Road Condition Report

EGREMONT, Massachusetts

September, 2022

BRPC
Berkshire Regional Planning Commission

Introduction

This report analyzes pavement conditions for the Town of Egremont's locally maintained roads (**Map 1**). This report:

- Describes the roads the Town is responsible for;
- Explains PASER data methodology and collection;
- Describes pavement repair practices the Town uses;
- Presents the pavement surface condition data collected in the summer of 2022; and
- Considers what is needed to address the most significant needs in the community.

Project Background

The Town of Egremont hired the Berkshire Regional Planning Commission to rate the condition of their road network and work with Town officials to devise a program for future road repairs. This effort was undertaken by the Town to get a look into existing asset management strategies and to evaluate the condition of their roadway assets. There are several steps to network-wide maintenance planning. First, in an effort to understand the existing condition of the roads, BRPC staff went into the field and rated each road segment's surface condition.

BRPC collected data according to the Pavement Surface Evaluation and Rating (PASER) scale developed by the University of Wisconsin-Madison Transportation Information Center. PASER is a windshield-survey-based road surface rating system that uses a 1 to 10 scale. A 'windshield' survey means that the data is collected by people driving slowly without getting out of the car, unless there is something specific to examine closely. In the PASER system a '10' is a new or newly reconstructed roadway and a '1' is a completely failed roadway. Ratings are assigned according to the type and magnitude of visual pavement defects. Staff used both the Asphalt and Gravel manuals to rate the roadways in Egremont (**Map 2**). Details on the rating systems and scores are shared in Part 1.

The environment and usage are the main causes of pavement deterioration; even if two pavements are constructed at the same time, depending on their environment and traffic, they age differently. Specifically, weather, traffic loading, construction quality, materials, and interim maintenance tasks all directly impact the rate at which the pavement deteriorates. Timely and appropriate maintenance extends a road's life cycle, and periodic inspections provide current data and help the Pavement Management System predict deterioration trends given the Berkshires' unique climate and road construction methods.

Asphalt Roadway Defects and Repairs

Evaluation of roadways with the PASER rating system focuses on pavement surfaces. The process makes the evaluation practical and effective for picking a 'fix' that improves pavement surface condition. See **Table 1** for a quick refence of common asphalt repairs. There are four major categories of common asphalt pavement surface distress:

Surface Defects

- **Raveling** occurs when the pavement surface loses rocks and aggregate, when there is poor compaction, or an improper asphalt mix. Traffic accelerates raveling in wheel paths. Repair for slight raveling might be as simple as a sealcoat or if additional surface strength is needed, then a thin overlay is another repair option.
- **Flushing** occurs when a slick, black surface caused by liquid asphalt migrates to the pavement surface. Flushing causes a loss in surface texture and can be repaired by blotting the extra asphalt with sand or by overlaying with a properly designed asphalt mix.
- **Polishing** occurs when the liquid asphalt has been worn away from the pavement surface by traffic and the surface aggregate has lost microtexture. The result of polishing is a smooth and slippery surface which can be repaired with a sealcoat or a skid-resistant bituminous overlay.

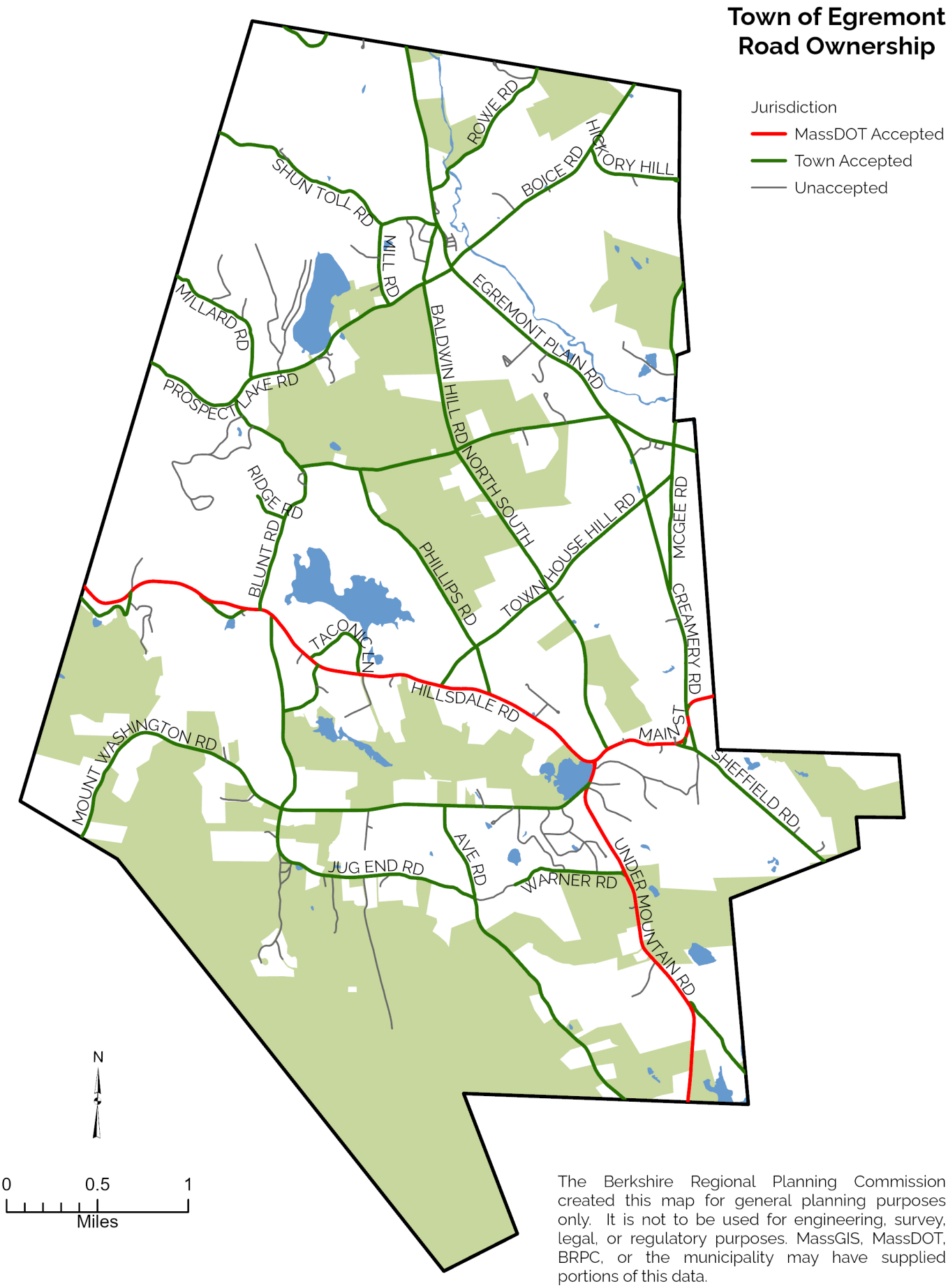
Surface Deformation

- **Rutting** occurs when wheels push asphalt to one side or another. Rutting can be caused by anything from heavy traffic or poor aggregate, to poor construction or moisture damage. Minor rutting can be repaired with overlays, while severe rutting requires milling or reconstruction of the roadbed before reconstruction.
- **Distortion** occurs when surfacing material displaces opposite the direction of traffic. Washboarding is an example of distortion when the asphalt mixture is unstable because of poor quality aggregate or improper mix design, and should be repaired with mill and overlay. Other pavement distortions may be caused by settling, frost heave, etc. Patching may provide temporary repair, but permanent correction necessitates removal of the subgrade and reconstruction.

Cracks

- **Transverse cracks** are regularly spaced at right angles to the edges of the pavement. Transverse cracks occur when there is movement due to temperature changes and hardening of asphalt with aging. Transverse cracks start out widely spaced apart (over 50') but as they age they become more closely spaced (within several feet). They begin as hairline or very narrow cracks, then widen. Other cracks usually develop parallel to the initial crack from water intrusion and pumping, especially if large cracks are not sealed.
- **Reflection cracks** are underlying crack patterns moving up from underneath the pavement surface. They are difficult to prevent and require thick overlays or reconstruction to fix.
- **Slippage cracks** are rounded and follow the direction of traffic. Like the term implies, they are caused by movement between pavement layers. Slippage is most likely to occur at intersections where traffic stops and starts. Slippage can be fixed by removing the top surface and resurfacing using a tack coat.
- **Longitudinal cracks** run in the same direction as traffic. Longitudinal cracks are caused by inadequate bonding during construction and when found in the wheel path indicate fatigue failure from heavy traffic. Insufficient shoulder support, poor drainage, or frost action, causing edge cracks. Cracks usually start small and widen with age. Without crack filling, cracks can ravel, multiply, and become wide enough to need patching instead of filling. Filling and sealing cracks reduces moisture penetration and protects the road base. Multiple longitudinal cracks in the wheel path or pavement edge indicate a need for strengthening with a structural overlay or reconstruction.
- **Block cracks** are interconnected cracks forming large squares, usually intersecting at nearly right

Map 1. Town of Egremont Road Ownership



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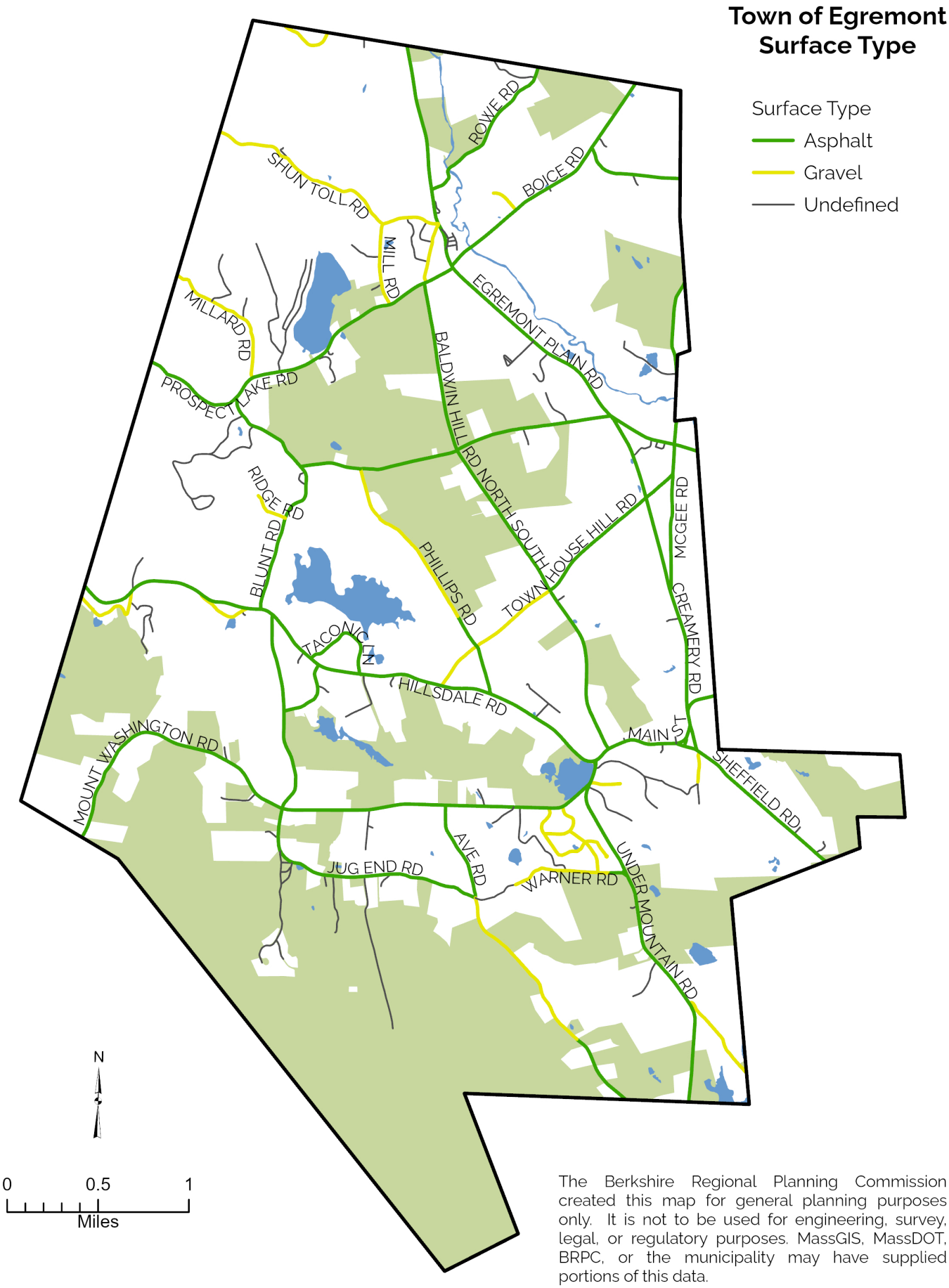
Map 2. Town of Egremont Road Road Surface Type



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angles. Blocks may range from one (1') foot to ten (10') feet or more. The closer spacing indicates advanced aging from shrinking and hardening of asphalt. Repair early block cracks with sealcoating to reduce weathering of the asphalt and advanced block cracking with overlay or reconstruction.

- **Alligator cracks** are interconnected cracks forming small pieces. They range in size from one to six (1"-6") inches. Alligator cracking occurs from failure of the surfacing due to traffic loading (fatigue) or inadequate base or subgrade support. Repair alligator cracking by excavating localized areas and replacing the base and surface. Large areas require reconstruction. Improvements in drainage are usually necessary.

Patches and Potholes

- **Patches** are where the original surface is repaired with new material, usually filling in defects or repairing a utility excavation. Patches with cracking, settlement or distortions indicate underlying causes remain. Recycling or reconstruction are required if extensive patching shows distress.
- **Potholes** are caused by traffic, weakened pavement, and poor drainage. Potholes usually need full-depth repair. Patching is not a permanent repair for potholes.

Roadway Treatments

- **Standard crack treatment** is used on working cracks that expand or contract as the asphalt loses flexibility. The cracks are routed or sawn out then blown out using a compressed air system equipped with a moisture separator. Rubberized sealant is placed flush to the pavement surface.
- **Overband crack filling** is used with cracks up to an inch that are working or non-working (moving less than 1/2" vertically or horizontally). Cracks in asphalt are blown out using a compressed air system equipped with a moisture separator. The cracks are then filled with a mixture of polymer modified asphalt cement and polyester fibers over the crack area approximately 4" wide.
- **Fog seals** add asphalt to an existing pavement surface through a light spray application of diluted asphalt emulsion that seals an existing asphalt surface to reduce raveling, and to enrich dry and weathered surfaces. The emulsification rejuvenates the original binder and prevents aggregate loss. Electrically charging the emulsification can force water out of voids during application. Fog seals improve sealing or waterproofing, prevent further stone loss by holding aggregate in place, or simply improve the surface appearance. Inappropriate fog seals result in slick pavements and tracking of excess material.
- **Non-structural overlays** do not involve structural design and contribute little, if anything, to a pavement's structural capacity. Non-structural overlays are thin surface layers of ½" to 1 ½" that improve ride quality, correct minor surface defects, improve skid resistance and drainage, enhance appearance, and reduce road tire noise.
- **Chip seals** use the same materials as asphalt, but the construction method is different. With chip seals, a thin film of heated asphalt liquid is sprayed on the road surface, followed by the placement of small aggregates ("chips"). The chips are then compacted to orient the chips for maximum adherence to the asphalt. Excess stone is swept from the surface.

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- **Flush seals** are fog seals on top of a chip seal to hold the rocks in place. This can help prevent vehicle damage arising from flying chips and can seal small cracks.
- **Microsurfacing** is a polymer-modified, thin (as little as 3/8"), cold-mix application that uses chemical reactions to set instead of evaporation. Traffic can resume within hours of the treatment and the application period is not as dependent on the weather.
- **Ultra-thin hot mix asphalt (HMA) overlays** are applied in similar conditions to microsurfacing, but require more time and are more expensive. Ultra-thin HMA overlays are different than thicker overlays because they preserve the existing gutter pan and structure height. The asphalt is applied using conventional HMA methods.
- **Hot in-place asphalt recycling (HIR)** is an on-site, in-place method that corrects surface distresses not caused by structural inadequacy, such as cracks, ruts and holes, and shoves and bumps.

HIR has four steps: (1) softening of the pavement surface with heat, (2) mechanical removal of ¾" to 2" surface material, (3) mixing of the material with recycling agent and/or virgin aggregate and asphalt binder, and (4) lay down and paving of the recycled mix on the pavement surface. The advantages of hot in-place recycling are that elevations and overhead clearances are preserved, it is comparatively cheap, and needs less traffic control than the other rehabilitation methods. HIR recoats stripped aggregates, re-establishes the crown and drainage, modifies aggregate gradation and asphalt content, and improves skid resistance.

- **Cold-in-place recycling (CIR)** is a pavement rehabilitation process performed without the use of heat. CIR involves pulverizing 2" to 5" of the current road surface down to a specific aggregate size, mixed with a rejuvenating asphalt emulsion, and using that to pave the same road. An HMA finish course is applied to cap the recycled material.

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a diverse road network.

- **Full-depth reclamation** uniformly crushes, pulverizes, and blends pavement and a portion of the sub-base material. This revitalized gradation can be mixed with an asphalt emulsion or calcium chloride to increase the stability of the rejuvenated material. This process completely rehabilitates and reinforces the recycled base and sub-base structural deficiencies. Full-depth reclamation is different from CIR due to the fact that it always penetrates as deep as the underlying base or sub-base. This structural upgrade is used when the pavement has been deemed structurally unsound.
- **Reconstruction** replaces the entire pavement including the base and sub-base. Some materials may be reused, but are removed completely first. The pavement is completely redesigned to handle 20 years of projected traffic and built from 'scratch.' Complete reconstruction is needed in areas with extensive drainage damage and significant underground utility work, but is not necessary across an entire project unless the road fails.

Asphalt PASER Ratings

BRPC rates roads according to surface defects on a scale from 10 (excellent) condition to 1 (failed). Most pavements deteriorate through the phases listed in the rating scale. The time, or lifecycle, it takes to go from excellent condition (10) to complete failure (1) depends largely on original construction quality and traffic.

It is common to see pavement fall apart rapidly once it ages to a certain point. Moisture in cracks accelerates damage, and once moisture gets below the surface, deterioration escalates much faster. Effective pavement management stretches a road's life out ahead of that rapid deterioration point with low-cost maintenance, and lower costs overall. Descriptions of PASER ratings according to visible distresses and typical repairs are summarized in **Table 2**.

Data Collection Procedure Notes

- Pavement must be dry during the evaluation. Wet pavement masks surface defects like raveling and small cracks.
- Pavement should not be rated during or following the winter frost. The frost heaves pavement upward and can exacerbate deflection and drainage problems.
- The data collection process is patient and thorough. Vehicle speeds should be 10 to 20 mph.
- BRPC follows the PASER asphalt and gravel road manuals.
- Many local roads are unpaved and there are many 'chip seal' roads that are similar to asphalt pavement.
- The MassDOT Road Inventory File (RIF) has thousands of road segments. BRPC combined these segments into intersection-to intersection links for collection, and re-segmented in the field if there is a change in the road.
- The mileage reported is presented as centerline miles for two reasons. First, this data collection is simply cataloging pavement surface condition; there is no verification of geometric characteristics like lane number, width or shoulder widths, how-

ever surface type is updated/confirmed during the data collection process. Second, detailed data is attached to the MassDOT Road Inventory File and is easily integrated with PASER data collection in BRPC's Geographic Information System.

Ratings

Ratings 8 through 10 suggest roads require routine maintenance through scheduled activities like sweeping, drainage clearing, shoulder clearing/grading, and crack seal/slurry coat to prevent water infiltration. Routine maintenance treatments are not cost effective once a roadway deteriorates to a 7 or lower rating.

Ratings 5 through 7 suggest roads require capital preventive maintenance. Capital preventive maintenance includes a set of scheduled, cost effective treatments for roads that preserve surfaces and slow deterioration. Preventive maintenance treatments protect and enhance the existing pavement structure and can vary from minor treatments like surface milling with overlay to major treatment.

Ratings 3 and 4 suggest roads require structural improvement and leveling, through overlay or recycling;

Ratings 1 and 2, the lowest ratings, indicate the need for reconstruction.

Table 1. Preventive Maintenance Summary Table

Pavement Applications		Crack Sealing	Chip Sealing	Micro surfacing	Polymer Modified Asphalt Concrete	Thin Hot Mix Overlay	Concrete Pavement Resto-ration	Drainage Preser-vation
Surface	Concrete	X					X	X
	Asphalt	X	X	X	X	X		X
Reasons For	Friction		X	X	X	X		
	Rideability			X	X	X	X	
	Raveling	X	X	X	X	X		
	Rutting			X	X	X		
	Cracking	X	X		X	X	X	
	Oxidation		X	X	X	X		
	Water	X	X	X	X	X		X
Traffic	Low Volume (<2,500 ADT)	X	X	X	X	X	X	X
	High Volume (>2,500 ADT)	X		X	X	X	X	X
Avg Life Extension (yrs)		1-4	5-8	5-8	7-12	8-12	7-12	1-5

Source: 2001. "Pavement Preventive Maintenance Program Guidelines." Ohio Department of Transportation. https://www.dot.state.oh.us/Divisions/Engineering/Pavement/PM%20Guidelines/PM%20Guide.pdf

Table 2. PASER Ratings for Asphalt

Rating	Visible Distress	General Condition
10	None	New construction.
9	None	Recent overlay.
8	No longitudinal cracks except pavement joints. Widely spaced (40' plus) transverse cracks. All cracks are sealed and tight.	Recent sealcoat or new cold mix. Surface rejuvenation prevents moisture infiltration.
7	Slight or no raveling, some traffic wear, longitudinal and widely spaced transverse cracks that are not sealed. Few patches.	First signs of aging with routinely filled cracks.
6	Slight raveling and traffic wear, longitudinal cracks less than 10', beginning signs of block cracking, slight to moderate polishing or flushing, and occasional patching.	Shows aging and wear but is in sound structural condition. Chipseal, microsurface, sealcoat, or thin HMA to extend life.
5	Moderate to severe raveling, longitudinal and transverse cracks (open 1/2") show first signs of first raveling and secondary cracks. First signs of longitudinal cracks near pavement edge. Block cracking up to 50% of surface. Extensive to severe flushing or polishing. Some patching or edge wedging in good condition.	Surface aging. Sound structural condition. Needs milling and non structural HMA overlay (less than 2") or hot in-place recycling.
4	Severe surface raveling, multiple longitudinal and transverse cracking with raveling, longitudinal cracking in wheel path, block cracking over 50% of surface. Patching in fair condition. Rutting or distortions are 1/2" or less.	Significant aging and first signs of need for strengthening. Would benefit from a structural overlay (2" or more) or cold in-place recycling to remove subbase defects.
3	Closely spaced longitudinal and transverse cracks showing raveling and crack erosion. Severe block cracking. Some alligator cracking. Patches in poor condition. Moderate rutting or distortion and/or frequent potholes.	Milling and some full-depth repairs needed before new surface.
2	Severe distress with extensive loss of surface integrity.	Severe deterioration. Needs reconstruction with extensive base repairs. Pulverization of old pavement is effective.
1	Severe distress with extensive loss of surface integrity.	Failed. Total reconstruction.

Table 3. Capital Preventive Maintenance and Reconstructive Treatments

Treatment	Life Extension (Years)	PASER Rating	Cost (per Mile)	Average Cost/ Addt'l Year
Hot Mix Asphalt Crack Treatment	2	6 to 8	$10,000	$5,000
Crack Sealing	2	6 to 8	$5,000	$1,500
Overband Crack Filling	4	6 to 7	$15,000	$3,750
Fog Seal Coat	4	5 to 7	$5,000	$1,250
One Course Non-structural Overlay	7	5 to 6	$60,000	$8,571
Milling and One Course Non-Structural Overlay	8	4 to 5	$75,000	$9,375
Single Course Chip Seal	6	5 to 7	$15,000	$2,500
Double Course Chip Seal	7.5	5 to 7	$25,000	$3,333
Flush Seal	6.5	5 to 7	$13,000	$2,000
Single Course Microsurface	5	4 to 6	$65,000	$13,000
Multiple Course Microsurface	7	4 to 6	$85,000	$12,143
Ultra Thin HMA Overlay	8.5	4 to 6	$30,000	$3,529
Paver Placed Surface Seal	8.5	4 to 6	$50,000	$5,882
Milling and Structural Resurfacing with Drainage Improvements	15	4 to 6	$115,000	$7,667
Cold In-Place Recycling	20	3 to 5	$200,000	$10,000
Partial Full-Depth Reconstruction with Overlay	30	2 to 3	$1,000,000	$33,333
Full-Depth Reconstruction	30	1 to 2	$1,500,000	$50,000

Treatment	PASER Rating	Cost (per SY)
Defer Maintenance	10	$0.00
Routine Maintenance (Crack Sealing)	8, 9	$0.40
Preventive Maintenance (Surface Treatment)	7	$8.00
Rehabilitation (Mill and Overlay)	5, 6	$16.00
Reclaimation	3, 4	$24.00
Reconstruction	1, 2	$38.00

Gravel PASER Ratings

Gravel roads deteriorate in a much less predictable manner than paved roads because stormwater washes away the surface of the roads. Problems with gravel roads include washboarding, potholes, lack of gravel, and rutting. The parts of a gravel road that are considered when rating conditions include the crown, drainage/ditches, gravel layer, deformations, and defects. An effective crown and ditches are the most important features of a gravel road and are also the most impactful repairs. Grading and adding new gravel are also common repair methods for gravel roads. See **Table 4** for common gravel distresses and what conditions they indicate.

Gravel roads use a five point scale instead of a ten point scale. For better translation, BRPC inputs them as 2, 4, 6, 8, and 10 so they work with the asphalt rating scale. Towns typically repair gravel roads with their own employees and equipment. Gravel road repairs are not as intrusive and time-extensive as paved road repairs. Repairs to gravel roads include regrading the crown, widening the road, opening up ditches, replacing or resetting culverts, and applying dust-control solutions. Materials like gravel, rip-rap, and culverts are the most significant gravel road repair costs.

Table 4. PASER Ratings for Gravel

Rating	Visible Distress	General Condition
10	None	New construction.
8	Some loose aggregate and slight washboarding.	Recently regraded, crown intact with good drainage and gravel surface.
6	Good crown. Adequate ditches or some ditches in need of clearing. Some potholes, ruts, and/or washboarding.	Regrading and reshaping the crown is needed. Ditches and culverts should be cleared. May need additional gravel.
4	Little to no crown on roadway. Ditches are generally not evident or filled. This road is not very drivable due to washboarding, potholes and/or rutting.	Travel is reduced to slow speeds. Needs substantial new gravel. Major culvert repair or ditching needed. A new layer of gravel will not resolve the problems of this roadway.
2	This road is nearly impassable. There is hardly any ditching. There are severe potholes, ruts, and washboarding. There is little gravel evident.	Needs complete rebuilding.

Part 2 **The Town's Road Network**

With around 42 total centerline miles, the Town of Egremont has a diverse road network. MassDOT owns and maintains 6 centerline miles of roadway in Egremont, and the Town maintains about 36 miles. These mileage counts do not include roads and long driveways that are privately maintained. Of the roads the Town maintains, around 28 miles of the roads are surface treated and over 8 miles are gravel.

The most practical way to summarize PASER ratings, shown in **Table 3**, is by the level of needed maintenance. A road in GOOD shape needs routine maintenance. A road in FAIR shape needs capital preventive maintenance. A road in POOR shape requires some level of structural improvement or reconstruction.

Table 5. Town of Egremont Ch. 90 Apportionment

Year (FY)	Amount	Total Pool
2014	$153,592	$200,000,000
2015	$229,514	$300,000,000
2016	$153,132	$200,000,000
2017	$153,020	$200,000,000
2018	$150,547	$200,000,000
2019	$150,850	$200,000,000
2020	$150,472	$200,000,000
2021	$150,320	$200,000,000
2022	$149,984	$200,000,000

Source: MassDOT Chapter 90 Allocations: https://www.mass-dot.state.ma.us/highway/DoingBusinessWithUs/LocalAidPro-grams/Chapter90Program/Chapter90Apportionment.aspx

Of Egremont's 28 centerline miles of surface treated roads, 49% will only need routine maintenance like crack or fog sealing over the next 5 years. About 51% of the roads will need capital preventive maintenance that ranges from leveling/milling with overlay to chip sealing. Of Egremont's 8 miles of gravel roads, about 82% are in good condition with little more than seasonal grading needed and 18% may need more intensive crown-shaping, minor widening, and ditch cleaning. Details can be seen in **Table 7**.

Road Condition Trends

The Town of Egremont now has three years of historical rating data including the latest 2022 evaluation, which is visualized in **Map 3.** Using the software-generated **Average PASER Rating (APR)** value for both asphalt and gravel-surface roads, a trend of average road conditions can be illustrated, as shown in **Table 6**.

Overall, gravel surface conditions have shown a slight decline, and asphalt surface conditions have seen a slight incline.

Table 6. Average PASER Rating (APR) by Year

Year	Surface Type	APR	Trend
2014	Gravel	7.201	—
	Asphalt	6.629	—
2016	Gravel	6.915	↘
	Asphalt	6.775	↗
2022	Gravel	6.537	↘
	Asphalt	7.322	↗

Budget and Next Steps

The Town's Chapter 90 budget for road maintenance is $150,125 for FY 2023. The last several years of the town's apportionment is shown in **Table 5**, and these funds are normally used for paving projects. Assuming level funding over the next 5 years the Town will have approximately $750,000 of Chapter 90 money (without adjusting for inflation) if the State continues to fund the Chapter 90 pool at $200,000,000.

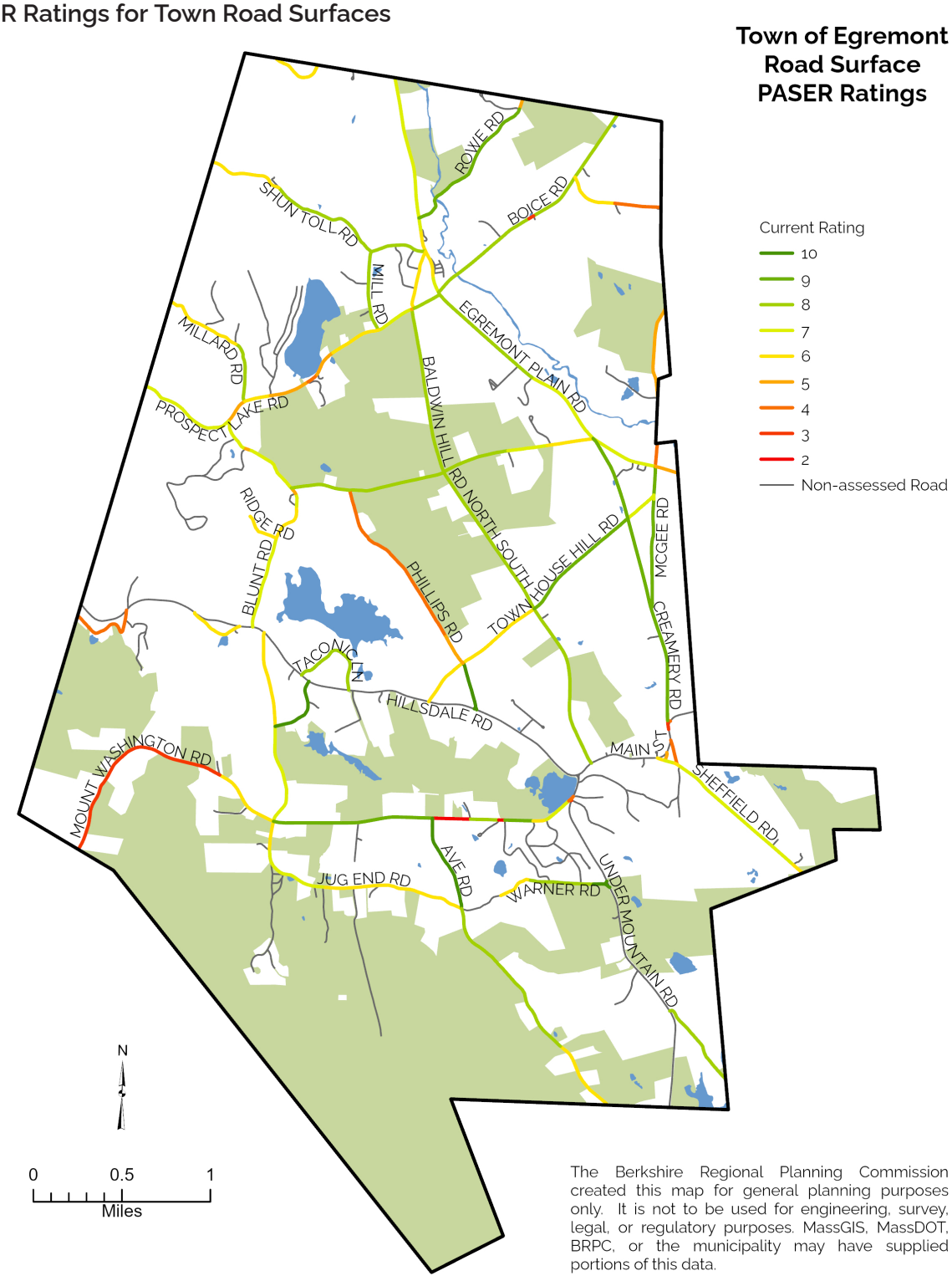
Additionally, Town voters approved a budget of $150,000 for road maintenance, along with salaries and wages for its highway department staff. The total road maintenance budget for the Town in 2022, therefore, was approximately $300,000.

The Town should utilize the ratings and data collected during this process to develop a Capital Improvement Plan. The Town should consider planning roadway improvements alongside their Complete Streets Policy and Prioritization Plan.

Table 7. PASER Rating by Surface Type (in miles) and Condition

Surface Type	PASER Rating										Total
	10	9	8	7	6	5	4	3	2	1	
Asphalt	1.339	5.133	7.045	6.292	4.094	1.567	0.648	1.287	0.250	0	27.66
Gravel	0	-	3.651	-	3.049	-	1.46	-	0	-	8.16
Total Centerline Miles	1.339	5.133	10.696	6.292	7.143	1.567	2.108	1.287	0.250	0	35.82

Map 3. PASER Ratings for Town Road Surfaces



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Part 3 **Budget & Maintenance Scenarios**

Pavement Preservation Theory

The annual town highway budget can be obligated in a number of different ways. As described in Part 1, for each range of PASER ratings, there are treatments that can be considered to extend the service life of the road in question. It may be more useful to consider the effectiveness of different pavement treatments by the years of additional service life they provide.

Routine maintenance activities like crack filling are low-cost, and add 1 or 2 years onto the service life of the pavement. Capital preventive maintenance like mill-and-fill, microsurfacing, or chip sealing are more costly, and add more years of service life. Chip-sealing one mile of road could keep it in a "GOOD" condition five years longer than it would have been otherwise with deferred maintenance. Therefore, 5 *mile-years* were added to the town's road network.

In an ideal scenario with a 100% efficient pavement preservation plan, every mile of a town's road network would be preserved to last one additional year in good condition, every year. Therefore, if a town has 50 centerline miles of pavement that require maintenance, it could be said that there are 50 annual "mile-years" of maitenance obligations for that town. If one mile of road were left untreated for a year, then it loses one year of remaining service life before requiring total reconstruction. The next year would then have 51 mile-years of maintenance obligations.

The reality, of course, is that limited town financial and personnel resources mean that not every mile of road can be kept in good condition every year. In a more realistic scenario with some roads in good condition, some in fair condition, and some in poor condition, the maintenance obligations look different. **Table 9** illustrates the maintenance obligation required to bring all roads up to a "good" condition in one construction season. In total, 50 miles of roadway would require 340 mile-years of maintenance obligation to be brought up completely to a "good" condition. This would be a very costly fiscal year of road maintenance.

In order to best utilize the town's limited annual maintenance budget, evaluating the number of mile-years that can be kept in GOOD condition should be the top priority. This can also be thought of as the "*pavement preservation*" approach. Some stretches of road require more attention, especially those in poor condition. While it may be appealing to address the neediest stretches of road before considering other routine maintenance (sometimes referred to as the "*worst-first*" approach), it may not always prove to be the most effective use of maintenance funds from a pavement preservation basis.

Table 9. Maintenance for a hypothetical town

Hypothetical Maintenance Plan, 1 fiscal year		
Miles of road in "**GOOD**" condition	Avg years of service life added via r**outine maintenance**, per mile	Annual mile-years of maintenance obligation
15	1	15
Miles of road in "**FAIR**" condition	Avg years of service life added via **capital preventive maintenance,** per mile	Annual mile-years of maintenance obligation
25	5	125
Miles of road in "**POOR**" condition	Avg years of service life added via **capital reconstruction**, per mile	Annual mile-years of maintenance obligation
10	20	200

Egremont Decision Making

Based on the PASER data collected in the field in August 2022, the town of Egremont's road surface conditions can be broken into three general categories, based on the maintenance they would require to be brought to "good" condition. GOOD condition roads require routine maintenance, FAIR roads generally require capital preventive maintenance, and POOR roads would generally require capital reconstruction. The total mileage for each of these conditions is listed in **Table 10.**

Based on the general costs per mile given in

Table 3, different funding scenarios could be hypothesized to show the obligations required for all roads to be brought to "good" status.

If the 2.19 miles of POOR condition pavement were all rehabilitated at $1 million per mile, then the total maintenance cost for the town that year would be **$2.19 million**. This is significantly above the average annual town highway budget.

Table 10. Egremont's PASER rating breakout

Egremont general road conditions (miles)		
GOOD (PASER 8+)	**FAIR** (PASER 5-7)	**POOR** (PASER 1-3)
13.52	11.95	2.19

If all 13.52 miles of GOOD road were given routine maintenance during the year, at an average cost of $10,000 per mile, the total maintenance cost would come to **$133,400**. This is a more feasible amount, and leaves funds available for more intensive capital maintenance of other road segments.

Of course, this also means that some poor condition roads will continue to deteriorate further. This adds additional mile-years of maintenance obligations to the town's budget.

It is important to weigh the costs and benefits of giving attention to a certain road segment over another. Being a higher-volume road, an important link to community resources, or the sole connection into or out of a neighborhood may influence the decision to address one road sooner than another. It is the job of town leadership to weigh options and make the final, sometimes difficult, decision of where to direct limited funds and staff resources.

The best scenario to strive for in planning out maintenance tasks is to provide AT LEAST the same or greater number of mile-years of maintenance work per year than what the town has in annual obligation. For Egremont, that would mean providing for **28 mile-years of maintenance** for asphalt roads each construction season in order to stay "ahead of the curve." If no maintenance were performed at all in a year, then all 28 miles of town roads would age by one year, and would be one year closer to requiring costly rehabilitation.

If fewer than 28 mile-years of maintenance were performed each year, that would mean that the town roads **would deteriorate faster than they were being maintanted**. This would lead to an unsustainable road maintenance situation.

Recommendations

A "preservation first" strategy is the winning strategy in the infinite game of town highway maintenance. Keeping good roads good is an important piece of the funding formula. It is recommended that the town annually inspect and repair cracks and minor surface defects on roads shown in Map 3 rated PASER 7 or 8. This would account for roughly 45% of the FY22 maintenance budget. The remaining 55% of the budget can be directed strategically using other maintenance practices on FAIR and POOR condition town roads. (See **Table 11**).

Table 11. Estimated town maintenance obligations

Egremont Proposed Maintenance Plan, 1 fiscal year (excluding PASER 9 and 10 roads)		
Miles of Egremont road in **GOOD** condition	Avg years of service life added via **routine maintenance**, per mile	Annual mile-years of maintenance obligation
13.34	1	13.34
Miles of Egremont road in **FAIR** condition	Avg years of service life added via **capital preventive maintenance,** per mile	Annual mile-years of maintenance obligation
6.31	5	31.55
Miles of Egremont road in **POOR** condition	Avg years of service life added via **capital reconstruction**, per mile	Annual mile-years of maintenance obligation
2.19	20	43.80

An example of this practice on the ground could include segments of Baldwin Hill Road, Jug End Road, and Blunt Road. Each of these roads have a segment that is rated at a PASER 6. The total length of these segments is approximately one mile. Milling and overlay would be considered an appropriate treatment for these segments based on that PASER rating. From the information in **Table 3**, this treatment would add approximately 8 years onto the life of the pavement, so it can be said that 8 mile-years are added to the town's network. The estimated cost would be around $75,000.

Town of Egremont Pavement Summary Table									
Road Name	Segment Beginning Point	Segment End Point	Length (mi)	EvalYr	RSL* (Years)	Funct. Classification	SurfType	PASER Rating	Recommended Action(s)
Avenue Rd	Jug End Rd		0.019	2022	14	Local	Asphalt	10	No action required
		Mount Washington Rd	0.531	2022	14	Local	Asphalt	10	No action required
Baldwin Hill Road East/West	Blunt Rd		0.315	2022	15	Local	Asphalt	8	Spot maintenance, inspection, crack seal
		Phillips Rd	0.019	2022	15	Local	Asphalt	8	Spot maintenance, inspection, crack seal
	Phillips Rd	Baldwin Hill Road North South	0.547	2022	8	Local	Asphalt	8	Spot maintenance, inspection, crack seal
	Baldwin Hill Road North South	Private Rd/Driveway U10937	0.385	2022	8	Local	Asphalt	8	Spot maintenance, inspection, crack seal
	Private Rd/Driveway U10937		0.225	2022	8	Local	Asphalt	7	Crack seal
		Unknown10	0.019	2022	5	Local	Asphalt	6	Chip seal/fog seal/cape seal as needed
	Unknown10	Egremont Plain Rd	0.242	2022	2	Local	Asphalt	6	Chip seal/fog seal/cape seal as needed
Baldwin Hill Road North/South	Main St		0.378	2022	15	Local	Asphalt	8	Spot maintenance, inspection, crack seal
			0.079	2022	15	Local	Asphalt	8	Spot maintenance, inspection, crack seal
		Private Rd/Driveway U6391	0.43	2022	15	Local	Asphalt	8	Spot maintenance, inspection, crack seal
	Private Rd/Driveway U6391	Town House Hill Rd	0.069	2022	15	Local	Asphalt	8	Spot maintenance, inspection, crack seal
	Town House Hill Rd	Baldwin Hill Road East West	0.926	2022	8	Local	Asphalt	8	Spot maintenance, inspection, crack seal
	Baldwin Hill Road East West	Prospect Lake Rd	0.94	2022	8	Local	Asphalt	8	Spot maintenance, inspection, crack seal
Blunt Rd	Hillsdale Rd	Ridge Rd	0.521	2022	6	Minor Collector	Asphalt	7	Crack seal
	Ridge Rd	Private Rd/Driveway U10931	0.233	2022	4	Minor Collector	Asphalt	6	Chip seal/fog seal/cape seal as needed
	Private Rd/Driveway U10931	Private Rd/Driveway U10931	0.073	2022	6	Minor Collector	Asphalt	7	Crack seal
	Private Rd/Driveway U10931	Baldwin Hill Road East West	0.039	2016	4	Minor Collector	Asphalt	5	Sealcoat or new thin overlay
	Baldwin Hill Road East West		0.335	2022	5	Minor Collector	Asphalt	7	Crack seal
		Private Rd/Driveway U10847	0.017	2016	2	Minor Collector	Asphalt	5	Sealcoat or new thin overlay
	Private Rd/Driveway U10847	Private Rd/Driveway U10849	0.084	2022	5	Minor Collector	Asphalt	7	Crack seal
	Private Rd/Driveway U10849	Prospect Lake Rd	0.107	2022	5	Minor Collector	Asphalt	7	Crack seal
Boice Rd	Egremont Plain Rd		0.032	2022	14	Minor Collector	Asphalt	8	Spot maintenance, inspection, crack seal
		Unknown22	0.437	2022	14	Minor Collector	Asphalt	8	Spot maintenance, inspection, crack seal
	Unknown22		0.192	2022	14	Minor Collector	Asphalt	8	Spot maintenance, inspection, crack seal
		Unknown81	0.031	2016	-3	Minor Collector	Asphalt	3	Patch and repair, major (>2") overlay
	Unknown81	Hickory Hill	0.328	2022	14	Minor Collector	Asphalt	8	Spot maintenance, inspection, crack seal
	Hickory Hill	Unknown85	0.065	2022	14	Minor Collector	Asphalt	8	Spot maintenance, inspection, crack seal
	Unknown85	Jurisdiction Line	0.364	2022	14	Minor Collector	Asphalt	8	Spot maintenance, inspection, crack seal
Bott Hill Rd	Jug End Rd	Private Rd/Driveway U6379	0.258	2022	14	Local	Asphalt	10	No action required
	Private Rd/Driveway U6379	Hillsdale Rd	0.125	2022	14	Local	Asphalt	10	No action required
Button Ball Ln	Sheffield Rd	Main St	0.144	2016	1	Local	Asphalt	4	Mill and fill/structural overlay or HIR/CIR**
Creamery Rd	Jurisdiction Line	Main St	0.017	2016	0	Major Collector	Asphalt	4	Mill and fill/structural overlay or HIR/CIR**
	Main St	Jurisdiction Line	0.05	2016	-1	Major Collector	Asphalt	3	Patch and repair, major (>2") overlay
	Jurisdiction Line	Private Rd/Driveway U6388	0.485	2022	14	Major Collector	Asphalt	9	No action required
	Private Rd/Driveway U6388	Mcgee Rd	0.165	2022	14	Major Collector	Asphalt	9	No action required
	Mcgee Rd	Town House Hill Rd	0.522	2022	14	Major Collector	Asphalt	9	No action required
	Town House Hill Rd	Private Rd/Driveway U10848	0.242	2022	14	Major Collector	Asphalt	9	No action required
	Private Rd/Driveway U10848	Egremont Plain Rd	0.256	2022	14	Major Collector	Asphalt	9	No action required
Egremont Plain Rd	Jurisdiction Line		0.017	2022	3	Major Collector	Asphalt	5	Sealcoat or new thin overlay
		Pumpkin Hollow Rd	0.116	2022	3	Major Collector	Asphalt	5	Sealcoat or new thin overlay
	Pumpkin Hollow Rd	Private Rd/Driveway U10927	0.053	2022	4	Major Collector	Asphalt	7	Crack seal
	Private Rd/Driveway U10927	Private Rd/Driveway U10927	0.041	2022	4	Major Collector	Asphalt	7	Crack seal
	Private Rd/Driveway U10927	Private Rd/Driveway U10848	0.035	2022	4	Major Collector	Asphalt	7	Crack seal
	U10848	Baldwin Hill Road East West	0.262	2022	4	Major Collector	Asphalt	7	Crack seal

Egremont Plain Rd (cont.)	Baldwin Hill Road East West	Unknown14	0.498	2022	5	Major Collector	Asphalt	7	Crack seal
	Unknown14	Private Rd/Driveway U6398	0.102	2022	15	Major Collector	Asphalt	8	Spot maintenance, inspection, crack seal
	Private Rd/Driveway U6398	Prospect Lake Rd	0.599	2022	15	Major Collector	Asphalt	8	Spot maintenance, inspection, crack seal
	Prospect Lake Rd	Boice Rd	0.015	2016	9	Major Collector	Asphalt	7	Crack seal
	Boice Rd	Private Rd/Driveway U6355	0.098	2022	7	Major Collector	Asphalt	7	Crack seal
	U6355	Private Rd/Driveway U6355	0.112	2022	5	Major Collector	Asphalt	6	Chip seal/fog seal/cape seal as needed
	U6355	Shun Toll Rd	0.034	2022	5	Major Collector	Asphalt	6	Chip seal/fog seal/cape seal as needed
	Shun Toll Rd	Private Rd/Driveway U6352	0.064	2022	3	Major Collector	Asphalt	6	Chip seal/fog seal/cape seal as needed
	Private Rd/Driveway U6352	Private Rd/Driveway U6352	0.063	2022	5	Major Collector	Asphalt	6	Chip seal/fog seal/cape seal as needed
	Private Rd/Driveway U6352	Rowe Rd	0.067	2022	7	Major Collector	Asphalt	7	Crack seal
	Rowe Rd		0.197	2022	7	Major Collector	Asphalt	7	Crack seal
		Green River Valley Rd	0.609	2022	7	Major Collector	Asphalt	7	Crack seal
Hickory Hill	Boice Rd	Unknown78	0.303	2022	2	Local	Asphalt	6	Chip seal/fog seal/cape seal as needed
	Unknown78		0.231	2022	-1	Local	Asphalt	4	Mill and fill/structural overlay or HIR/CIR**
		Dead-End	0.023	2022	-1	Local	Asphalt	4	Mill and fill/structural overlay or HIR/CIR**
Jug End Rd	Private Rd/Driveway U4714		0.436	2022	5	Local	Asphalt	6	Chip seal/fog seal/cape seal as needed
	Avenue Rd		0.335	2022	5	Local	Asphalt	6	Chip seal/fog seal/cape seal as needed
		Private Rd/Driveway U10952	0.161	2022	5	Local	Asphalt	6	Chip seal/fog seal/cape seal as needed
	Private Rd/Driveway U10952	Private Rd/Driveway U6367	0.143	2022	5	Local	Asphalt	6	Chip seal/fog seal/cape seal as needed
	Private Rd/Driveway U6367	Private Rd/Driveway U6372	0.172	2022	5	Local	Asphalt	6	Chip seal/fog seal/cape seal as needed
	Private Rd/Driveway U6372	Private Rd/Driveway U10956	0.048	2022	6	Local	Asphalt	7	Crack seal
	Private Rd/Driveway U10956	Private Rd/Driveway U10871	0.193	2022	6	Local	Asphalt	7	Crack seal
	Private Rd/Driveway U10871	Private Rd/Driveway U6369	0.092	2022	10	Local	Asphalt	7	Crack seal
	Private Rd/Driveway U6369	Unknown93	0.081	2022	6	Local	Asphalt	7	Crack seal
	Unknown93	Mount Washington Rd	0.158	2022	5	Local	Asphalt	6	Chip seal/fog seal/cape seal as needed
	Mount Washington Rd	Bott Hill Rd	0.571	2022	8	Minor Collector	Asphalt	7	Crack seal
	Bott Hill Rd	Hillsdale Rd	0.537	2022	6	Minor Collector	Asphalt	6	Chip seal/fog seal/cape seal as needed
Mcgee Rd	Creamery Rd	Town House Hill Rd	0.619	2022	14	Local	Asphalt	9	No action required
	Town House Hill Rd	Town House Hill Rd	0.023	2022	9	Local	Asphalt	7	Crack seal
	Town House Hill Rd	Pumpkin Hollow Rd	0.162	2022	14	Local	Asphalt	9	No action required
Mount Washington Rd	Jurisdiction Line	Under Mountain Rd	0.017	2016	-1	Major Collector	Asphalt	3	Patch and repair, major (>2") overlay
	East St		0.342	2022	-1	Major Collector	Asphalt	3	Patch and repair, major (>2") overlay
		Private Rd/Driveway U10917	0.847	2022	-1	Major Collector	Asphalt	3	Patch and repair, major (>2") overlay
	Private Rd/Driveway U10917	Unknown47	0.246	2022	2	Major Collector	Asphalt	6	Chip seal/fog seal/cape seal as needed
	Unknown47	Jug End Rd	0.167	2022	4	Major Collector	Asphalt	6	Chip seal/fog seal/cape seal as needed
	Jug End Rd		0.363	2022	14	Major Collector	Asphalt	9	No action required
		Unknown60	0.116	2022	14	Major Collector	Asphalt	9	No action required
	Unknown60	Avenue Rd	0.423	2022	14	Major Collector	Asphalt	9	No action required
	Avenue Rd	Unknown97	0.215	2016	-5	Major Collector	Asphalt	2	Reconstruction with new base and surface
	Unknown97	Unknown93	0.159	2022	14	Major Collector	Asphalt	8	Spot maintenance, inspection, crack seal
	Unknown93	Private Rd/Driveway U10962	0.035	2016	-5	Major Collector	Asphalt	2	Reconstruction with new base and surface
	Private Rd/Driveway U10962	Greenwood Cir W	0.159	2022	14	Major Collector	Asphalt	9	No action required
	Greenwood Cir W	Greenwood Cir E	0.076	2022	2	Major Collector	Asphalt	6	Chip seal/fog seal/cape seal as needed
	Greenwood Cir E	Jurisdiction Line	0.166	2022	9	Major Collector	Asphalt	7	Crack seal
	Jurisdiction Line	Westview Rd	0.036	2016	0	Major Collector	Asphalt	4	Mill and fill/structural overlay or HIR/CIR**
Phillips Rd	Hillsdale Rd	Jurisdiction Line	0.017	2022	14	Local	Asphalt	10	No action required
	Hillsdale Rd	Jurisdiction Line	0.013	2022	14	Local	Asphalt	10	No action required
	Jurisdiction Line	Town House Hill Rd	0.259	2022	14	Local	Asphalt	10	No action required
	Town House Hill Rd		0.196	2022	2	Local	Asphalt	5	Sealcoat or new thin overlay

Prospect Lake Rd	Dead-End		0.461	2022	9	Local	Asphalt	7	Crack seal
		Blunt Rd	0.098	2022	9	Local	Asphalt	7	Crack seal
	Blunt Rd	Millard Rd	0.147	2022	2	Minor Collector	Asphalt	5	Sealcoat or new thin overlay
	Millard Rd	Unknown72	0.149	2022	4	Minor Collector	Asphalt	6	Chip seal/fog seal/cape seal as needed
	Unknown72	Private Rd/Driveway U6347	0.011	2016	4	Minor Collector	Asphalt	5	Sealcoat or new thin overlay
	Private Rd/Driveway U6347	Private Rd/Driveway U13	0.219	2022	1	Minor Collector	Asphalt	5	Sealcoat or new thin overlay
	Private Rd/Driveway U13	Private Rd/Driveway U6403	0.066	2016	0	Minor Collector	Asphalt	4	Mill and fill/structural overlay or HIR/CIR**
	Private Rd/Driveway U6403		0.155	2022	0	Minor Collector	Asphalt	5	Sealcoat or new thin overlay
		Mill Rd	0.291	2022	1	Minor Collector	Asphalt	6	Chip seal/fog seal/cape seal as needed
	Mill Rd	Baldwin Hill Road North South	0.222	2022	6	Minor Collector	Asphalt	7	Crack seal
	Baldwin Hill Road North South	General Knox Ln	0.016	2016	4	Minor Collector	Asphalt	5	Sealcoat or new thin overlay
	General Knox Ln	Egremont Plain Rd	0.164	2022	14	Minor Collector	Asphalt	8	Spot maintenance, inspection, crack seal
Pumpkin Hollow Rd	Egremont Plain Rd	Locust Hill Rd	0.131	2022	-1	Local	Asphalt	4	Mill and fill/structural overlay or HIR/CIR**
	Unknown15	Locust Hill Rd	0.524	2022	1	Local	Asphalt	5	Sealcoat or new thin overlay
Rowe Rd	Egremont Plain Rd		0.804	2022	14	Local	Asphalt	9	No action required
		Unknown24	0.076	2022	14	Local	Asphalt	9	No action required
	Unknown24	Jurisdiction Line	0.062	2022	-1	Local	Asphalt	5	Sealcoat or new thin overlay
Sheffield Rd	Jurisdiction Line	Main St	0.048	2016	4	Local	Asphalt	5	Sealcoat or new thin overlay
	Unknown65	Jurisdiction Line	0.045	2016	5	Major Collector	Asphalt	6	Chip seal/fog seal/cape seal as needed
	Jurisdiction Line		0.058	2022	6	Major Collector	Asphalt	7	Crack seal
		Button Ball Ln	0.016	2016	5	Major Collector	Asphalt	6	Chip seal/fog seal/cape seal as needed
	Button Ball Ln	Unknown49	0.021	2016	5	Major Collector	Asphalt	6	Chip seal/fog seal/cape seal as needed
	Unknown49	Private Rd/Driveway U10959	0.686	2022	6	Major Collector	Asphalt	7	Crack seal
	Private Rd/Driveway U10959	Private Rd/Driveway U10876	0.16	2022	6	Major Collector	Asphalt	7	Crack seal
	Private Rd/Driveway U10876	Sheffield Egremont Rd	0.071	2016	5	Major Collector	Asphalt	6	Chip seal/fog seal/cape seal as needed
Taconic Ln	Hillsdale Rd	Hillsdale Rd	0.515	2022	15	Local	Asphalt	8	Spot maintenance, inspection, crack seal
Town House Hill Rd	Jurisdiction Line	Mcgee Rd	0.015	2022	9	Local	Asphalt	7	Crack seal
	Baldwin Hill Road North South		0.121	2022	14	Local	Asphalt	9	No action required
			0.569	2022	14	Local	Asphalt	9	No action required
		Creamery Rd	0.051	2022	14	Local	Asphalt	9	No action required
	Creamery Rd	Jurisdiction Line	0.18	2022	9	Local	Asphalt	7	Crack seal
	Jurisdiction Line	Mcgee Rd	0.018	2022	9	Local	Asphalt	7	Crack seal
Warner Rd	Under Mountain Rd	Jurisdiction Line	0.019	2022	14	Local	Asphalt	10	No action required
		Jurisdiction Line	0.065	2022	14	Local	Asphalt	10	No action required
	Jurisdiction Line	Under Mountain Rd	0.033	2022	14	Local	Asphalt	10	No action required
Bow Wow Rd	Under Mountain Rd	Jurisdiction Line	0.513	0	-3	Local	Gravel	8	Routine grading and dust control
General Knox Ln	Prospect Lake Rd	Private Rd/Driveway U6406	0.12	0	-1	Local	Gravel	6	Regrading, open up ditches as needed
	Private Rd/Driveway U6406	Unknown21	0.109	0	-1	Local	Gravel	6	Regrading, open up ditches as needed
	Unknown21	Egremont Plain Rd	0.107	0	-1	Local	Gravel	6	Regrading, open up ditches as needed
Jug End Rd			0.506	0	-3	Local	Gravel	8	Routine grading and dust control
		Avenue Rd	0.483	0	-3	Local	Gravel	8	Routine grading and dust control
Mill Rd	Prospect Lake Rd	Private Rd/Driveway U6349	0.12	0	-3	Local	Gravel	8	Routine grading and dust control
	Private Rd/Driveway U6349	Private Rd/Driveway U10889	0.152	0	-3	Local	Gravel	8	Routine grading and dust control
	Private Rd/Driveway U10889	Shun Toll Rd	0.185	0	-3	Local	Gravel	8	Routine grading and dust control
Millard Rd	Prospect Lake Rd	Unknown73	0.344	0	4	Local	Gravel	8	Routine grading and dust control
	Unknown73	Unknown76	0.202	0	-3	Local	Gravel	6	Regrading, open up ditches as needed
	Unknown76		0.106	0	-3	Local	Gravel	6	Regrading, open up ditches as needed
		Dead-End	0.147	0	-3	Local	Gravel	6	Regrading, open up ditches as needed
Nicholson Rd	Dead-End	Jenssen Rd	0.403	0	-6	Local	Gravel	4	Regrade, bring in fresh aggregate, clear ditches

Nicholson Rd (cont.)	Jenssen Rd	Hillsdale Rd	0.058	0	-5	Local	Gravel	4	Regrade, bring in fresh aggregate, clear ditches
Phillips Rd			0.477	0	-3	Local	Gravel	4	Regrade, bring in fresh aggregate, clear ditches
		Baldwin Hill Road East West	0.522	0	-7	Local	Gravel	4	Regrade, bring in fresh aggregate, clear ditches
Ridge Rd	Dead-End		0.131	0	-3	Local	Gravel	6	Regrading, open up ditches as needed
		Blunt Rd	0.076	0	-3	Local	Gravel	6	Regrading, open up ditches as needed
Shun Toll Rd	Dead-End		0.389	0	-5	Local	Gravel	6	Regrading, open up ditches as needed
Shun Toll Rd (cont.)		Unknown88	0.034	0	-5	Local	Gravel	6	Regrading, open up ditches as needed
	Unknown88	Mill Rd	0.671	0	4	Local	Gravel	8	Routine grading and dust control
	Mill Rd	Private Rd/Driveway U6406	0.141	0	4	Local	Gravel	8	Routine grading and dust control
	Private Rd/Driveway U6406	Unknown21	0.111	0	-3	Local	Gravel	8	Routine grading and dust control
	Unknown21	Egremont Plain Rd	0.067	0	-3	Local	Gravel	8	Routine grading and dust control
Town House Hill Rd	Hillsdale Rd	Phillips Rd	0.295	0	-3	Local	Gravel	6	Regrading, open up ditches as needed
	Phillips Rd	Baldwin Hill Road North South	0.506	0	-3	Local	Gravel	6	Regrading, open up ditches as needed
Tyrrell Rd	Hillsdale Rd	Private Rd/Driveway U6385	0.287	0	-3	Local	Gravel	6	Regrading, open up ditches as needed
	Private Rd/Driveway U6385	Hillsdale Rd	0.028	0	-3	Local	Gravel	6	Regrading, open up ditches as needed
Warner Rd			0.199	0	-1	Local	Gravel	6	Regrading, open up ditches as needed
		Private Rd/Driveway U10962	0.111	0	-1	Local	Gravel	8	Routine grading and dust control
	Private Rd/Driveway U10962	Westerhook Rd	0.176	0	-3	Local	Gravel	8	Routine grading and dust control
	Westerhook Rd		0.071	0	4	Local	Gravel	8	Routine grading and dust control
Whites Hill Rd	Jurisdiction Line	Jurisdiction Line	0.313	0	-3	Local	Gravel	6	Regrading, open up ditches as needed

*Remaining service life
**Hot-in-place/cold-in-place recycling