|--------|---------|-----------------|--------|---------------|------|

|      |                            |   |                                   |                        |             |                  |
|------|----------------------------|---|-----------------------------------|------------------------|-------------|------------------|
| 2028 | Wilton Rd                  | 5 | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25        | \$20,367         |
|      | Wilton Rd                  | 6 | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25        | \$19,448         |
|      | Wilton Rd                  | 7 | Pavement Preservation/Maintenance | Double Chip Seal       | 0.25        | \$20,966         |
|      | Wilton Rd                  | 8 | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25        | \$20,404         |
|      | <b>Total for Year 2028</b> |   |                                   |                        | <b>3.25</b> | <b>\$263,312</b> |

| Year | Street                     | Segment | Repair Category                   | Repair                 | Miles Treated | Cost             |
|------|----------------------------|---------|-----------------------------------|------------------------|---------------|------------------|
| 2029 | Brookline Rd               | 2       | Rehabilitate and Rebuild          | FDR with HMA 2"        | 0.25          | \$55,140         |
|      | Darling Hill Rd            | 1       | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.11          | \$5,747          |
|      | Greenville Rd              | 1       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$21,209         |
|      | Greenville Rd              | 2       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$19,285         |
|      | Greenville Rd              | 3       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$20,248         |
|      | Greenville Rd              | 4       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$20,247         |
|      | Greenville Rd              | 5       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$21,214         |
|      | Greenville Rd              | 6       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$22,174         |
|      | Greenville Rd              | 7       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$22,178         |
|      | Greenville Rd              | 8       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.15          | \$12,884         |
|      | Jones Xing                 | 1       | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.11          | \$4,538          |
|      | Starch Mill Rd             | 3       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$22,178         |
|      | Starch Mill Rd             | 4       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.23          | \$20,154         |
|      | <b>Total for Year 2029</b> |         |                                   |                        | <b>2.84</b>   | <b>\$267,195</b> |

| Year | Street                     | Segment | Repair Category          | Repair          | Miles Treated | Cost             |
|------|----------------------------|---------|--------------------------|-----------------|---------------|------------------|
| 2030 | Babb Meadow Ln             | 1       | Rehabilitate and Rebuild | FDR with HMA 2" | 0.18          | \$39,200         |
|      | Emerson Ln                 | 1       | Rehabilitate and Rebuild | FDR with HMA 2" | 0.04          | \$3,775          |
|      | Lost Valley Rd             | 1       | Rehabilitate and Rebuild | FDR with HMA 2" | 0.05          | \$10,189         |
|      | Pullman Rd                 | 1       | Rehabilitate and Rebuild | FDR with HMA 2" | 0.25          | \$50,198         |
|      | Pullman Rd                 | 2       | Rehabilitate and Rebuild | FDR with HMA 2" | 0.35          | \$69,278         |
|      | Townsend Rd                | 9       | Rehabilitate and Rebuild | FDR with HMA 2" | 0.37          | \$82,072         |
|      | <b>Total for Year 2030</b> |         |                          |                 | <b>1.23</b>   | <b>\$254,712</b> |

## APPENDIX C SCENARIO 2. ANALYSIS RESULTS (TABLES):

APPENDIX TABLE C1: ANNUAL REPAIR COST

| Year         | Cost               |
|--------------|--------------------|
| 2021         | \$177,968          |
| 2022         | \$174,136          |
| 2023         | \$175,350          |
| 2024         | \$172,933          |
| 2025         | \$173,111          |
| 2026         | \$165,612          |
| 2027         | \$177,345          |
| 2028         | \$166,080          |
| 2029         | \$173,169          |
| 2030         | \$171,701          |
| <b>Total</b> | <b>\$1,727,405</b> |

APPENDIX TABLE C2: NETWORK PCI AND COST BY YEAR

|                                    | 2021      | 2022      | 2023      | 2024      | 2025      | 2026      | 2027      | 2028      | 2029      | 2030      |
|------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| <b>Average PCI After Repairs</b>   | 81.93     | 80.96     | 80.25     | 79.83     | 78.36     | 78.04     | 76.62     | 75.45     | 74.37     | 73.56     |
| <b>Average PCI Without Repairs</b> | 78.32     | 74.8      | 71.43     | 68.22     | 65.15     | 62.22     | 59.42     | 56.74     | 54.19     | 51.75     |
| <b>Total Miles Treated</b>         | 1.25      | 3.64      | 3.42      | 3.41      | 2.35      | 2.18      | 1.75      | 2.14      | 1.91      | 1.91      |
| <b>Total Repair Cost</b>           | \$177,968 | \$174,136 | \$175,350 | \$172,933 | \$173,111 | \$165,612 | \$177,345 | \$166,080 | \$173,169 | \$171,701 |

**APPENDIX TABLE C3: COST BY REPAIR TREATMENT BY YEAR**

| <b>Repair</b>                 | <b>2021</b>      | <b>2022</b>      | <b>2023</b>      | <b>2024</b>      | <b>2025</b>      | <b>2026</b>      | <b>2027</b>      | <b>2028</b>      | <b>2029</b>      | <b>2030</b>      |
|-------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| <b>3/8" Chip Seal</b>         | \$0              | \$80,824         | \$72,395         | \$87,953         | \$9,732          | \$0              | \$25,834         | \$25,680         | \$13,439         | \$0              |
| <b>FDR with HMA 2"</b>        | \$177,968        | \$0              | \$0              | \$12,901         | \$0              | \$0              | \$104,561        | \$18,479         | \$0              | \$3,775          |
| <b>HMA Shim Paving (3/4")</b> | \$0              | \$93,312         | \$102,956        | \$72,079         | \$163,379        | \$165,612        | \$46,949         | \$121,921        | \$159,729        | \$167,926        |
| <b>Total</b>                  | <b>\$177,968</b> | <b>\$174,136</b> | <b>\$175,350</b> | <b>\$172,933</b> | <b>\$173,111</b> | <b>\$165,612</b> | <b>\$177,345</b> | <b>\$166,080</b> | <b>\$173,169</b> | <b>\$171,701</b> |



**APPENDIX TABLE C4: REPAIR DETAIL BY YEAR**

| <b>Year</b>                | <b>Street</b> | <b>Order ID</b> | <b>Repair Category</b>   | <b>Repair</b>   | <b>Miles Treated</b> | <b>Cost</b>      |
|----------------------------|---------------|-----------------|--------------------------|-----------------|----------------------|------------------|
| 2021                       | Greenville Rd | 1               | Rehabilitate and Rebuild | FDR with HMA 2" | 0.25                 | \$36,932         |
|                            | Greenville Rd | 2               | Rehabilitate and Rebuild | FDR with HMA 2" | 0.25                 | \$33,581         |
|                            | Greenville Rd | 3               | Rehabilitate and Rebuild | FDR with HMA 2" | 0.25                 | \$35,259         |
|                            | Greenville Rd | 4               | Rehabilitate and Rebuild | FDR with HMA 2" | 0.25                 | \$35,257         |
|                            | Greenville Rd | 5               | Rehabilitate and Rebuild | FDR with HMA 2" | 0.25                 | \$36,940         |
| <b>Total for Year 2021</b> |               |                 |                          |                 | <b>1.25</b>          | <b>\$177,968</b> |

| <b>Year</b> | <b>Street</b> | <b>Order ID</b> | <b>Repair Category</b>            | <b>Repair</b>          | <b>Miles Treated</b> | <b>Cost</b> |
|-------------|---------------|-----------------|-----------------------------------|------------------------|----------------------|-------------|
| 2022        | Townsend Rd   | 2               | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25                 | \$16,843    |
|             | Townsend Rd   | 4               | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25                 | \$16,851    |
|             | Townsend Rd   | 7               | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25                 | \$17,588    |
|             | Townsend Rd   | 8               | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25                 | \$16,865    |
|             | Townsend Rd   | 9               | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.37                 | \$25,164    |
|             | Wilton Rd     | 1               | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25                 | \$9,482     |
|             | Wilton Rd     | 2               | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25                 | \$9,482     |
|             | Wilton Rd     | 4               | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25                 | \$8,657     |

| Year                       | Street    | Order ID | Repair Category                   | Repair         | Miles Treated | Cost             |
|----------------------------|-----------|----------|-----------------------------------|----------------|---------------|------------------|
| 2022                       | Wilton Rd | 5        | Pavement Preservation/Maintenance | 3/8" Chip Seal | 0.25          | \$9,059          |
|                            | Wilton Rd | 6        | Pavement Preservation/Maintenance | 3/8" Chip Seal | 0.25          | \$8,650          |
|                            | Wilton Rd | 7        | Pavement Preservation/Maintenance | 3/8" Chip Seal | 0.25          | \$9,070          |
|                            | Wilton Rd | 8        | Pavement Preservation/Maintenance | 3/8" Chip Seal | 0.25          | \$9,075          |
|                            | Wilton Rd | 9        | Pavement Preservation/Maintenance | 3/8" Chip Seal | 0.25          | \$8,666          |
|                            | Wilton Rd | 10       | Pavement Preservation/Maintenance | 3/8" Chip Seal | 0.26          | \$8,683          |
| <b>Total for Year 2022</b> |           |          |                                   |                | <b>3.64</b>   | <b>\$174,136</b> |

| Year | Street           | Order ID | Repair Category                   | Repair                 | Miles Treated | Cost     |
|------|------------------|----------|-----------------------------------|------------------------|---------------|----------|
| 2023 | Campbell Mill Rd | 2        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.13          | \$8,569  |
|      | Campbell Mill Rd | 3        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$14,471 |
|      | Campbell Mill Rd | 5        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.17          | \$10,616 |
|      | Greenville Rd    | 6        | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25          | \$9,862  |
|      | Greenville Rd    | 7        | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25          | \$9,864  |
|      | Greenville Rd    | 8        | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.15          | \$5,730  |
|      | Starch Mill Rd   | 1        | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.24          | \$9,239  |
|      | Starch Mill Rd   | 2        | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25          | \$9,868  |
|      | Starch Mill Rd   | 3        | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25          | \$9,864  |

| Year                       | Street         | Order ID | Repair Category                   | Repair                 | Miles Treated | Cost             |
|----------------------------|----------------|----------|-----------------------------------|------------------------|---------------|------------------|
| 2023                       | Starch Mill Rd | 4        | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.23          | \$8,964          |
|                            | Townsend Rd    | 1        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$17,500         |
|                            | Townsend Rd    | 3        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$17,527         |
|                            | Townsend Rd    | 5        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$16,764         |
|                            | Townsend Rd    | 6        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$17,508         |
|                            | Wilton Rd      | 3        | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25          | \$9,003          |
| <b>Total for Year 2023</b> |                |          |                                   |                        | <b>3.42</b>   | <b>\$175,350</b> |

| Year | Street           | Order ID | Repair Category                   | Repair                 | Miles Treated | Cost     |
|------|------------------|----------|-----------------------------------|------------------------|---------------|----------|
| 2024 | Brookline Rd     | 3        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$19,013 |
|      | Brookline Rd     | 4        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$18,219 |
|      | Brookline Rd     | 5        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$18,219 |
|      | Brookline Rd     | 10       | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25          | \$10,259 |
|      | Brookline Rd     | 12       | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25          | \$10,720 |
|      | Campbell Mill Rd | 2        | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.13          | \$5,015  |
|      | Campbell Mill Rd | 3        | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25          | \$8,470  |
|      | Campbell Mill Rd | 4        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$16,628 |

| Year                       | Street           | Order ID | Repair Category                   | Repair                 | Miles Treated | Cost             |
|----------------------------|------------------|----------|-----------------------------------|------------------------|---------------|------------------|
| 2024                       | Campbell Mill Rd | 5        | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.17          | \$6,213          |
|                            | Fireman's Bend   | 1        | Rehabilitate and Rebuild          | FDR with HMA 2" - ASMG | 0.11          | \$12,901         |
|                            | Greenville Rd    | 1        | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25          | \$9,810          |
|                            | Greenville Rd    | 2        | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25          | \$8,920          |
|                            | Greenville Rd    | 3        | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25          | \$9,366          |
|                            | Greenville Rd    | 4        | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25          | \$9,366          |
|                            | Greenville Rd    | 5        | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25          | \$9,812          |
| <b>Total for Year 2024</b> |                  |          |                                   |                        | <b>3.41</b>   | <b>\$172,933</b> |

| Year                       | Street               | Order ID | Repair Category                   | Repair                 | Miles Treated | Cost             |
|----------------------------|----------------------|----------|-----------------------------------|------------------------|---------------|------------------|
| 2025                       | Abbott Hill Rd       | 3        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$18,138         |
|                            | Abbott Hill Rd       | 4        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.30          | \$21,551         |
|                            | Brookline Rd         | 6        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$18,950         |
|                            | Brookline Rd         | 7        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$18,951         |
|                            | Brookline Rd         | 8        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$19,767         |
|                            | Campbell Mill Rd     | 4        | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25          | \$9,732          |
|                            | Meetinghouse Hill Rd | 1        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$21,464         |
|                            | Meetinghouse Hill Rd | 2        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$20,639         |
|                            | Meetinghouse Hill Rd | 3        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.30          | \$23,920         |
| <b>Total for Year 2025</b> |                      |          |                                   |                        | <b>2.35</b>   | <b>\$173,111</b> |

| Year                       | Street          | Order ID | Repair Category                   | Repair                 | Miles Treated | Cost             |
|----------------------------|-----------------|----------|-----------------------------------|------------------------|---------------|------------------|
| 2026                       | Brookline Rd    | 2        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$20,569         |
|                            | Brookline Rd    | 9        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$19,718         |
|                            | Brookline Rd    | 11       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$20,580         |
|                            | Mitchel Hill Rd | 1        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.07          | \$4,991          |
|                            | Mitchel Hill Rd | 2        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.27          | \$19,754         |
|                            | Old County Rd   | 2        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.26          | \$19,395         |
|                            | Old County Rd   | 3        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.24          | \$17,750         |
|                            | Pullman Rd      | 1        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$18,005         |
|                            | Pullman Rd      | 2        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.35          | \$24,849         |
| <b>Total for Year 2026</b> |                 |          |                                   |                        | <b>2.18</b>   | <b>\$165,612</b> |

| Year | Street          | Order ID | Repair Category                   | Repair                 | Miles Treated | Cost     |
|------|-----------------|----------|-----------------------------------|------------------------|---------------|----------|
| 2027 | Darling Hill Rd | 1        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.11          | \$9,441  |
|      | Depot Rd        | 1        | Rehabilitate and Rebuild          | FDR with HMA 2"        | 0.25          | \$48,861 |
|      | Depot Rd        | 2        | Rehabilitate and Rebuild          | FDR with HMA 2"        | 0.28          | \$55,701 |
|      | Mitchel Hill Rd | 1        | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.07          | \$2,921  |
|      | Mitchel Hill Rd | 2        | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.27          | \$11,562 |

| Year                       | Street        | Order ID | Repair Category                   | Repair                 | Miles Treated | Cost             |
|----------------------------|---------------|----------|-----------------------------------|------------------------|---------------|------------------|
| 2027                       | Old County Rd | 2        | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.26          | \$11,352         |
|                            | Wilton Rd     | 9        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$18,735         |
|                            | Wilton Rd     | 10       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.26          | \$18,773         |
| <b>Total for Year 2027</b> |               |          |                                   |                        | <b>1.75</b>   | <b>\$177,345</b> |

| Year                       | Street         | Order ID | Repair Category                   | Repair                 | Miles Treated | Cost             |
|----------------------------|----------------|----------|-----------------------------------|------------------------|---------------|------------------|
| 2028                       | Depot Rd       | 1        | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.25          | \$12,000         |
|                            | Depot Rd       | 2        | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.28          | \$13,680         |
|                            | Jones Xing     | 1        | Rehabilitate and Rebuild          | FDR with HMA 2"        | 0.11          | \$18,479         |
|                            | Starch Mill Rd | 1        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.24          | \$19,975         |
|                            | Starch Mill Rd | 2        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$21,334         |
|                            | Wilton Rd      | 5        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$20,367         |
|                            | Wilton Rd      | 6        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$19,448         |
|                            | Wilton Rd      | 7        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$20,392         |
|                            | Wilton Rd      | 8        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$20,404         |
| <b>Total for Year 2028</b> |                |          |                                   |                        | <b>2.14</b>   | <b>\$166,080</b> |

| Year                       | Street         | Order ID | Repair Category                   | Repair                 | Miles Treated | Cost             |
|----------------------------|----------------|----------|-----------------------------------|------------------------|---------------|------------------|
| 2029                       | Babb Meadow Ln | 1        | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.18          | \$8,901          |
|                            | Babb Meadow Ln | 1        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.18          | \$15,816         |
|                            | Brookline Rd   | 1        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$23,132         |
|                            | Greenville Rd  | 5        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$21,214         |
|                            | Greenville Rd  | 6        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$22,174         |
|                            | Greenville Rd  | 7        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$22,178         |
|                            | Greenville Rd  | 8        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.15          | \$12,884         |
|                            | Jones Xing     | 1        | Pavement Preservation/Maintenance | 3/8" Chip Seal         | 0.11          | \$4,538          |
|                            | Starch Mill Rd | 3        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$22,178         |
|                            | Starch Mill Rd | 4        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.23          | \$20,154         |
| <b>Total for Year 2029</b> |                |          |                                   |                        | <b>2.09</b>   | <b>\$173,169</b> |



| Year         | Street              | Order ID | Repair Category                   | Repair                 | Miles Treated | Cost               |
|--------------|---------------------|----------|-----------------------------------|------------------------|---------------|--------------------|
| 2030         | Brookline Rd        | 13       | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$23,176           |
|              | Emerson Ln          | 1        | Rehabilitate and Rebuild          | FDR with HMA 2" - ASMG | 0.04          | \$3,775            |
|              | Greenville Rd       | 1        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$22,058           |
|              | Greenville Rd       | 3        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$21,058           |
|              | Greenville Rd       | 4        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$21,057           |
|              | Townsend Rd         | 8        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$23,081           |
|              | Townsend Rd         | 9        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.37          | \$34,439           |
|              | Wilton Rd           | 1        | Pavement Preservation/Maintenance | HMA Shim Paving (3/4") | 0.25          | \$23,058           |
|              | Total for Year 2030 |          |                                   |                        | 1.91          | \$171,701          |
| <b>Total</b> |                     |          |                                   |                        | <b>24.13</b>  | <b>\$1,727,405</b> |