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PLEASE  
DO NOT REMOVE  
FROM THIS ROOM

SIXTH BIENNIAL REPORT  
 OF THE  
**State Highway Board**  
 OF THE  
**STATE OF VERMONT**  
 FOR THE TWO YEARS ENDING  
**JUNE 30, 1932**

Being the Seventeenth Biennial Report of  
 This Department



THE TUTTLE COMPANY  
 MARBLE CITY PRESS  
 PUBLISHERS VT. PUBLIC DOCUMENTS  
 RUTLAND, VERMONT.  
 1932

UNIVERSITY OF VERMONT AND  
 STATE AGRICULTURAL COLLEGE  
 JAMES P. TAYLOR MEMORIAL  
 PUBLIC AFFAIRS



PITTSFORD MILLS BRIDGE F. A. P. 109-C  
1931



WILLIAMSTOWN F. A. P. 129-B  
1931

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OF THE  
State Highway Board  
OF THE  
STATE OF VERMONT

FOR THE TWO YEARS ENDING

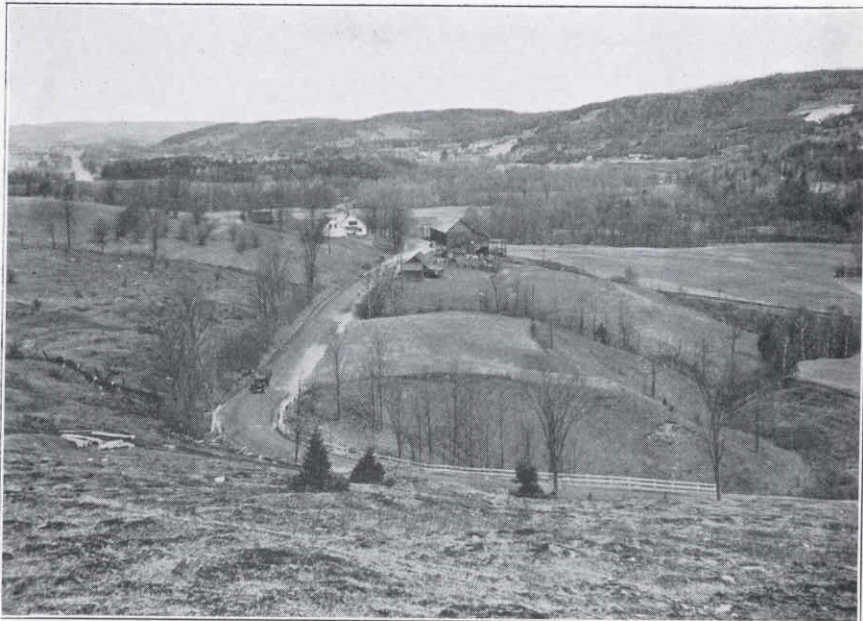
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1932





BEFORE CONSTRUCTION



AFTER CONSTRUCTION  
 RANDOLPH-BETHEL F. A. P. 67-B  
 6.1 Miles Bituminous Treated Gravel—1932

## Department of Highways

Office at Montpelier, Vermont

### STATE HIGHWAY BOARD

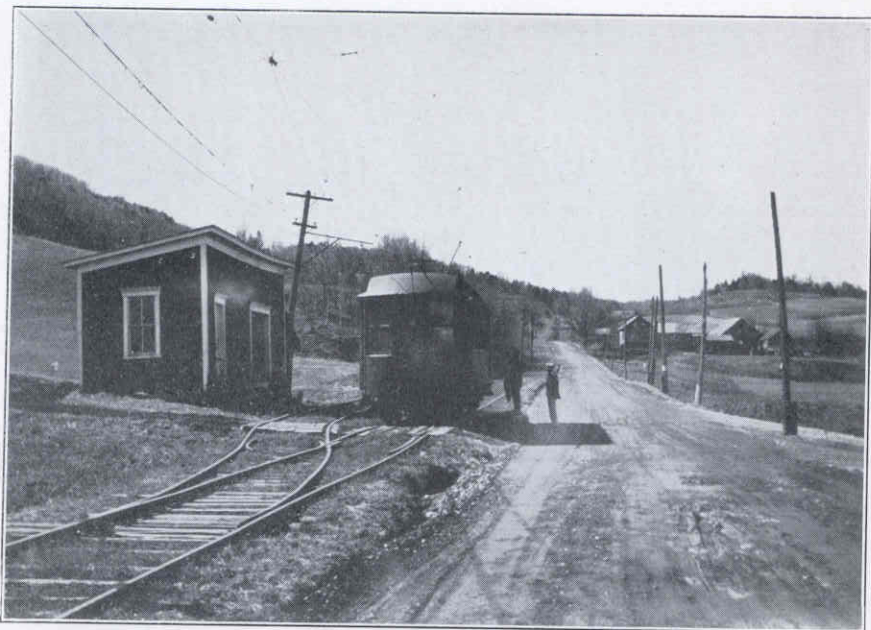
Geo. Z. Thompson, Chairman.....Proctor  
 Emery A. Melendy.....So. Londonderry  
 W. Arthur Simpson.....Lyndonville

### Commissioner of Highways and Chief Engineer

Hubert E. Sargent.....Montpelier  
 W. L. Carpenter.....Chief Clerk  
 A. J. Runnals.....Road Engineer  
 A. D. Bishop.....Bridge Engineer

### DISTRICT HIGHWAY COMMISSIONERS

George W. Plumb, Dist. No. 1.....Bennington  
 Paul M. Stevens, Dist. No. 2.....Brattleboro  
 Earl R. Welch, Dist. No. 3.....Rutland  
 Carl M. Lawrence, Dist. No. 4.....Ludlow  
 Oscar A. Harding, Dist. No. 5.....Woodstock  
 Willis N. Cady, Dist. No. 6.....Middlebury  
 Fred L. Dudley, Dist. No. 7.....Bradford  
 W. W. Workman, Dist. No. 8.....Essex Junction  
 H. W. Marsett, Dist. No. 9.....Montpelier  
 W. M. Gibson, Dist. No. 10.....St. Johnsbury  
 M. E. Carpenter, Dist. No. 11.....St. Albans  
 Adna B. Cobleigh, Dist. No. 12.....Newport



BEFORE CONSTRUCTION



AFTER CONSTRUCTION  
WATERBURY-STOWE F. A. P. 116-B  
9.7 Miles Concrete Pavement—1932

STATE OF VERMONT  
OFFICE OF DEPARTMENT OF HIGHWAYS

Montpelier, Vermont, July 1, 1932

*To the General Assembly:*

In accordance with the provisions of the Acts of 1921, No. 123, Sec. 7, we have the honor to submit the sixth Biennial Report of the State Highway Board.

GEO. Z. THOMPSON, Chairman  
EMERY A. MELENDY,  
W. ARTHUR SIMPSON.

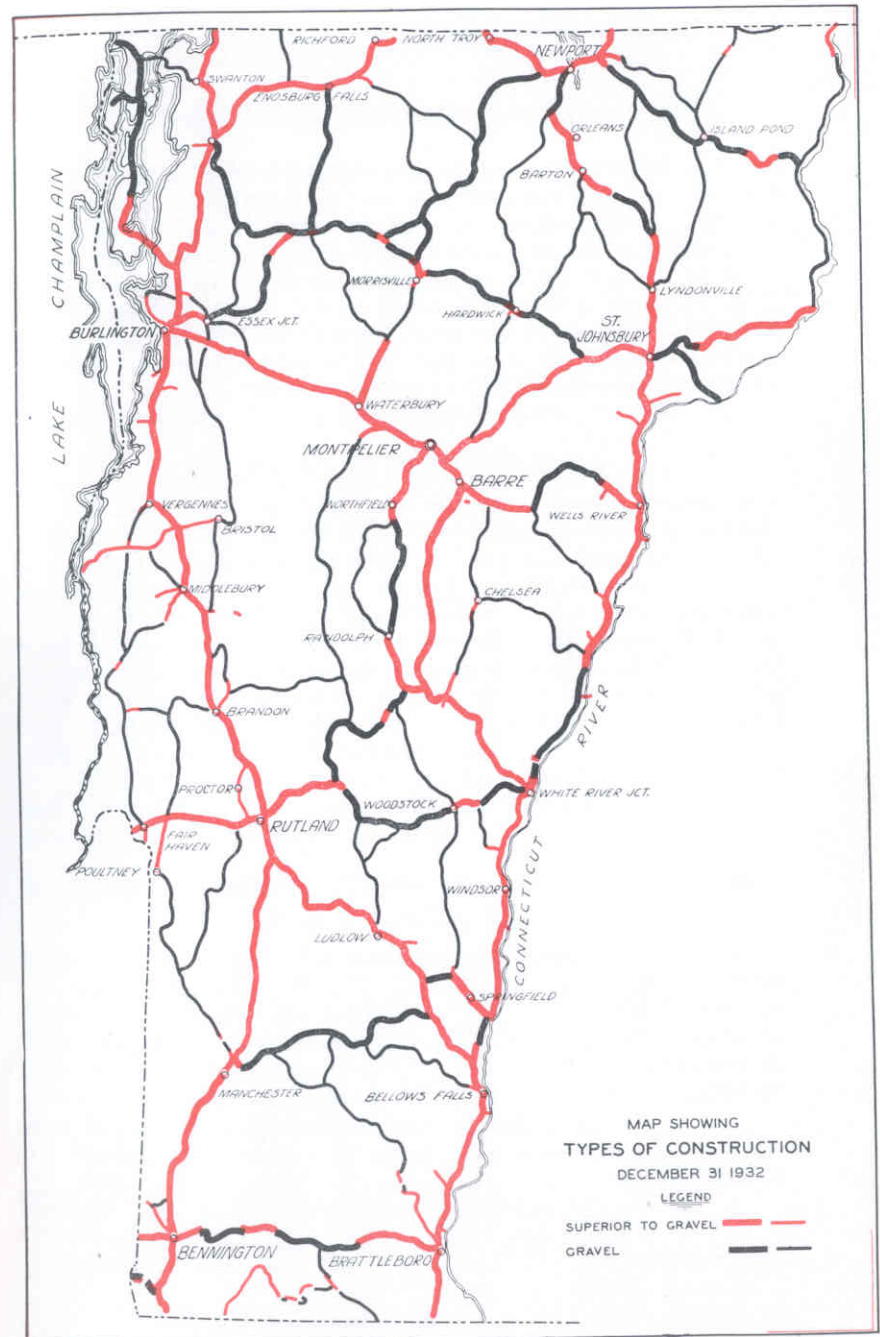


TYPES AND COSTS OF SUPERIOR TO GRAVEL ROADS  
All Flood Projects Omitted

	Concrete		Macadam		Bit. Treated Gravel	
	Ave. Cost per Mile	Surf. Cost per Mile	Ave. Cost per Mile	Surf. Cost per Mile	Ave. Cost per Mile	Surf. Cost per Mile
1918-1931	\$43,776.82	\$25,420.25	\$32,648.37	\$10,985.33	\$7,835.95	\$3,029.90
1931	33,346.24	19,231.42	28,891.17	8,190.35	9,837.75	3,603.39

SUMMARY OF MILEAGE OF HIGHWAYS BY TYPES OF SURFACE  
Mileage Totals to January 1, 1933

Types	State Highways	State Aid Highways	Town Highways	Total
Concrete.....	270.37	68.73	12.99	352.09
Macadam.....	111.94	26.74	15.80	154.48
Bituminous Treated Gravel.....	280.28	197.99	118.55	596.82
Granite Block.....		1.36	0.08	1.44
Wood Block.....		0.07	.....	0.07
Brick.....		0.20	0.11	0.31
Gravel.....	350.23	3,092.06	9,804.75	13,247.04
Total.....	1,012.82	3,387.15	9,952.28	14,352.25



## Highway Classifications and Revenues

Revenues for expenditures under supervision of the Department of Highways are appropriated by the General Assembly. This report covers the appropriation for the fiscal year ending June 30, 1931, which was made by the General Assembly of the State of Vermont in the Session of 1929, and the appropriation for the fiscal year ending June 30, 1932, which was made by the General Assembly in the session of 1931. During the greater part of the first year, the Department was administered in a manner similar to that of previous years, before the existence of a State Highway System.

### HIGHWAY SYSTEM DEFINED

On February 26, 1931, the State Highway System was authorized by Act No. 61 of the General Assembly. In accordance with this Act, 1,012.82 miles of State Aid Roads on the Federal Aid System were taken over as State Highways.

The State Aid System is a selection of the more important road mileage of the State (not including the State Highway System) "for the purpose of securing so far as possible trunk lines of improved highways from town to town and to the important railroad stations." (Sec. 4586 General Laws.) This system at present consists of 3,387.15 miles.

All highways not included in the State Highway System and State Aid Highways are defined as Town Roads. These at present comprise 9,952.28 miles.

### HIGHWAY APPROPRIATIONS FOR THE FISCAL YEAR Ending June 30, 1931

State Aid to Towns for permanent highway	
Construction .....	\$200,000 00
State Aid to Towns for bridges .....	100,000 00
State Aid to Towns for winter roads.....	75,000 00
Supervision and engineering .....	125,000 00
Work on unselected highways.....	300,000 00
Dust laying, patrol, maintenance, resurfacing, surface treatment and extra and special work .....	1,000,000 00
Federal Aid work under the provisions of Chapter 194 of the General Laws and for work on State Aid Highways.....	2,250,000 00
Total Appropriations.....	\$4,050,000 00

Additional Revenue received:	
5% Highway Tax .....	152,913 22
Miscellaneous receipts including Federal Aid .....	794,506 55
Excess Collected (above amounts appropriated) from motor vehicle fees and gas tax .....	138,693 01
	<hr/>
	\$5,136,112 78

## HIGHWAY APPROPRIATIONS FOR THE FISCAL YEAR

Ending June 30, 1932

Supervision and Engineering .....	\$175,000 00
Insurance .....	15,000 00
Signs and zoning .....	30,000 00
State Aid on unselected highways .....	500,000 00
Maintenance on State Aid Roads .....	625,000 00
State Aid to Towns for permanent highway construction .....	200,000 00
State Aid to Towns for bridges .....	150,000 00
Maintenance on State Roads .....	728,925 00
Federal Aid work under the provisions of Chapter 194 of the General Laws and for construction on State Roads and State Aid Roads .....	1,981,075 00
	<hr/>
Total Appropriations .....	\$4,405,000 00

Additional Revenue received:	
5% Highway Tax .....	154,058 41
Miscellaneous receipts:	
Federal Government .....	\$874,257 99
Towns for constructions ..	90,400 98
Corporations and individuals for construction .....	51,853 52
Towns for maintenance State Aid Road System .....	95,407 69
Towns for maintenance State Road System ....	157,767 75
	<hr/>
	1,269,687 93
Total .....	<hr/>
	\$5,828,746 34





BEFORE CONSTRUCTION



AFTER CONSTRUCTION  
 MARLBORO F. A. P. 63-B  
 2.8 Miles Bituminous Treated Gravel—1932

In connection with the above appropriations, the sum of \$1,000,000.00 from the appropriations for the fiscal years ending June 30, 1932 and June 30, 1933 was made available May 1, 1931 and May 1, 1932 respectively, in order to carry on construction early in the season.

The State Highway Tax Fund of 5% represents the income from a levy on towns and cities. This fund is reappropriated to the towns, cities and villages on the basis of total road mileage. With the passage of the State Income Tax Law in 1931, the 5% State Highway Tax was discontinued and is replaced by the appropriation of \$150,000.00 for the fiscal year ending June 30, 1933 from the proceeds of the Income Tax. This appropriation of \$150,000.00 is apportioned in the same manner as the original 5% State Highway Tax.

From the State Aid Road appropriation the State matches funds raised by the towns on a two to one basis. The amount available to any one town is limited to \$1,000.00 (G. L. Sec. 4591).

Funds available from this and the 5% Tax (or the \$150,000.00 Income Tax Fund) are treated as a joint fund and expended for improvement on State Aid Highways (G. L. Sec. 4594).

The State Aid Bridge appropriation is available for aid to towns in the building or rebuilding of bridges on State Aid Highways. The State pays two-thirds of the cost, the State's share not to exceed \$10,000.00 on any one bridge. (G. L. Sec. 4549 as amended.)

The Federal Aid and Construction Fund is for Federal Aid work under the provision of Chapter 194 of General Laws and for work on the State Highway System and on State Aid Highways.

Appropriations for supervision and engineering provide the necessary administrative funds for the Department of Highways.

The State Highway Maintenance Fund provides for patrol, resurfacing, retreatment, dust laying, winter maintenance and bridge repairs on the State Highway System.

The State Aid Maintenance Fund provides aid to towns and villages for patrol, resurfacing, retreatment, dust laying and winter maintenance on the State Aid Highways.

The appropriation for Town Roads is available for maintenance or improvement of these roads and is apportioned to the towns on the basis of their town highways mileage.



**Highway Appropriations for the Fiscal Year Ending June 30,  
1933 (to be obligated or expended during the current  
(1932) season).**

Supervision and Engineering .....	\$175,000 00
Insurance .....	15,000 00
Signs and zoning .....	30,000 00
State Aid on Unselected Highways .....	500,000 00
Maintenance on State Aid Roads .....	625,000 00
State Aid to towns for permanent highway construction .....	200,000 00
State Aid to towns for bridges .....	150,000 00
Maintenance on State Roads .....	728,925 00
Federal Aid work under the provision of Chap- ter 194 of the General Laws and for con- struction on State Roads and State Aid Roads .....	2,081,075 00
<b>Total appropriations .....</b>	<b>\$4,505,000 00</b>
Available from Income Tax (replacing 5% State Highway Tax) ....	150,000 00
Plus receipts from Federal Government, assess- ment of towns, miscellaneous receipts, etc.	

It should be noted that in accordance with the authoriza-  
tion of the 1931 Legislature \$278,906 25 interest payment on  
flood bonds is to be deducted from the construction fund speci-  
fied above.

#### U. S. GOVERNMENT EMERGENCY FUNDS

In December 1930 the Congress of the United States auth-  
orized an emergency advance of Federal Aid funds for con-  
struction on the Federal Aid system to assist in relieving un-  
employment. Vermont's allotment was \$400,000.00 and it  
was specified that expenditures should be completed before  
Sept. 1, 1931.

In July 1932 Congress again authorized an emergency  
advance of Federal Aid funds for the same purpose and Ver-  
mont's share was \$600,000.00. It is required that this fund  
be expended before July 1, 1933.

Provisions in the act specify that these advances be  
repaid without interest, from future Federal Aid apportion-  
ments. The first advance is to be repaid in 5 yearly deduc-  
tions of \$80,000.00 beginning in 1932 and the second advance  
is to be repaid in 10 yearly deductions beginning in 1938.

The present annual regular Federal Aid apportionment is \$609,000.00 or \$529,000.00, after deductions, for the fiscal year ending June 30, 1933.

#### ACCOUNT SYSTEM

In the Spring of 1932 the Accounting and Bookkeeping system of the Department was thoroughly investigated by Archie M. Peisch, Certified Public Accountant, of Archie M. Peisch & Company, whose recommendations were carried out, which included the installation of a perpetual card inventory system at the Highway Garage, and an accounting machine system at the Department Office.

#### THROUGH WAYS

As authorized by Act No. 68, 1931 General Assembly, State Highway Routes U. S. 2, U. S. 4, U. S. 5, U. S. 7 and the part of Vt. 14 leading from White River Junction to Barre, have been designated and marked as "Through Ways."

#### ALL HIGHWAYS MEASURED

Agreeable to Act No. 86, 1931 General Assembly, all highways of the State were measured by the Selectmen with the assistance of representatives of this Department. This measurement reduced the official road mileage of the State from 15,060.01 miles to 14,352.25 miles.

#### RECOMMENDATIONS

We believe that the appropriation for State Aid to Towns for permanent highway construction would be more equitably distributed if it were apportioned to the various towns according to their State Aid Road mileage rather than in a lump sum as at present and that Section 4591 of the General Laws should be amended accordingly.



BEFORE CONSTRUCTION



AFTER CONSTRUCTION  
MARSHFIELD-CABOT 27-L  
7.2 Miles Macadam Surface—1932



MAINTENANCE EXPENDITURES ON THE STATE HIGHWAY SYSTEM (1012.82 MILES)

(Calendar Year, 1931)

The figures which follow should not be taken as a final basis for determining State Highway System Maintenance costs, since they are the result of only one year's experience. Future years may bring material changes in the details of the work required and expenses per mile.

Bridge Repairs .....	\$29,104 80
Patrol Maintenance .....	279,013 17
Winter Maintenance .....	72,200 08
Extra and Special Maintenance..	33,235 95
Betterments .....	35,855 11
Dust-laying (Calcium Chloride)..	54,818 99
Resurfacing .....	107,977 15
Bituminous Surface Retreatment..	60,929 83
Macadam Surface Retreatment ..	4,939 99
Total .....	\$678,075 07

REPORT OF EXPLOSION

Although it did not occur during the period covered by this Biennial Report we wish to bring it to your attention that, on August 1, 1932 there was an explosion of the dynamite stored by the Highway Department near the State Garage in the Town of Berlin, causing damage to persons and property.

On August 2nd, Mr. George Z. Thompson, Chairman of the Highway Board, made a preliminary survey of the damage and a rough estimate of the major cases.

On August 3rd a meeting of the Emergency Board was called and on the information given by Mr. Thompson the following resolution was adopted:

RESOLUTION

"Whereas, on the evening of August 1, 1932, certain explosives stored by the State Highway Department on property in the town of Berlin exploded causing personal injuries and property damage, and

Whereas, by reason thereof we find and determine that such explosion has caused an unforeseen emergency that necessitates the expenditure of money to pay for such damage;

Therefore, Be it resolved that the sum of \$20,000, or so much thereof as may be necessary, is hereby appropriated for the purpose of paying for such damages to persons or property caused solely by reason of such explosion;

Be it Further Resolved, that the expenditures provided under provisions of this resolution shall be made under the direction of the Chairman of the Emergency Board."

The Governor, as Chairman of the Emergency Board, requested the Highway Board to assist in adjusting these claims and Emery A. Melendy was designated to represent the Highway Board in this matter.

Each claim was promptly investigated, and in most cases settlement made.

The cause of the explosion was investigated by A. G. Preble Deputy Fire Marshal, and Almo B. Franzoni, State Investigator. Their report discloses that a number of eye witnesses were found who saw a fire out-side of the storage house a number of minutes before the explosion occurred. Their conclusion was that the damage was caused by fire, but that the fire did not start from the inside, but might have started by some careless smoker, or the kindling of a small fire near the building on the outside.

The building destroyed was built in 1921 primarily for the storage of surplus war material made available to the State through the Bureau of Public Roads, and since then has been used for storage of explosives as a central station for distribution throughout the State.

We have decided not to rebuild. We now buy our dynamite in small quantities as needed, and store on the jobs.