

A photograph of a gravel road with a large pothole, overlaid with text. The text is centered and reads: CIP Request – 2019  
Road Preservation  
&  
Road Reconstruction.

CIP Request – 2019  
Road Preservation  
&  
Road Reconstruction

# Highway Block Grant Aid

*12% of the total road toll (gas tax) revenue and state motor vehicle fees collected in the preceding state fiscal year are distributed to municipalities through a local highway aid formula.*

- **Apportionment (per RSA 235:23)**

Apportionment "A" and SB 367 funds are disbursed by \$1,496 for each mile of Class IV (Center Road) and Class V roads inventoried by the municipality and approximately \$13 for each person residing in a municipality based on the state planning estimate of population (NH Office of State Planning-OSP)

**In 2018, the Town of Weare received \$278,320**

# TOWN OF WEARE POPULATION GROWTH YEARS\*

<u>1950</u>	1,345	-1.6%	
<u>1960</u>	1,420	5.6%	
<u>1970</u>	1,851	30.4%	} BUILDING BOOM YEARS POPULATION GREW 375 % OVER 40 YEARS
<u>1980</u>	3,232	74.6%	
<u>1990</u>	6,193	91.6%	
<u>2000</u>	7,776	25.6%	
<u>2010</u>	8,785	13.0%	
<b>Est. 2015</b>	8,913	1.5%	

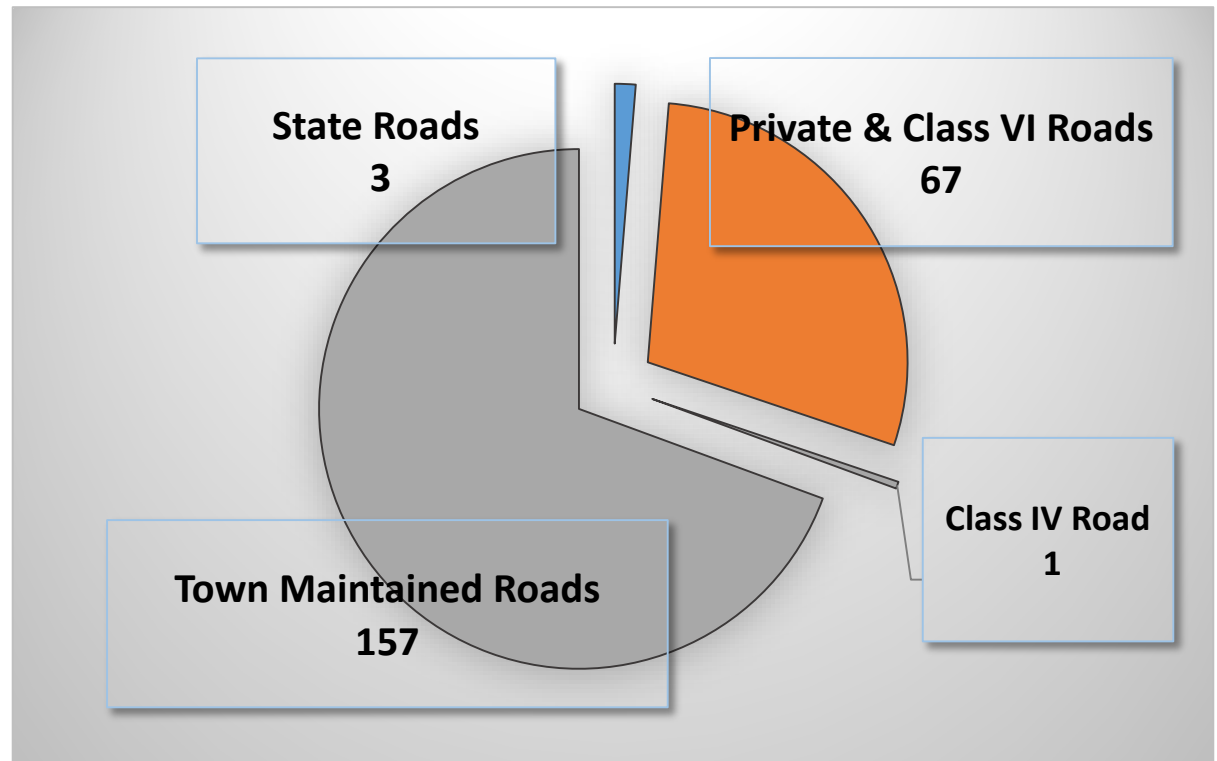
OVER THE LAST 50 YEARS, THE TOWN OF WEARE POPULATION GREW RAPIDLY, MOST OF THE BUILDERABLE TOWN ROAD FRONTAGE WAS DEVELOPED AND MANY SUBDIVISIONS WERE CREATED.

INCREASED TRAFFIC LOAD PUT ADDITIONAL STRAIN ON EXISTING TOWN ROADS AND MOST SUBDIVISION WERE DESIGNED, BUILT AND INSPECTED AT A SUBSTANDARD LEVEL

\* [https://en.wikipedia.org/wiki/Weare,\\_New\\_Hampshire](https://en.wikipedia.org/wiki/Weare,_New_Hampshire)

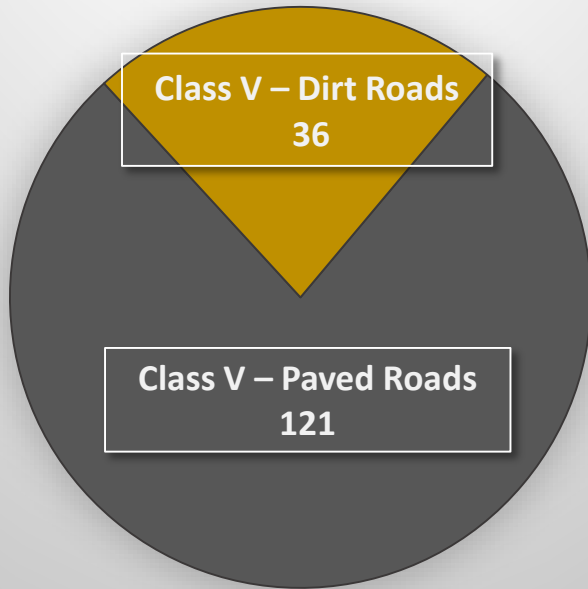
## Number of All Roads in Town

Class IV Road	1
State Roads	3
Class VI & Private	67
Town Maintained Roads	157



*Out of the 157 roads that are Town Maintained...*

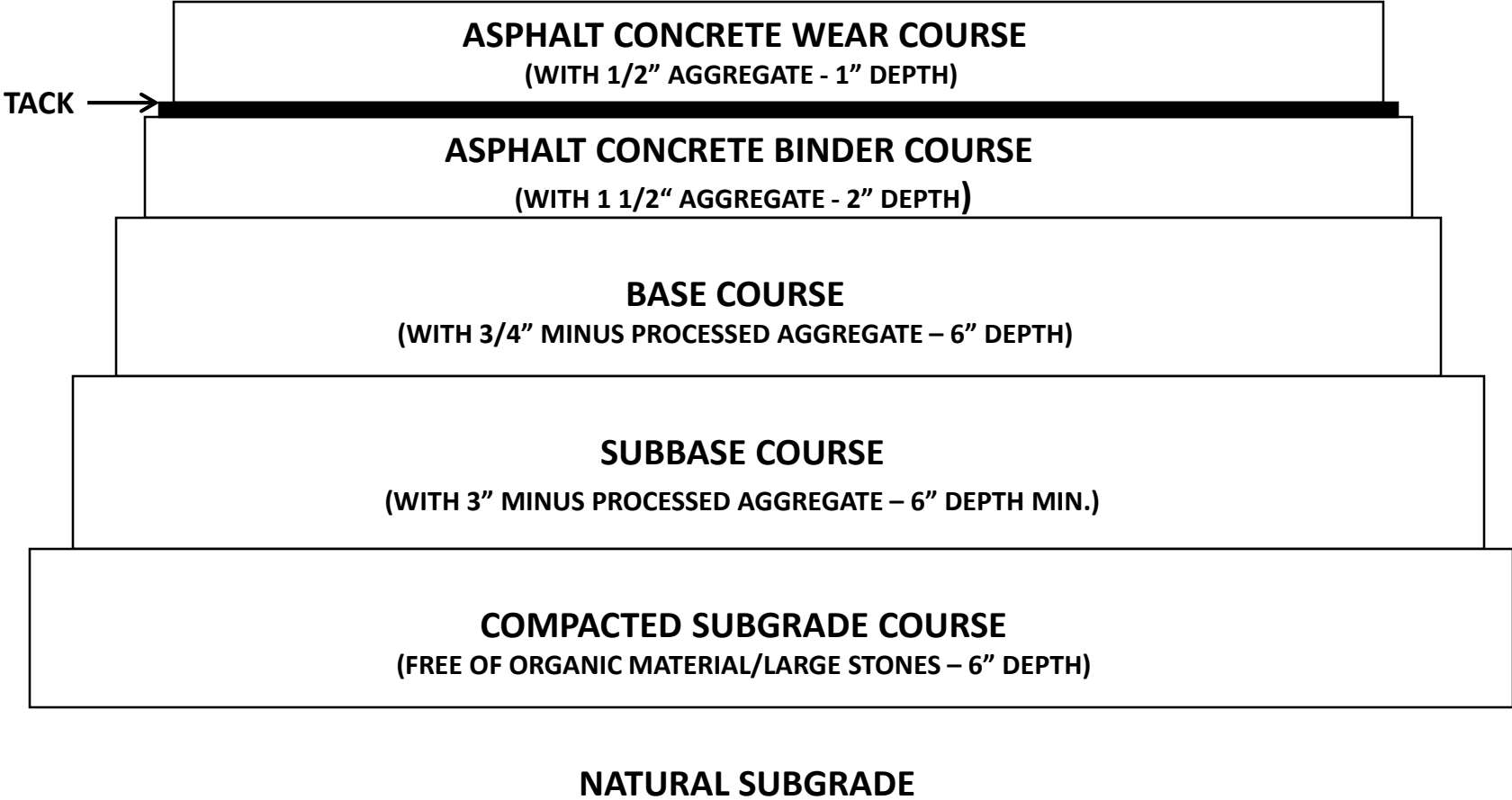
# Town Maintained Roads



Town – Class V – Paved	121 Roads
	77.05 Miles
Town – Class V – Dirt	36 Roads
	20.16 Miles



# TYPICAL ASPHALT CONCRETE ROAD CROSS-SECTION VIEW

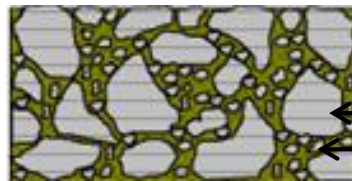


# What is Asphalt Concrete?

Many names are used to refer to Asphalt Concrete:

Tar Roads, Hot Top Roads, Tarmac, Asphalt Roads and Black Top Roads to name a few

Asphalt Concrete



Asphalt 5% \*

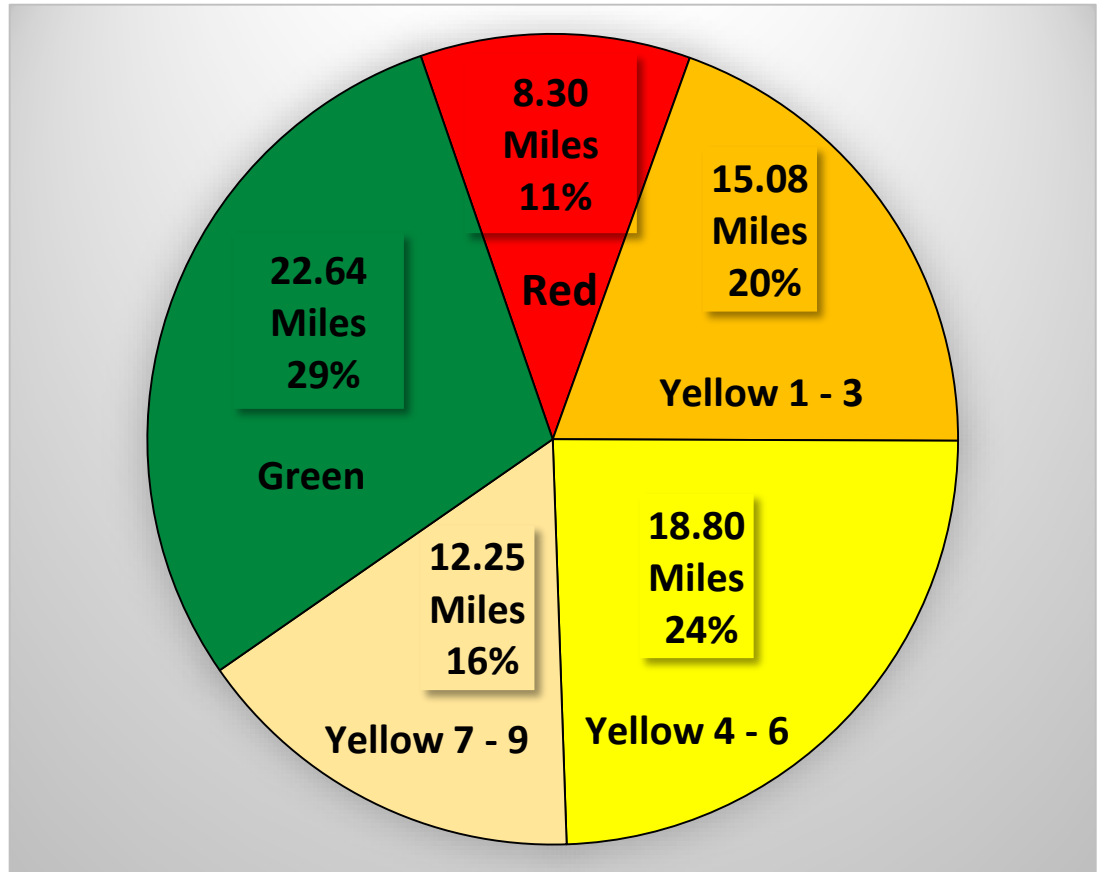
Large aggregate

Small aggregate

} 95%\*\*

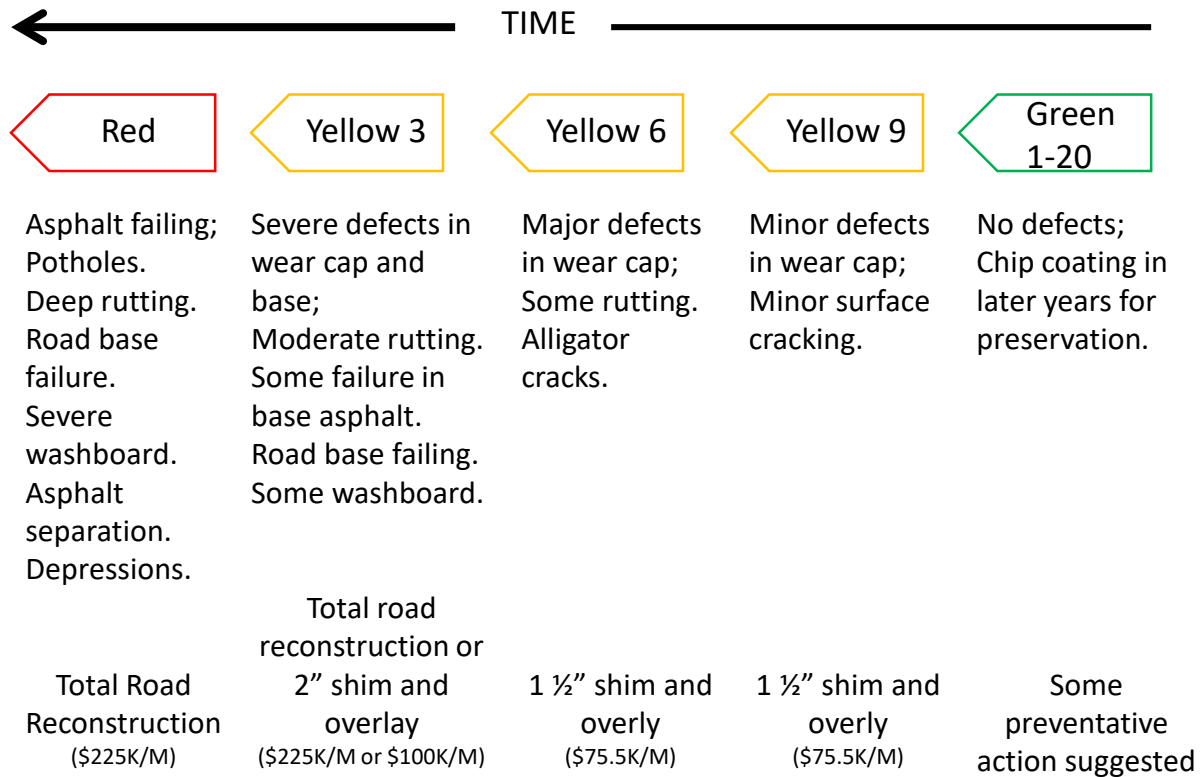
Asphalt and aggregates are process at the temperature of 305 degrees F

- \* Asphalt is derived from crude petroleum through the Fractional Distillation process. It is the residual petroleum product.
- \*\* Asphalt Concrete can be manufactured with various ratios and size of the aggregates for different applications.





## Top Level Assessments of the Class V Asphalt Road Section Status and Recommendation



## Cost per Mile of Road Reconstruction

### Shim & Overlay

1 mile of paved road by 24' wide with 1 ½" of shim and overlay is 1163 tons of asphalt

1 Ton of asphalt = \$65.00

x 1163 tons = \$ 75,595 per mile

1 mile of paved road by 24' wide with 2" of shim and overlay is 1551 tons of asphalt

1 Ton of asphalt = \$65.00

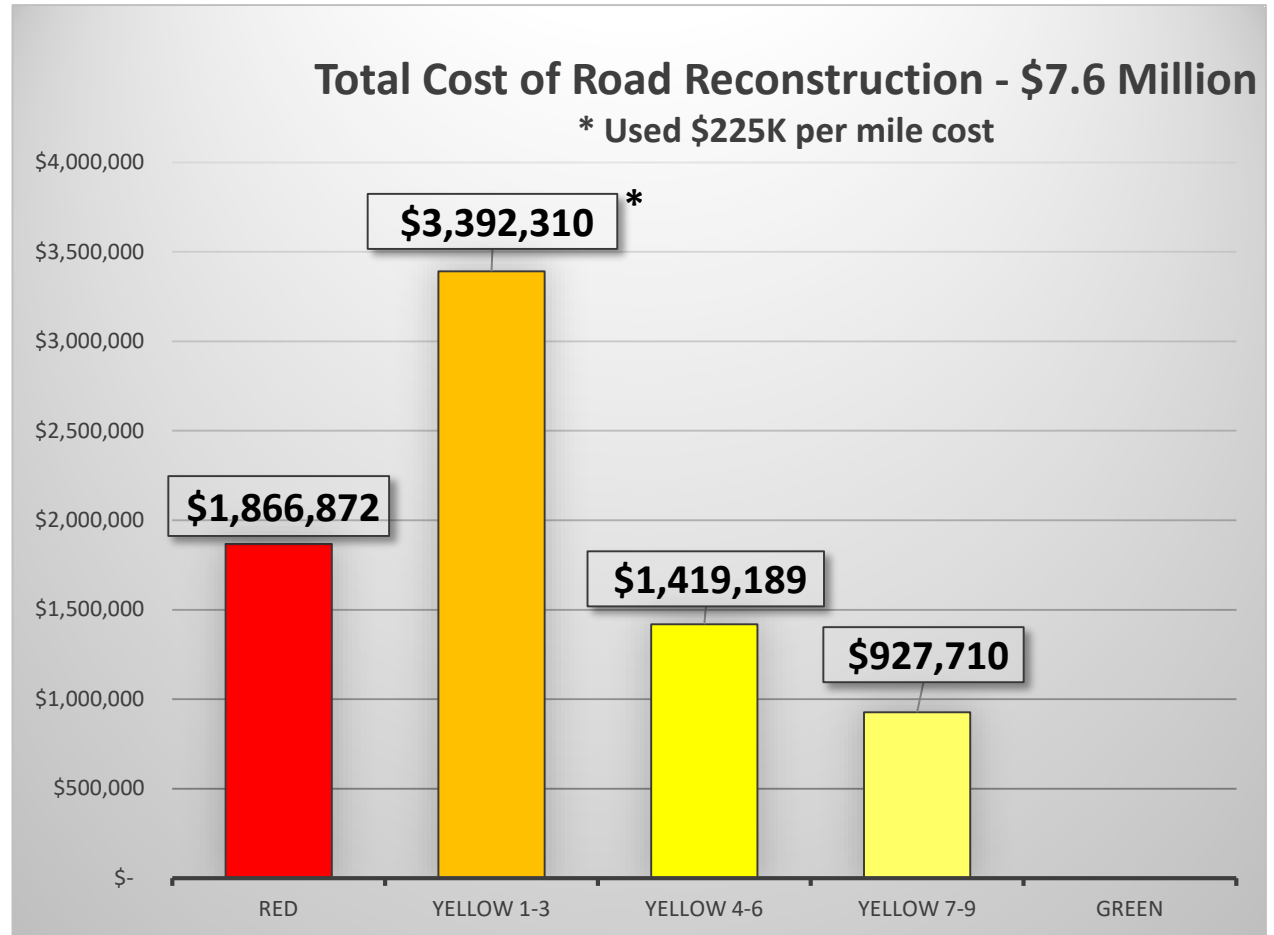
x 1551 tons = \$ 100,000 per mile

### Reconstruction

1 mile of paved road by 24' wide is:

3" of asphalt	\$ 150,000.00
12" processed gravel	\$ 45,000.00
shoulder gravel	\$ 2,000.00
reclaim machine work	\$ 10,000.00
<u>culverts, drainage, tree work</u>	<u>\$ 18,000.00</u>
Total Cost	\$ 225,000.00 per mile

<u>Status</u>	<u>Feet</u>	<u>Miles</u>
Red	43,813	8.30
Yellow 1-3	79,613	15.08
Yellow 4-6	99,244	18.80
Yellow 7-9	64,665	12.25
Green	119,515	22.64



# Options for Road Reconstruction Financing

<b>Option 1</b> <b>\$750K/Year for 10 Years</b> <b>Total \$7.5M over 10 Years</b>	<b>Option 2</b> <b>\$500K/Year for 10 Years plus</b> <b>\$2.5M Bond Principal Payments</b> <i>(\$250K per year for 10 years)</i> <b>\$229K Interest (1.87%) over 10 Years</b>
<p style="text-align: center;"><b>Pros</b></p>	<p style="text-align: center;"><b>Pros</b></p>
<ul style="list-style-type: none"> <li>• No interest expense for Bond</li> </ul>	<ul style="list-style-type: none"> <li>• \$500K/year is close to current annual Road Reconstruction expense</li> </ul>
<ul style="list-style-type: none"> <li>• Majority Vote Required</li> </ul>	<ul style="list-style-type: none"> <li>• \$2.5M Bond buys down the risk of further road deterioration – accelerates Green status</li> </ul>
	<ul style="list-style-type: none"> <li>• Fixes the price of asphalt for most shim and overlay roads</li> </ul>
<p style="text-align: center;"><b>Cons</b></p>	<p style="text-align: center;"><b>Cons</b></p>
<ul style="list-style-type: none"> <li>• Candidate shim and overlay roads will continue to deteriorate until funds are available (some Y-3s, Y-6s, and some Y-9s)</li> </ul>	<ul style="list-style-type: none"> <li>• The \$229K expense for the total Bond interest</li> </ul>
<ul style="list-style-type: none"> <li>• Subject to market fluctuation in asphalt pricing and/or availability</li> </ul>	<ul style="list-style-type: none"> <li>• 3/5 Vote Required</li> </ul>

## Tax Impact for Road Reconstruction

Appropriation 2018	\$480,000			
Appropriation 2019*		\$650,000	\$750,000	\$850,000
State Funding	\$278,320	\$278,320	\$278,320	\$278,320
Current Town Funding by Taxation	\$201,680	\$201,680	\$201,680	\$201,680
Proposed Extra Town Funding by Taxation	\$0.00	\$170,000	\$270,000	\$370,000
<b>Tax Impact for Additional Road Reconstruction (per thousand at current tax rate)</b>	<b>\$0.00</b>	<b>\$0.19</b>	<b>\$0.31</b>	<b>\$0.43</b>
<b>Tax Dollar Impact for typical \$254,000 home</b>		<b>\$48.26</b>	<b>\$78.74</b>	<b>\$109.22</b>

\$480,000 - \$30,000 (crushing for dirt roads)\* - \$12,000 (calcium chloride for dirt roads)\* = **\$438,000**

*\*Recommend moving Crushing and Calcium Chloride for dirt roads to Operating Budget  
which equals \$0.05 per thousand*

Preservation of Green Road Status	\$30K	\$30K	\$30K	\$30K
Total Road Reconstruction	\$408,000	\$578,000	\$678,000	\$778,000
Total Cost divided by Funds per Year	\$7.6M/\$408K	\$7.6M/\$578K	\$7.6M/\$678K	\$7.6M/\$778K
<b>Number of years to complete Road Reconstruction</b>	<b>18.64 years</b>	<b>13.16 years</b>	<b>11.22 years</b>	<b>9.78 years</b>

# Example of Possible Priorities

Commuter Roads (Such as)
River Road
Reservoir Road
Mountain/Mountain School Road
South Sugar Hill Road
Flanders Memorial Road
Thorndike Road
Hodgdon Road
Quaker Road
Colby Road
Gould Road

Critical Roads (Such as)
Bogue Road
Lull Road
Wallingford Terrace
High Rock Road
Pine Hill Road
Etta Lane

Note - Paving contractor requires a minimum quantity of 1,000 tons of asphalt per day in order to receive the preferential paving cost (\$65/Ton)

## Recommendations

### Administrative

Current Road Reconstruction appropriation contains 2 Operating Budget expenses

- Crushing of Gravel for Dirt Roads (\$12,000) \$0.01 per thousand
- Calcium Chloride for Dirt Roads (\$30,000) \$0.04 per thousand

The establishment of an Expendable Trust Fund for Road Reconstruction

- Monies that were voted to be raised for Road Reconstruction by taxation will not revert back to the General Fund at year end.

### Budget Increase Recommendation for Road Reconstruction Budget

#### Option A

Raise \$750K

#### Option B

Raise \$500K plus 10 year Bond

**CLASS V - PAVED ROADS**

ROAD NAME	Section 1 (Feet)			Cost	Section 2 (Feet)			Cost	Section 3 (Feet)			Cost	Section 4 (Feet)			Cost	Total Distance (Feet)	Total Cost
	Distance	Status			Distance	Status			Distance	Status			Distance	Status				
ABBIE DRIVE	2950	Y	3	125,700												2950	\$ 125,700	
ABIJAH BRIDGEROAD	4940	Y	3	210,493	970	G										5910	\$ 210,493	
B AND B LANE	2052	G														2052	\$ -	
BALCH HILLROAD	790	R		33,662												790	\$ 33,662	
BARNARD HILL ROAD /RIVER ROAD	3383	Y	6	48,377												3383	\$ 48,377	
BARNARD HILLROAD RTE. 114 END	3076	Y	3	131,068	4687	Y	6	67,024								7763	\$ 198,092	
BART CLOUGHRoad	2985	Y	3	127,191												2985	\$ 127,191	
BARTLETT DRIVE	4280	R		182,371												4280	\$ 182,371	
BEAVER POND ROAD	2435	Y	9	34,821												2435	\$ 34,821	
BEECH HILL ROAD	3661	Y	9	52,352												3661	\$ 52,352	
BIRCHWOODDRIVE	870	Y	3	37,071												870	\$ 37,071	
BOG HILL ROAD	970	G														970	\$ -	
BOGUEROAD	6473	R		275,815												6473	\$ 275,815	
BOISVERT ROAD	1160	y	6	16,588												1160	\$ 16,588	
BOULDER HILL ROAD	1000	Y	6	14,300												1000	\$ 14,300	
BROWNRIDGEROAD	2153	Y	6	30,788												2153	\$ 30,788	
BUCKLEYROAD	2340	Y	3	99,707												2340	\$ 99,707	
BURNTHILLROAD	560	R		23,862												560	\$ 23,862	
BUZZELL HILLROAD	794	G														794	\$ -	
CARDING MILL ROAD	617	G														617	\$ -	
CAROLYN PLACE	340	Y	9	4,862												340	\$ 4,862	
CHEVY HILL ROAD	1132	R		48,235												1132	\$ 48,235	
CHUCK STREET	2743	Y	9	39,225												2743	\$ 39,225	
CLOUGH PARKROAD	6353	Y	9	90,848	5105	Y	6	73,002								11458	\$ 163,849	
COLBY ROAD	10431	Y	6	149,163												10431	\$ 149,163	
CORLISS DRIVE	513	G														513	\$ -	
CROSSROAD	1500	Y	6	21,450												1500	\$ 21,450	
DEERHAVENROAD	4440	G														4440	\$ -	
DEL'SWAY	1255	R		53,476												1255	\$ 53,476	
DEPOT STREET	675	R		28,762												675	\$ 28,762	
EASTRD	6131	G														6131	\$ -	
EASTMANWAY	1800	G														1800	\$ -	
ELANORWAY	3576	Y	9	51,137												3576	\$ 51,137	
ELM DRIVE	600	G														600	\$ -	
EMERYLANE	700	Y	3	29,827												700	\$ 29,827	
ETTALANE	2570	R		109,508												2570	\$ 109,508	
FESSENDEN LANE	1300	G														1300	\$ -	
FLANDERS MEMORIAL RD	6058	Y	3	258,131	5000	G										11058	\$ 258,131	
FOX HOLLOW DRIVE	2387	Y	9	34,134												2387	\$ 34,134	
GENERAL KNOX ROAD	1400	Y	9	20,020												1400	\$ 20,020	
GEORGE MOODYROAD	1160	G														1160	\$ -	
GOULD ROAD	5890	Y	9	84,227												5890	\$ 84,227	
GRANDVIEWDRIVE	3200	Y	6	45,760												3200	\$ 45,760	
GREENWOODROAD	1980	y	6	28,314												1980	\$ 28,314	
GUY'SLANE	2545	G														2545	\$ -	
HATFIELDROAD	2700	Y	3	115,047												2700	\$ 115,047	



**CLASS V - PAVED ROADS**

ROAD NAME	Section 1 (Feet)			Cost	Section 2 (Feet)			Cost	Section 3 (Feet)			Cost	Section 4 (Feet)			Cost	Total Distance (Feet)	Total Cost
	Distance	Status			Distance	Status			Distance	Status			Distance	Status				
HEMLOCK DRIVE	1187	Y	6	16,974												1187	\$ 16,974	
HIGH ROCK ROAD	4234	R		180,411												4234	\$ 180,411	
HIGH STREET	525	Y	3	22,370												525	\$ 22,370	
HILBREN RD	2185	G														2185	\$ -	
HILLCREST DRIVE	380	Y	6	5,434												380	\$ 5,434	
HODGDON ROAD	7470	Y	9	106,821												7470	\$ 106,821	
HOIT MILL ROAD	1981	Y	6	28,328												1981	\$ 28,328	
HOLLY HILL FARM ROAD	2980	G														2980	\$ -	
HUNTERS END	500	Y	9	7,150												500	\$ 7,150	
IRVING DRIVE	5942	R		253,189												5942	\$ 253,189	
JAMIE DRIVE	575	G														575	\$ -	
JENNIFER LANE	750	Y	6	10,725												750	\$ 10,725	
JOHN CONNOR ROAD	600	Y	9	8,580												600	\$ 8,580	
JOSEF DRIVE	384	Y	9	5,491												384	\$ 5,491	
KNOX ROAD	909	Y	6	12,999												909	\$ 12,999	
LAWRENCE ROAD	652	Y	6	9,324												652	\$ 9,324	
LORDEN LANE	790	Y	3	33,662												790	\$ 33,662	
LUFKIN ROAD	1400	G														1400	\$ -	
LULL ROAD	5400	R		230,094												5400	\$ 230,094	
LYNDESEY LANE	1785	Y	6	25,526												1785	\$ 25,526	
MAPLEWOLD ROAD	1230	Y	3	52,410												1230	\$ 52,410	
MARTIN ROAD	1200	Y	3	51,132												1200	\$ 51,132	
MARTIN ROAD	235	Y	3	10,013												235	\$ 10,013	
MERRILL ROAD	5893	G														5893	\$ -	
MOODY POND ROAD	300	Y	6	4,290												300	\$ 4,290	
MOUNTAIN ROAD	6918	G														6918	\$ -	
MOUNTAIN SCHOOL ROAD	4557	G														4557	\$ -	
MT DEARBORN ROAD	6700	G														6700	\$ -	
MT WILLIAM POND ROAD	820	G			4180	G										5000	\$ -	
NEWMAN WILSON ROAD	678	Y	6	9,695												678	\$ 9,695	
NORTH RIVERDALEROAD	1100	Y	6	15,730												1100	\$ 15,730	
OAK HILL ROAD	6072	Y	6	86,830												6072	\$ 86,830	
OAK RIDGEROAD	2536	R		108,059												2536	\$ 108,059	
OLD FRANCESTOWN ROAD	6700	G														6700	\$ -	
OLD TOWN ROAD	4800	Y	6	68,640												4800	\$ 68,640	
ORCHARD PATH ROAD	2150	Y	3	91,612												2150	\$ 91,612	
PAIGE HILL ROAD	318	Y	6	4,547												318	\$ 4,547	
PAIGE MEMORIAL LANE	245	Y	9	3,504												245	\$ 3,504	
PEASLEE HILL ROAD	2936	Y	3	125,103												2936	\$ 125,103	
PEASLEE ROAD	850	G														850	\$ -	
PERKINS POND ROAD	3360	G														3360	\$ -	
PHEASANT RUN	415	Y	9	5,935												415	\$ 5,935	
PINE HILL ROAD	5216	R		222,254	1200	Y	6	17,160	1545	Y	9	22,094				7961	\$ 261,507	
PONDVIEW ROAD	910	G														910	\$ -	
QUAKER STREET	8640	Y	9	123,552												8640	\$ 123,552	
RENSHAW ROAD	2645	Y	3	112,703												2645	\$ 112,703	

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ROAD NAME	Section 1 (Feet)			Cost	Section 2 (Feet)			Cost	Section 3 (Feet)			Cost	Section 4 (Feet)			Cost	Total Distance (Feet)	Total Cost
	Distance	Status			Distance	Status			Distance	Status			Distance	Status				
RESERVOIR DRIVE	5283	Y	3	225,109	11052	G			1766	Y	3	75,249				18101	\$ 300,358	
RIDGEVIEW ROAD	6127	Y	6	87,616												6127	\$ 87,616	
RIVER ROAD	2290	Y	9	32,747	6425	G			3720	Y	9	53,196	9719	G		22154	\$ 85,943	
RIVER ROAD (CONTINUED)	8700	Y	3	370,707	6725	Y	6	96,168	7109	Y	3	302,914				22534	\$ 769,789	
RIVERDALEROAD	824	G			900	Y	3	38,349								1724	\$ 38,349	
ROCKLAND ROAD	2247	Y	6	32,132												2247	\$ 32,132	
ROLLING HILL DRIVE	5020	G														5020	\$ -	
ROOSEVELT ROAD	2057	Y	3	87,649	1275	Y	9	18,233								3332	\$ 105,881	
ROSSDALE LANE	1245	Y	6	17,804												1245	\$ 17,804	
SALMEN ROAD	1400	Y	9	20,020												1400	\$ 20,020	
SHADY HILL ROAD	3722	Y	6	53,225												3722	\$ 53,225	
SHERWOOD FOREST ROAD	3423	Y	6	48,949												3423	\$ 48,949	
SHORT STREET	600	G														600	\$ -	
SOUTH SUGAR HILL ROAD	11140	Y	6	159,302												11140	\$ 159,302	
SUGAR HILL ROAD	3376	G														3376	\$ -	
SUNRISE LANE	890	G														890	\$ -	
THORNDIKE ROAD	3070	Y	6	43,901	7200	Y	9	102,960								10270	\$ 146,861	
TOBEY HILL ROAD	525	G														525	\$ -	
TRACIE LANE	1350	G														1350	\$ -	
TWIN BRIDGEROAD	3460	Y	3	147,431	2334	Y	6	33,376								5794	\$ 180,807	
UPPER CRANEY HILL RD	680	Y	3	28,975												680	\$ 28,975	
WALKER HILL ROAD	800	R		34,088	6182	Y	3	263,415								6982	\$ 297,503	
WALLINGFORD TERRACE	1950	R		83,090												1950	\$ 83,090	
WAYNE DRIVE	196	Y	9	2,803												196	\$ 2,803	
WEAVER PLACE	986	Y	3	42,013												986	\$ 42,013	
WINDSONG HEIGHTS	4160	Y	3	177,258												4160	\$ 177,258	
WINTERBERRY LANE	1287	G														1287	\$ -	
WOODBURY ROAD	2500	Y	6	35,750												2500	\$ 35,750	
WORTHLEY ROAD	1527	G														1527	\$ -	
																	\$7,603,081	