

Inventory and Assessment of Road Surfaces

November 5

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
Webster, NH



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Problem Statement

Paved and aggregate roads require routine and preventative maintenance, which should be done before they require rehabilitation or reconstruction. Approximately 30% of town-maintained roads in Webster, 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

Webster 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 Webster. 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 Webster. 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. 62 sections were defined for the 28 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 Webster'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.

Clearly, 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 Webster'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 Webster'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 \$72,000 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
Year 1	\$62,719.24	\$100,790.55	\$163,509.79
Year 2	\$99,769.69	\$33,710.04	\$133,479.73
Year 3	\$50,874.76	\$65,062.00	\$115,936.76
Year 4	\$70,952.49	End CI Period	\$70,952.49
Year 5	\$56,277.02	End CI Period	\$56,277.02
Year 6	\$74,024.81	End CI Period	\$74,024.81
Year 7	\$125,569.71	End CI Period	\$125,569.71
Year 8	\$58,623.43	End CI Period	\$58,623.43
Year 9	\$62,308.17	End CI Period	\$62,308.17
Year 10	\$64,054.38	End CI Period	\$64,054.38

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	74.15	74.15	N/A
1	74.15	84.94	\$163,509.79
2	71.19	86.36	\$133,479.73
3	68.34	91.13	\$115,936.76
4	65.61	90.7	\$70,952.49
5	62.98	89.33	\$56,277.02
6	60.46	88.47	\$74,024.81
7	58.04	87.04	\$125,569.71
8	55.72	86.6	\$58,623.43
9	53.49	87.59	\$62,308.17
10	51.35	86.26	\$64,054.38

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
Allen Rd - 1	631	7/29/2013	None	Low Sev/Low Ext	Med Sev/Low Ext	0 - None	1 - Smooth
Beaver Dam Dr	1709	7/29/2013	None	Med Sev/Low Ext	Low Sev/Low Ext	0 - None	1 - Smooth
Blackberry Ln	1584	7/29/2013	None	Low Sev/Low Ext	None	0 - None	1 - Smooth
Call Rd - 1	492	7/29/2013	None	None	Low Sev/High Ext	0 - None	1 - Smooth
Centennial Dr	3032	7/29/2013	Low Sev/Med Ext	Low Sev/Low Ext	Low Sev/High Ext	1 - Low (<10% / 5 per 100ft)	1 - Smooth
Christopher Robert Dr	632	7/29/2013	Low Sev/Low Ext	None	Med Sev/Low Ext	0 - None	1 - Smooth
Clothespin Bridge Rd - 1	8050	7/29/2013	Med Sev/Low Ext	Med Sev/High Ext	High Sev/Low Ext	1 - Low (<10% / 5 per 100ft)	1 - Smooth
Clothespin Bridge Rd - 2	791	7/29/2013	Low Sev/Med Ext	Low Sev/Low Ext	Med Sev/High Ext	1 - Low (<10% / 5 per 100ft)	1 - Smooth
Clough Sanborn Hill Rd - 2	1407	7/29/2013	None	Med Sev/Low Ext	None	0 - None	1 - Smooth
Concord Dr	1850	7/29/2013	Low Sev/Med Ext	Low Sev/High Ext	Med Sev/Low Ext	2 - Medium (10-30% / <10 per 100ft)	2 - Somewhat Rough
Corn Hill Rd	3277	7/29/2013	Low Sev/Med Ext	Low Sev/Low Ext	Med Sev/Med Ext	2 - Medium (10-30% / <10 per 100ft)	1 - Smooth
Deer Meadow Rd - 1	1363	7/29/2013	None	None	None	0 - None	1 - Smooth
Deer Meadow Rd - 2	5885	7/29/2013	None	Low Sev/Med Ext	Low Sev/Med Ext	0 - None	1 - Smooth
Deer Meadow Rd - 3	1637	7/29/2013	Low Sev/Low Ext	Low Sev/Low Ext	High Sev/Low Ext	2 - Medium (10-30% / <10 per 100ft)	1 - Smooth
Deer Meadow Rd - 4	8086	7/29/2013	None	None	None	0 - None	1 - Smooth
Detour Rd	2828	7/29/2013	High Sev/Low Ext	Med Sev/Med Ext	High Sev/Med Ext	2 - Medium (10-30% / <10 per 100ft)	2 - Somewhat Rough
Dustin Rd - 1	1248	7/29/2013	Med Sev/High Ext	Low Sev/High Ext	Low Sev/Med Ext	1 - Low (<10% / 5 per 100ft)	1 - Smooth
Dustin Rd - 2	3918	7/29/2013	Med Sev/High Ext	Med Sev/Low Ext	High Sev/Low Ext	3 - High (30+% / 1+ per 100ft)	2 - Somewhat Rough
Franklin Pierce Dr	1472	7/29/2013	Low Sev/Med Ext	Med Sev/Low Ext	Low Sev/Low Ext	0 - None	2 - Somewhat Rough
Hollings Dr	1316	7/29/2013	Low Sev/Low Ext	Low Sev/High Ext	Med Sev/Low Ext	2 - Medium (10-30% / <10 per 100ft)	2 - Somewhat Rough
Lake Rd - 1	2425	7/29/2013	Low Sev/Med Ext	Low Sev/Low Ext	Low Sev/Low Ext	0 - None	1 - Smooth
Lake Rd - 2	1607	7/29/2013	High Sev/Low Ext	High Sev/Low Ext	High Sev/Med Ext	2 - Medium (10-30% / <10 per 100ft)	3 - Rough
Lake Rd - 3	1243	7/29/2013	Low Sev/Low Ext	None	None	0 - None	1 - Smooth
Little Hill Rd - 1	2321	7/29/2013	None	None	None	0 - None	1 - Smooth
Little Hill Rd - 2	1568	7/29/2013	None	None	None	0 - None	1 - Smooth
Little Hill Rd - 3	1778	7/29/2013	High Sev/High Ext	High Sev/High Ext	High Sev/Med Ext	2 - Medium (10-30% / <10 per 100ft)	2 - Somewhat Rough
Little Hill Rd - 4	3893	7/29/2013	Low Sev/High Ext	Med Sev/High Ext	Med Sev/High Ext	1 - Low (<10% / 5 per 100ft)	2 - Somewhat Rough

New Hampshire Dr - 1	3233	7/29/2013	Low Sev/Med Ext	Low Sev/High Ext	Low Sev/Med Ext	0 - None	1 - Smooth
Pearson Hill Rd	4065	7/29/2013	Low Sev/Low Ext	Low Sev/Low Ext	Low Sev/Med Ext	1 - Low (<10% / 5 per 100ft)	1 - Smooth
Penacook Cir	208	7/29/2013	Med Sev/High Ext	Med Sev/High Ext	High Sev/Low Ext	2 - Medium (10-30% / <10 per 100ft)	2 - Somewhat Rough
Pleasant St - 1	9771	7/29/2013	High Sev/Low Ext	Med Sev/Low Ext	High Sev/Med Ext	3 - High (30+% / 1-+ per 100ft)	2 - Somewhat Rough
Potash Rd	186	7/29/2013	High Sev/High Ext	High Sev/High Ext	High Sev/High Ext	2 - Medium (10-30% / <10 per 100ft)	3 - Rough
Roby Rd - 1	1172	7/29/2013	Low Sev/Low Ext	Low Sev/Low Ext	Med Sev/High Ext	1 - Low (<10% / 5 per 100ft)	1 - Smooth
Roby Rd - 4	2732	7/29/2013	Low Sev/High Ext	None	Low Sev/High Ext	1 - Low (<10% / 5 per 100ft)	1 - Smooth
White Plains Rd	1138	7/29/2013	Low Sev/High Ext	Med Sev/Low Ext	Low Sev/Low Ext	2 - Medium (10-30% / <10 per 100ft)	1 - Smooth
Windsor Ter - 2	122	7/29/2013	High Sev/High Ext	High Sev/High Ext	High Sev/High Ext	3 - High (30+% / 1-+ per 100ft)	4 - Very Rough
Winnepocket Rd - 1	2428	7/29/2013	Med Sev/Med Ext	Med Sev/Low Ext	Med Sev/Low Ext	2 - Medium (10-30% / <10 per 100ft)	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
Allen Rd - 2	2384	7/29/2013	Med Sev/High Ext	1 - High crown / no ponding	1 - Low dust	Low Sev/Low Ext	Low Sev/Med Ext
Bashan Hollow Rd	3199	7/29/2013	Med Sev/Low Ext	1 - High crown / no ponding	1 - Low dust	Low Sev/Med Ext	Low Sev/Med Ext
Call Rd - 2	6391	7/29/2013	Med Sev/High Ext	2 - Medium crown / minor ponding	1 - Low dust	Low Sev/Low Ext	None
Clough Sanborn Hill Rd - 1	3640	7/29/2013	Med Sev/Low Ext	2 - Medium crown / minor ponding	1 - Low dust	Low Sev/Med Ext	Low Sev/Low Ext
Clough Sanborn Hill Rd - 3	1292	7/29/2013	Low Sev/Low Ext	3 - Low crown / ponding	1 - Low dust	Low Sev/Med Ext	Low Sev/Low Ext
General Stark Dr	489	7/29/2013	None	2 - Medium crown / minor ponding	1 - Low dust	Low Sev/Low Ext	Low Sev/Low Ext
Gerrish Rd - 1	3868	7/29/2013	Med Sev/Med Ext	2 - Medium crown / minor ponding	1 - Low dust	Low Sev/High Ext	Med Sev/Low Ext
Gerrish Rd - 2	3098	7/29/2013	Low Sev/Low Ext	3 - Low crown / ponding	1 - Low dust	Low Sev/Low Ext	None
Granite Way	220	7/29/2013	Med Sev/Low Ext	3 - Low crown / ponding	1 - Low dust	Low Sev/Med Ext	Med Sev/High Ext
Little Hill Rd - 5	662	7/29/2013	Low Sev/Low Ext	2 - Medium crown / minor ponding	1 - Low dust	Low Sev/High Ext	None
Manchester Dr	1329	7/29/2013	Med Sev/Low Ext	2 - Medium crown / minor ponding	1 - Low dust	Low Sev/High Ext	Med Sev/Low Ext
Merrimack Cir	278	7/29/2013	Low Sev/Med Ext	2 - Medium crown / minor ponding	1 - Low dust	None	Low Sev/Low Ext
Mount Vernon Ter	532	7/29/2013	Low Sev/Low Ext	2 - Medium crown / minor ponding	1 - Low dust	None	Low Sev/Med Ext
Mutton Rd	1021	7/29/2013	Low Sev/Low Ext	1 - High crown / no ponding	1 - Low dust	Low Sev/Med Ext	None
New Hampshire Dr - 2	596	7/29/2013	Low Sev/High Ext	3 - Low crown / ponding	1 - Low dust	Low Sev/Low Ext	Med Sev/Med Ext
New London Dr	3098	7/29/2013	Med Sev/Low Ext	2 - Medium crown / minor ponding	1 - Low dust	Low Sev/Med Ext	Med Sev/Low Ext
Pleasant St - 2	4593	7/29/2013	Med Sev/Med Ext	2 - Medium crown / minor ponding	1 - Low dust	Low Sev/High Ext	Med Sev/Low Ext
Pond Hill Rd	6509	7/29/2013	Low Sev/Med Ext	3 - Low crown / ponding	1 - Low dust	Low Sev/High Ext	Low Sev/Low Ext
Province Rd	1850	7/29/2013	Low Sev/Low Ext	2 - Medium crown / minor ponding	1 - Low dust	Low Sev/High Ext	None
Roby Rd - 2	3406	7/29/2013	Med Sev/Low Ext	3 - Low crown / ponding	1 - Low dust	Low Sev/Med Ext	Low Sev/Low Ext
Roby Rd - 3	764	7/29/2013	Low Sev/Low Ext	3 - Low crown / ponding	1 - Low dust	Low Sev/Med Ext	Low Sev/Low Ext
Rumford Dr	3005	7/29/2013	Med Sev/Low Ext	3 - Low crown / ponding	1 - Low dust	Low Sev/Med Ext	Med Sev/High Ext
Webster Ln	410	7/29/2013	Med Sev/Low Ext	2 - Medium crown / minor ponding	1 - Low dust	Low Sev/Low Ext	Med Sev/Low Ext
Windsor Ter - 1	210	7/29/2013	Low Sev/Med Ext	2 - Medium crown / minor ponding	1 - Low dust	Low Sev/Low Ext	Low Sev/Low Ext
Winnepoocket Rd - 2	3179	7/29/2013	Med Sev/Low Ext	1 - High crown / no ponding	1 - Low dust	Low Sev/Med Ext	Med Sev/Med Ext

Appendix B: Condition Index and Repairs Ordered by Priority

Table 5: Condition Index and Repairs by Priority

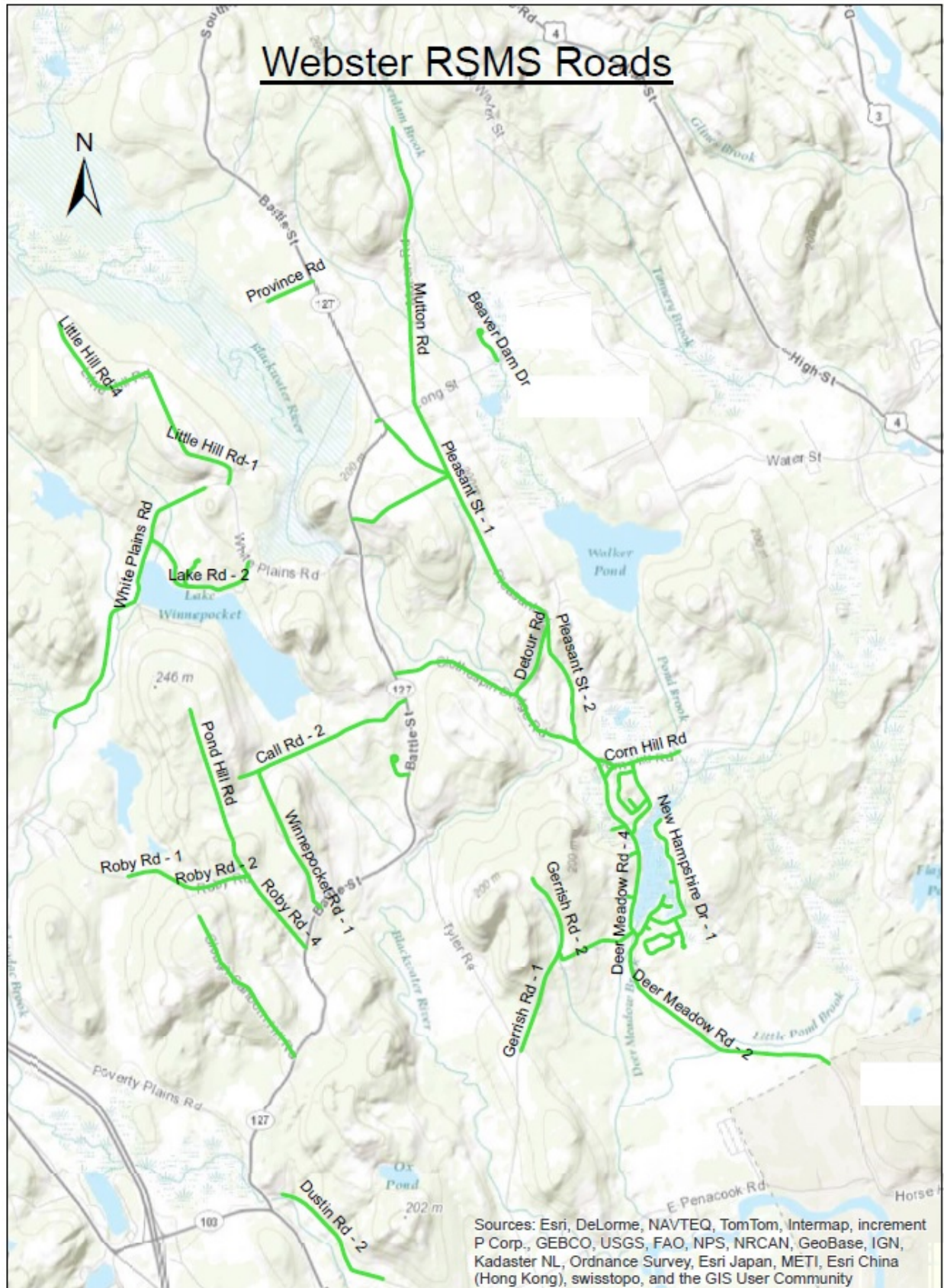
Priority	Current CI	Year 10 CI	Road Name	Length	Repair Category
1625	83	96.31	Deer Meadow Rd - 3	1637	Crack Seal
1500	74	82.72	Clothespin Bridge Rd - 1	8050	Surface Coat
1500	80	90.35	Clothespin Bridge Rd - 2	791	Surface Coat
1500	80	90.35	Corn Hill Rd	3277	Surface Coat
1300	69	75.43	Concord Dr	1850	Surface Coat
1300	80	83.78	White Plains Rd	1138	Surface Coat
1250	93	84.86	Christopher Robert Dr	632	Crack Seal
1200	60	90.51	Little Hill Rd - 4	3893	Surface Coat
1200	80	100	Little Hill Rd - 5	662	Reshape Minor Material
1100	91	90.7	Lake Rd - 1	2425	Surface Coat
1100	83	98.84	Roby Rd - 1	1172	Surface Coat
1100	72	100	Roby Rd - 2	3406	Reshape Minor Material
1100	75	100	Roby Rd - 3	764	Reshape Minor Material
1100	82	98.64	Roby Rd - 4	2732	Surface Coat
1000	83	90.9	Centennial Dr	3032	Surface Coat
1000	80	90.35	Franklin Pierce Dr	1472	Surface Coat
1000	82	90.72	New Hampshire Dr - 1	3233	Surface Coat
1000	81	100	Windsor Ter - 1	210	Reshape Minor Material
900	78	100	Clough Sanborn Hill Rd - 1	3640	Reshape Minor Material
900	75	100	Clough Sanborn Hill Rd - 3	1292	Reshape Minor Material
900	80	100	Gerrish Rd - 2	3098	Reshape Minor Material
875	93	81.86	Allen Rd - 1	631	Crack Seal
875	89	73.58	Pearson Hill Rd	4065	Patch
850	60	88.32	Detour Rd	2828	Overlay
825	100	66.48	Deer Meadow Rd - 1	1363	Satisfactory
825	90	59.83	Deer Meadow Rd - 2	5885	Satisfactory
825	100	66.48	Deer Meadow Rd - 4	8086	Satisfactory
800	72	91.58	Hollings Dr	1316	Surface Coat
800	54	88.99	Pleasant St - 1	9771	Overlay
800	69	100	Pleasant St - 2	4593	Grade Major Material
700	92	83.87	Call Rd - 1	492	Surface Coat
700	86	100	General Stark Dr	489	Reshape Minor Material
700	72	100	Manchester Dr	1329	Reshape Minor Material
700	83	100	Merrimack Cir	278	Reshape Minor Material
700	83	100	Mount Vernon Ter	532	Reshape Minor Material
700	75	100	New London Dr	3098	Reshape Minor Material
700	69	100	Pond Hill Rd	6509	Reshape Minor Material
700	80	100	Province Rd	1850	Reshape Minor Material

700	78	100	Webster Ln	410	Reshape Minor Material
650	54	67.6	Lake Rd - 2	1607	Overlay
600	100	66.48	Little Hill Rd - 1	2321	Satisfactory
600	100	66.48	Little Hill Rd - 2	1568	Satisfactory
600	91	100	Mutton Rd	1021	Grade Major Material
600	66	100	New Hampshire Dr - 2	596	Grade Major Material
550	80	100	Allen Rd - 2	2384	Grade Major Material
550	83	100	Bashan Hollow Rd	3199	Grade Major Material
550	69	100	Gerrish Rd - 1	3868	Grade Major Material
525	98	65.15	Lake Rd - 3	1243	Satisfactory
475	74	71.47	Dustin Rd - 1	1248	Rebuild/Replace
475	54	57.38	Dustin Rd - 2	3918	Rebuild/Replace
450	77	100	Call Rd - 2	6391	Grade Major Material
450	63	100	Granite Way	220	Grade Major Material
450	63	100	Rumford Dr	3005	Grade Major Material
450	77	95.36	Winnepocket Rd - 1	2428	Overlay
450	80	100	Winnepocket Rd - 2	3179	Grade Major Material
400	48	56.09	Little Hill Rd - 3	1778	Rebuild/Replace
375	95	63.16	Clough Sanborn Hill Rd - 2	1407	Satisfactory
350	57	61.3	Penacook Cir	208	Rebuild/Replace
350	39	51.28	Potash Rd	186	Rebuild/Replace
350	24	44.06	Windsor Ter - 2	122	Rebuild/Replace
300	93	61.83	Beaver Dam Dr	1709	Satisfactory
225	98	65.15	Blackberry Ln	1584	Satisfactory

Appendix C: Town Maps

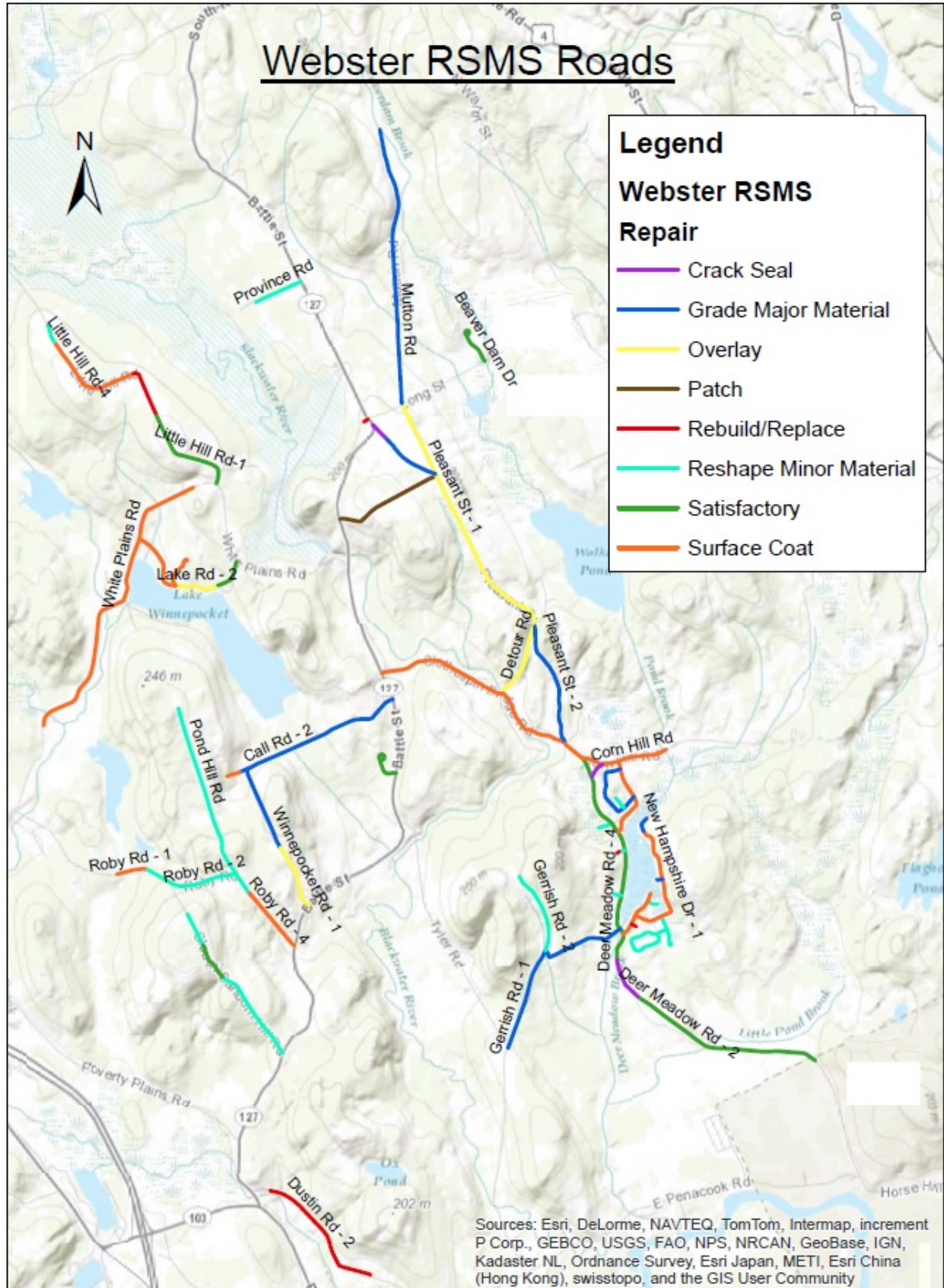
Roads Assessed and Analyzed Using RSMS

Town of Webster, NH



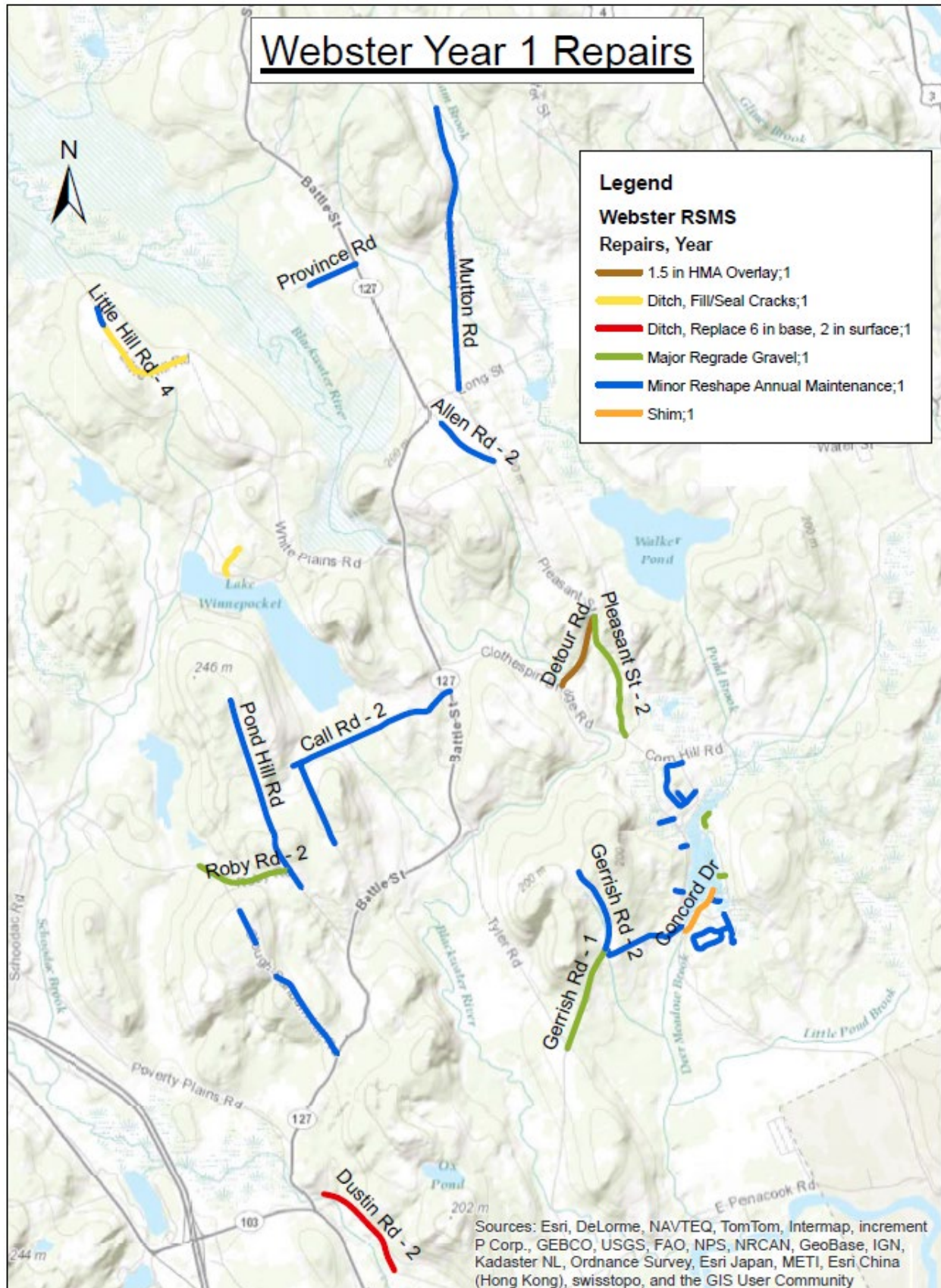
Recommended Repairs by Category

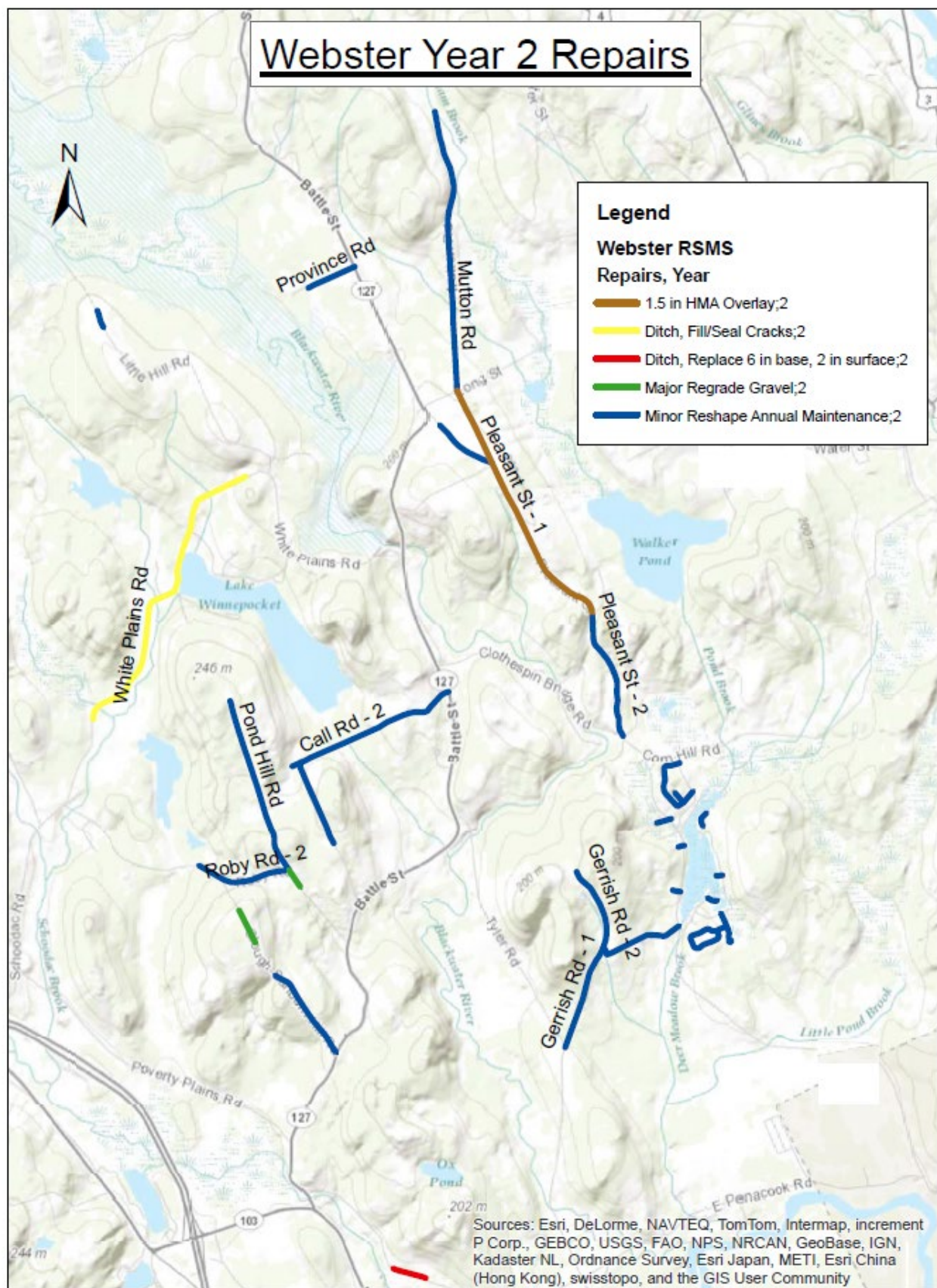
Town of Webster, NH

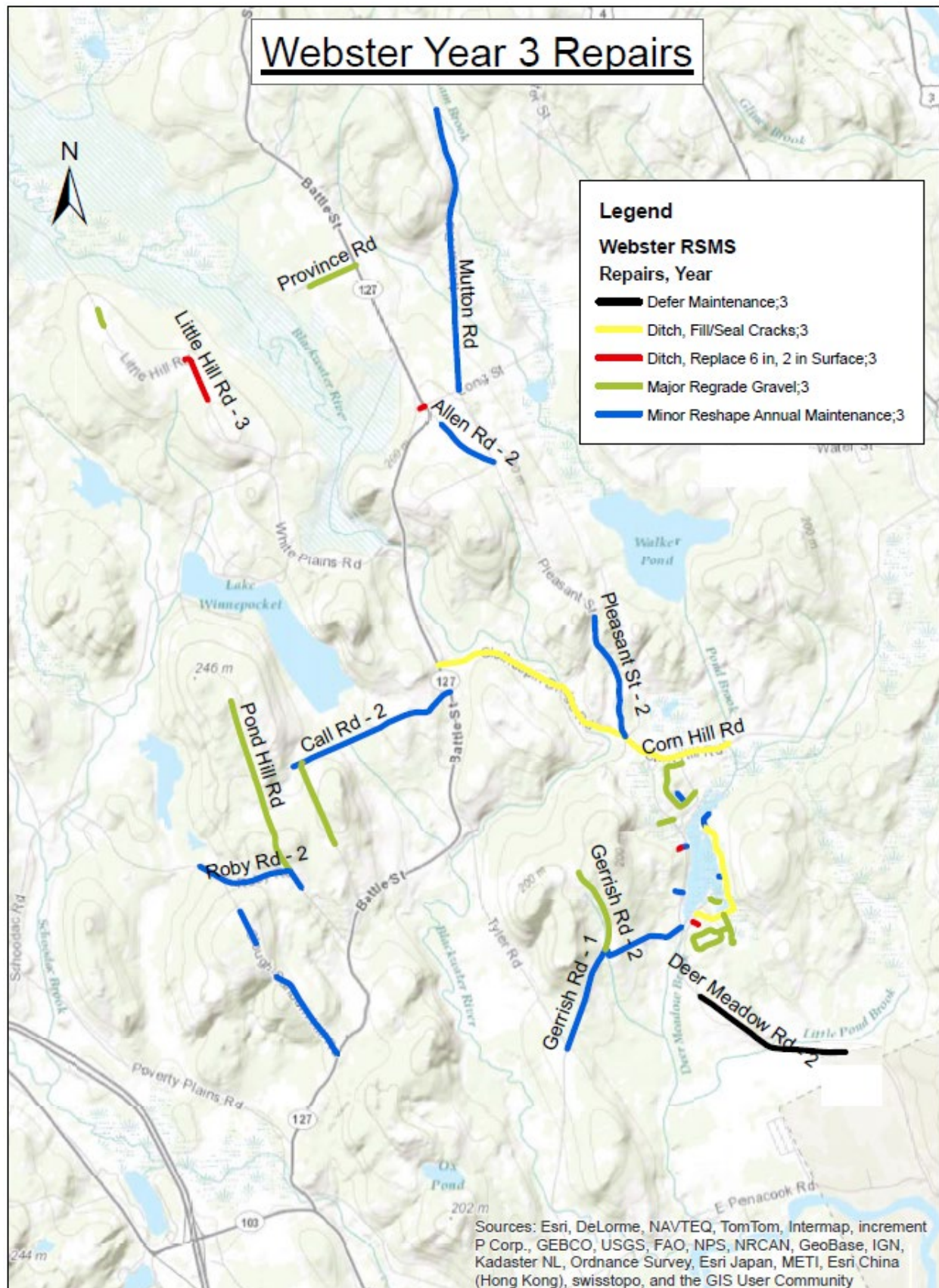


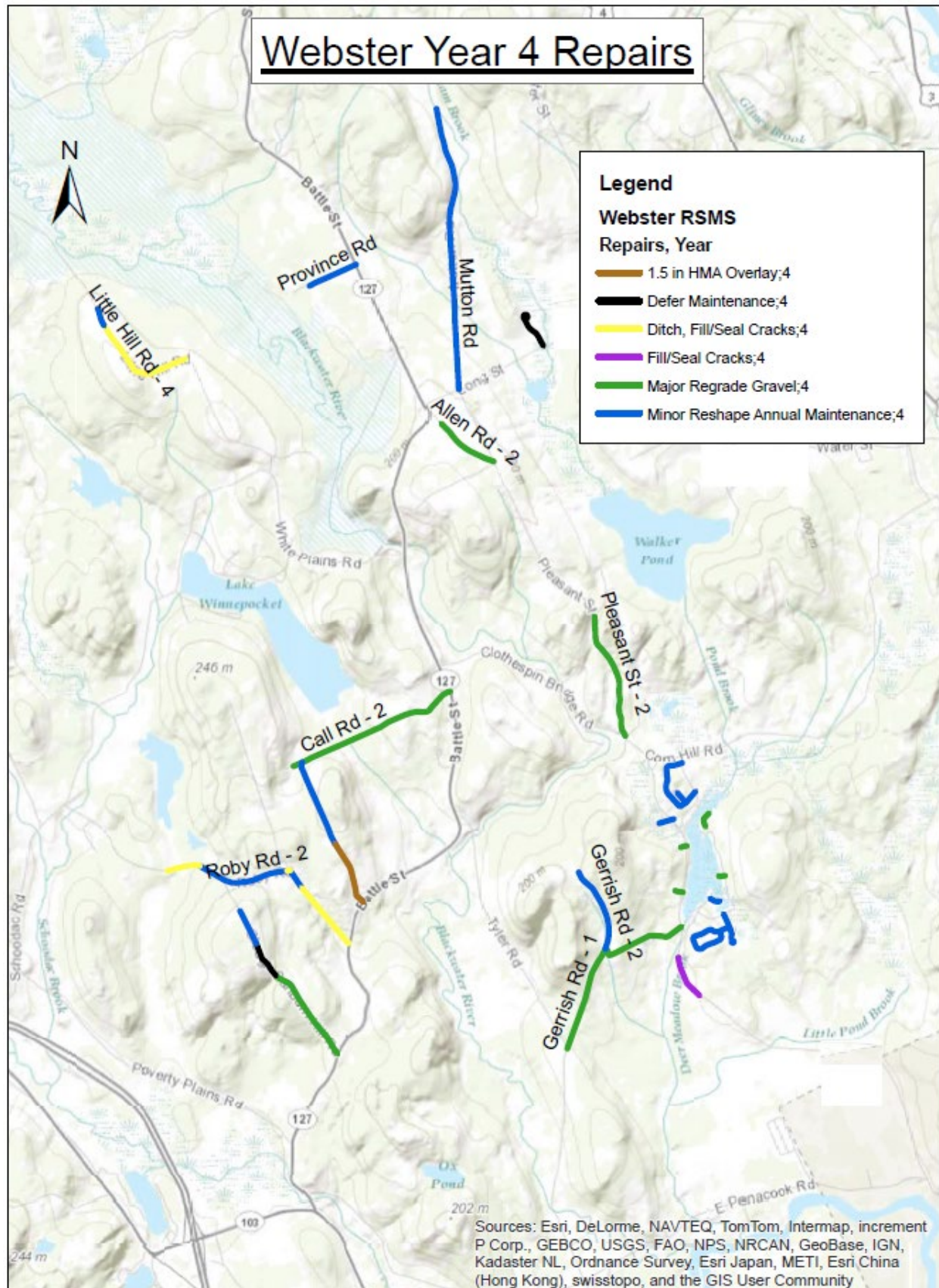
Recommended Repairs by Year

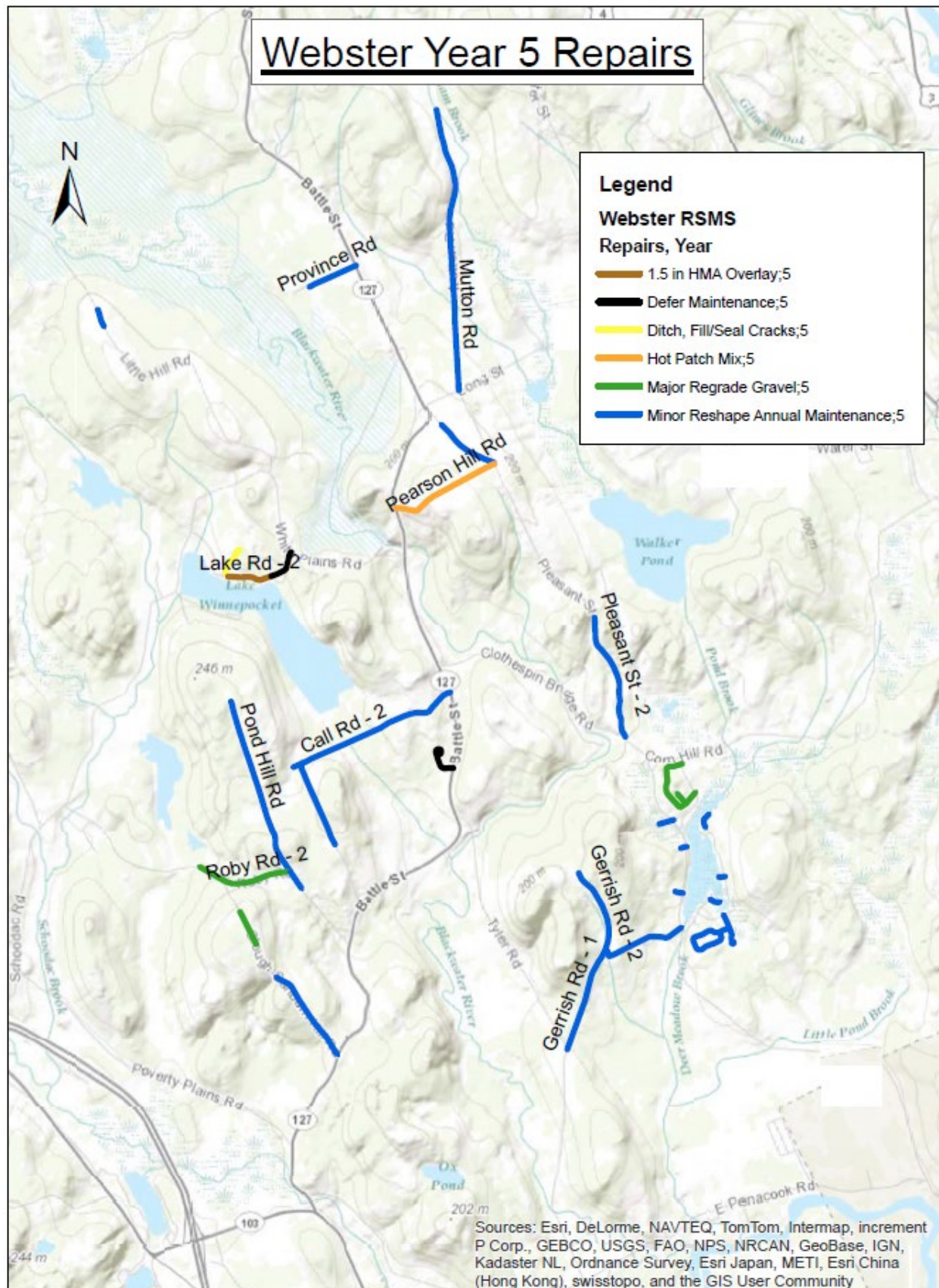
Town of Webster, NH

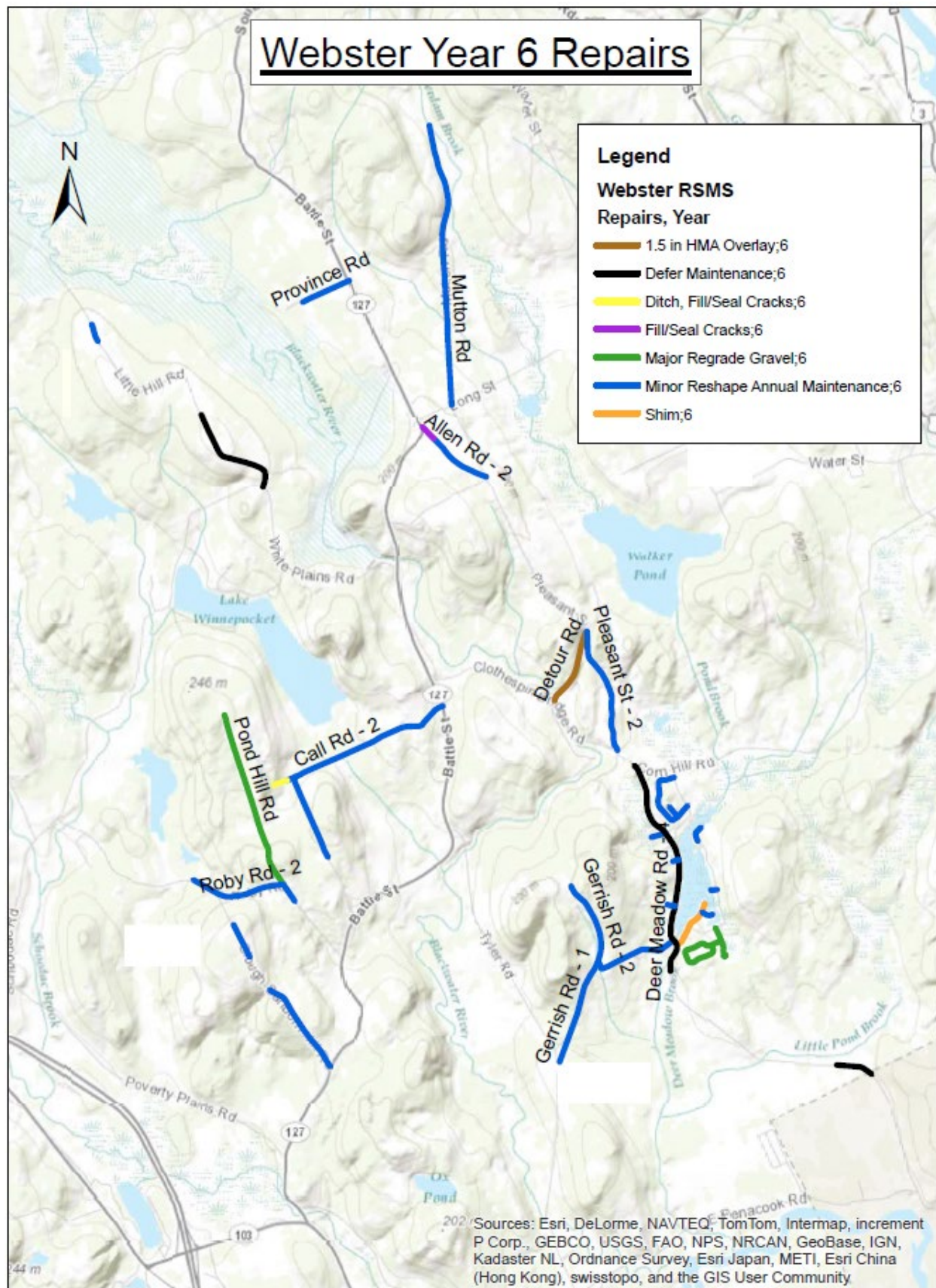


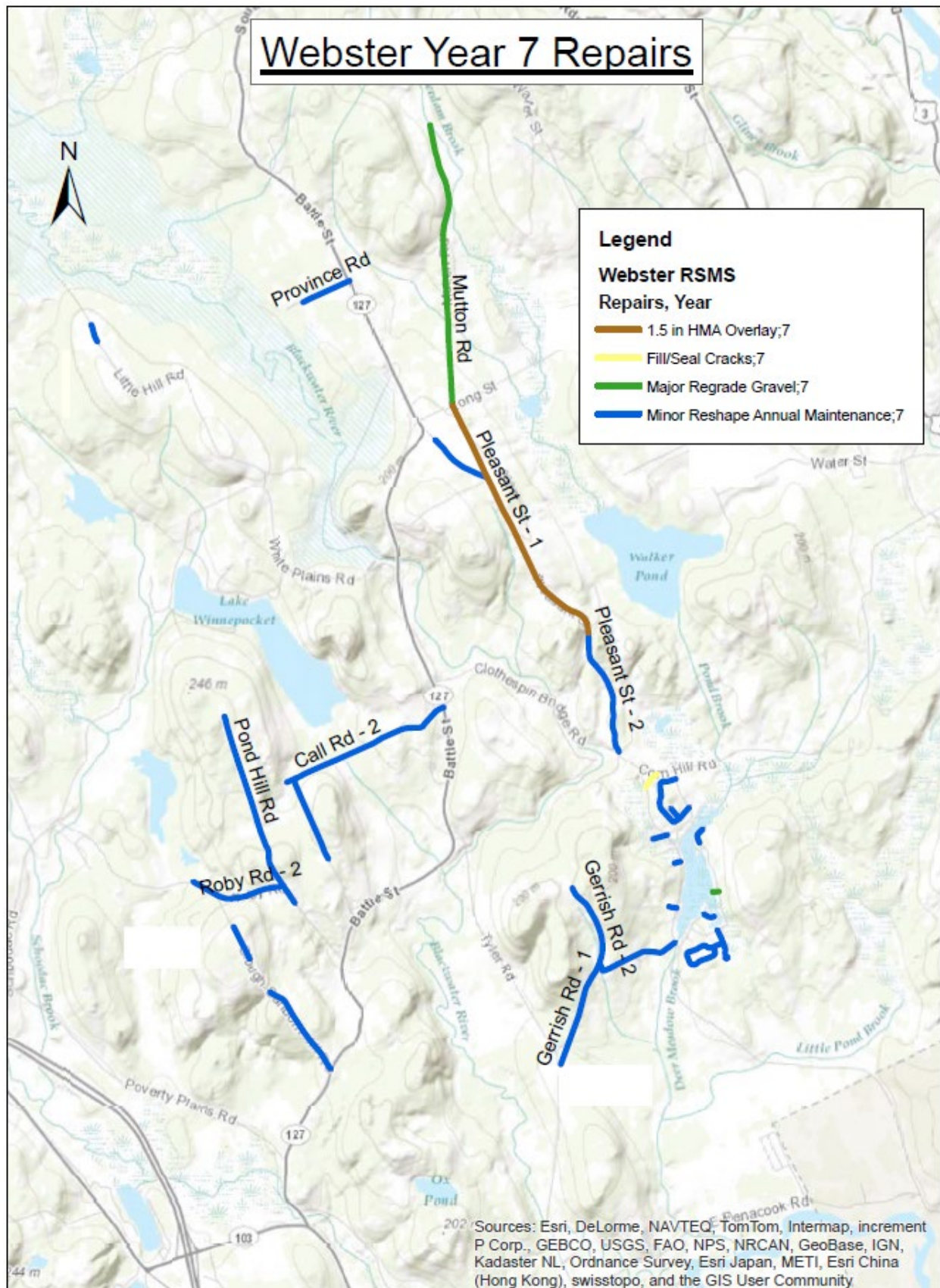


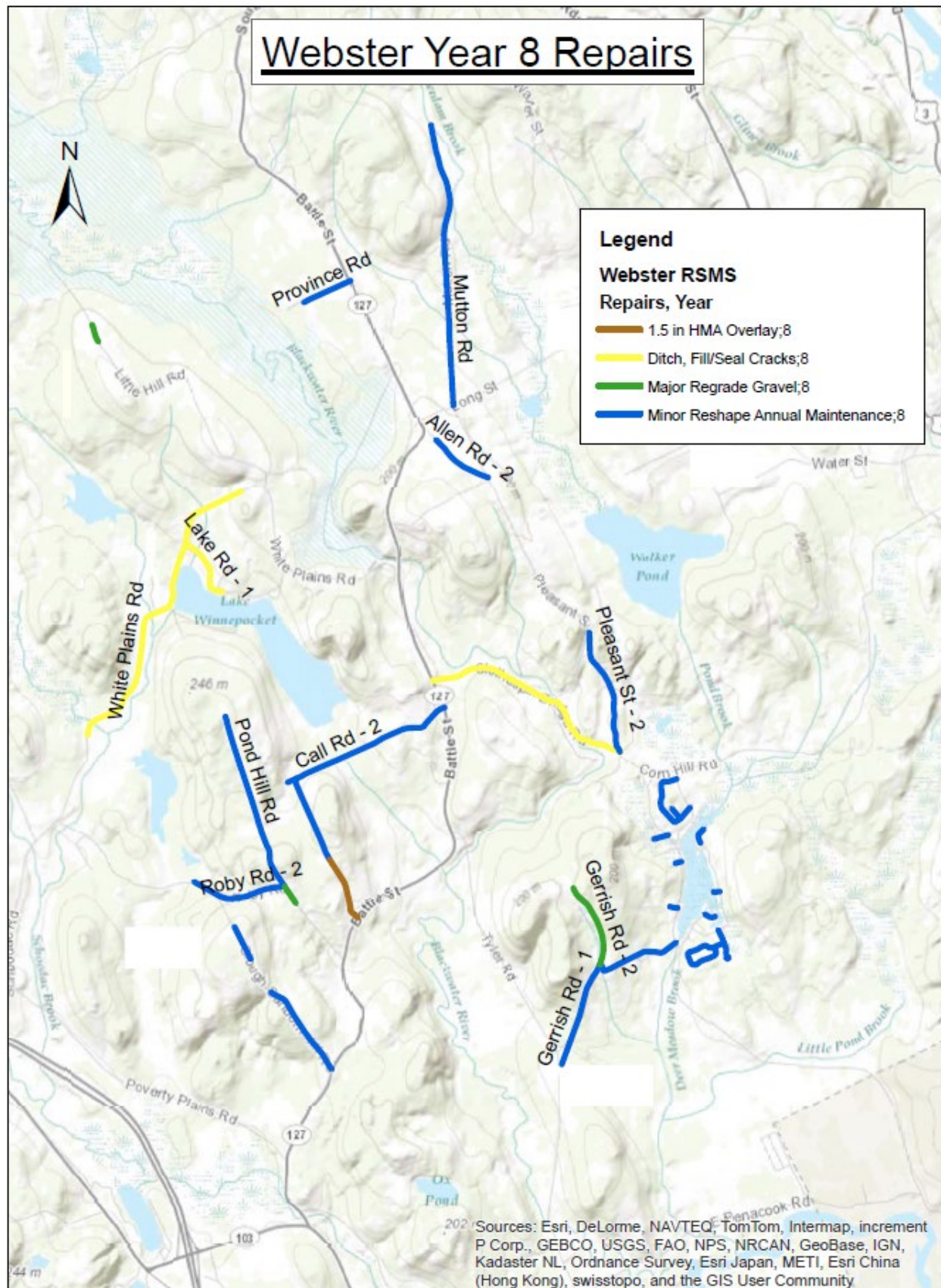


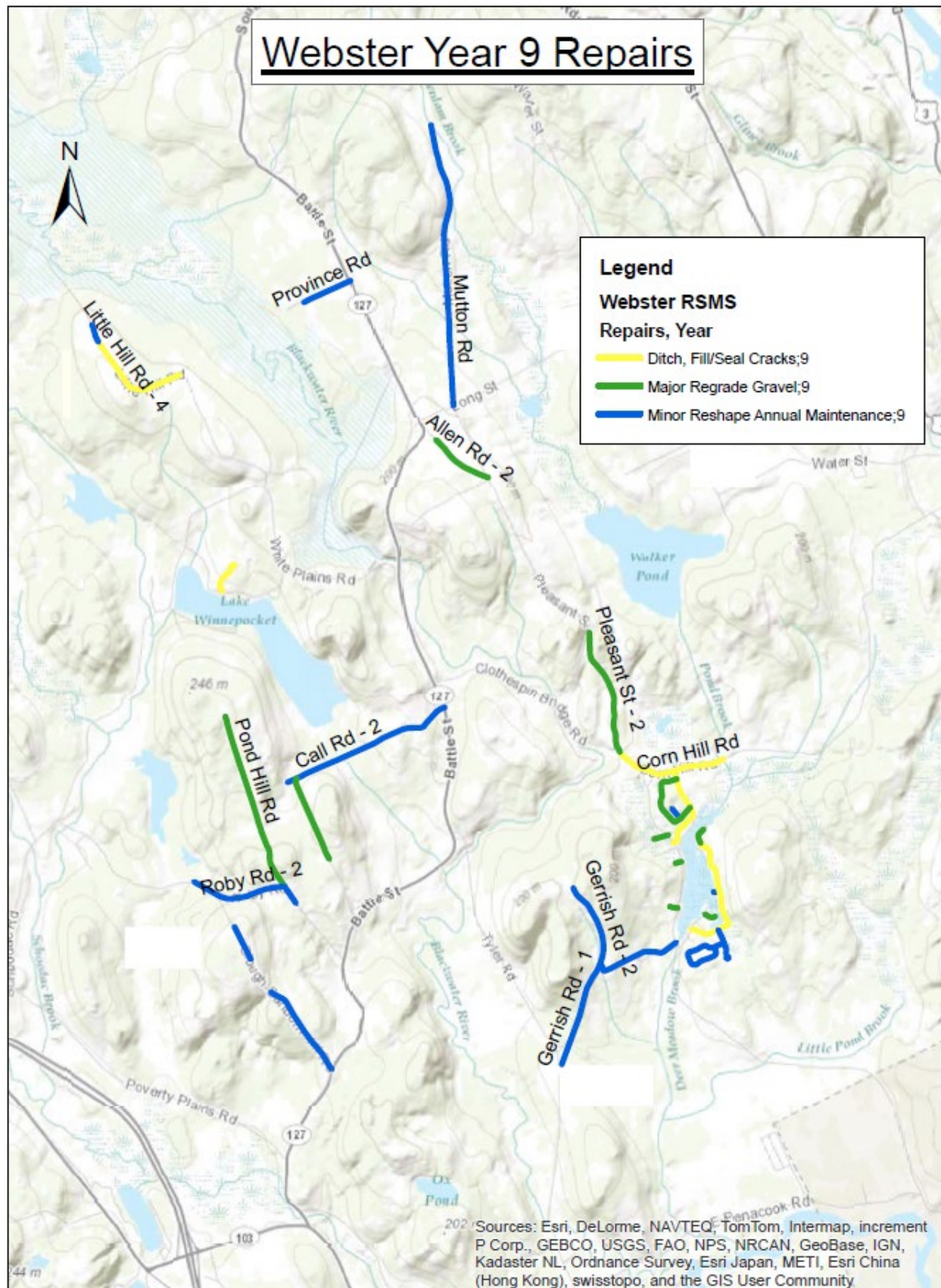


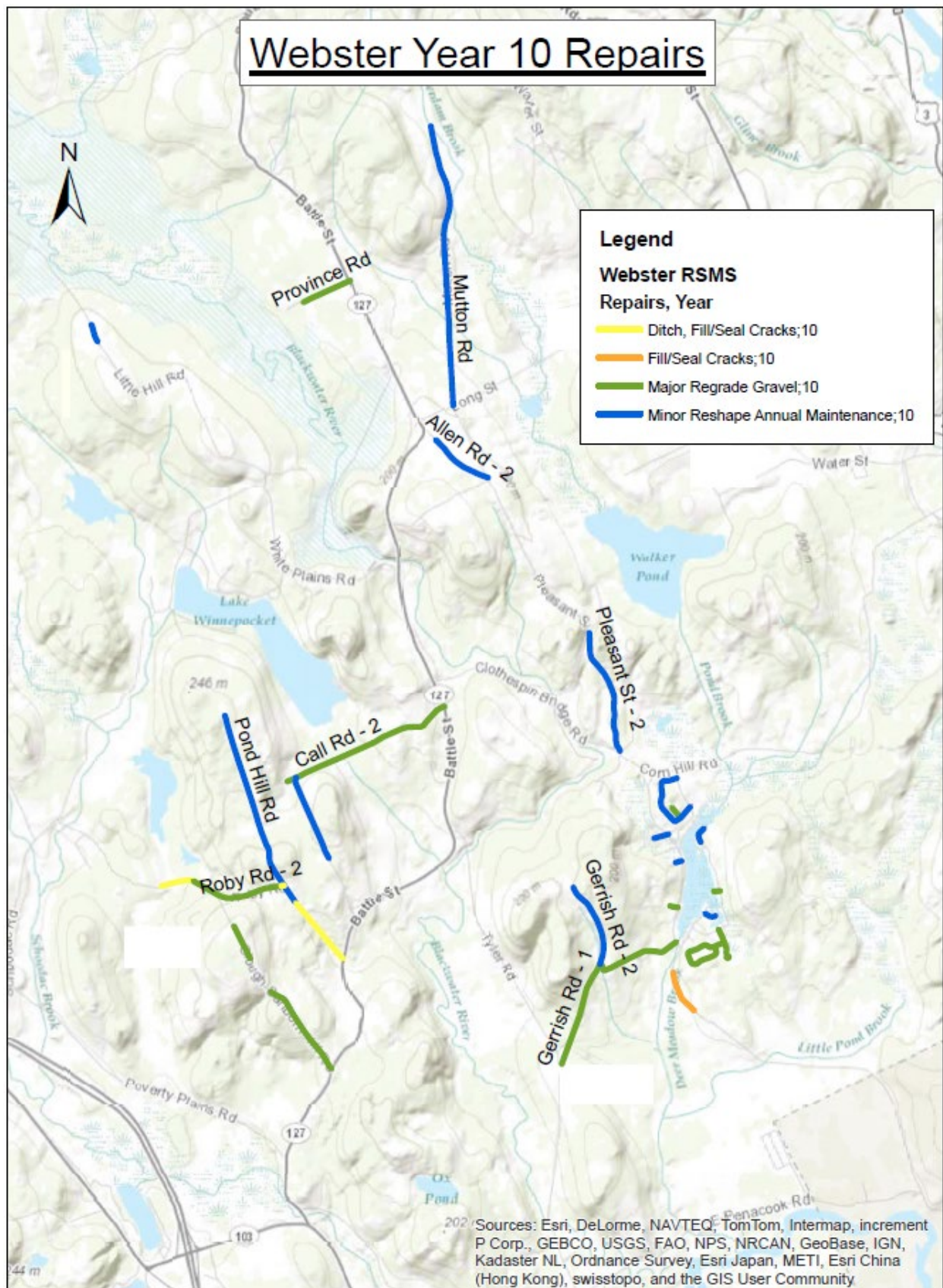












Appendix D: Budget Overview

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.

RSMS - Total Budget

Repair Category	Cost Yr 1	2	3	4	5	6	7	8	9	10
Crack Seal	\$0.00	\$0.00	\$0.00	\$895.40	\$0.00	\$380.52	\$400.18	\$0.00	\$0.00	\$1,199.93
Grade Major Material	\$13,729.07	\$4,392.18	\$11,627.37	\$30,156.49	\$8,843.02	\$5,338.73	\$7,316.95	\$5,885.95	\$27,095.03	\$28,323.68
Overlay	\$24,280.41	\$88,085.61	\$0.00	\$24,132.00	\$16,770.64	\$30,988.64	\$112,422.04	\$29,332.59	\$0.00	\$0.00
Patch	\$0.00	\$0.00	\$0.00	\$0.00	\$18,158.30	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Rebuild/Replace	\$100,790.55	\$33,710.04	\$65,062.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Reshape Minor Material	\$7,557.12	\$6,476.37	\$24,307.37	\$9,608.36	\$11,413.33	\$19,534.12	\$5,430.54	\$12,252.39	\$18,056.84	\$30,397.29
Satisfactory	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Surface Coat	\$17,152.64	\$815.52	\$14,940.02	\$6,160.25	\$1,091.73	\$17,782.80	\$0.00	\$11,152.50	\$17,156.29	\$4,133.48
Total	163,509.79	133,479.73	115,936.76	70,952.49	56,277.02	74,024.81	125,569.71	58,623.43	62,308.17	64,054.38

Appendix E: Repairs and Cost by Year

Table 6: Repairs for Year 1

Year 1		
Road Name	Repair	Cost
Mount Vernon Ter	Minor Reshape Annual Maintenance	\$78.20
Winnepocket Rd - 2	Minor Reshape Annual Maintenance	\$467.31
New London Dr	Minor Reshape Annual Maintenance	\$455.41
Clough Sanborn Hill Rd - 3	Minor Reshape Annual Maintenance	\$189.92
Webster Ln	Minor Reshape Annual Maintenance	\$60.27
Manchester Dr	Minor Reshape Annual Maintenance	\$195.36
Concord Dr	Shim	\$13,597.50
Rumford Dr	Minor Reshape Annual Maintenance	\$441.74
Detour Rd	1.5in HMA overlay	\$24,280.41
Bashan Hollow Rd	Minor Reshape Annual Maintenance	\$470.25
Mutton Rd	Minor Reshape Annual Maintenance	\$150.09
Allen Rd - 2	Minor Reshape Annual Maintenance	\$350.45
Gerrish Rd - 1	Major Regrade Gravel	\$4,548.77
Merrimack Cir	Minor Reshape Annual Maintenance	\$40.87
Granite Way	Major Regrade Gravel	\$258.72
Pond Hill Rd	Minor Reshape Annual Maintenance	\$956.82
Windsor Ter - 1	Minor Reshape Annual Maintenance	\$30.87
Dustin Rd - 2	Ditch, replace 6in base, 2in surface	\$100,790.55
Hollings Dr	Ditch, fill/seal cracks	\$898.17
Call Rd - 2	Minor Reshape Annual Maintenance	\$939.48
Province Rd	Minor Reshape Annual Maintenance	\$271.95
New Hampshire Dr - 2	Major Regrade Gravel	\$700.90
Gerrish Rd - 2	Minor Reshape Annual Maintenance	\$455.41
Clough Sanborn Hill Rd - 1	Minor Reshape Annual Maintenance	\$535.08
Roby Rd - 2	Major Regrade Gravel	\$4,005.46
Roby Rd - 3	Minor Reshape Annual Maintenance	\$112.31
Pleasant St - 2	Major Regrade Gravel	\$5,401.37
General Stark Dr	Minor Reshape Annual Maintenance	\$71.88
Little Hill Rd - 4	Ditch, fill/seal cracks	\$2,656.97
Little Hill Rd - 5	Minor Reshape Annual Maintenance	\$97.30
Total Cost for Year 1:		\$163,509.79

Table 7: Year 2 Repairs

Year 2		
Road Name	Repair	Cost
Mount Vernon Ter	Minor Reshape Annual Maintenance	\$82.11
Winnepocket Rd - 2	Minor Reshape Annual Maintenance	\$490.68
New London Dr	Minor Reshape Annual Maintenance	\$478.18
Clough Sanborn Hill Rd - 3	Major Regrade Gravel	\$1,595.36
Webster Ln	Minor Reshape Annual Maintenance	\$63.28
Manchester Dr	Minor Reshape Annual Maintenance	\$205.13
Pleasant St - 1	1.5in HMA overlay	\$88,085.61
Rumford Dr	Minor Reshape Annual Maintenance	\$463.82
White Plains Rd	Ditch, fill/seal cracks	\$815.52
Bashan Hollow Rd	Minor Reshape Annual Maintenance	\$493.77
Mutton Rd	Minor Reshape Annual Maintenance	\$157.59
Allen Rd - 2	Minor Reshape Annual Maintenance	\$367.97
Gerrish Rd - 1	Minor Reshape Annual Maintenance	\$597.03
Merrimack Cir	Minor Reshape Annual Maintenance	\$42.91
Granite Way	Minor Reshape Annual Maintenance	\$33.96
Pond Hill Rd	Minor Reshape Annual Maintenance	\$1,004.66
Windsor Ter - 1	Minor Reshape Annual Maintenance	\$32.41
Call Rd - 2	Minor Reshape Annual Maintenance	\$986.45
Province Rd	Minor Reshape Annual Maintenance	\$285.55
New Hampshire Dr - 2	Minor Reshape Annual Maintenance	\$91.99
Gerrish Rd - 2	Minor Reshape Annual Maintenance	\$478.18
Dustin Rd - 1	Ditch, replace 6in base, 2in surface	\$33,710.04
Clough Sanborn Hill Rd - 1	Minor Reshape Annual Maintenance	\$561.83
Roby Rd - 2	Minor Reshape Annual Maintenance	\$525.72
Roby Rd - 3	Major Regrade Gravel	\$943.39
Pleasant St - 2	Minor Reshape Annual Maintenance	\$708.93
General Stark Dr	Minor Reshape Annual Maintenance	\$75.48
Little Hill Rd - 5	Minor Reshape Annual Maintenance	\$102.18
Total Cost for Year 2:		\$133,479.73

Table 8: Year 3 Repairs

Year 3		
Road Name	Repair	Cost
Mount Vernon Ter	Major Regrade Gravel	\$689.76
Winnepocket Rd - 2	Major Regrade Gravel	\$4,121.70
New London Dr	Major Regrade Gravel	\$4,016.68
Clough Sanborn Hill Rd - 3	Minor Reshape Annual Maintenance	\$209.39
Webster Ln	Major Regrade Gravel	\$531.58
Manchester Dr	Major Regrade Gravel	\$1,723.10
Centennial Dr	Ditch, fill/seal cracks	\$2,281.45
Rumford Dr	Major Regrade Gravel	\$3,896.10
Bashan Hollow Rd	Minor Reshape Annual Maintenance	\$518.45
Clothespin Bridge Rd - 1	Ditch, fill/seal cracks	\$6,057.27
Mutton Rd	Minor Reshape Annual Maintenance	\$165.47
Corn Hill Rd	Ditch, fill/seal cracks	\$2,465.80
Allen Rd - 2	Minor Reshape Annual Maintenance	\$386.37
Penacook Cir	Ditch, replace 6in base, 2in surface	\$5,899.26
Potash Rd	Ditch, replace 6in base, 2in surface	\$5,275.30
New Hampshire Dr - 1	Ditch, fill/seal cracks	\$2,432.69
Gerrish Rd - 1	Minor Reshape Annual Maintenance	\$626.88
Franklin Pierce Dr	Ditch, fill/seal cracks	\$1,107.62
Merrimack Cir	Minor Reshape Annual Maintenance	\$45.05
Granite Way	Minor Reshape Annual Maintenance	\$35.65
Pond Hill Rd	Major Regrade Gravel	\$8,439.18
Windsor Ter - 1	Minor Reshape Annual Maintenance	\$34.03
Call Rd - 2	Minor Reshape Annual Maintenance	\$1,035.77
Province Rd	Major Regrade Gravel	\$2,398.60
Deer Meadow Rd - 2	Defer maintenance	\$0.00
New Hampshire Dr - 2	Minor Reshape Annual Maintenance	\$96.59
Windsor Ter - 2	Ditch, replace 6in base, 2in surface	\$3,460.14
Gerrish Rd - 2	Major Regrade Gravel	\$4,016.68
Clough Sanborn Hill Rd - 1	Minor Reshape Annual Maintenance	\$589.93
Roby Rd - 2	Minor Reshape Annual Maintenance	\$552.00
Roby Rd - 3	Minor Reshape Annual Maintenance	\$123.82
Pleasant St - 2	Minor Reshape Annual Maintenance	\$744.38
Clothespin Bridge Rd - 2	Ditch, fill/seal cracks	\$595.19
General Stark Dr	Minor Reshape Annual Maintenance	\$79.27
Little Hill Rd - 3	Ditch, replace 6in base, 2in surface	\$50,427.30
Little Hill Rd - 5	Major Regrade Gravel	\$858.31
Total Cost for Year 3:		\$115,936.76

Table 9: Year 4 Repairs

Year 4		
Road Name	Repair	Cost
Mount Vernon Ter	Minor Reshape Annual Maintenance	\$90.53
Winnepocket Rd - 2	Minor Reshape Annual Maintenance	\$540.97
New London Dr	Minor Reshape Annual Maintenance	\$527.19
Clough Sanborn Hill Rd - 3	Minor Reshape Annual Maintenance	\$219.86
Webster Ln	Minor Reshape Annual Maintenance	\$69.77
Manchester Dr	Minor Reshape Annual Maintenance	\$226.16
Rumford Dr	Minor Reshape Annual Maintenance	\$511.36
Bashan Hollow Rd	Major Regrade Gravel	\$4,355.01
Mutton Rd	Minor Reshape Annual Maintenance	\$173.74
Roby Rd - 4	Ditch, fill/seal cracks	\$2,158.50
Allen Rd - 2	Major Regrade Gravel	\$3,245.50
Beaver Dam Dr	Defer maintenance	\$0.00
Gerrish Rd - 1	Major Regrade Gravel	\$5,265.77
Merrimack Cir	Major Regrade Gravel	\$378.46
Granite Way	Major Regrade Gravel	\$299.50
Pond Hill Rd	Minor Reshape Annual Maintenance	\$1,107.64
Windsor Ter - 1	Major Regrade Gravel	\$285.89
Call Rd - 2	Major Regrade Gravel	\$8,700.50
Province Rd	Minor Reshape Annual Maintenance	\$314.82
Deer Meadow Rd - 3	Fill/seal cracks	\$895.40
New Hampshire Dr - 2	Major Regrade Gravel	\$811.37
Gerrish Rd - 2	Minor Reshape Annual Maintenance	\$527.19
Clough Sanborn Hill Rd - 1	Major Regrade Gravel	\$4,955.38
Clough Sanborn Hill Rd - 2	Defer maintenance	\$0.00
Roby Rd - 1	Ditch, fill/seal cracks	\$925.97
Roby Rd - 2	Minor Reshape Annual Maintenance	\$579.60
Roby Rd - 3	Minor Reshape Annual Maintenance	\$130.01
Winnepocket Rd - 1	1.5in HMA overlay	\$24,132.00
Pleasant St - 2	Major Regrade Gravel	\$6,252.76
General Stark Dr	Minor Reshape Annual Maintenance	\$83.21
Little Hill Rd - 4	Ditch, fill/seal cracks	\$3,075.78
Little Hill Rd - 5	Minor Reshape Annual Maintenance	\$112.65
Total Cost for Year 4:		\$70,952.49

Table 10: Year 5 Repairs

Year 5		
Road Name	Repair	Cost
Mount Vernon Ter	Minor Reshape Annual Maintenance	\$95.06
Winnepocket Rd - 2	Minor Reshape Annual Maintenance	\$568.02
Pearson Hill Rd	Hot Mix Patch	\$18,158.30
New London Dr	Minor Reshape Annual Maintenance	\$553.55
Clough Sanborn Hill Rd - 3	Major Regrade Gravel	\$1,846.83
Webster Ln	Minor Reshape Annual Maintenance	\$73.26
Manchester Dr	Minor Reshape Annual Maintenance	\$237.46
Rumford Dr	Major Regrade Gravel	\$4,295.45
Bashan Hollow Rd	Minor Reshape Annual Maintenance	\$571.60
Lake Rd - 2	1.5in HMA overlay	\$16,770.64
Mutton Rd	Minor Reshape Annual Maintenance	\$182.43
Allen Rd - 2	Minor Reshape Annual Maintenance	\$425.97
Gerrish Rd - 1	Minor Reshape Annual Maintenance	\$691.13
Merrimack Cir	Minor Reshape Annual Maintenance	\$49.67
Granite Way	Minor Reshape Annual Maintenance	\$39.31
Pond Hill Rd	Minor Reshape Annual Maintenance	\$1,163.02
Windsor Ter - 1	Minor Reshape Annual Maintenance	\$37.52
Hollings Dr	Ditch, fill/seal cracks	\$1,091.73
Blackberry Ln	Defer maintenance	\$0.00
Call Rd - 2	Minor Reshape Annual Maintenance	\$1,141.94
Province Rd	Minor Reshape Annual Maintenance	\$330.56
Lake Rd - 3	Defer maintenance	\$0.00
New Hampshire Dr - 2	Minor Reshape Annual Maintenance	\$106.49
Gerrish Rd - 2	Minor Reshape Annual Maintenance	\$553.55
Clough Sanborn Hill Rd - 1	Minor Reshape Annual Maintenance	\$650.39
Roby Rd - 2	Major Regrade Gravel	\$4,868.66
Roby Rd - 3	Minor Reshape Annual Maintenance	\$136.53
Pleasant St - 2	Minor Reshape Annual Maintenance	\$820.67
General Stark Dr	Major Regrade Gravel	\$698.99
Little Hill Rd - 5	Minor Reshape Annual Maintenance	\$118.29
Total Cost for Year 5:		\$56,277.02

Table 11: Year 6 Repairs

Year 6		
Road Name	Repair	Cost
Mount Vernon Ter	Minor Reshape Annual Maintenance	\$99.81
Deer Meadow Rd - 4	Defer maintenance	\$0.00
Winnepocket Rd - 2	Minor Reshape Annual Maintenance	\$596.42
New London Dr	Major Regrade Gravel	\$4,649.81
Clough Sanborn Hill Rd - 3	Minor Reshape Annual Maintenance	\$242.40
Webster Ln	Minor Reshape Annual Maintenance	\$76.92
Manchester Dr	Major Regrade Gravel	\$1,994.71
Concord Dr	Shim	\$17,354.24
Rumford Dr	Minor Reshape Annual Maintenance	\$563.78
Detour Rd	1.5in HMA overlay	\$30,988.64
Bashan Hollow Rd	Minor Reshape Annual Maintenance	\$600.18
Mutton Rd	Minor Reshape Annual Maintenance	\$191.55
Allen Rd - 2	Minor Reshape Annual Maintenance	\$447.27
Gerrish Rd - 1	Minor Reshape Annual Maintenance	\$725.69
Merrimack Cir	Minor Reshape Annual Maintenance	\$52.16
Granite Way	Minor Reshape Annual Maintenance	\$41.27
Pond Hill Rd	Major Regrade Gravel	\$9,769.40
Windsor Ter - 1	Minor Reshape Annual Maintenance	\$39.40
Call Rd - 2	Minor Reshape Annual Maintenance	\$1,199.04
Province Rd	Minor Reshape Annual Maintenance	\$347.08
Deer Meadow Rd - 1	Defer maintenance	\$0.00
New Hampshire Dr - 2	Minor Reshape Annual Maintenance	\$111.82
Gerrish Rd - 2	Minor Reshape Annual Maintenance	\$581.23
Clough Sanborn Hill Rd - 1	Minor Reshape Annual Maintenance	\$682.91
Roby Rd - 2	Minor Reshape Annual Maintenance	\$639.01
Roby Rd - 3	Minor Reshape Annual Maintenance	\$143.34
Call Rd - 1	Ditch, fill/seal cracks	\$428.56
Allen Rd - 1	Fill/seal cracks	\$380.52
Pleasant St - 2	Minor Reshape Annual Maintenance	\$861.71
General Stark Dr	Minor Reshape Annual Maintenance	\$91.74
Little Hill Rd - 1	Defer maintenance	\$0.00
Little Hill Rd - 2	Defer maintenance	\$0.00
Little Hill Rd - 5	Minor Reshape Annual Maintenance	\$124.20
Total Cost for Year 6:		\$74,024.81

Table 12: Year 7 Repairs

Year 7		
Road Name	Repair	Cost
Mount Vernon Ter	Minor Reshape Annual Maintenance	\$104.80
Winnepocket Rd - 2	Minor Reshape Annual Maintenance	\$626.24
New London Dr	Minor Reshape Annual Maintenance	\$610.29
Clough Sanborn Hill Rd - 3	Minor Reshape Annual Maintenance	\$254.52
Webster Ln	Minor Reshape Annual Maintenance	\$80.77
Manchester Dr	Minor Reshape Annual Maintenance	\$261.81
Pleasant St - 1	1.5in HMA overlay	\$112,422.04
Rumford Dr	Minor Reshape Annual Maintenance	\$591.97
Bashan Hollow Rd	Minor Reshape Annual Maintenance	\$630.18
Mutton Rd	Major Regrade Gravel	\$1,609.05
Allen Rd - 2	Minor Reshape Annual Maintenance	\$469.63
Gerrish Rd - 1	Minor Reshape Annual Maintenance	\$761.97
Merrimack Cir	Minor Reshape Annual Maintenance	\$54.76
Granite Way	Major Regrade Gravel	\$346.71
Pond Hill Rd	Minor Reshape Annual Maintenance	\$1,282.23
Windsor Ter - 1	Minor Reshape Annual Maintenance	\$41.37
Christopher Robert Dr	Fill/seal cracks	\$400.18
Call Rd - 2	Minor Reshape Annual Maintenance	\$1,258.99
Province Rd	Minor Reshape Annual Maintenance	\$364.44
New Hampshire Dr - 2	Minor Reshape Annual Maintenance	\$117.41
Gerrish Rd - 2	Minor Reshape Annual Maintenance	\$610.29
Clough Sanborn Hill Rd - 1	Minor Reshape Annual Maintenance	\$717.06
Roby Rd - 2	Minor Reshape Annual Maintenance	\$670.96
Roby Rd - 3	Minor Reshape Annual Maintenance	\$150.50
Pleasant St - 2	Minor Reshape Annual Maintenance	\$904.79
General Stark Dr	Minor Reshape Annual Maintenance	\$96.34
Little Hill Rd - 5	Minor Reshape Annual Maintenance	\$130.41
Total Cost for Year 7:		\$125,569.71

Table 13: Year 8 Repairs

Year 8		
Road Name	Repair	Cost
Mount Vernon Ter	Minor Reshape Annual Maintenance	\$110.04
Winnepocket Rd - 2	Minor Reshape Annual Maintenance	\$657.56
New London Dr	Minor Reshape Annual Maintenance	\$640.80
Clough Sanborn Hill Rd - 3	Minor Reshape Annual Maintenance	\$267.24
Webster Ln	Minor Reshape Annual Maintenance	\$84.81
Manchester Dr	Minor Reshape Annual Maintenance	\$274.90
Rumford Dr	Minor Reshape Annual Maintenance	\$621.57
White Plains Rd	Ditch, fill/seal cracks	\$1,092.87
Bashan Hollow Rd	Minor Reshape Annual Maintenance	\$661.69
Clothespin Bridge Rd - 1	Ditch, fill/seal cracks	\$7,730.79
Mutton Rd	Minor Reshape Annual Maintenance	\$211.19
Allen Rd - 2	Minor Reshape Annual Maintenance	\$493.12
Gerrish Rd - 1	Minor Reshape Annual Maintenance	\$800.07
Merrimack Cir	Minor Reshape Annual Maintenance	\$57.50
Granite Way	Minor Reshape Annual Maintenance	\$45.51
Pond Hill Rd	Minor Reshape Annual Maintenance	\$1,346.35
Windsor Ter - 1	Minor Reshape Annual Maintenance	\$43.44
Call Rd - 2	Minor Reshape Annual Maintenance	\$1,321.94
Province Rd	Minor Reshape Annual Maintenance	\$382.64
Lake Rd - 1	Ditch, fill/seal cracks	\$2,328.84
New Hampshire Dr - 2	Minor Reshape Annual Maintenance	\$123.28
Gerrish Rd - 2	Major Regrade Gravel	\$5,126.42
Clough Sanborn Hill Rd - 1	Minor Reshape Annual Maintenance	\$752.91
Roby Rd - 2	Minor Reshape Annual Maintenance	\$704.51
Roby Rd - 3	Major Regrade Gravel	\$1,264.23
Winnepocket Rd - 1	1.5in HMA overlay	\$29,332.59
Pleasant St - 2	Minor Reshape Annual Maintenance	\$950.03
General Stark Dr	Minor Reshape Annual Maintenance	\$101.15
Little Hill Rd - 5	Major Regrade Gravel	\$1,095.44
Total Cost for Year 8:		\$58,623.43

Table 14: Year 9 Repairs

Year 9		
Road Name	Repair	Cost
Mount Vernon Ter	Major Regrade Gravel	\$924.34
Winnepocket Rd - 2	Major Regrade Gravel	\$5,523.47
New London Dr	Minor Reshape Annual Maintenance	\$672.84
Clough Sanborn Hill Rd - 3	Minor Reshape Annual Maintenance	\$280.60
Webster Ln	Major Regrade Gravel	\$712.37
Manchester Dr	Minor Reshape Annual Maintenance	\$288.64
Centennial Dr	Ditch, fill/seal cracks	\$3,057.36
Rumford Dr	Major Regrade Gravel	\$5,221.15
Bashan Hollow Rd	Minor Reshape Annual Maintenance	\$694.78
Mutton Rd	Minor Reshape Annual Maintenance	\$221.75
Corn Hill Rd	Ditch, fill/seal cracks	\$3,304.41
Allen Rd - 2	Major Regrade Gravel	\$4,142.17
New Hampshire Dr - 1	Ditch, fill/seal cracks	\$3,260.04
Gerrish Rd - 1	Minor Reshape Annual Maintenance	\$840.08
Franklin Pierce Dr	Ditch, fill/seal cracks	\$1,484.31
Merrimack Cir	Major Regrade Gravel	\$483.02
Granite Way	Minor Reshape Annual Maintenance	\$47.78
Pond Hill Rd	Major Regrade Gravel	\$11,309.31
Windsor Ter - 1	Major Regrade Gravel	\$364.87
Hollings Dr	Ditch, fill/seal cracks	\$1,327.01
Call Rd - 2	Minor Reshape Annual Maintenance	\$1,388.04
Province Rd	Minor Reshape Annual Maintenance	\$401.79
New Hampshire Dr - 2	Major Regrade Gravel	\$1,035.54
Gerrish Rd - 2	Minor Reshape Annual Maintenance	\$672.84
Clough Sanborn Hill Rd - 1	Minor Reshape Annual Maintenance	\$790.56
Roby Rd - 2	Minor Reshape Annual Maintenance	\$739.74
Roby Rd - 3	Minor Reshape Annual Maintenance	\$165.93
Pleasant St - 2	Major Regrade Gravel	\$7,980.28
Clothespin Bridge Rd - 2	Ditch, fill/seal cracks	\$797.62
General Stark Dr	Minor Reshape Annual Maintenance	\$106.20
Little Hill Rd - 4	Ditch, fill/seal cracks	\$3,925.56
Little Hill Rd - 5	Minor Reshape Annual Maintenance	\$143.77
Total Cost for Year 9:		\$62,308.17

Table 15: Year 10 Repairs

Year 10		
Road Name	Repair	Cost
Mount Vernon Ter	Minor Reshape Annual Maintenance	\$121.32
Winnepocket Rd - 2	Minor Reshape Annual Maintenance	\$724.96
New London Dr	Major Regrade Gravel	\$5,651.87
Clough Sanborn Hill Rd - 3	Major Regrade Gravel	\$2,357.08
Webster Ln	Minor Reshape Annual Maintenance	\$93.50
Manchester Dr	Major Regrade Gravel	\$2,424.58
Rumford Dr	Minor Reshape Annual Maintenance	\$685.28
Bashan Hollow Rd	Major Regrade Gravel	\$5,836.13
Mutton Rd	Minor Reshape Annual Maintenance	\$232.83
Roby Rd - 4	Ditch, fill/seal cracks	\$2,892.59
Allen Rd - 2	Minor Reshape Annual Maintenance	\$543.66
Gerrish Rd - 1	Major Regrade Gravel	\$7,056.63
Merrimack Cir	Minor Reshape Annual Maintenance	\$63.40
Granite Way	Major Regrade Gravel	\$401.36
Pond Hill Rd	Minor Reshape Annual Maintenance	\$1,484.35
Windsor Ter - 1	Minor Reshape Annual Maintenance	\$47.89
Call Rd - 2	Major Regrade Gravel	\$11,659.50
Province Rd	Major Regrade Gravel	\$3,375.07
Deer Meadow Rd - 3	Fill/seal cracks	\$1,199.93
New Hampshire Dr - 2	Minor Reshape Annual Maintenance	\$135.91
Gerrish Rd - 2	Minor Reshape Annual Maintenance	\$706.47
Clough Sanborn Hill Rd - 1	Major Regrade Gravel	\$6,640.68
Roby Rd - 1	Ditch, fill/seal cracks	\$1,240.89
Roby Rd - 2	Major Regrade Gravel	\$6,213.78
Roby Rd - 3	Minor Reshape Annual Maintenance	\$174.23
Pleasant St - 2	Minor Reshape Annual Maintenance	\$1,047.41
General Stark Dr	Major Regrade Gravel	\$892.11
Little Hill Rd - 5	Minor Reshape Annual Maintenance	\$150.97
Total Cost for Year 10:		\$64,054.38

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	
1	Mount Vernon Ter	532
1	Minor Reshape Annual Maintenance	\$78.20
2	Minor Reshape Annual Maintenance	\$82.11
3	Major Regrade Gravel	\$689.76
4	Minor Reshape Annual Maintenance	\$90.53
5	Minor Reshape Annual Maintenance	\$95.06
6	Minor Reshape Annual Maintenance	\$99.81
7	Minor Reshape Annual Maintenance	\$104.80
8	Minor Reshape Annual Maintenance	\$110.04
9	Major Regrade Gravel	\$924.34
10	Minor Reshape Annual Maintenance	\$121.32
Total Cost:		\$2,395.98
2	Deer Meadow Rd - 4	8086
6	Defer maintenance	\$0.00
Total Cost:		\$0.00
3	Winnepocket Rd - 2	3179
1	Minor Reshape Annual Maintenance	\$467.31
2	Minor Reshape Annual Maintenance	\$490.68
3	Major Regrade Gravel	\$4,121.70
4	Minor Reshape Annual Maintenance	\$540.97
5	Minor Reshape Annual Maintenance	\$568.02
6	Minor Reshape Annual Maintenance	\$596.42
7	Minor Reshape Annual Maintenance	\$626.24
8	Minor Reshape Annual Maintenance	\$657.56
9	Major Regrade Gravel	\$5,523.47
10	Minor Reshape Annual Maintenance	\$724.96
Total Cost:		\$14,317.34

4	Pearson Hill Rd		4065
5	Hot Mix Patch	\$18,158.30	
	Total Cost:	\$18,158.30	
5	New London Dr		3098
1	Minor Reshape Annual Maintenance	\$455.41	
2	Minor Reshape Annual Maintenance	\$478.18	
3	Major Regrade Gravel	\$4,016.68	
4	Minor Reshape Annual Maintenance	\$527.19	
5	Minor Reshape Annual Maintenance	\$553.55	
6	Major Regrade Gravel	\$4,649.81	
7	Minor Reshape Annual Maintenance	\$610.29	
8	Minor Reshape Annual Maintenance	\$640.80	
9	Minor Reshape Annual Maintenance	\$672.84	
10	Major Regrade Gravel	\$5,651.87	
	Total Cost:	\$18,256.62	
6	Clough Sanborn Hill Rd - 3		1292
1	Minor Reshape Annual Maintenance	\$189.92	
2	Major Regrade Gravel	\$1,595.36	
3	Minor Reshape Annual Maintenance	\$209.39	
4	Minor Reshape Annual Maintenance	\$219.86	
5	Major Regrade Gravel	\$1,846.83	
6	Minor Reshape Annual Maintenance	\$242.40	
7	Minor Reshape Annual Maintenance	\$254.52	
8	Minor Reshape Annual Maintenance	\$267.24	
9	Minor Reshape Annual Maintenance	\$280.60	
10	Major Regrade Gravel	\$2,357.08	
	Total Cost:	\$7,463.20	

7	Webster Ln		410
1	Minor Reshape Annual Maintenance	\$60.27	
2	Minor Reshape Annual Maintenance	\$63.28	
3	Major Regrade Gravel	\$531.58	
4	Minor Reshape Annual Maintenance	\$69.77	
5	Minor Reshape Annual Maintenance	\$73.26	
6	Minor Reshape Annual Maintenance	\$76.92	
7	Minor Reshape Annual Maintenance	\$80.77	
8	Minor Reshape Annual Maintenance	\$84.81	
9	Major Regrade Gravel	\$712.37	
10	Minor Reshape Annual Maintenance	\$93.50	
	Total Cost:	\$1,846.53	
9	Manchester Dr		1329
1	Minor Reshape Annual Maintenance	\$195.36	
2	Minor Reshape Annual Maintenance	\$205.13	
3	Major Regrade Gravel	\$1,723.10	
4	Minor Reshape Annual Maintenance	\$226.16	
5	Minor Reshape Annual Maintenance	\$237.46	
6	Major Regrade Gravel	\$1,994.71	
7	Minor Reshape Annual Maintenance	\$261.81	
8	Minor Reshape Annual Maintenance	\$274.90	
9	Minor Reshape Annual Maintenance	\$288.64	
10	Major Regrade Gravel	\$2,424.58	
	Total Cost:	\$7,831.84	
10	Pleasant St - 1		9771
2	1.5in HMA overlay	\$88,085.61	
7	1.5in HMA overlay	\$112,422.04	
	Total Cost:	\$200,507.65	
11	Centennial Dr		3032
3	Ditch, fill/seal cracks	\$2,281.45	
9	Ditch, fill/seal cracks	\$3,057.36	
	Total Cost:	\$5,338.81	
12	Concord Dr		1850
1	Shim	\$13,597.50	
6	Shim	\$17,354.24	
	Total Cost:	\$30,951.74	

13	Rumford Dr		3005
1	Minor Reshape Annual Maintenance	\$441.74	
2	Minor Reshape Annual Maintenance	\$463.82	
3	Major Regrade Gravel	\$3,896.10	
4	Minor Reshape Annual Maintenance	\$511.36	
5	Major Regrade Gravel	\$4,295.45	
6	Minor Reshape Annual Maintenance	\$563.78	
7	Minor Reshape Annual Maintenance	\$591.97	
8	Minor Reshape Annual Maintenance	\$621.57	
9	Major Regrade Gravel	\$5,221.15	
10	Minor Reshape Annual Maintenance	\$685.28	
	Total Cost:	\$17,292.21	
14	Detour Rd		2828
1	1.5in HMA overlay	\$24,280.41	
6	1.5in HMA overlay	\$30,988.64	
	Total Cost:	\$55,269.06	
15	White Plains Rd		1138
2	Ditch, fill/seal cracks	\$815.52	
8	Ditch, fill/seal cracks	\$1,092.87	
	Total Cost:	\$1,908.39	
16	Bashan Hollow Rd		3199
1	Minor Reshape Annual Maintenance	\$470.25	
2	Minor Reshape Annual Maintenance	\$493.77	
3	Minor Reshape Annual Maintenance	\$518.45	
4	Major Regrade Gravel	\$4,355.01	
5	Minor Reshape Annual Maintenance	\$571.60	
6	Minor Reshape Annual Maintenance	\$600.18	
7	Minor Reshape Annual Maintenance	\$630.18	
8	Minor Reshape Annual Maintenance	\$661.69	
9	Minor Reshape Annual Maintenance	\$694.78	
10	Major Regrade Gravel	\$5,836.13	
	Total Cost:	\$14,832.05	
17	Lake Rd - 2		1607
5	1.5in HMA overlay	\$16,770.64	
	Total Cost:	\$16,770.64	

18	Clothespin Bridge Rd - 1		8050
3	Ditch, fill/seal cracks	\$6,057.27	
8	Ditch, fill/seal cracks	\$7,730.79	
	Total Cost:	\$13,788.06	
19	Mutton Rd		1021
1	Minor Reshape Annual Maintenance	\$150.09	
2	Minor Reshape Annual Maintenance	\$157.59	
3	Minor Reshape Annual Maintenance	\$165.47	
4	Minor Reshape Annual Maintenance	\$173.74	
5	Minor Reshape Annual Maintenance	\$182.43	
6	Minor Reshape Annual Maintenance	\$191.55	
7	Major Regrade Gravel	\$1,609.05	
8	Minor Reshape Annual Maintenance	\$211.19	
9	Minor Reshape Annual Maintenance	\$221.75	
10	Minor Reshape Annual Maintenance	\$232.83	
	Total Cost:	\$3,295.69	
20	Roby Rd - 4		2732
4	Ditch, fill/seal cracks	\$2,158.50	
10	Ditch, fill/seal cracks	\$2,892.59	
	Total Cost:	\$5,051.09	
21	Corn Hill Rd		3277
3	Ditch, fill/seal cracks	\$2,465.80	
9	Ditch, fill/seal cracks	\$3,304.41	
	Total Cost:	\$5,770.21	
22	Allen Rd - 2		2384
1	Minor Reshape Annual Maintenance	\$350.45	
2	Minor Reshape Annual Maintenance	\$367.97	
3	Minor Reshape Annual Maintenance	\$386.37	
4	Major Regrade Gravel	\$3,245.50	
5	Minor Reshape Annual Maintenance	\$425.97	
6	Minor Reshape Annual Maintenance	\$447.27	
7	Minor Reshape Annual Maintenance	\$469.63	
8	Minor Reshape Annual Maintenance	\$493.12	
9	Major Regrade Gravel	\$4,142.17	
10	Minor Reshape Annual Maintenance	\$543.66	
	Total Cost:	\$10,872.11	

23	Penacook Cir		208
3	Ditch, replace 6in base, 2in surface	\$5,899.26	
	Total Cost:	\$5,899.26	
24	Potash Rd		186
3	Ditch, replace 6in base, 2in surface	\$5,275.30	
	Total Cost:	\$5,275.30	
25	New Hampshire Dr - 1		3233
3	Ditch, fill/seal cracks	\$2,432.69	
9	Ditch, fill/seal cracks	\$3,260.04	
	Total Cost:	\$5,692.73	
26	Beaver Dam Dr		1709
4	Defer maintenance	\$0.00	
	Total Cost:	\$0.00	
27	Gerrish Rd - 1		3868
1	Major Regrade Gravel	\$4,548.77	
2	Minor Reshape Annual Maintenance	\$597.03	
3	Minor Reshape Annual Maintenance	\$626.88	
4	Major Regrade Gravel	\$5,265.77	
5	Minor Reshape Annual Maintenance	\$691.13	
6	Minor Reshape Annual Maintenance	\$725.69	
7	Minor Reshape Annual Maintenance	\$761.97	
8	Minor Reshape Annual Maintenance	\$800.07	
9	Minor Reshape Annual Maintenance	\$840.08	
10	Major Regrade Gravel	\$7,056.63	
	Total Cost:	\$21,914.01	
28	Franklin Pierce Dr		1472
3	Ditch, fill/seal cracks	\$1,107.62	
9	Ditch, fill/seal cracks	\$1,484.31	
	Total Cost:	\$2,591.93	

29	Merrimack Cir	278
1	Minor Reshape Annual Maintenance	\$40.87
2	Minor Reshape Annual Maintenance	\$42.91
3	Minor Reshape Annual Maintenance	\$45.05
4	Major Regrade Gravel	\$378.46
5	Minor Reshape Annual Maintenance	\$49.67
6	Minor Reshape Annual Maintenance	\$52.16
7	Minor Reshape Annual Maintenance	\$54.76
8	Minor Reshape Annual Maintenance	\$57.50
9	Major Regrade Gravel	\$483.02
10	Minor Reshape Annual Maintenance	\$63.40
	Total Cost:	\$1,267.80
30	Granite Way	220
1	Major Regrade Gravel	\$258.72
2	Minor Reshape Annual Maintenance	\$33.96
3	Minor Reshape Annual Maintenance	\$35.65
4	Major Regrade Gravel	\$299.50
5	Minor Reshape Annual Maintenance	\$39.31
6	Minor Reshape Annual Maintenance	\$41.27
7	Major Regrade Gravel	\$346.71
8	Minor Reshape Annual Maintenance	\$45.51
9	Minor Reshape Annual Maintenance	\$47.78
10	Major Regrade Gravel	\$401.36
	Total Cost:	\$1,549.77
31	Pond Hill Rd	6509
1	Minor Reshape Annual Maintenance	\$956.82
2	Minor Reshape Annual Maintenance	\$1,004.66
3	Major Regrade Gravel	\$8,439.18
4	Minor Reshape Annual Maintenance	\$1,107.64
5	Minor Reshape Annual Maintenance	\$1,163.02
6	Major Regrade Gravel	\$9,769.40
7	Minor Reshape Annual Maintenance	\$1,282.23
8	Minor Reshape Annual Maintenance	\$1,346.35
9	Major Regrade Gravel	\$11,309.31
10	Minor Reshape Annual Maintenance	\$1,484.35
	Total Cost:	\$37,862.97

32	Windsor Ter - 1		210
1	Minor Reshape Annual Maintenance	\$30.87	
2	Minor Reshape Annual Maintenance	\$32.41	
3	Minor Reshape Annual Maintenance	\$34.03	
4	Major Regrade Gravel	\$285.89	
5	Minor Reshape Annual Maintenance	\$37.52	
6	Minor Reshape Annual Maintenance	\$39.40	
7	Minor Reshape Annual Maintenance	\$41.37	
8	Minor Reshape Annual Maintenance	\$43.44	
9	Major Regrade Gravel	\$364.87	
10	Minor Reshape Annual Maintenance	\$47.89	
	Total Cost:	\$957.69	
33	Christopher Robert Dr		632
7	Fill/seal cracks	\$400.18	
	Total Cost:	\$400.18	
34	Dustin Rd - 2		3918
1	Ditch, replace 6in base, 2in surface	\$100,790.55	
	Total Cost:	\$100,790.55	
35	Hollings Dr		1316
1	Ditch, fill/seal cracks	\$898.17	
5	Ditch, fill/seal cracks	\$1,091.73	
9	Ditch, fill/seal cracks	\$1,327.01	
	Total Cost:	\$3,316.91	
36	Blackberry Ln		1584
5	Defer maintenance	\$0.00	
	Total Cost:	\$0.00	
37	Call Rd - 2		6391
1	Minor Reshape Annual Maintenance	\$939.48	
2	Minor Reshape Annual Maintenance	\$986.45	
3	Minor Reshape Annual Maintenance	\$1,035.77	
4	Major Regrade Gravel	\$8,700.50	
5	Minor Reshape Annual Maintenance	\$1,141.94	
6	Minor Reshape Annual Maintenance	\$1,199.04	
7	Minor Reshape Annual Maintenance	\$1,258.99	
8	Minor Reshape Annual Maintenance	\$1,321.94	
9	Minor Reshape Annual Maintenance	\$1,388.04	
10	Major Regrade Gravel	\$11,659.50	
	Total Cost:	\$29,631.64	

38	Province Rd		1850
1	Minor Reshape Annual Maintenance	\$271.95	
2	Minor Reshape Annual Maintenance	\$285.55	
3	Major Regrade Gravel	\$2,398.60	
4	Minor Reshape Annual Maintenance	\$314.82	
5	Minor Reshape Annual Maintenance	\$330.56	
6	Minor Reshape Annual Maintenance	\$347.08	
7	Minor Reshape Annual Maintenance	\$364.44	
8	Minor Reshape Annual Maintenance	\$382.66	
9	Minor Reshape Annual Maintenance	\$401.79	
10	Major Regrade Gravel	\$3,375.07	
	Total Cost:	\$8,472.52	
43	Lake Rd - 1		2425
8	Ditch, fill/seal cracks	\$2,328.84	
	Total Cost:	\$2,328.84	
44	Lake Rd - 3		1243
5	Defer maintenance	\$0.00	
	Total Cost:	\$0.00	
45	Deer Meadow Rd - 1		1363
6	Defer maintenance	\$0.00	
	Total Cost:	\$0.00	
46	Deer Meadow Rd - 2		5885
3	Defer maintenance	\$0.00	
	Total Cost:	\$0.00	
47	Deer Meadow Rd - 3		1637
4	Fill/seal cracks	\$895.40	
10	Fill/seal cracks	\$1,199.93	
	Total Cost:	\$2,095.33	

48	New Hampshire Dr - 2		596
1	Major Regrade Gravel	\$700.90	
2	Minor Reshape Annual Maintenance	\$91.99	
3	Minor Reshape Annual Maintenance	\$96.59	
4	Major Regrade Gravel	\$811.37	
5	Minor Reshape Annual Maintenance	\$106.49	
6	Minor Reshape Annual Maintenance	\$111.82	
7	Minor Reshape Annual Maintenance	\$117.41	
8	Minor Reshape Annual Maintenance	\$123.28	
9	Major Regrade Gravel	\$1,035.54	
10	Minor Reshape Annual Maintenance	\$135.91	
	Total Cost:	\$3,331.31	
49	Windsor Ter - 2		122
3	Ditch, replace 6in base, 2in surface	\$3,460.14	
	Total Cost:	\$3,460.14	
50	Gerrish Rd - 2		3098
1	Minor Reshape Annual Maintenance	\$455.41	
2	Minor Reshape Annual Maintenance	\$478.18	
3	Major Regrade Gravel	\$4,016.68	
4	Minor Reshape Annual Maintenance	\$527.19	
5	Minor Reshape Annual Maintenance	\$553.55	
6	Minor Reshape Annual Maintenance	\$581.23	
7	Minor Reshape Annual Maintenance	\$610.29	
8	Major Regrade Gravel	\$5,126.42	
9	Minor Reshape Annual Maintenance	\$672.84	
10	Minor Reshape Annual Maintenance	\$706.48	
	Total Cost:	\$13,728.26	
51	Dustin Rd - 1		1248
2	Ditch, replace 6in base, 2in surface	\$33,710.04	
	Total Cost:	\$33,710.04	

52	Clough Sanborn Hill Rd - 1		3640
1	Minor Reshape Annual Maintenance	\$535.08	
2	Minor Reshape Annual Maintenance	\$561.83	
3	Minor Reshape Annual Maintenance	\$589.93	
4	Major Regrade Gravel	\$4,955.38	
5	Minor Reshape Annual Maintenance	\$650.39	
6	Minor Reshape Annual Maintenance	\$682.91	
7	Minor Reshape Annual Maintenance	\$717.06	
8	Minor Reshape Annual Maintenance	\$752.91	
9	Minor Reshape Annual Maintenance	\$790.56	
10	Major Regrade Gravel	\$6,640.68	
	Total Cost:	\$16,876.73	
53	Clough Sanborn Hill Rd - 2		1407
4	Defer maintenance	\$0.00	
	Total Cost:	\$0.00	
54	Roby Rd - 1		1172
4	Ditch, fill/seal cracks	\$925.97	
10	Ditch, fill/seal cracks	\$1,240.89	
	Total Cost:	\$2,166.86	
55	Roby Rd - 2		3406
1	Major Regrade Gravel	\$4,005.46	
2	Minor Reshape Annual Maintenance	\$525.72	
3	Minor Reshape Annual Maintenance	\$552.00	
4	Minor Reshape Annual Maintenance	\$579.60	
5	Major Regrade Gravel	\$4,868.66	
6	Minor Reshape Annual Maintenance	\$639.01	
7	Minor Reshape Annual Maintenance	\$670.96	
8	Minor Reshape Annual Maintenance	\$704.51	
9	Minor Reshape Annual Maintenance	\$739.74	
10	Major Regrade Gravel	\$6,213.78	
	Total Cost:	\$19,499.43	

56	Roby Rd - 3		764
1	Minor Reshape Annual Maintenance	\$112.31	
2	Major Regrade Gravel	\$943.39	
3	Minor Reshape Annual Maintenance	\$123.82	
4	Minor Reshape Annual Maintenance	\$130.01	
5	Minor Reshape Annual Maintenance	\$136.51	
6	Minor Reshape Annual Maintenance	\$143.34	
7	Minor Reshape Annual Maintenance	\$150.50	
8	Major Regrade Gravel	\$1,264.23	
9	Minor Reshape Annual Maintenance	\$165.93	
10	Minor Reshape Annual Maintenance	\$174.23	
	Total Cost:	\$3,344.26	
57	Winnepocket Rd - 1		2428
4	1.5in HMA overlay	\$24,132.00	
8	1.5in HMA overlay	\$29,332.59	
	Total Cost:	\$53,464.59	
58	Call Rd - 1		492
6	Ditch, fill/seal cracks	\$428.56	
	Total Cost:	\$428.56	
59	Allen Rd - 1		631
6	Fill/seal cracks	\$380.52	
	Total Cost:	\$380.52	
60	Pleasant St - 2		4593
1	Major Regrade Gravel	\$5,401.37	
2	Minor Reshape Annual Maintenance	\$708.93	
3	Minor Reshape Annual Maintenance	\$744.38	
4	Major Regrade Gravel	\$6,252.76	
5	Minor Reshape Annual Maintenance	\$820.67	
6	Minor Reshape Annual Maintenance	\$861.71	
7	Minor Reshape Annual Maintenance	\$904.79	
8	Minor Reshape Annual Maintenance	\$950.03	
9	Major Regrade Gravel	\$7,980.28	
10	Minor Reshape Annual Maintenance	\$1,047.41	
	Total Cost:	\$25,672.33	

61	Clothespin Bridge Rd - 2			791
3	Ditch, fill/seal cracks		\$595.19	
9	Ditch, fill/seal cracks		\$797.62	
	Total Cost:		\$1,392.81	
62	General Stark Dr			489
1	Minor Reshape Annual Maintenance		\$71.88	
2	Minor Reshape Annual Maintenance		\$75.48	
3	Minor Reshape Annual Maintenance		\$79.25	
4	Minor Reshape Annual Maintenance		\$83.21	
5	Major Regrade Gravel		\$698.99	
6	Minor Reshape Annual Maintenance		\$91.74	
7	Minor Reshape Annual Maintenance		\$96.33	
8	Minor Reshape Annual Maintenance		\$101.15	
9	Minor Reshape Annual Maintenance		\$106.20	
10	Major Regrade Gravel		\$892.11	
	Total Cost:		\$2,296.36	
39	Little Hill Rd - 1	0		2321
6	Defer maintenance		\$0.00	
	Total Cost:		\$0.00	
40	Little Hill Rd - 2	0		1568
6	Defer maintenance		\$0.00	
	Total Cost:		\$0.00	
41	Little Hill Rd - 3	0		1778
3	Ditch, replace 6in base, 2in surface		\$50,427.30	
	Total Cost:		\$50,427.30	
8	Little Hill Rd - 4	0		3893
1	Ditch, fill/seal cracks		\$2,656.97	
4	Ditch, fill/seal cracks		\$3,075.78	
9	Ditch, fill/seal cracks		\$3,925.56	
	Total Cost:		\$9,658.31	

42	Little Hill Rd - 5	0	662
1	Minor Reshape Annual Maintenance	\$97.31	
2	Minor Reshape Annual Maintenance	\$102.18	
3	Major Regrade Gravel	\$858.31	
4	Minor Reshape Annual Maintenance	\$112.65	
5	Minor Reshape Annual Maintenance	\$118.29	
6	Minor Reshape Annual Maintenance	\$124.20	
7	Minor Reshape Annual Maintenance	\$130.41	
8	Major Regrade Gravel	\$1,095.44	
9	Minor Reshape Annual Maintenance	\$143.78	
10	Minor Reshape Annual Maintenance	\$150.97	
	Total Cost:	\$2,933.54	