# Town of New Boston
# Highway Department
# 3-Year Paving Plan: 2025, 2026, 2027
# February 6, 2025

## Introduction

The Town of New Boston's paving plan is a program to annually assess, preserve, maintain and improve one of the town's most valuable asset: the road system. The town maintains over 65 miles of paved roads, excluding state-owned roads such as NH Rte.13 (River Road), NH Rte. 77 (Weare Road), NH Rte. 136 (Francestown Road). The town annually invests in the maintenance of the roadways to maximize service life while minimizing the life cycle costs and providing a functioning road system.

Paved roads will be evaluated annually, considering the condition of the pavement, traffic volume, bus routes, the Road Surface Management System (RSMS) classifications and the available funding to determine the best course of action over a 3-year period. This plan maintains the Town's and the Highway Department's commitment to keeping the good roads good, while upgrading those that need repair and/or restoration to maximize the resources provided by the Town.

## History

In the past, an individual year paving plan would be done annually. After each year was completed, the Highway Manager would review all roads, rate the conditions, consider traffic, bus routes and address any ongoing problems to formulate which roads would receive repair/treatment/reclamation in the upcoming year.

## Road Surface Management System (RSMS)

The Road Surface Management System (RSMS) is through the NH DOT and Southern New Hampshire Planning Commission, aiding towns in rating the condition of the pavement as part of the overall paving plan. The RSMS applied a comprehensive condition rating technique based on sound engineering and management practices.

A section of road is inspected, and the severity and extent of any surface damage is recorded. Traffic trends are taken into consideration.

In 2024 the RSMS program was completed for New Boston, and a report presented giving analysis, prioritization, and different scenarios for repairs/resurfacing, which has greatly assisted in the town's annual multi-year paving plan. The conclusion of the report indicates that the Town of New Boston's roads are in good shape and if the Town continues to invest in the maintenance and repairs of the roads the overall conditions will not deteriorate and become more costly when more significant repair or resurfacing becomes necessary.

## Funding Levels

The CY 2024 and CY 2025 budget and Warrant Articles are consistent with the recommended RSMS funding levels needed to adequately invest in the roads. The Select Board recommended an increase in the road improvement article for CY 2025 to ensure that the Town continues to make progress on road improvements while addressing cost increases. The warrant articles and block grant funding allow the Town to carry over funds from one year to the next (non-lapsing) to ensure funds are available for larger paving or reconstruction years where the total expenditure is greater than the specific calendar year allocation. The proposed funding total for CY 2025 is $798,087.

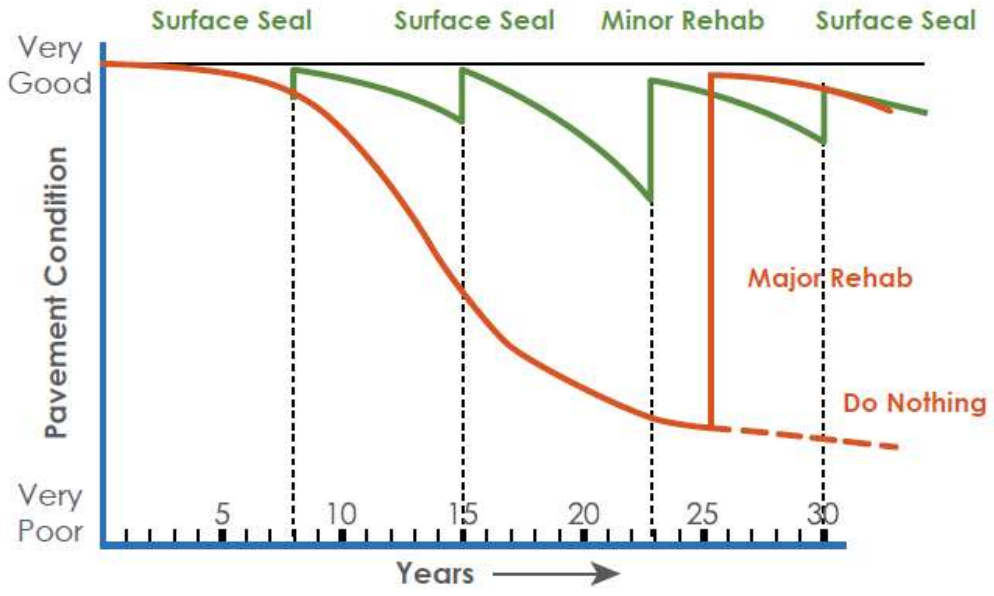
| Highway Road Budget | | |
|---|---|---|
| | **CY 2024** | **CY 2025** |
| | | |
| Road Construction Budget Line | $ 430,000 | $ 430,000 |
| Highway Block Grant | $ 212,713 | $ 218,087 |
| Highway Road Improvements (Warrant Article) | $ 100,000 | $ 150,000 |
| | | |
| | $ 742,713 | $ 798,087 |
| | | |
| Doesn't include items such as culverts, trimming, etc. | | |

## Pavement Preservation (keeping the good roads good)

Roads begin to deteriorate shortly after they are built due to weather, water, freeze-thaw cycles, solar radiation, as well as varying traffic loads. Typically, pavement performs well until a particular point in their life span and then deteriorates and will eventually fail. Demands on the roads continue to rise with increased population and usage. At the same time, the funds available for road maintenance are growing ever tighter as inflationary pressures require less work performed for the same budget dollars.

Pavement preservation has proven to be very cost-effective. **Studies find that for every dollar spent on pavement preservation, it can save between $6 and $10 in future pavement rehabilitation costs.** A more efficient and cost-effective approach is necessary to maintain and meet expectations for safety, ride quality, and optimum traffic flow, while protecting the capital investment of the town's infrastructure. Pavement preservation applies various methods of road treatments to extend the life and quality of the paved roads. There are numerous treatments available, however not all will work on every road and finding the best fit of treatment to each road is critical. There are many reasons to preserve the town's pavement, including:

- Reducing the need for costly, time-consuming rehabilitation or reconstruction of roads.
- Minimizing traffic disruptions, especially on heavily traveled roads.
- Reducing work zone dangers by applying maintenance treatments more quickly.
- Extending pavement life and enhancing performance.
- Ensuring cost-effectiveness and reducing user delays.
- Slow down the structural decline of pavements.
- Smooth road surfaces plow off much cleaner in the winter, drastically reducing the amount of salt it takes to keep them black and safe, reducing the cost of road salt needed.




**Note:** This graph demonstrates how pavement preservation and successive small treatments (indicated in green on the graph) maintain the road at "good" to "very good" levels, extending the road's useful life and preventing a costly major rehab of the road as it moves toward failure.

**Different Methods of Pavement Preservation**

A well-constructed road can have a life cycle of around 25 years, impacted by traffic volume, weight, weather, other environmental conditions, and maintenance. While many of these cannot be controlled, proper maintenance of the Town's roads on a scheduled basis can be a lower cost, minimally disruptive way to significantly extend the life cycle of pavement. Surface treatments are cost-effective preventive maintenance methods that renew aging surfaces, protect the underlying pavement structure from moisture deterioration, and fill and seal minor surface deficiencies.

Pavement management studies show that timely treatments significantly increase roadway longevity and reduce long term costs. Highway departments have found that a regular schedule of treatments is the lowest cost method of maintaining quality pavements. With every dollar spent on preventive maintenance you save six to 10 times that amount on expensive reconstruction. There are multiple options for pavement preservation, some are listed below.

**Crack Sealing** - Cracks in the roadway allow water to seep under the pavement surface and begin to undermine the gravel base layers, potentially causing potholes or other issues. Hot crack sealant is applied to protect from further pavement deterioration.

**Chip Seal** - Chip Sealing prevents the air, water and sun from oxidizing and deteriorating the surface of the road. Chip Seals, also known as Stone Seals, combine an asphalt layer and cover aggregate to provide a skid resistant wearing surface. The asphalt renews aging surfaces, fills minor cracks, and seals and waterproofs the pavement. It binds the aggregate, which protects the asphalt and provides durable friction.

**Patching** - The width of a road is not subjected to the same kind of traffic volume and weight, and sometimes those areas of a road will fail while other areas remain structurally sound. Small failed areas in the road that have broken pieces or become depressed. These areas are cleaned of debris and replaced with a patch of asphalt. Once a road has significant areas of patching it qualifies for a shim overlay.

**Shim Overlay** - Shim overlay consists of applying 1.25 to 1.50 inches of pavement over the existing paved surface. The shim overlay strengthens the existing pavement thickness and offers a smoother riding surface. Existing catch basins covers and manholes need to be raised before the shim overlay is placed.

**Reclamation** - A process used to recycle old and damaged asphalt pavements by pulverizing the existing pavement with some of the underlying gravel base to create a solid base for a new road surface. This process is used to rehabilitate deteriorating roads and restore their strength and structural integrity. This is when crossroad

drainage replacement/repair is done, following with a solid 2 to 3 1/2 inches of a foundational layer of pavement, often called the binder course.

**Topcoat** - The topcoat of pavement, also called the wearing course, is the top layer of asphalt. It serves as the surface protection and a smooth, aesthetic finish for a paved road.

## 2024 Highlighted Projects

*Paving of Reclaimed Twin Bridge Road*

*Crack Sealing on Old Coach Road*

*Old Coach Rd after chip coating*

## CY 2025 Funding with Carry-Over Funding from CY2024

Funding appropriated for the paving plan comes from the operating budget road construction line, an annual warrant article for road improvement and the annual Highway Block Grant from NH DOT. These funds are utilized in an effective way to improve the roadways as much as possible with the funds available while prioritizing and retaining the strength of the roads previously done. The amount available for CY 2025 is just over $1.07 million dollars through a combination of new funding and carry-over funding from CY2024 in anticipation of a more expensive construction year.

| | **Available Funding for Road 2025 Construction** | | |
|---|---|---|---|
| 01-4999-2-418 | 2024 WA #18 Road Improvement | $100,000 | Remaining |
| 01-4999-2-419 | 2024 WA #19Highway Block Grant | $178,917 | Remaining |
| 01-4312-1-612 | Road Construction- CY 2025 Budget | $430,000 | |
| 01-4999-2-520 | 2025 WA #20 Highway Block Grant | $218,087 | If Approved |
| 01-4999-2-521 | 2025 WA #21 Road Improvement | $150,000 | If Approved |
| | **2025 Road Construction Funding Total** | $1,077,004 | |
| | | | |

## CY 2025 Planned Work

| | | 2025 | | | |
|---|---|---|---|---|---|
| **Road** | | **Section** | **Length in Feet** | **Pavement width in feet** | **Total Estimated Cost** |
| Meadow Road | Reclaim & pave (2.5 inches) | Joe English Rd to Rte 77 | 4000 | 22 | $ 180,908.52 |
| 2nd NH Turnpike | Reclaim & pave (2.5 inches) | Lyndeborough Rd to Lyndeborough town line | 2340 | 22 | $ 105,831.48 |
| Hopkins Road | Reclaim & pave (2.5 inches) | Entire road | 2355 | 24 | $ 114,656.23 |
| Salisbury Road | Reclaim & pave (2.5 inches) | Hopkins Road to Kettle Road | 940 | 22 | $ 45,765.12 |
| Gregg Mill Road | Reclaim & pave (2.5 inches) | Riverdale Rd to Beard Rd | 1650 | 22 | $ 80,332.39 |
| | | | | | |
| Twin Bridge Road | Top coat (1.5 inches) / shoulder | Rte 77 to town line | 4320 | 22 | $ 87,562.16 |
| | | | | | |
| Beard Road | Drainage & Gravel | Entire road | 7800 | 22 | $ 96,577.78 |
| | | | | | |
| | | | | Subtotal | $ 711,633.67 |
| | | | | | |
| | | | | | |
| **CHIP COAT** | | ($3.40 square ft) | | | |
| Joe English | Chip coat | Meetinghouse Hill Rd to Meadow Rd | 10240 | | $ 85,105.78 |
| McCurdy Rd | Chip coat | McCurdy Road | 13000 | | $ 108,044.44 |
| Byam Road | Chip coat | Entire road | 7390 | | $ 61,419.11 |
| | | | | | |
| | | **Misc (tree cutting, drainage, rock hammering, fabric)** | | | $ 25,000.00 |
| | | **Gravel/Repair Funding for 2025 GRIP program** | | | $ 50,000.00 |
| | | | | Subtotal | $ 329,569.33 |
| | | | | | |
| | | | Total Estimated Cost | | $1,041,203.01 |

## CY 2026 Planned Work

| | | 2026 | | | |
|---|---|---|---|---|---|
| **Road** | | **Section** | **Length in Feet** | **Pavement width in feet** | **Total Estimated Cost** |
| Bog Brook Road | Reclaim & pave (2.5 inches) | Entire road | 5950 | 22 | $269,101.42 |
| Indian Falls Road | Reclaim & pave (2.5 inches) | Beginning piece | 180 | 22 | $ 10,056.29 |
| | | | | | |
| | | | | Subtotal | $279,157.71 |
| | | | | | |
| Meadow Road | Top coat (1.5 inches) / shoulder | Joe English Rd to Rte 77 | 4000 | | $107,002.00 |
| Bedford Road | Top coat (1.5 inches) / shoulder | McCurdy Rd to Wilson Hill Rd | 4970 | 22 | $132,949.99 |
| Hopkins Road | Top coat (1.5 inches) / shoulder | Entire road | 2355 | | $ 63,412.61 |
| 2nd NH Turnpike | Top coat (1.5 inches) / shoulder | Lyndeborough Rd to Lyndeborough town line | 2340 | | $ 63,008.70 |
| | | | | | |
| | | | | Subtotal | $366,373.29 |
| | | | | | |
| **CHIP COAT** | | ($3.40 square yd) | | | |
| Twin Bridge Road | Chip coat | Rte 77 to town line | 4320 | | $ 35,904.00 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | **Misc (tree cutting, drainage, rock hammering, fabric)** | | | $ 25,000.00 |
| | | **Gravel/Repair Funding for 2026 GRIP program** | | | $ 50,000.00 |
| | | | | Subtotal | $110,904.00 |
| | | | | | |
| | | | Total Estimated Cost | | $756,435.01 |

## CY 2027 Planned Work

| | | 2027 | | | |
|---|---|---|---|---|---|
| **Road** | | **Section** | **Length in Feet** | **Pavement width in feet** | **Total Estimated Cost** |
| Clark Hill Road | Reclaim & pave (2.5 inches) | Thornton Rd to dirt portion | 7740 | 22 | $350,057.98 |
| Clark Hill Road | Reclaim & pave (2.5 inches) | Briar Hill to Rte 13 | 490 | 22 | $ 22,161.29 |
| Inkberry Road | Reclaim & pave (2.5 inches) | Entire road | 2730 | 22 | $123,470.06 |
| Thornton | Reclaim & pave (2.5 inches) | Pavement portion- Rte 136 to Pine Rd | 1250 | 22 | $ 69,835.37 |
| | | | | | |
| Bog Brook Road | Top coat (1.5 inches) / shoulder | Entire road | 5950 | | $119,058.07 |
| Indian Falls Road | Top coat (1.5 inches) / shoulder | Beginning piece | 180 | | $ 3,633.49 |
| | | | | | |
| | | | | Subtotal | $688,216.27 |
| | | | | | |
| | | | | | |
| **CHIP COAT** | | ($3.40 square ft) | | | |
| Meadow Road | Chip coat | Joe English Rd to Rte 77 | 4000 | 22 | $ 33,244.44 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | **Misc (tree cutting, drainage, rock hammering, fabric)** | | | $ 25,000.00 |
| | | **Gravel/Funding for 2026 GRIP program** | | | $ 50,000.00 |
| | | | | | |
| | | | | Subtotal | $108,244.44 |
| | | | Total Estimated Cost | | $796,460.71 |

## Annual 3-Year Planning & Revisions

This Road Maintenance and Paving plan is a multi-year approach to paved road management. The goal is to enhance pavement preservation, get more life from paved roads and be more cost effective.

In the Fall of each year, at the conclusion of the road construction and maintenance season, the completed work will be recorded, and the next year will be added to the paved road improvement plan. This process will include reviewing the assumptions of the remaining two years of the plan and making any adjustments as needed.

**Annual adjustments may include:**

- Any reprioritization of previously established Roads based on changes in traffic, condition, or other factors.
- Any additional road preparation, ditching, or culvert replacement are all considered in the scheduling for the upcoming 3 years.
- Any unforeseen weather events or challenges that impacted this 3-year plan and subsequent revisions will be submitted to the Road Committee and the Select Board for input and approval.
- Any significant changes in funding from the Town or the State.

## Final Thoughts

The Highway Department's goal is to work towards improving the Town's infrastructure system by proactively maintaining and using pavement preservation techniques to ensure high quality roads. We are confident that we are using the right mix of investing well with the allocated resources to keep the quality and integrity of the roads already in good shape while addressing any deficiencies to bring all paved roads up to standard in a reasonable and economic manner.