

Inventory and Assessment of Road Surfaces

July 29

2013

UNH Technology Transfer Center Field Staff performed Road Inventory and Condition Assessment. Inventory and Assessments were entered into Road Surface Management System (RSMS) software for analysis, prioritization, and generation of repair strategy. Repair strategies and a 10-year budget plan have been prepared in partnership with the town and presented within this report.

Town of
Effingham, NH



Table of Contents

Problem Statement.....	2
Solution: Road Surface Management System.....	2
Identification of Sections	3
Road Condition Rating	3
Section II: Prioritizing Effingham’s Road Repair Needs.....	4
Priority Setting Factors.....	4
Priorities of Effingham’s Roads	5
Section III: Selection of Repair Alternatives.....	5
Inadequate Road Bases.....	5
Repair Alternatives.....	6
Assigning Specific Repairs	7
Section IV: Conclusion – A Capital Improvements Account.....	8
Appendix A: Road Inventory and Condition Survey.....	10
Appendix B: Condition Index and Repairs Ordered by Priority	13
Appendix C: Town Maps	16
Appendix D: Budget Overview	19
Appendix E: Repairs and Cost by Year	21
Appendix F: Repairs & Costs by Road	32

Problem Statement

Paved and aggregate roads require routine and preventative maintenance, which should be done before they require rehabilitation or reconstruction. Approximately 54% of town-maintained roads in Effingham, NH (also referred to as the Town) warrant some type of maintenance or repair at this time. Furthermore, 100% of the Town's road network is recommended for upgrades over the next ten years. Current capital improvements and road maintenance budgets are inadequate to meet these needs. The Town's roads are deteriorating more rapidly than the Highway Department can maintain and reconstruct them. The Town recognizes this problem and is seeking to create a long-term work and budget plan to restore the roads.

Solution: Road Surface Management System

Effingham agreed to engage, through the University of New Hampshire Technology Transfer Center (UNH T²), in road inventory data collection, identification of pavement conditions, and operation of Road Surface Management System (RSMS) software. A team of civil engineers from the University performed the road condition survey and analysis.

The team performed the following tasks using UNH T²'s RSMS data collection protocols and software:

1. Inventoried the road system, dividing the roads into sections as appropriate
2. Determined and documented the conditions of the each section
3. Prioritized maintenance and repair requirements
4. Chose maintenance or repair methods appropriate to each condition category
5. Determined unit costs of these maintenance and repair methods
6. Elected a maintenance or repair method for each road section
7. Established long-term work and budget plans

The survey team developed an inventory of road conditions for all town-maintained roads based on a list of roads derived from NHDOT centerline shapefiles and reviewed by Effingham. Factors were determined for establishing priorities and repair treatment cost estimates. The data was entered into the RSMS program, which developed a prioritized list of maintenance and repair recommendations. This information is contained in the following reports. Working from RSMS reports, town officials can prepare a detailed comprehensive long-term work and budget plan.

Sections 1 through 3 of this report describe how RSMS was applied to Effingham. Section 4 provides a conclusion of the study. Appendices contain reports that summarize the data and serve as a basis for the conclusion.

Section I: Road Network Inventory and Condition Survey

Identification of Sections

The survey team identified road sections based on changes in road geometry, pavement condition, and traffic volume. 51 sections were defined for the 43.7 miles of roads assessed. The sections are listed in Appendix A along with each section's Condition Index (CI).

Road Condition Rating

Rating the condition of all road sections is based on a process similar to common informal practice. Local highway personnel rely heavily on visual inspections and experience to schedule maintenance activities. One problem with the informal approach is that experience is very difficult to transfer from one person to another. It also can be difficult to objectively explain maintenance decisions to local governing bodies. RSMS applies a comprehensive condition rating technique based on sound engineering and management practices. These techniques enable the user to draw objective, consistent, and easy-to-explain conclusions.

Researchers and practitioners have developed several pavement condition rating techniques based on visual inspection. A road section is inspected, and the severity and extent of surface distresses are recorded. RSMS has two sets of road condition distresses, one for paved roads and another for unpaved surfaces. The RSMS distress characteristics for paved roads include:

Paved Roads Distresses

- Longitudinal/transverse cracking
- Alligator cracking
- Edge cracking
- Patching/potholes
- Drainage
- Roughness
- Rutting

Experience with RSMS has shown that users can accurately determine conditions from a vehicle, with closer inspection where necessary. The survey team used RSMS software to enter the road condition information for each section.

Additionally, unpaved roads were also assessed by the field crew. The RSMS distress characteristics for paved roads include:

Unpaved Roads Distresses

- Loose Aggregate
- Corrugation (wash-boarding)
- Potholes
- Cross Section
- Excessive Dust
- Drainage
- Rutting

Appendix A also contains a summary of results from the Road Condition Survey. Based on the road rating information, RSMS assigned every road section to one of five repair strategies. These are used to determine repair alternatives appropriate for each particular road section.

Section II: Prioritizing Effingham's Road Repair Needs

Priority Setting Factors

The most important product of a road management system is a prioritized list of every road section that requires repairs and the costs of those repairs. Such a list enables town officials to make budget decisions based on sound technical and management principles, and to prepare plans for accomplishment of the needed repairs. RSMS can produce three separate prioritized lists, one each for paved and unpaved roads, and a third for all roads. This report regards all town-maintained roads. The priorities are determined based on a set of factors, listed, and discussed below:

- Repair Strategy
- Drainage
- Traffic
- Importance
- Road Conditions
- Road Roughness

All too frequently, municipal officials set priorities by the “worst first” approach; they give the most deteriorated roads the highest priorities. Such roads are also the most expensive to repair, which commits a large amount of town funds to only a few roads. Inadequate funds remain to accomplish the relatively inexpensive preventative and routine maintenance. These roads have low to moderate deterioration and can have their useful lives extended significantly at a lower cost.

Road condition is just one factor that local road managers must consider. Other factors to be considered are:

- Repair Strategy Ranking – Repair strategies are described in the next section.
- Drainage – Evaluated as Good, Fair, or Poor during the condition survey.
- Traffic – The volume of heavily loaded vehicles that normally use the road. The most traveled roads are given the highest value (5), least traveled given the lowest (1), and all other roads evaluated relative to these ratings.
- Importance – The importance of the road to the town, by whatever criteria town officials wish to apply. The most important roads are given the highest value (4), least important given the lowest (1), and all other roads evaluated relative to these ratings.
- Condition – The maximum value of the condition ratings determined during the condition survey (Described in Section 1)
- Roughness – Evaluated as Smooth, Rough, or Very Rough during the condition survey.

Priorities of Effingham's Roads

The survey team entered the data described above into the RSMS software program. The priority list of roads, with applicable repair alternatives, is shown in Appendix B. The UNH team generated this report and selected the best repair for each alternative.

Section III: Selection of Repair Alternatives

Inadequate Road Bases

Many local roads in New Hampshire were established in the 18th and 19th centuries. Some of these were built as “horse and buggy paths” and widened over time. Today, they have become primary arteries in contemporary road networks. Most local roads were in place by 1920. Although mileage has been added to these roads (due to new subdivisions, etc.) newer roads tend to have less traffic than older ones. Roads established before 1920 were earth or aggregate surfaced. As traffic volumes grew, people got tired of having to drive on muddy, soft roads. This created a large demand to pave the roads.

Beginning early in this century and continuing through the early 1960's, paving of local roads accelerated as a number of highway improvement programs attempted to “get the farmer out of the mud.” Even during this period many roads were built poorly. Of greatest importance was the failure to provide different gradations for base and surface aggregates.

Silt and clay “fines” in surface aggregate hold the road surface together by keeping gravel from lolling around under wheel loads. These particles, which are essential for unpaved roads, are inadequate bases for paved roads. Moisture in the base cannot escape through the impervious pavement layer on top. If the pores between load-bearing aggregate bases become clogged with silt or clay, water cannot drain through the sides of the road. The base material stays soft and wet during the spring and fall seasons when groundwater and precipitation find their way into the base, especially through surface cracks. With a high water content base supporting it, the road surface flexes more under vehicle loads. Much like repeatedly bending a paperclip, the more the road flexes the faster it will break. In winter, a wet base material is susceptible to freezing and heaving, which further accelerates roadway deterioration.

In haste to pave their road networks, state and local agencies paved over many miles of surface aggregate. Even if they replaced the base with properly graded aggregate, it was often too thin to support modern heavy vehicles. Today many of these roads need reconstruction to replace the base material. The survey team relied on the local officials to consider this information when selecting maintenance and repair alternatives.

Repair Alternatives

RSMS allows an unlimited number of repair alternatives, which are grouped into five categories.

1. Deferred Maintenance: No action required. The road section is in very good condition.
2. Routine Maintenance: For paved roads, sealing cracks and patching potholes for specific small areas. For unpaved roads, filling small areas and grading the roadway. For both road surface types, routine maintenance should include cleaning ditches and culverts.

Crack sealing, patching, spot re-graveling, ditch and culvert cleaning, and mowing of shoulders and adjacent areas are essential to get the intended service life from a section of pavement. Routine maintenance therefore has the highest value in the RSMS priority setting procedure.

Routine maintenance can usually be performed by the town's road crew, and should be included in the town's annual budget. Roads requiring routine maintenance are slowly but surely deteriorating. Adequate funds should be made available consistently across annual budgets to ensure that roads in good condition remain so.

Unpaved roads are more prone to deterioration due to traffic and weather. For this reason, routine maintenance on unpaved roads is done multiple times in a year to keep the road condition at an acceptable level. All unpaved roads are subject to annual maintenance which is incorporated into the maintenance budget of the roads.

3. Preventive Maintenance: For paved roads, coating of the surface and chip seals of thin (1 ½ inch) overlays are used to prevent or slow further deterioration. For unpaved roads this includes shaping and grading the road surface, as well as adding minor amounts of material as necessary.

Preventative maintenance is performed on roads that are in sufficiently good condition and require inexpensive repair to extend road life. In the RSMS priority setting procedure, preventive maintenance has the second highest value and should receive a high priority in annual funding of highway budgets. Much of the work is within the highway department's capability with the exception of chip seals that are usually performed by contractors. The town should plan to accomplish all preventive maintenance within annual operations budgets.

4. Rehabilitation: Major repairs of the road surface such as an asphalt overlay after surface preparation for a paved road, adding major amounts of gravel to unpaved roads, or re-grading, reshaping, and compacting them.

Rehabilitation is more expensive than routine or preventive maintenance, but less expensive than reconstruction. For paved roads, contractors usually perform rehabilitation repairs. Municipalities should fund them through a Capital Improvements Program (CIP). Large amounts of gravel required for unpaved roads may also be funded through a CIP. Before town officials

attempt to fund these out of annual budgets, they should consider the impact on routine and preventive maintenance. It is much less expensive in the long run to keep good roads in good condition than to let them deteriorate to where they need rehabilitation. On the other hand, roads needing rehabilitation are rapidly deteriorating and will become much worse quickly without adequate funding.

5. Reconstruction: Excavation of the road base, the replacement and often the addition of aggregate, and new paved surface or new wearing surface gravel.

The road including its sub-base has deteriorated to such an extent that the base must be replaced or stabilized. Such conditions are usually caused by too long a period of inadequate maintenance, and by poor subsurface drainage. In the latter conditions, appropriate repair and/or new construction of ditches and culverts should be included in the project.

Reconstruction is so costly that it can absorb a large portion, if not all, of a municipality's annual budget, and therefore allow too small a budget for routine and preventative maintenance. Their accomplishment, therefore, will also best be funded with a CIP.

Assigning Specific Repairs

The RSMS program provides a set of repair alternatives consistent with the repair strategy for each road section's drainage and condition. Appendix C is the maintenance summary of road conditions for Effingham's road sections. UNH T² reviewed these alternatives with the town, and entered any modifications into the program. They also reviewed unit costs for each alternative considering whether the municipality would accomplish a particular repair by contract, with its own labor and equipment, or by a combination of contract and "in-house" labor.

The survey team recommended that the town select the repair for each road section that would make the condition satisfactory. Compromises, if necessary, should be made with continued consideration of the long-term effects.

Rehabilitation and reconstruction alternatives are more complex and involve large amounts of money to implement. Choosing the best repair treatment for roads requiring these strategies often requires knowledge of the road base.

The selected repairs are shown in Appendix E. The road sections are listed in priority order per recommendations of UNH T².

Section IV: Conclusion – A Capital Improvements Account

To implement the RSMS results, the town budget should be separated into two accounts: an Operations Road Maintenance account for routine and preventive maintenance, and a Capital Improvements account for rehabilitation and reconstruction. Annual budgets should be adequate to accomplish all drainage, routine, and preventative maintenance for several years. The estimated Operations Road Maintenance budget is approximately \$110,000 annually. A Budget Summary has been prepared and is presented in Appendix D.

A Capital Improvements budget requires a special commitment from town officials and citizens who attend town meetings. It should enable completion within a specified period of all rehabilitation and reconstruction for both paved and unpaved roads. The plan should specify which rehabilitation and reconstruction projects will be done each year. Usual CIP periods range from three to six years.

A summary of the projected annual costs per UNH T² recommendations is presented in the tables below.

Table 1: Capital and Operations Budget Projections

Year	Operations Road Maintenance ¹	Capital Improvements ²	Total Budget
1	\$127,472.12	\$140,770.66	\$268,242.78
2	\$125,835.94	\$61,692.83	\$187,528.77
3	\$156,248.91	End CI Period	\$156,248.91
4	\$129,442.46	End CI Period	\$129,442.46
5	\$112,056.09	End CI Period	\$112,056.09
6	\$106,156.29	End CI Period	\$106,156.29
7	\$102,661.49	End CI Period	\$102,661.49
8	\$145,203.32	End CI Period	\$145,203.32
9	\$114,177.88	End CI Period	\$114,177.88
10	\$138,316.02	End CI Period	\$138,316.02

¹ Including Patching, Crack Sealing, Surface Coats, Reshaping, and Regrading

² Including Full Rebuild/Replace and Overlays

Table 2: Network Condition Index by Year

Year	Pavement Condition Index Without Repairs	Pavement Condition Index With Repairs	Projected Annual Budget
0	71.94	71.94	N/A
1	71.94	83.17	\$268,242.78
2	69.07	89.5	\$187,528.77
3	66.3	89.77	\$156,248.91
4	63.65	91.12	\$129,442.46
5	61.1	89.91	\$112,056.09
6	58.66	89.21	\$106,156.29
7	56.31	88.62	\$102,661.49
8	54.06	89.18	\$145,203.32
9	51.9	87.52	\$114,177.88
10	49.82	87.65	\$138,316.02

Appendix A: Road Inventory and Condition Survey

Table 3: Asphalt Roads Inventory as of Survey Date

Road Section Name	Length	Survey Date	Alligator Cracks (1/8in)	Edge Cracking (12/24in)	Long. / Trans. Cracks (1/4in)	Patching / Potholes	Roughness
Bailey Rd - 2	4247	7/9/2013	None	None	None	0 - None	1 - Smooth
Bonnyman Rd - 1	1751	7/9/2013	Med Sev/High Ext	High Sev/Low Ext	High Sev/Low Ext	1 - Low (<10% / 5 per 100ft)	2 - Somewhat Rough
Champion Hill Rd	3883	7/9/2013	Med Sev/Med Ext	Med Sev/High Ext	Low Sev/Med Ext	2 - Medium (10-30% / <10 per 100ft)	3 - Rough
Corner Rd	413	7/9/2013	Med Sev/Low Ext	Low Sev/High Ext	Med Sev/Low Ext	0 - None	1 - Smooth
Drake Rd	4739	7/9/2013	High Sev/Med Ext	Low Sev/Low Ext	Med Sev/Med Ext	2 - Medium (10-30% / <10 per 100ft)	2 - Somewhat Rough
Elm St	6384	7/9/2013	Med Sev/High Ext	Low Sev/High Ext	Med Sev/High Ext	3 - High (30+% / 1-+ per 100ft)	2 - Somewhat Rough
Green Mountain Rd - 1	5139	7/9/2013	Med Sev/Med Ext	High Sev/Low Ext	Med Sev/Low Ext	1 - Low (<10% / 5 per 100ft)	1 - Smooth
Green Mountain Rd - 2	1164	7/9/2013	None	None	Low Sev/Low Ext	0 - None	1 - Smooth
Green Mountain Rd - 3	13320	7/9/2013	Low Sev/Low Ext	Low Sev/High Ext	High Sev/Med Ext	2 - Medium (10-30% / <10 per 100ft)	1 - Smooth
Green Mountain Rd - 4	7575	7/9/2013	Low Sev/Med Ext	Low Sev/Med Ext	Med Sev/Med Ext	1 - Low (<10% / 5 per 100ft)	1 - Smooth
High Watch Rd	6942	7/9/2013	None	Low Sev/Low Ext	Med Sev/Low Ext	0 - None	1 - Smooth
Huntress Bridge Rd - 1	418	7/9/2013	High Sev/High Ext	High Sev/High Ext	High Sev/High Ext	3 - High (30+% / 1-+ per 100ft)	2 - Somewhat Rough
Huntress Bridge Rd - 2	3969	7/9/2013	None	Low Sev/Med Ext	None	0 - None	1 - Smooth
Iron Works Rd	3092	7/9/2013	Low Sev/Low Ext	Low Sev/High Ext	High Sev/Med Ext	2 - Medium (10-30% / <10 per 100ft)	2 - Somewhat Rough
Jones Rd	4074	7/9/2013	Low Sev/Low Ext	Med Sev/Low Ext	Med Sev/High Ext	1 - Low (<10% / 5 per 100ft)	1 - Smooth
Leavitt Rd	647	7/9/2013	Low Sev/Low Ext	Med Sev/Low Ext	Med Sev/Low Ext	1 - Low (<10% / 5 per 100ft)	1 - Smooth
Nutter Rd - 1	246	7/9/2013	Low Sev/High Ext	Low Sev/High Ext	Low Sev/High Ext	0 - None	1 - Smooth
Old Pound Rd - 1	3629	7/9/2013	Low Sev/High Ext	Low Sev/Low Ext	Med Sev/Med Ext	1 - Low (<10% / 5 per 100ft)	1 - Smooth
Pine River Rd	12225	7/9/2013	Med Sev/Low Ext	Low Sev/Med Ext	Low Sev/Med Ext	2 - Medium (10-30% / <10 per 100ft)	1 - Smooth
Ryefield Rd	3151	7/9/2013	Med Sev/Med Ext	Low Sev/High Ext	High Sev/Low Ext	1 - Low (<10% / 5 per 100ft)	2 - Somewhat Rough
School St	4178	7/9/2013	Med Sev/Med Ext	Low Sev/High Ext	High Sev/Med Ext	2 - Medium (10-30% / <10 per 100ft)	2 - Somewhat Rough
Snow Rd - 1	1906	7/9/2013	Med Sev/Med Ext	Low Sev/Med Ext	Med Sev/Low Ext	1 - Low (<10% / 5 per 100ft)	1 - Smooth
Stillings Ln	298	7/9/2013	None	Low Sev/High Ext	Low Sev/Low Ext	1 - Low (<10% / 5 per 100ft)	2 - Somewhat Rough
Storage Rd	496	7/9/2013	High Sev/High Ext	High Sev/High Ext	High Sev/High Ext	3 - High (30+% / 1-+ per 100ft)	3 - Rough
Town House Rd - 1	10842	7/9/2013	Med Sev/Med Ext	Med Sev/High Ext	High Sev/Med Ext	2 - Medium (10-30% / <10 per 100ft)	2 - Somewhat Rough
Town House Rd - 2	6419	7/9/2013	None	None	Low Sev/Low Ext	0 - None	1 - Smooth
Winter Rd	951	7/9/2013	None	None	None	0 - None	1 - Smooth

Table 4: Unpaved Roads Inventory as of Survey Date

Road Section Name	Length	Survey Date	Corrugations	Cross Section	Dust Control	Loose Aggregate	Potholes
Bailey Rd - 1	2336	7/9/2013	Low Sev/High Ext	2 - Medium crown / minor ponding	1 - Low dust	Low Sev/Med Ext	Low Sev/High Ext
Bonnyman Rd - 2	2597	7/9/2013	Med Sev/Med Ext	1 - High crown / no ponding	1 - Low dust	Low Sev/High Ext	Low Sev/Low Ext
Cemetery Rd	1291	7/9/2013	Med Sev/Med Ext	3 - Low crown / ponding	1 - Low dust	High Sev/Med Ext	Med Sev/High Ext
Clough Rd	9162	7/9/2013	Med Sev/Med Ext	1 - High crown / no ponding	1 - Low dust	Low Sev/Low Ext	Med Sev/Low Ext
Colcord Hill Rd	3647	7/9/2013	Low Sev/High Ext	1 - High crown / no ponding	1 - Low dust	Low Sev/Med Ext	Med Sev/Low Ext
Granite Rd	9798	7/9/2013	Med Sev/Med Ext	2 - Medium crown / minor ponding	1 - Low dust	Low Sev/Med Ext	None
Hobbs Rd	7679	7/9/2013	Low Sev/High Ext	2 - Medium crown / minor ponding	1 - Low dust	Low Sev/High Ext	Low Sev/Low Ext
Huntress Bridge Rd - 3	1800	7/9/2013	Low Sev/High Ext	1 - High crown / no ponding	1 - Low dust	Low Sev/Low Ext	Med Sev/High Ext
Hutchens Pond Rd	8530	7/9/2013	Med Sev/High Ext	2 - Medium crown / minor ponding	1 - Low dust	Med Sev/High Ext	High Sev/Med Ext
Jack Russell Rd	2217	7/9/2013	Med Sev/Low Ext	2 - Medium crown / minor ponding	1 - Low dust	Low Sev/High Ext	Low Sev/Low Ext
Libby Rd	666	7/9/2013	Low Sev/Low Ext	2 - Medium crown / minor ponding	1 - Low dust	Low Sev/High Ext	Low Sev/Low Ext
Molly Philbrick Rd - 1	4767	7/9/2013	Low Sev/High Ext	2 - Medium crown / minor ponding	1 - Low dust	Med Sev/High Ext	High Sev/Low Ext
Molly Philbrick Rd - 2	5034	7/9/2013	Low Sev/High Ext	2 - Medium crown / minor ponding	1 - Low dust	Low Sev/High Ext	Low Sev/High Ext
Moody Rd	2530	7/9/2013	Low Sev/Low Ext	2 - Medium crown / minor ponding	1 - Low dust	Low Sev/Low Ext	Low Sev/High Ext
Nutter Rd - 2	3547	7/9/2013	Low Sev/High Ext	1 - High crown / no ponding	1 - Low dust	Low Sev/High Ext	Low Sev/Low Ext
Old Pound Rd - 2	3736	7/9/2013	Med Sev/Low Ext	1 - High crown / no ponding	1 - Low dust	Low Sev/Med Ext	Med Sev/Med Ext
Plantation Rd	3696	7/9/2013	Low Sev/High Ext	2 - Medium crown / minor ponding	1 - Low dust	Low Sev/Med Ext	Low Sev/Low Ext
Pratt Rd	884	7/9/2013	Med Sev/Med Ext	1 - High crown / no ponding	1 - Low dust	Low Sev/Low Ext	Med Sev/High Ext
Rumney Hill Rd	1901	7/9/2013	Low Sev/High Ext	1 - High crown / no ponding	1 - Low dust	Low Sev/Low Ext	Low Sev/Med Ext
Simon Hill Rd	8591	7/9/2013	Low Sev/High Ext	2 - Medium crown / minor ponding	1 - Low dust	Low Sev/High Ext	Med Sev/Low Ext
Snow Rd - 2	4181	7/9/2013	None	1 - High crown / no ponding	1 - Low dust	None	None
Stevens Rd	5815	7/9/2013	Low Sev/Med Ext	1 - High crown / no ponding	1 - Low dust	Low Sev/Low Ext	Med Sev/High Ext
West Range Rd	1472	7/9/2013	Low Sev/Low Ext	2 - Medium crown / minor ponding	1 - Low dust	Low Sev/Low Ext	None
Wilkinson Swamp Rd	12643	7/9/2013	Low Sev/Med Ext	1 - High crown / no ponding	1 - Low dust	Low Sev/High Ext	Med Sev/Med Ext

Appendix B: Condition Index and Repairs Ordered by Priority

Table 5: Condition Index and Repairs by Priority

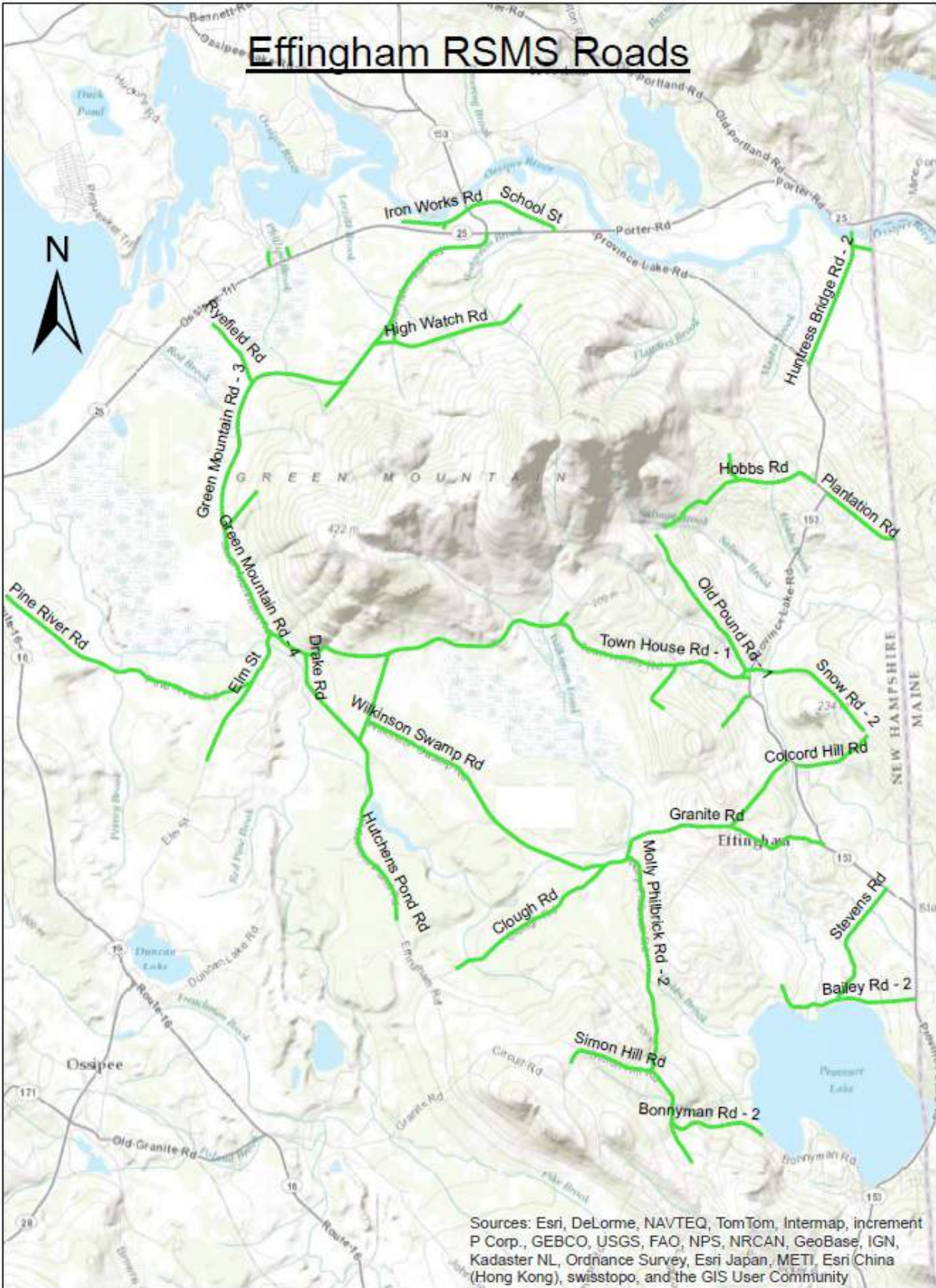
Priority	Current CI	Year 10 CI	Road Name	Length	Repair Category
1,500	80	82	Pine River Rd	12225	Crack Seal
1,400	80	98.59	Green Mountain Rd - 4	7575	Surface Coat
1,125	93	85	High Watch Rd	6942	Crack Seal
1,100	76	82.48	Nutter Rd - 1	246	Surface Coat
1,000	82	99	Corner Rd	413	Surface Coat
1,000	80	82.3	Jones Rd	4074	Surface Coat
1,000	69	100	Simon Hill Rd	8591	Reshape Minor Material
900	69	100	Bailey Rd - 1	2336	Reshape Minor Material
900	80	85	Old Pound Rd - 1	3629	Surface Coat
900	75	100	Plantation Rd	3696	Reshape Minor Material
800	77	75	Green Mountain Rd - 1	5139	Overlay
800	74	73.59	Green Mountain Rd - 3	13320	Overlay
800	57	62	Town House Rd - 1	10842	Overlay
750	98	65.15	Green Mountain Rd - 2	1164	Satisfactory
750	98	65	Town House Rd - 2	6419	Satisfactory
700	83	100	Clough Rd	9162	Grade Major Material
700	77	100	Granite Rd	9798	Grade Major Material
700	72	100	Hobbs Rd	7679	Reshape Minor Material
700	75	100	Jack Russell Rd	2217	Reshape Minor Material
700	78	100	Libby Rd	666	Reshape Minor Material
700	66	100	Molly Philbrick Rd - 2	5034	Reshape Minor Material
700	78	100	Moody Rd	2530	Reshape Minor Material
700	66	95	Ryefield Rd	3151	Overlay
700	60	89.74	School St	4178	Overlay
700	80	85	Stillings Ln	298	Surface Coat
700	86	100	West Range Rd	1472	Reshape Minor Material
650	57	93	Champion Hill Rd	3883	Overlay
650	80	100	Nutter Rd - 2	3547	Grade Major Material
625	86	90	Leavitt Rd	647	Patch
600	66	97.7	Drake Rd	4739	Overlay
550	80	100	Bonnyman Rd - 2	2597	Grade Major Material
550	77	100	Huntress Bridge Rd - 3	1800	Grade Major Material
550	80	100	Old Pound Rd - 2	3736	Grade Major Material
550	80	100	Stevens Rd	5815	Grade Major Material
525	100	66	Winter Rd	951	Satisfactory
500	80	100	Colcord Hill Rd	3647	Grade Major Material
500	57	100	Hutchens Pond Rd	8530	Grade Major Material
500	66	75.93	Iron Works Rd	3092	Overlay
500	80	81	Snow Rd - 1	1906	Overlay
500	98	100	Snow Rd - 2	4181	Grade Major Material
500	77	100	Wilkinson Swamp Rd	12643	Grade Major Material
450	54	100	Cemetery Rd	1291	Grade Major Material
450	48	54	Elm St	6384	Rebuild/Replace
450	63	100	Molly Philbrick Rd - 1	4767	Grade Major Material
450	77	100	Pratt Rd	884	Grade Major Material
450	83	100	Rumney Hill Rd	1901	Grade Major Material
375	100	66	Bailey Rd - 2	4247	Satisfactory
375	95	63.16	Huntress Bridge Rd - 2	3969	Satisfactory
325	63	64	Bonnyman Rd - 1	1751	Rebuild/Replace

Priority	Current CI	Year 10 CI	Road Name	Length	Repair Category
325	36	48.49	Huntress Bridge Rd - 1	418	Rebuild/Replace
275	30	46	Storage Rd	496	Rebuild/Replace

Appendix C: Town Maps

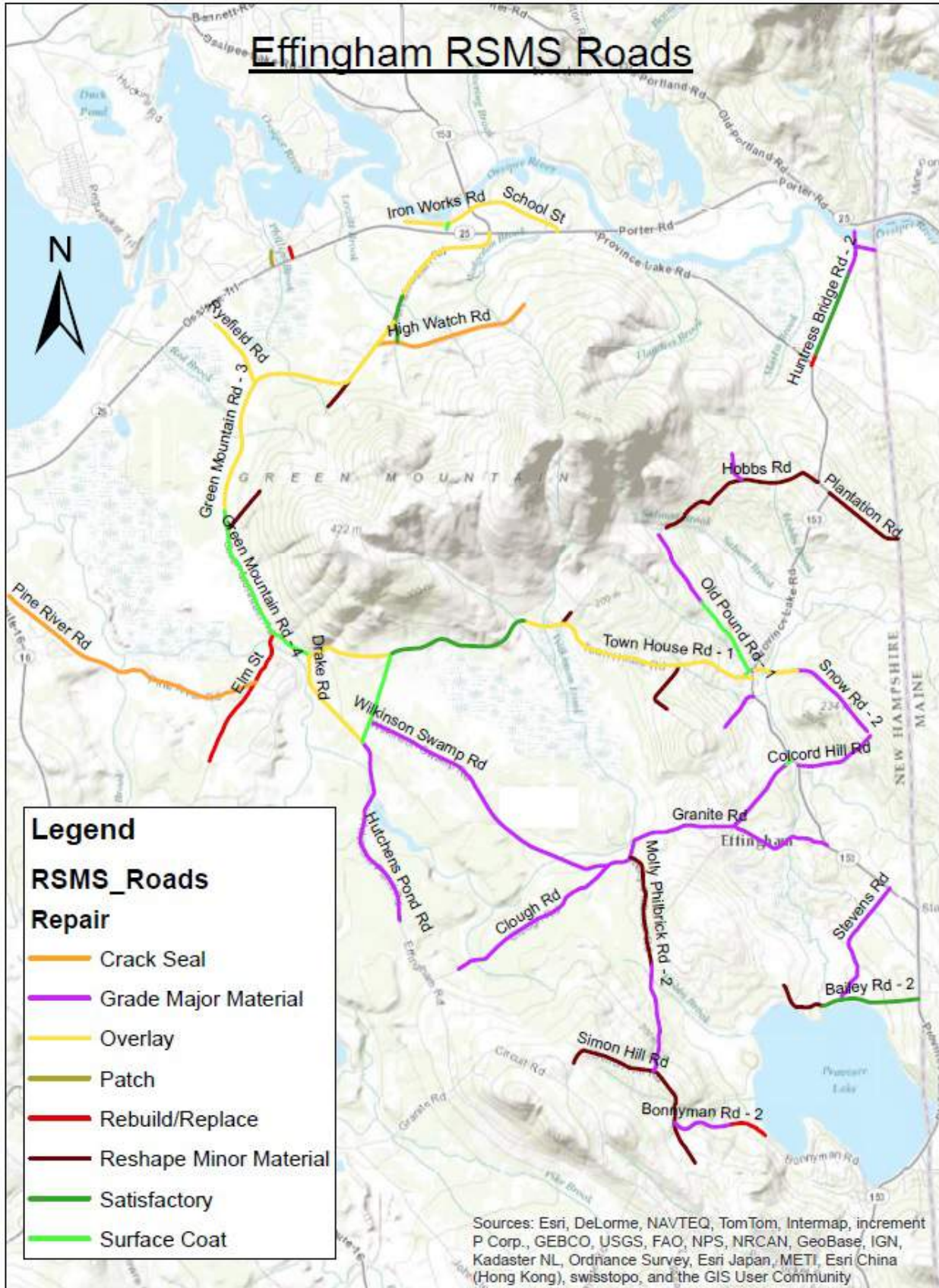
Roads Assessed and Analyzed Using RSMS

Town of Effingham, NH



Recommended Repairs by Category

Town of Effingham, NH



Appendix D: Budget Overview

Annual Cost by Repair Category

The annual costs of repairs grouped by repair category. Note that the costs shown reflect the sum of the repairs selected for each asset individually regardless of if they are recommended or not.

Repair Category	Cost Yr 1	2	3	4	5	6	7	8	9	10
Crack Seal	\$0.00	\$0.00	\$0.00	\$6,686.98	\$0.00	\$0.00	\$12,136.58	\$0.00	\$0.00	\$0.00
Grade Major Material	\$34,751.42	\$37,161.29	\$30,963.73	\$41,547.51	\$51,461.71	\$42,703.05	\$69,463.68	\$39,518.44	\$60,809.07	\$52,523.88
Overlay	\$79,785.33	\$71,996.22	\$108,068.98	\$59,923.17	\$42,393.60	\$46,944.06	\$0.00	\$83,475.77	\$34,257.37	\$54,106.17
Patch	\$0.00	\$0.00	\$0.00	\$0.00	\$2,477.74	\$0.00	\$0.00	\$0.00	\$0.00	\$3,162.30
Rebuild/Replace	\$140,770.66	\$61,692.83	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Reshape Minor Material	\$12,935.38	\$13,582.15	\$14,261.25	\$14,974.31	\$15,723.03	\$16,509.18	\$17,334.64	\$18,201.37	\$19,111.44	\$20,067.01
Satisfactory	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Surface Coat	\$0.00	\$3,096.29	\$2,954.94	\$6,310.49	\$0.00	\$0.00	\$3,726.60	\$4,007.73	\$0.00	\$8,456.66
Total	268,242.78	187,528.77	156,248.91	129,442.46	112,056.09	106,156.29	102,661.49	145,203.32	114,177.88	138,316.02

Appendix E: Repairs and Cost by Year

Table 6: Repairs for Year 1

Year 1		
Road Name	Repair	Cost
Bailey Rd - 1	Minor Reshape Annual Maintenance	\$883.13
Bonnyman Rd - 2	Minor Reshape Annual Maintenance	\$981.73
Cemetery Rd	Minor Reshape Annual Maintenance	\$487.98
Clough Rd	Minor Reshape Annual Maintenance	\$3,463.41
Colcord Hill Rd	Minor Reshape Annual Maintenance	\$1,378.57
Elm St	Ditch, replace 6in base, 2in surface	\$140,770.66
Granite Rd	Minor Reshape Annual Maintenance	\$3,703.63
Hobbs Rd	Minor Reshape Annual Maintenance	\$2,902.56
Huntress Bridge Rd - 3	Minor Reshape Annual Maintenance	\$680.38
Hutchens Pond Rd	Minor Reshape Annual Maintenance	\$3,224.36
Jack Russell Rd	Minor Reshape Annual Maintenance	\$837.90
Libby Rd	Minor Reshape Annual Maintenance	\$251.63
Molly Philbrick Rd - 1	Major Regrade Gravel	\$4,804.94
Molly Philbrick Rd - 2	Minor Reshape Annual Maintenance	\$1,902.88
Moody Rd	Minor Reshape Annual Maintenance	\$956.46
Nutter Rd - 2	Minor Reshape Annual Maintenance	\$1,340.64
Old Pound Rd - 2	Minor Reshape Annual Maintenance	\$1,412.22
Plantation Rd	Minor Reshape Annual Maintenance	\$1,396.98
Pratt Rd	Minor Reshape Annual Maintenance	\$334.18
Rumney Hill Rd	Minor Reshape Annual Maintenance	\$718.52
Simon Hill Rd	Minor Reshape Annual Maintenance	\$3,247.39
Snow Rd - 2	Minor Reshape Annual Maintenance	\$1,580.48
Stevens Rd	Major Regrade Gravel	\$5,861.30
Town House Rd - 1	1.5in HMA overlay	\$79,785.33
West Range Rd	Minor Reshape Annual Maintenance	\$556.44
Wilkinson Swamp Rd	Minor Reshape Annual Maintenance	\$4,779.08
Total Cost for Year 1:		\$268,242.78

Table 7: Year 2 Repairs

Year 2		
Road Name	Repair	Cost
Bailey Rd - 1	Minor Reshape Annual Maintenance	\$927.29
Bonnyman Rd - 1	Ditch, replace 6in base, 2in surface	\$40,537.89
Bonnyman Rd - 2	Minor Reshape Annual Maintenance	\$1,030.81
Cemetery Rd	Minor Reshape Annual Maintenance	\$512.38
Clough Rd	Minor Reshape Annual Maintenance	\$3,636.58
Colcord Hill Rd	Minor Reshape Annual Maintenance	\$1,447.49
Granite Rd	Major Regrade Gravel	\$10,370.15
Green Mountain Rd - 1	1.5in HMA overlay	\$39,711.32
Hobbs Rd	Minor Reshape Annual Maintenance	\$3,047.69
Huntress Bridge Rd - 1	Ditch, replace 6in base, 2in surface	\$9,679.28
Huntress Bridge Rd - 3	Major Regrade Gravel	\$1,905.07
Hutchens Pond Rd	Minor Reshape Annual Maintenance	\$3,385.58
Jack Russell Rd	Minor Reshape Annual Maintenance	\$879.79
Jones Rd	Ditch, fill/seal cracks	\$2,919.89
Libby Rd	Minor Reshape Annual Maintenance	\$264.21
Molly Philbrick Rd - 1	Minor Reshape Annual Maintenance	\$1,891.94
Molly Philbrick Rd - 2	Minor Reshape Annual Maintenance	\$1,998.03
Moody Rd	Minor Reshape Annual Maintenance	\$1,004.28
Nutter Rd - 1	Ditch, fill/seal cracks	\$176.40
Nutter Rd - 2	Minor Reshape Annual Maintenance	\$1,407.67
Old Pound Rd - 2	Minor Reshape Annual Maintenance	\$1,482.84
Plantation Rd	Minor Reshape Annual Maintenance	\$1,466.83
Pratt Rd	Minor Reshape Annual Maintenance	\$350.89
Rumney Hill Rd	Minor Reshape Annual Maintenance	\$754.44
School St	1.5in HMA overlay	\$32,284.90
Simon Hill Rd	Minor Reshape Annual Maintenance	\$3,409.76
Snow Rd - 2	Minor Reshape Annual Maintenance	\$1,659.53
Stevens Rd	Minor Reshape Annual Maintenance	\$2,307.89
Storage Rd	Ditch, replace 6in base, 2in surface	\$11,475.65
West Range Rd	Minor Reshape Annual Maintenance	\$584.27
Wilkinson Swamp Rd	Minor Reshape Annual Maintenance	\$5,018.03
Total Cost for Year 2:		\$187,528.77

Table 8: Year 3 Repairs

Year 3		
Road Name	Repair	Cost
Bailey Rd - 1	Minor Reshape Annual Maintenance	\$973.68
Bonnyman Rd - 2	Minor Reshape Annual Maintenance	\$1,082.35
Cemetery Rd	Minor Reshape Annual Maintenance	\$538.00
Clough Rd	Minor Reshape Annual Maintenance	\$3,818.40
Colcord Hill Rd	Minor Reshape Annual Maintenance	\$1,519.87
Granite Rd	Minor Reshape Annual Maintenance	\$4,083.25
Green Mountain Rd - 3	1.5in HMA overlay	\$108,068.98
Hobbs Rd	Minor Reshape Annual Maintenance	\$3,200.07
Huntress Bridge Rd - 3	Minor Reshape Annual Maintenance	\$750.12
Hutchens Pond Rd	Minor Reshape Annual Maintenance	\$3,554.86
Jack Russell Rd	Minor Reshape Annual Maintenance	\$923.78
Libby Rd	Minor Reshape Annual Maintenance	\$277.42
Molly Philbrick Rd - 1	Minor Reshape Annual Maintenance	\$1,986.54
Molly Philbrick Rd - 2	Minor Reshape Annual Maintenance	\$2,097.93
Moody Rd	Minor Reshape Annual Maintenance	\$1,054.49
Nutter Rd - 2	Minor Reshape Annual Maintenance	\$1,478.05
Old Pound Rd - 1	Ditch, fill/seal cracks	\$2,730.85
Old Pound Rd - 2	Minor Reshape Annual Maintenance	\$1,556.98
Plantation Rd	Minor Reshape Annual Maintenance	\$1,540.17
Pratt Rd	Minor Reshape Annual Maintenance	\$368.44
Rumney Hill Rd	Minor Reshape Annual Maintenance	\$792.16
Simon Hill Rd	Minor Reshape Annual Maintenance	\$3,580.25
Snow Rd - 2	Minor Reshape Annual Maintenance	\$1,742.49
Stevens Rd	Minor Reshape Annual Maintenance	\$2,423.28
Stillings Ln	Ditch, fill/seal cracks	\$224.09
West Range Rd	Minor Reshape Annual Maintenance	\$613.48
Wilkinson Swamp Rd	Minor Reshape Annual Maintenance	\$5,268.93
Total Cost for Year 3:		\$156,248.91

Table 9: Year 4 Repairs

Year 4		
Road Name	Repair	Cost
Bailey Rd - 1	Minor Reshape Annual Maintenance	\$1,022.34
Bonnyman Rd - 2	Minor Reshape Annual Maintenance	\$1,136.47
Cemetery Rd	Major Regrade Gravel	\$1,506.39
Champion Hill Rd	1.5in HMA overlay	\$33,081.62
Clough Rd	Minor Reshape Annual Maintenance	\$4,009.32
Colcord Hill Rd	Minor Reshape Annual Maintenance	\$1,595.86
Corner Rd	Ditch, fill/seal cracks	\$325.91
Granite Rd	Minor Reshape Annual Maintenance	\$4,287.41
Green Mountain Rd - 4	Ditch, fill/seal cracks	\$5,984.58
Hobbs Rd	Minor Reshape Annual Maintenance	\$3,360.08
Huntress Bridge Rd - 2	Defer maintenance	\$0.00
Huntress Bridge Rd - 3	Minor Reshape Annual Maintenance	\$787.63
Hutchens Pond Rd	Minor Reshape Annual Maintenance	\$3,732.60
Jack Russell Rd	Minor Reshape Annual Maintenance	\$969.97
Libby Rd	Minor Reshape Annual Maintenance	\$291.29
Molly Philbrick Rd - 1	Major Regrade Gravel	\$5,562.32
Molly Philbrick Rd - 2	Minor Reshape Annual Maintenance	\$2,202.82
Moody Rd	Minor Reshape Annual Maintenance	\$1,107.22
Nutter Rd - 2	Major Regrade Gravel	\$4,138.55
Old Pound Rd - 2	Minor Reshape Annual Maintenance	\$1,634.83
Pine River Rd	Fill/seal cracks	\$6,686.98
Plantation Rd	Minor Reshape Annual Maintenance	\$1,617.18
Pratt Rd	Major Regrade Gravel	\$1,031.62
Rumney Hill Rd	Major Regrade Gravel	\$2,218.06
Ryefield Rd	1.5in HMA overlay	\$26,841.55
Simon Hill Rd	Minor Reshape Annual Maintenance	\$3,759.26
Snow Rd - 2	Minor Reshape Annual Maintenance	\$1,829.63
Stevens Rd	Minor Reshape Annual Maintenance	\$2,544.44
West Range Rd	Minor Reshape Annual Maintenance	\$644.15
Wilkinson Swamp Rd	Minor Reshape Annual Maintenance	\$5,532.38
Total Cost for Year 4:		\$129,442.46

Table 10: Year 5 Repairs

Year 5		
Road Name	Repair	Cost
Bailey Rd - 1	Minor Reshape Annual Maintenance	\$1,073.46
Bonnyman Rd - 2	Major Regrade Gravel	\$3,182.12
Cemetery Rd	Minor Reshape Annual Maintenance	\$593.14
Clough Rd	Minor Reshape Annual Maintenance	\$4,209.79
Colcord Hill Rd	Major Regrade Gravel	\$4,468.41
Drake Rd	1.5in HMA overlay	\$42,393.60
Granite Rd	Minor Reshape Annual Maintenance	\$4,501.78
Green Mountain Rd - 2	Defer maintenance	\$0.00
Hobbs Rd	Minor Reshape Annual Maintenance	\$3,528.08
Huntress Bridge Rd - 3	Minor Reshape Annual Maintenance	\$827.01
Hutchens Pond Rd	Minor Reshape Annual Maintenance	\$3,919.23
Jack Russell Rd	Minor Reshape Annual Maintenance	\$1,018.47
Leavitt Rd	Hot Mix Patch	\$2,477.74
Libby Rd	Minor Reshape Annual Maintenance	\$305.86
Molly Philbrick Rd - 1	Minor Reshape Annual Maintenance	\$2,190.16
Molly Philbrick Rd - 2	Minor Reshape Annual Maintenance	\$2,312.97
Moody Rd	Minor Reshape Annual Maintenance	\$1,162.58
Nutter Rd - 2	Minor Reshape Annual Maintenance	\$1,629.57
Old Pound Rd - 2	Major Regrade Gravel	\$4,577.51
Plantation Rd	Minor Reshape Annual Maintenance	\$1,698.04
Pratt Rd	Minor Reshape Annual Maintenance	\$406.20
Rumney Hill Rd	Minor Reshape Annual Maintenance	\$873.36
Simon Hill Rd	Minor Reshape Annual Maintenance	\$3,947.22
Snow Rd - 2	Minor Reshape Annual Maintenance	\$1,921.10
Stevens Rd	Minor Reshape Annual Maintenance	\$2,671.67
Town House Rd - 2	Defer maintenance	\$0.00
West Range Rd	Minor Reshape Annual Maintenance	\$676.36
Wilkinson Swamp Rd	Major Regrade Gravel	\$15,490.66
Total Cost for Year 5:		\$112,056.09

Table 11: Year 6 Repairs

Year 6		
Road Name	Repair	Cost
Bailey Rd - 1	Minor Reshape Annual Maintenance	\$1,127.13
Bailey Rd - 2	Defer maintenance	\$0.00
Bonnyman Rd - 2	Minor Reshape Annual Maintenance	\$1,252.96
Cemetery Rd	Minor Reshape Annual Maintenance	\$622.80
Clough Rd	Minor Reshape Annual Maintenance	\$4,420.28
Colcord Hill Rd	Minor Reshape Annual Maintenance	\$1,759.44
Granite Rd	Minor Reshape Annual Maintenance	\$4,726.87
Hobbs Rd	Minor Reshape Annual Maintenance	\$3,704.49
Huntress Bridge Rd - 3	Minor Reshape Annual Maintenance	\$868.36
Hutchens Pond Rd	Major Regrade Gravel	\$10,973.85
Iron Works Rd	1.5in HMA overlay	\$29,043.18
Jack Russell Rd	Minor Reshape Annual Maintenance	\$1,069.39
Libby Rd	Minor Reshape Annual Maintenance	\$321.15
Molly Philbrick Rd - 1	Minor Reshape Annual Maintenance	\$2,299.67
Molly Philbrick Rd - 2	Minor Reshape Annual Maintenance	\$2,428.61
Moody Rd	Minor Reshape Annual Maintenance	\$1,220.71
Nutter Rd - 2	Minor Reshape Annual Maintenance	\$1,711.03
Old Pound Rd - 2	Minor Reshape Annual Maintenance	\$1,802.40
Plantation Rd	Minor Reshape Annual Maintenance	\$1,782.94
Pratt Rd	Minor Reshape Annual Maintenance	\$426.51
Rumney Hill Rd	Minor Reshape Annual Maintenance	\$917.03
Simon Hill Rd	Minor Reshape Annual Maintenance	\$4,144.58
Snow Rd - 1	1.5in HMA overlay	\$17,900.87
Snow Rd - 2	Minor Reshape Annual Maintenance	\$2,017.16
Stevens Rd	Minor Reshape Annual Maintenance	\$2,805.25
West Range Rd	Minor Reshape Annual Maintenance	\$710.18
Wilkinson Swamp Rd	Minor Reshape Annual Maintenance	\$6,099.45
Winter Rd	Defer maintenance	\$0.00
Total Cost for Year 6:		\$106,156.29

Table 12: Year 7 Repairs

Year 7		
Road Name	Repair	Cost
Bailey Rd - 1	Minor Reshape Annual Maintenance	\$1,183.49
Bonnyman Rd - 2	Minor Reshape Annual Maintenance	\$1,315.61
Cemetery Rd	Major Regrade Gravel	\$1,743.84
Clough Rd	Major Regrade Gravel	\$12,376.78
Colcord Hill Rd	Minor Reshape Annual Maintenance	\$1,847.41
Granite Rd	Major Regrade Gravel	\$13,235.23
High Watch Rd	Fill/seal cracks	\$4,395.56
Hobbs Rd	Minor Reshape Annual Maintenance	\$3,889.71
Huntress Bridge Rd - 3	Major Regrade Gravel	\$2,431.41
Hutchens Pond Rd	Minor Reshape Annual Maintenance	\$4,320.93
Jack Russell Rd	Minor Reshape Annual Maintenance	\$1,122.86
Jones Rd	Ditch, fill/seal cracks	\$3,726.60
Libby Rd	Minor Reshape Annual Maintenance	\$337.21
Molly Philbrick Rd - 1	Major Regrade Gravel	\$6,439.08
Molly Philbrick Rd - 2	Minor Reshape Annual Maintenance	\$2,550.05
Moody Rd	Minor Reshape Annual Maintenance	\$1,281.74
Nutter Rd - 2	Minor Reshape Annual Maintenance	\$1,796.59
Old Pound Rd - 2	Minor Reshape Annual Maintenance	\$1,892.52
Pine River Rd	Fill/seal cracks	\$7,741.01
Plantation Rd	Minor Reshape Annual Maintenance	\$1,872.09
Pratt Rd	Major Regrade Gravel	\$1,194.23
Rumney Hill Rd	Minor Reshape Annual Maintenance	\$962.88
Simon Hill Rd	Minor Reshape Annual Maintenance	\$4,351.81
Snow Rd - 2	Major Regrade Gravel	\$5,648.04
Stevens Rd	Major Regrade Gravel	\$7,854.70
West Range Rd	Minor Reshape Annual Maintenance	\$745.69
Wilkinson Swamp Rd	Minor Reshape Annual Maintenance	\$6,404.42
Total Cost for Year 7:		\$102,661.49

Table 13: Year 8 Repairs

Year 8		
Road Name	Repair	Cost
Bailey Rd - 1	Minor Reshape Annual Maintenance	\$1,242.69
Bonnyman Rd - 2	Minor Reshape Annual Maintenance	\$1,381.39
Cemetery Rd	Minor Reshape Annual Maintenance	\$686.64
Champion Hill Rd	1.5in HMA overlay	\$40,210.91
Clough Rd	Minor Reshape Annual Maintenance	\$4,873.36
Colcord Hill Rd	Minor Reshape Annual Maintenance	\$1,939.78
Granite Rd	Minor Reshape Annual Maintenance	\$5,211.37
Hobbs Rd	Minor Reshape Annual Maintenance	\$4,084.20
Huntress Bridge Rd - 3	Minor Reshape Annual Maintenance	\$957.37
Hutchens Pond Rd	Minor Reshape Annual Maintenance	\$4,537.00
Jack Russell Rd	Minor Reshape Annual Maintenance	\$1,179.00
Libby Rd	Minor Reshape Annual Maintenance	\$354.07
Molly Philbrick Rd - 1	Minor Reshape Annual Maintenance	\$2,535.39
Molly Philbrick Rd - 2	Minor Reshape Annual Maintenance	\$2,677.55
Moody Rd	Minor Reshape Annual Maintenance	\$1,345.83
Nutter Rd - 1	Ditch, fill/seal cracks	\$236.39
Nutter Rd - 2	Minor Reshape Annual Maintenance	\$1,886.41
Old Pound Rd - 1	Ditch, fill/seal cracks	\$3,485.33
Old Pound Rd - 2	Minor Reshape Annual Maintenance	\$1,987.14
Plantation Rd	Minor Reshape Annual Maintenance	\$1,965.69
Pratt Rd	Minor Reshape Annual Maintenance	\$470.23
Rumney Hill Rd	Minor Reshape Annual Maintenance	\$1,011.02
School St	1.5in HMA overlay	\$43,264.85
Simon Hill Rd	Minor Reshape Annual Maintenance	\$4,569.40
Snow Rd - 2	Minor Reshape Annual Maintenance	\$2,223.91
Stevens Rd	Minor Reshape Annual Maintenance	\$3,092.79
Stillings Ln	Ditch, fill/seal cracks	\$286.00
West Range Rd	Minor Reshape Annual Maintenance	\$782.97
Wilkinson Swamp Rd	Minor Reshape Annual Maintenance	\$6,724.64
Total Cost for Year 8:		\$145,203.32

Table 14: Year 9 Repairs

Year 9		
Road Name	Repair	Cost
Bailey Rd - 1	Minor Reshape Annual Maintenance	\$1,304.79
Bonnyman Rd - 2	Minor Reshape Annual Maintenance	\$1,450.46
Cemetery Rd	Major Regrade Gravel	\$1,922.58
Clough Rd	Minor Reshape Annual Maintenance	\$5,117.03
Colcord Hill Rd	Major Regrade Gravel	\$5,431.38
Granite Rd	Minor Reshape Annual Maintenance	\$5,471.94
Hobbs Rd	Minor Reshape Annual Maintenance	\$4,288.41
Huntress Bridge Rd - 3	Minor Reshape Annual Maintenance	\$1,005.24
Hutchens Pond Rd	Major Regrade Gravel	\$12,703.60
Jack Russell Rd	Minor Reshape Annual Maintenance	\$1,237.95
Libby Rd	Minor Reshape Annual Maintenance	\$371.77
Molly Philbrick Rd - 1	Minor Reshape Annual Maintenance	\$2,662.16
Molly Philbrick Rd - 2	Minor Reshape Annual Maintenance	\$2,811.42
Moody Rd	Minor Reshape Annual Maintenance	\$1,413.12
Nutter Rd - 2	Major Regrade Gravel	\$5,281.96
Old Pound Rd - 2	Major Regrade Gravel	\$5,564.00
Plantation Rd	Minor Reshape Annual Maintenance	\$2,063.98
Pratt Rd	Minor Reshape Annual Maintenance	\$493.74
Rumney Hill Rd	Minor Reshape Annual Maintenance	\$1,061.58
Ryefield Rd	1.5in HMA overlay	\$34,257.37
Simon Hill Rd	Minor Reshape Annual Maintenance	\$4,797.87
Snow Rd - 2	Minor Reshape Annual Maintenance	\$2,335.11
Stevens Rd	Minor Reshape Annual Maintenance	\$3,247.43
West Range Rd	Minor Reshape Annual Maintenance	\$822.12
Wilkinson Swamp Rd	Minor Reshape Annual Maintenance	\$7,060.87
Total Cost for Year 9:		\$114,177.88

Table 15: Year 10 Repairs

Year 10		
Road Name	Repair	Cost
Bailey Rd - 1	Minor Reshape Annual Maintenance	\$1,370.03
Bonnyman Rd - 2	Minor Reshape Annual Maintenance	\$1,522.98
Cemetery Rd	Minor Reshape Annual Maintenance	\$757.02
Clough Rd	Major Regrade Gravel	\$14,327.68
Colcord Hill Rd	Minor Reshape Annual Maintenance	\$2,138.61
Corner Rd	Ditch, fill/seal cracks	\$436.75
Drake Rd	1.5in HMA overlay	\$54,106.17
Granite Rd	Minor Reshape Annual Maintenance	\$5,745.54
Green Mountain Rd - 4	Ditch, fill/seal cracks	\$8,019.91
Hobbs Rd	Minor Reshape Annual Maintenance	\$4,502.83
Hutchens Pond Rd	Minor Reshape Annual Maintenance	\$5,002.04
Jack Russell Rd	Minor Reshape Annual Maintenance	\$1,299.85
Leavitt Rd	Hot Mix Patch	\$3,162.30
Libby Rd	Minor Reshape Annual Maintenance	\$390.36
Molly Philbrick Rd - 1	Minor Reshape Annual Maintenance	\$2,795.26
Molly Philbrick Rd - 2	Minor Reshape Annual Maintenance	\$2,952.00
Moody Rd	Minor Reshape Annual Maintenance	\$1,483.78
Nutter Rd - 2	Minor Reshape Annual Maintenance	\$2,079.74
Old Pound Rd - 2	Minor Reshape Annual Maintenance	\$2,190.82
Plantation Rd	Minor Reshape Annual Maintenance	\$2,167.18
Pratt Rd	Minor Reshape Annual Maintenance	\$518.43
Rumney Hill Rd	Minor Reshape Annual Maintenance	\$1,114.65
Simon Hill Rd	Minor Reshape Annual Maintenance	\$5,037.77
Snow Rd - 2	Minor Reshape Annual Maintenance	\$2,451.87
Stevens Rd	Minor Reshape Annual Maintenance	\$3,409.80
West Range Rd	Minor Reshape Annual Maintenance	\$863.23
Wilkinson Swamp Rd	Minor Reshape Annual Maintenance	\$7,413.92
Huntress Bridge Rd - 3	Minor Reshape Annual Maintenance	\$1,055.50
Total Cost for Year 10:		\$138,316.02

Appendix F: Repairs & Costs by Road

Table 16: Asset Repairs and Costs, Grouped by Asset

Asset Repairs and Cost Grouped By Asset

RSMS - Total Budget

UID	Road_Section_Name	Length
Year	Repair	Cost
1	Simon Hill Rd	8590.97666977
1	Minor Reshape Annual Maintenance	\$3,247.39
2	Minor Reshape Annual Maintenance	\$3,409.76
3	Minor Reshape Annual Maintenance	\$3,580.25
4	Minor Reshape Annual Maintenance	\$3,759.26
5	Minor Reshape Annual Maintenance	\$3,947.22
6	Minor Reshape Annual Maintenance	\$4,144.58
7	Minor Reshape Annual Maintenance	\$4,351.81
8	Minor Reshape Annual Maintenance	\$4,569.40
9	Minor Reshape Annual Maintenance	\$4,797.87
10	Minor Reshape Annual Maintenance	\$5,037.77
	Total Cost:	\$40,845.31
2	Clough Rd	9162.44768712
1	Minor Reshape Annual Maintenance	\$3,463.41
2	Minor Reshape Annual Maintenance	\$3,636.58
3	Minor Reshape Annual Maintenance	\$3,818.40
4	Minor Reshape Annual Maintenance	\$4,009.32
5	Minor Reshape Annual Maintenance	\$4,209.79
6	Minor Reshape Annual Maintenance	\$4,420.28
7	Major Regrade Gravel	\$12,376.78
8	Minor Reshape Annual Maintenance	\$4,873.36
9	Minor Reshape Annual Maintenance	\$5,117.03
10	Major Regrade Gravel	\$14,327.68
	Total Cost:	\$60,252.63
3	Colcord Hill Rd	3646.99905059
1	Minor Reshape Annual Maintenance	\$1,378.57
2	Minor Reshape Annual Maintenance	\$1,447.49
3	Minor Reshape Annual Maintenance	\$1,519.87
4	Minor Reshape Annual Maintenance	\$1,595.86
5	Major Regrade Gravel	\$4,468.41
6	Minor Reshape Annual Maintenance	\$1,759.44
7	Minor Reshape Annual Maintenance	\$1,847.41
8	Minor Reshape Annual Maintenance	\$1,939.78
9	Major Regrade Gravel	\$5,431.38
10	Minor Reshape Annual Maintenance	\$2,138.61
	Total Cost:	\$23,526.82

4	Stevens Rd		5814.77811916
1	Major Regrade Gravel	\$5,861.30	
2	Minor Reshape Annual Maintenance	\$2,307.89	
3	Minor Reshape Annual Maintenance	\$2,423.28	
4	Minor Reshape Annual Maintenance	\$2,544.44	
5	Minor Reshape Annual Maintenance	\$2,671.67	
6	Minor Reshape Annual Maintenance	\$2,805.25	
7	Major Regrade Gravel	\$7,854.70	
8	Minor Reshape Annual Maintenance	\$3,092.79	
9	Minor Reshape Annual Maintenance	\$3,247.43	
10	Minor Reshape Annual Maintenance	\$3,409.80	
	Total Cost:	\$36,218.53	
5	High Watch Rd		6941.8752244
7	Fill/seal cracks	\$4,395.56	
	Total Cost:	\$4,395.56	
6	West Range Rd		1472.0760005
1	Minor Reshape Annual Maintenance	\$556.44	
2	Minor Reshape Annual Maintenance	\$584.27	
3	Minor Reshape Annual Maintenance	\$613.48	
4	Minor Reshape Annual Maintenance	\$644.15	
5	Minor Reshape Annual Maintenance	\$676.36	
6	Minor Reshape Annual Maintenance	\$710.18	
7	Minor Reshape Annual Maintenance	\$745.69	
8	Minor Reshape Annual Maintenance	\$782.97	
9	Minor Reshape Annual Maintenance	\$822.12	
10	Minor Reshape Annual Maintenance	\$863.23	
	Total Cost:	\$6,998.90	
7	Jack Russell Rd		2216.6556203
1	Minor Reshape Annual Maintenance	\$837.90	
2	Minor Reshape Annual Maintenance	\$879.79	
3	Minor Reshape Annual Maintenance	\$923.78	
4	Minor Reshape Annual Maintenance	\$969.97	
5	Minor Reshape Annual Maintenance	\$1,018.47	
6	Minor Reshape Annual Maintenance	\$1,069.39	
7	Minor Reshape Annual Maintenance	\$1,122.86	
8	Minor Reshape Annual Maintenance	\$1,179.00	
9	Minor Reshape Annual Maintenance	\$1,237.95	
10	Minor Reshape Annual Maintenance	\$1,299.85	
	Total Cost:	\$10,538.96	
8	Libby Rd		665.683693711
1	Minor Reshape Annual Maintenance	\$251.63	
2	Minor Reshape Annual Maintenance	\$264.21	
3	Minor Reshape Annual Maintenance	\$277.42	
4	Minor Reshape Annual Maintenance	\$291.29	
5	Minor Reshape Annual Maintenance	\$305.86	
6	Minor Reshape Annual Maintenance	\$321.15	
7	Minor Reshape Annual Maintenance	\$337.21	
8	Minor Reshape Annual Maintenance	\$354.07	
9	Minor Reshape Annual Maintenance	\$371.77	
10	Minor Reshape Annual Maintenance	\$390.36	
	Total Cost:	\$3,164.96	

9	Rumney Hill Rd		1900.83563258
1	Minor Reshape Annual Maintenance	\$718.52	
2	Minor Reshape Annual Maintenance	\$754.44	
3	Minor Reshape Annual Maintenance	\$792.16	
4	Major Regrade Gravel	\$2,218.06	
5	Minor Reshape Annual Maintenance	\$873.36	
6	Minor Reshape Annual Maintenance	\$917.03	
7	Minor Reshape Annual Maintenance	\$962.88	
8	Minor Reshape Annual Maintenance	\$1,011.02	
9	Minor Reshape Annual Maintenance	\$1,061.58	
10	Minor Reshape Annual Maintenance	\$1,114.65	
	Total Cost:	\$10,423.70	
10	Granite Rd		9797.95222533
1	Minor Reshape Annual Maintenance	\$3,703.63	
2	Major Regrade Gravel	\$10,370.15	
3	Minor Reshape Annual Maintenance	\$4,083.25	
4	Minor Reshape Annual Maintenance	\$4,287.41	
5	Minor Reshape Annual Maintenance	\$4,501.78	
6	Minor Reshape Annual Maintenance	\$4,726.87	
7	Major Regrade Gravel	\$13,235.23	
8	Minor Reshape Annual Maintenance	\$5,211.37	
9	Minor Reshape Annual Maintenance	\$5,471.94	
10	Minor Reshape Annual Maintenance	\$5,745.54	
	Total Cost:	\$61,337.18	
11	Corner Rd		412.50242621
4	Ditch, fill/seal cracks	\$325.91	
10	Ditch, fill/seal cracks	\$436.75	
	Total Cost:	\$762.66	
12	Champion Hill Rd		3883.19301074
4	1.5in HMA overlay	\$33,081.62	
8	1.5in HMA overlay	\$40,210.91	
	Total Cost:	\$73,292.53	
13	Moody Rd		2530.30883461
1	Minor Reshape Annual Maintenance	\$956.46	
2	Minor Reshape Annual Maintenance	\$1,004.28	
3	Minor Reshape Annual Maintenance	\$1,054.49	
4	Minor Reshape Annual Maintenance	\$1,107.22	
5	Minor Reshape Annual Maintenance	\$1,162.58	
6	Minor Reshape Annual Maintenance	\$1,220.71	
7	Minor Reshape Annual Maintenance	\$1,281.74	
8	Minor Reshape Annual Maintenance	\$1,345.83	
9	Minor Reshape Annual Maintenance	\$1,413.12	
10	Minor Reshape Annual Maintenance	\$1,483.78	
	Total Cost:	\$12,030.21	

14	Old Pound Rd - 2		3736.04387934
1	Minor Reshape Annual Maintenance	\$1,412.22	
2	Minor Reshape Annual Maintenance	\$1,482.84	
3	Minor Reshape Annual Maintenance	\$1,556.98	
4	Minor Reshape Annual Maintenance	\$1,634.83	
5	Major Regrade Gravel	\$4,577.51	
6	Minor Reshape Annual Maintenance	\$1,802.40	
7	Minor Reshape Annual Maintenance	\$1,892.52	
8	Minor Reshape Annual Maintenance	\$1,987.14	
9	Major Regrade Gravel	\$5,564.00	
10	Minor Reshape Annual Maintenance	\$2,190.82	
	Total Cost:	\$24,101.25	
15	Iron Works Rd		3092.20187263
6	1.5in HMA overlay	\$29,043.18	
	Total Cost:	\$29,043.18	
16	School St		4178.11396178
2	1.5in HMA overlay	\$32,284.90	
8	1.5in HMA overlay	\$43,264.85	
	Total Cost:	\$75,549.75	
17	Storage Rd		495.655063984
2	Ditch, replace 6in base, 2in surface	\$11,475.65	
	Total Cost:	\$11,475.65	
18	Hobbs Rd		7678.73360492
1	Minor Reshape Annual Maintenance	\$2,902.56	
2	Minor Reshape Annual Maintenance	\$3,047.69	
3	Minor Reshape Annual Maintenance	\$3,200.07	
4	Minor Reshape Annual Maintenance	\$3,360.08	
5	Minor Reshape Annual Maintenance	\$3,528.08	
6	Minor Reshape Annual Maintenance	\$3,704.49	
7	Minor Reshape Annual Maintenance	\$3,889.71	
8	Minor Reshape Annual Maintenance	\$4,084.20	
9	Minor Reshape Annual Maintenance	\$4,288.41	
10	Minor Reshape Annual Maintenance	\$4,502.83	
	Total Cost:	\$36,508.10	
19	Pratt Rd		884.083525968
1	Minor Reshape Annual Maintenance	\$334.18	
2	Minor Reshape Annual Maintenance	\$350.89	
3	Minor Reshape Annual Maintenance	\$368.44	
4	Major Regrade Gravel	\$1,031.62	
5	Minor Reshape Annual Maintenance	\$406.20	
6	Minor Reshape Annual Maintenance	\$426.51	
7	Major Regrade Gravel	\$1,194.23	
8	Minor Reshape Annual Maintenance	\$470.23	
9	Minor Reshape Annual Maintenance	\$493.74	
10	Minor Reshape Annual Maintenance	\$518.43	
	Total Cost:	\$5,594.49	

20	Cemetery Rd		1290.94942577
1	Minor Reshape Annual Maintenance	\$487.98	
2	Minor Reshape Annual Maintenance	\$512.38	
3	Minor Reshape Annual Maintenance	\$538.00	
4	Major Regrade Gravel	\$1,506.39	
5	Minor Reshape Annual Maintenance	\$593.14	
6	Minor Reshape Annual Maintenance	\$622.80	
7	Major Regrade Gravel	\$1,743.84	
8	Minor Reshape Annual Maintenance	\$686.64	
9	Major Regrade Gravel	\$1,922.58	
10	Minor Reshape Annual Maintenance	\$757.02	
	Total Cost:	\$9,370.75	
21	Drake Rd		4739.28961503
5	1.5in HMA overlay	\$42,393.60	
10	1.5in HMA overlay	\$54,106.17	
	Total Cost:	\$96,499.77	
22	Ryefield Rd		3150.71995061
4	1.5in HMA overlay	\$26,841.55	
9	1.5in HMA overlay	\$34,257.37	
	Total Cost:	\$61,098.92	
23	Hutchens Pond Rd		8530.05756385
1	Minor Reshape Annual Maintenance	\$3,224.36	
2	Minor Reshape Annual Maintenance	\$3,385.58	
3	Minor Reshape Annual Maintenance	\$3,554.86	
4	Minor Reshape Annual Maintenance	\$3,732.60	
5	Minor Reshape Annual Maintenance	\$3,919.23	
6	Major Regrade Gravel	\$10,973.85	
7	Minor Reshape Annual Maintenance	\$4,320.95	
8	Minor Reshape Annual Maintenance	\$4,537.00	
9	Major Regrade Gravel	\$12,703.60	
10	Minor Reshape Annual Maintenance	\$5,002.04	
	Total Cost:	\$55,354.08	
24	Molly Philbrick Rd - 2		5034.08158192
1	Minor Reshape Annual Maintenance	\$1,902.88	
2	Minor Reshape Annual Maintenance	\$1,998.03	
3	Minor Reshape Annual Maintenance	\$2,097.93	
4	Minor Reshape Annual Maintenance	\$2,202.82	
5	Minor Reshape Annual Maintenance	\$2,312.97	
6	Minor Reshape Annual Maintenance	\$2,428.61	
7	Minor Reshape Annual Maintenance	\$2,550.05	
8	Minor Reshape Annual Maintenance	\$2,677.55	
9	Minor Reshape Annual Maintenance	\$2,811.42	
10	Minor Reshape Annual Maintenance	\$2,952.00	
	Total Cost:	\$23,934.26	

25	Wilkinson Swamp Rd		12643.0583564
1	Minor Reshape Annual Maintenance	\$4,779.08	
2	Minor Reshape Annual Maintenance	\$5,018.03	
3	Minor Reshape Annual Maintenance	\$5,268.93	
4	Minor Reshape Annual Maintenance	\$5,532.38	
5	Major Regrade Gravel	\$15,490.66	
6	Minor Reshape Annual Maintenance	\$6,099.45	
7	Minor Reshape Annual Maintenance	\$6,404.42	
8	Minor Reshape Annual Maintenance	\$6,724.64	
9	Minor Reshape Annual Maintenance	\$7,060.87	
10	Minor Reshape Annual Maintenance	\$7,413.92	
	Total Cost:	\$69,792.37	
26	Elm St		6384.15709735
1	Ditch, replace 6in base, 2in surface	\$140,770.66	
	Total Cost:	\$140,770.66	
27	Pine River Rd		12225.3192539
4	Fill/seal cracks	\$6,686.98	
7	Fill/seal cracks	\$7,741.01	
	Total Cost:	\$14,427.99	
28	Winter Rd		950.941436947
6	Defer maintenance	\$0.00	
	Total Cost:	\$0.00	
29	Jones Rd		4074.49582951
2	Ditch, fill/seal cracks	\$2,919.89	
7	Ditch, fill/seal cracks	\$3,726.60	
	Total Cost:	\$6,646.48	
30	Stillings Ln		297.814272647
3	Ditch, fill/seal cracks	\$224.09	
8	Ditch, fill/seal cracks	\$286.00	
	Total Cost:	\$510.10	
31	Huntress Bridge Rd - 2		3968.63238231
4	Defer maintenance	\$0.00	
	Total Cost:	\$0.00	
32	Plantation Rd		3695.72066248
1	Minor Reshape Annual Maintenance	\$1,396.98	
2	Minor Reshape Annual Maintenance	\$1,466.83	
3	Minor Reshape Annual Maintenance	\$1,540.17	
4	Minor Reshape Annual Maintenance	\$1,617.18	
5	Minor Reshape Annual Maintenance	\$1,698.04	
6	Minor Reshape Annual Maintenance	\$1,782.94	
7	Minor Reshape Annual Maintenance	\$1,872.09	
8	Minor Reshape Annual Maintenance	\$1,965.69	
9	Minor Reshape Annual Maintenance	\$2,063.98	
10	Minor Reshape Annual Maintenance	\$2,167.18	
	Total Cost:	\$17,571.09	

33	Nutter Rd - 2		3546.66506302
1	Minor Reshape Annual Maintenance	\$1,340.64	
2	Minor Reshape Annual Maintenance	\$1,407.67	
3	Minor Reshape Annual Maintenance	\$1,478.05	
4	Major Regrade Gravel	\$4,138.55	
5	Minor Reshape Annual Maintenance	\$1,629.56	
6	Minor Reshape Annual Maintenance	\$1,711.03	
7	Minor Reshape Annual Maintenance	\$1,796.59	
8	Minor Reshape Annual Maintenance	\$1,886.41	
9	Major Regrade Gravel	\$5,281.96	
10	Minor Reshape Annual Maintenance	\$2,079.77	
	Total Cost:	\$22,750.24	
34	Leavitt Rd		647.125853785
5	Hot Mix Patch	\$2,477.74	
10	Hot Mix Patch	\$3,162.30	
	Total Cost:	\$5,640.04	
35	Green Mountain Rd - 1		5139.19594974
2	1.5in HMA overlay	\$39,711.32	
	Total Cost:	\$39,711.32	
36	Green Mountain Rd - 2		1163.99899245
5	Defer maintenance	\$0.00	
	Total Cost:	\$0.00	
37	Old Pound Rd - 1		3629.24845056
3	Ditch, fill/seal cracks	\$2,730.85	
8	Ditch, fill/seal cracks	\$3,485.33	
	Total Cost:	\$6,216.19	
38	Green Mountain Rd - 3		13319.6430085
3	1.5in HMA overlay	\$108,068.98	
	Total Cost:	\$108,068.98	
39	Green Mountain Rd - 4		7574.65881408
4	Ditch, fill/seal cracks	\$5,984.58	
10	Ditch, fill/seal cracks	\$8,019.91	
	Total Cost:	\$14,004.49	
40	Town House Rd - 1		10841.5944547
1	1.5in HMA overlay	\$79,785.33	
	Total Cost:	\$79,785.33	
41	Town House Rd - 2		6418.63339115
5	Defer maintenance	\$0.00	
	Total Cost:	\$0.00	

42	Snow Rd - 2		4181.20158392
1	Minor Reshape Annual Maintenance	\$1,580.49	
2	Minor Reshape Annual Maintenance	\$1,659.52	
3	Minor Reshape Annual Maintenance	\$1,742.49	
4	Minor Reshape Annual Maintenance	\$1,829.62	
5	Minor Reshape Annual Maintenance	\$1,921.10	
6	Minor Reshape Annual Maintenance	\$2,017.16	
7	Major Regrade Gravel	\$5,648.04	
8	Minor Reshape Annual Maintenance	\$2,223.91	
9	Minor Reshape Annual Maintenance	\$2,335.11	
10	Minor Reshape Annual Maintenance	\$2,451.87	
	Total Cost:	\$23,409.31	
43	Snow Rd - 1		1905.89007301
6	1.5in HMA overlay	\$17,900.87	
	Total Cost:	\$17,900.87	
44	Nutter Rd - 1		246.153604784
2	Ditch, fill/seal cracks	\$176.40	
8	Ditch, fill/seal cracks	\$236.39	
	Total Cost:	\$412.79	
45	Bailey Rd - 1		2336.33533349
1	Minor Reshape Annual Maintenance	\$883.13	
2	Minor Reshape Annual Maintenance	\$927.29	
3	Minor Reshape Annual Maintenance	\$973.66	
4	Minor Reshape Annual Maintenance	\$1,022.34	
5	Minor Reshape Annual Maintenance	\$1,073.46	
6	Minor Reshape Annual Maintenance	\$1,127.13	
7	Minor Reshape Annual Maintenance	\$1,183.49	
8	Minor Reshape Annual Maintenance	\$1,242.66	
9	Minor Reshape Annual Maintenance	\$1,304.79	
10	Minor Reshape Annual Maintenance	\$1,370.03	
	Total Cost:	\$11,107.97	
46	Bailey Rd - 2		4247.0494611
6	Defer maintenance	\$0.00	
	Total Cost:	\$0.00	
47	Bonnyman Rd - 1		1750.90788672
2	Ditch, replace 6in base, 2in surface	\$40,537.89	
	Total Cost:	\$40,537.89	
48	Bonnyman Rd - 2		2597.16143035
1	Minor Reshape Annual Maintenance	\$981.73	
2	Minor Reshape Annual Maintenance	\$1,030.81	
3	Minor Reshape Annual Maintenance	\$1,082.35	
4	Minor Reshape Annual Maintenance	\$1,136.47	
5	Major Regrade Gravel	\$3,182.12	
6	Minor Reshape Annual Maintenance	\$1,252.96	
7	Minor Reshape Annual Maintenance	\$1,315.61	
8	Minor Reshape Annual Maintenance	\$1,381.39	
9	Minor Reshape Annual Maintenance	\$1,450.46	
10	Minor Reshape Annual Maintenance	\$1,522.98	
	Total Cost:	\$14,336.88	

49	Molly Philbrick Rd - 1		4766.80424999
1	Major Regrade Gravel	\$4,804.94	
2	Minor Reshape Annual Maintenance	\$1,891.94	
3	Minor Reshape Annual Maintenance	\$1,986.54	
4	Major Regrade Gravel	\$5,562.32	
5	Minor Reshape Annual Maintenance	\$2,190.16	
6	Minor Reshape Annual Maintenance	\$2,299.67	
7	Major Regrade Gravel	\$6,439.08	
8	Minor Reshape Annual Maintenance	\$2,535.39	
9	Minor Reshape Annual Maintenance	\$2,662.16	
10	Minor Reshape Annual Maintenance	\$2,795.26	
	Total Cost:	\$33,167.46	
50	Huntress Bridge Rd - 3		1799.95450654
1	Minor Reshape Annual Maintenance	\$680.38	
2	Major Regrade Gravel	\$1,905.07	
3	Minor Reshape Annual Maintenance	\$750.12	
4	Minor Reshape Annual Maintenance	\$787.63	
5	Minor Reshape Annual Maintenance	\$827.01	
6	Minor Reshape Annual Maintenance	\$868.36	
7	Major Regrade Gravel	\$2,431.41	
8	Minor Reshape Annual Maintenance	\$957.37	
9	Minor Reshape Annual Maintenance	\$1,005.24	
10	Minor Reshape Annual Maintenance	\$1,055.50	
	Total Cost:	\$11,268.08	
51	Huntress Bridge Rd - 1		418.066286383
2	Ditch, replace 6in base, 2in surface	\$9,679.28	
	Total Cost:	\$9,679.28	