#### **Road Maintenance**

# A Planned Network Strategy of Maintaining Pavements in Good Condition to Maximize their Useful Life as Cost Effectively as Possible.

To accomplish this goal, the Town should be maintaining 10 miles of shoulders and ditches per year. Part of this is being able to maintain our road shoulders and ditches to keep the water away from the road base. For this to be possible the town is proposing to purchase an excavator to clear and regrade ditches as necessary.

As you have most likely noticed, several of our roads are badly in need of repaving, as they were last paved over 10 years ago and some of our roads do not have the recommended 3.25 inches of pavement. The road pavement standard is 2 inches of base pavement and 1.25 inches of surface pavement. However, in the past, Bowdoinham opted to only complete the base pavement.

To address the Town's current state of roads, we have created an aggressive -year road plan to catch up on our road maintenance. Our goal is to implement a pavement preservation road plan in the future.

#### Preservation vs. Rehabilitation GOOD Preservation Strategy POOR Years PRESERVATION STRATEGY: REHABILITATION STRATEGY: Years 3 & 38: Fog Seal Year 15: CIPR with 2" HMA Overlay Years 8 & 43: Chip Seal (Single) Year 30: CIPR with 2" HMA Overlay Years 15 & 50: AR Chip Seal) Year 45: CIPR with 2" HMA Overlay Year 25: Bonded Wearing Course Year 35: 1-3/4" Hot Mix Overlay TOTAL COST/SY OVER 50 YEARS = \$48.00 TOTAL COST/SY OVER 50 YEARS = \$28.65

### **Progressive Pavement Management**

The Town of Bowdoinham is responsible for about 30 miles of roads. If the Town wants to maintain a 10-year maintenance plan, the Town should be paving 3 miles of road per year.

To pay for this paving, the Town will need to raise \$300,000 to \$400,000 per year to pave 3 miles of roads a year. If the Town had to borrow this funding every year, we would add \$45,000 in annual debt payments per \$350,000 bond and pay \$100,000 in interest. This would ultimately add \$450,000 to the Town's annual debt service payment: year 1- \$45,000, year 2 - \$90,000, year 3 - \$135,000, year 4- \$180,000, year 5 - \$225,000, year 6 - \$270,000, year 7 - \$315,000, year 8 - \$360,000, year 9 - \$405,000, year 10+ - \$450,000.

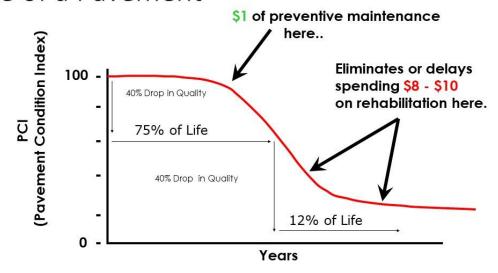
Instead of borrowing, we're recommending that the Town include \$350,000 per year for road maintenance in its operating budget. This would save the Town approximately \$100,000 in interest per bond and \$450,000 per year in the operating budget long term, greatly reducing interest expense and ultimately helping to control resident taxes.

#### TEN YEAR ROAD MAINTENANCE PLAN

Cemetery Road         0.4         \$50,000         2023         Surface Co.           Center St         0.4         \$50,000         2023         Surface Co.           Ridge Road - 1         0.2         \$20,000         2023         Surface Co.           Ridge Road - 4         2         \$140,000         2023         1/4 Width Shim (F.           Browns Point - 1         2         \$140,000         2023         1/4 Width Shim (F.           Fisher Road         1.8         \$130,000         2023         1/4 Width Shim (F.           Dingley Road - 2         0.2         \$50,000         2023         Base Pave           15% Contingency         \$87,000         Project Bidding & Co.         Administration           Engineering         \$10,000         Project Bidding & Co.         Administration           Pork Point Road         2.4         \$310,000         2024         Shoulders           Dingley Road         1.6         \$175,000         2024         Shoulders           Carding Machine Rd - 2         1.4         \$175,000         2024         Shoulders           Wildes Road         0.8         \$90,000         2024         Shoulders           Abagadasset Road         1         \$100,000         2024	at at Rutting) Rutting)
Center St         0.4         \$50,000         2023         Surface Co.           Ridge Road - 1         0.2         \$20,000         2023         Surface Co.           Ridge Road - 4         2         \$140,000         2023         1/4 Width Shim (I.           Browns Point - 1         2         \$140,000         2023         1/4 Width Shim (I.           Fisher Road         1.8         \$130,000         2023         1/4 Width Shim (I.           Dingley Road - 2         0.2         \$50,000         2023         Base Pave           15% Contingency         \$87,000         Project Bidding & Co.         Administration           FY23 Total         4         \$677,000         Project Bidding & Co.           Pork Point Road         2.4         \$310,000         2024         Shoulders           Dingley Road         1.6         \$175,000         2024         Shoulders           Carding Machine Rd - 2         1.4         \$175,000         2024         Shoulders           Wildes Road         0.8         \$90,000         2024         Shoulders           Abagadasset Road         1         \$100,000         2024         Shoulders           15% Contingency         \$127,500         Project Bidding & Co.         Admini	at at Rutting) Rutting)
Ridge Road - 1         0.2         \$20,000         2023         Surface Co.           Ridge Road - 4         2         \$140,000         2023         1/4 Width Shim (Find the State of Mark Project State of S	Rutting) Rutting)
Ridge Road - 4         2         \$140,000         2023         1/4 Width Shim (f           Browns Point - 1         2         \$140,000         2023         1/4 Width Shim (f           Fisher Road         1.8         \$130,000         2023         1/4 Width Shim (f           Dingley Road - 2         0.2         \$50,000         2023         Base Pave           15% Contingency         \$87,000         Project Bidding & Co         Administration           Engineering         \$10,000         Project Bidding & Co         Administration           Pork Point Road         2.4         \$310,000         2024         Shoulders           Dingley Road         1.6         \$175,000         2024         Shoulders           Carding Machine Rd - 2         1.4         \$175,000         2024         Shoulders           Wildes Road         0.8         \$90,000         2024         Shoulders           Abagadasset Road         1         \$100,000         2024         Shoulders           15% Contingency         \$127,500         Project Bidding & Co         Administration           Engineering         \$10,000         Administration         Project Bidding & Co	Rutting)
Browns Point - 1	Rutting)
Fisher Road         1.8         \$130,000         2023         1/4 Width Shim (Including Section Sec	
15% Contingency	
Sign   Sign	<u> </u>
Standard	
Pork Point Road 2.4 \$310,000 2024 Shoulders  Dingley Road 1.6 \$175,000 2024 Shoulders  Carding Machine Rd - 2 1.4 \$175,000 2024 Shoulders  Wildes Road 0.8 \$90,000 2024 Shoulders  Abagadasset Road 1 \$100,000 2024 Shoulders  The project Bidding & Core Engineering \$10,000 Administration	
Pork Point Road         2.4         \$310,000         2024         Shoulders           Dingley Road         1.6         \$175,000         2024         Shoulders           Carding Machine Rd - 2         1.4         \$175,000         2024         Shoulders           Wildes Road         0.8         \$90,000         2024         Shoulders           Abagadasset Road         1         \$100,000         2024         Shoulders           15% Contingency         \$127,500         Project Bidding & Contingency         Project Bidding & Contingency           Engineering         \$10,000         Administration	
Dingley Road         1.6         \$175,000         2024         Shoulders           Carding Machine Rd - 2         1.4         \$175,000         2024         Shoulders           Wildes Road         0.8         \$90,000         2024         Shoulders           Abagadasset Road         1         \$100,000         2024         Shoulders           15% Contingency         \$127,500         Project Bidding & Contingency         Administration	3
Carding Machine Rd - 2         1.4         \$175,000         2024         1.25" Surface C Shoulders           Wildes Road         0.8         \$90,000         2024         Shoulders           Abagadasset Road         1         \$100,000         2024         Shoulders           15% Contingency         \$127,500         Project Bidding & Contingency         Administration           Engineering         \$10,000         Administration	
Wildes Road         0.8         \$90,000         2024         1.25" Surface C Shoulders           Abagadasset Road         1         \$100,000         2024         Shoulders           15% Contingency         \$127,500         Project Bidding & Contingency         Administration           Engineering         \$10,000         Administration	Coat &
Wildes Road         0.8         \$90,000         2024         Shoulders           Abagadasset Road         1         \$100,000         2024         Shoulders           15% Contingency         \$127,500         Project Bidding & Contingency           Engineering         \$10,000         Administration	
Abagadasset Road         1         \$100,000         2024         Shoulders           15% Contingency         \$127,500         Project Bidding & Contingency           Engineering         \$10,000         Administration	3
Engineering \$10,000 Project Bidding & Co	
Engineering \$10,000 Administration	
FY24 Total 7.2 \$987 500	
1 124 10tal 1.2 4001,000	
Ridge Road - 2 & 3 4 \$200,000 2025 1/4 Width Shim (F	Rutting)
Millay Road 3 \$150,000 2025 1/4 Width Shim (F	Rutting)
Carding Machine Rd - 1 1.4 \$75,000 2025 1/4 Width Shim (F	<u> </u>
South Pleasant St         0.8         \$50,000         2025         1/4 Width Shim (Figure 1)	Rutting)
15% Contingency \$71,250	
Engineering \$10,000 Project Bidding & Co	
FY25 Total 9.2 \$556,250	
Fisher Road 1.8 \$175,000 3/4" Full Width	Shim
Browns Point Road 2 \$200,000 3/4" Full Width	
South Pleasant St 0.8 \$100,000 3/4" Full Width	
15% Contingency \$71,250	onetruoties
Engineering \$10,000 Project Bidding & Co	
FY26 Total 4.6 \$556,250	011
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Ridge Road - 4 2 \$200,000 3/4" Full Width	01.1
Carding Machine Rd - 1 1.4 \$150,000 3/4" Full Width	Shim

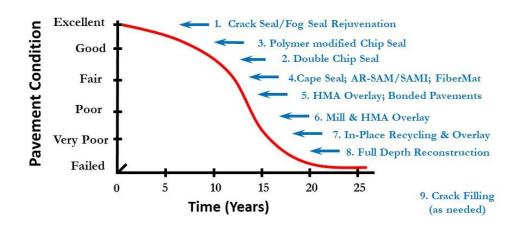
Dinsmore Cross Road	0.3	\$50,000	3/4" Full Width Shim
15% Contingency		\$60,000	
Engineering		\$10,000	Project Bidding & Construction Administration
FY27 Total	3.7	\$470,000	
Ridge Road - 2 & 3	4	\$400,000	3/4" Full Width Shim
15% Contingency		\$60,000	
Engineering		\$10,000	Project Bidding & Construction Administration
FY28 Total	4	\$470,000	
Millay Road	3	\$300,000	3/4" Full Width Shim
Back Hill Road	0.1	\$150,000	Reconstruct
School Street	0.1	\$150,000	3/4" Full Width Shim & Stormwater Infrastructure
15% Contingency		\$90,000	
Engineering		\$10,000	Project Bidding & Construction Administration
FY29 Total	3.2	\$700,000	
Church Street	0.05	\$20,000	3/4" Full Width Shim
Lucas Lane	0.15	\$25,000	3/4" Full Width Shim OR Chip Seal
Preble Road	0.4	\$60,000	3/4" Full Width Shim
Spear Drive	0.2	\$30,000	3/4" Full Width Shim OR Chip Seal
Wildes Road	0.8	\$35,000	Chip Seal
Abagadasset Road	1	\$35,000	Chip Seal
Carding Machine Road	3.8	\$200,000	Chip Seal
15% Contingency		\$60,750	
Engineering		\$10,000	Project Bidding & Construction Administration
FY30 Total	5.8	\$475,750	

## Life of a Pavement



### **Asphalt Deterioration Curve**

Applying the Right Treatment, to the Right Road, at the Right Time...



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