REPORT

of a

SURVEY OF TRANSPORTATION

on the

STATE HIGHWAYS OF VERMONT

by

THE BUREAU OF PUBLIC ROADS
U. S. DEPARTMENT OF AGRICULTURE

and

THE VERMONT STATE HIGHWAY DEPARTMENT

1927

Foreword

THIS report contains the results of highway traffic studies of the Federal-aid, State-aid, and town road systems of Vermont conducted during 1926 under a cooperative research agreement between the Bureau of Public Roads, United States Department of Agriculture, and the Vermont State Highway Department.

The investigation was undertaken in order to obtain essential facts concerning traffic on Vermont highways as a basis for planning the development of the State highway system to serve present and future traffic.

The conclusions are based upon the present density, type, loading and distribution of traffic. These characteristics of the present traffic, as revealed by the survey, and modified by a study of present population and population trends, form the basis of a prediction of future traffic, and a traffic classification of the State highways; and the traffic classification, together with an analysis of other economic and physical factors, are the basis of the proposed plan of highway improvement.

The first section of the report contains a summary of principal conclusions, the second contains the detailed data of the survey and the third section the proposed plan of State highway improvement endorsed by the Vermont State Highway Department and the United States Bureau of Public Roads.

The highway traffic studies upon which the report is based were conducted under the joint supervision of Thos. H. MacDonald, Chief of the Bureau of Public Roads, and Charles W. Gates, George Z. Thompson, Emery A. Melendy, and W. A. Simpson appointed to succeed Charles W. Gates in 1927, members of the Vermont Highway Board, and Stoddard B. Bates, Commissioner of Highways. J. Gordon McKay, Chief of the Division of Highway Economics, Bureau of Public Roads, directed the work of the survey and preparation of the report, assisted by O. M. Elvehjem, E. T. Stein, L. E. Peabody and B. P. Root, all of the Division of Highway Economics, and Hubert E. Sargent, Vermont State Highway Engineer.

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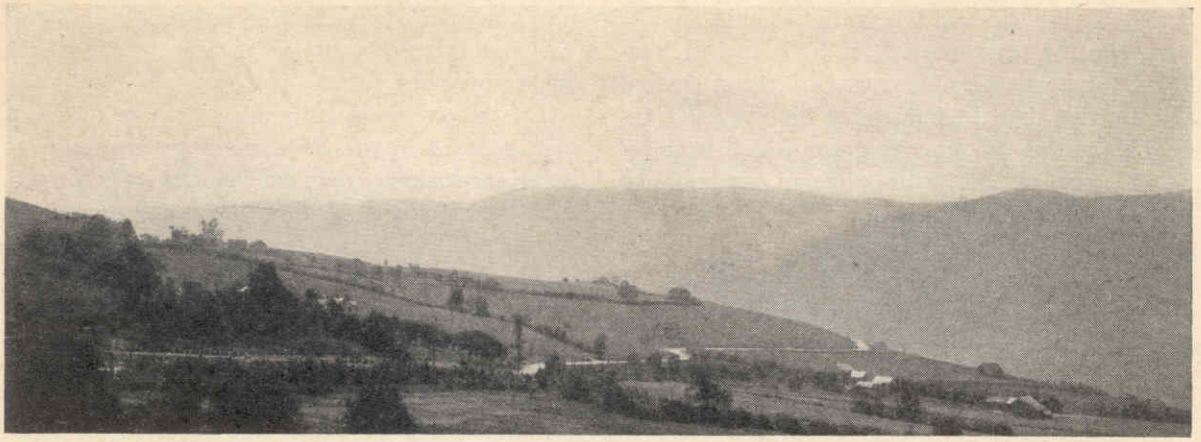


VERMONT HIGHWAY TRANSPORTATION SURVEY

THE State Highway Department of Vermont was established in 1898 to act in an advisory capacity to the towns. In 1906 the principle of State aid was adopted and the State Highway Department was authorized to assume the supervision of the construction and maintenance of the main thoroughfares upon which State funds were expended in conjunction with funds of the towns.

From 1906 to 1923 the State-aid system was improved almost exclusively with gravel surfaces. Only 45 miles of surfaces superior to gravel were constructed during this period. Between 1923 and 1926, besides adding to the mileage of gravel roads, the surfaces of this type on the more heavily traveled routes have been surface-treated, and 36 miles of surfaces superior to gravel have been constructed.

The rapid increase in traffic on the principal highways during the past few years has materially increased the cost of maintaining gravel surfaces on these routes; and in 1925 the maintenance of roads and bridges accounted for approximately 53 per cent of the total expenditure on the State-aid system.

The principal highway problems now confronting the State are the construction of surfaces superior to gravel on the principal routes, replacing the present gravel sections upon which maintenance has become too expensive; the construction of adequate bridges on these routes to replace the remaining old, inferior structures; the establishment of a primary highway system, including the principal routes, for which the State will accept the full responsibility of financing, construction, and maintenance; and the establishment of a secondary system of highways, including routes supplementary to the primary system to be developed under the control of the State on the State-aid principle in cooperation with the towns.

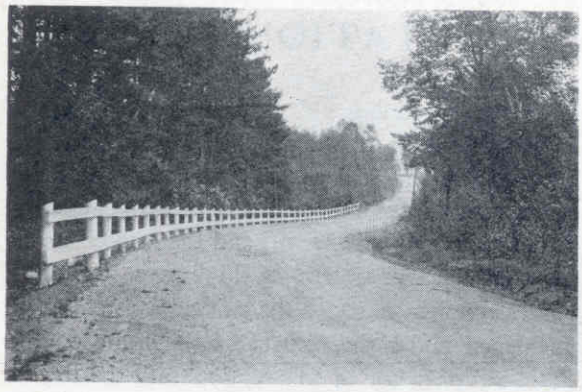
Recognizing the need for a definite program of higway improvement in accordance with the present and expected future traffic importance of the various sections of State highways, the Vermont Highway Board entered into an agreement with the United States Bureau of Public Roads to conduct a cooperative survey of transportation on the highways of the State during the period from July 16 to October 15, 1926.

The Results of the Survey

The results of the survey show that during the five-year period from 1927 to 1931 the State should construct 275 miles of surfaces superior to gravel on the principal routes, and that during the next five-year period—from 1931 to 1936—approximately 278 miles of the Federal-aid system and 80 miles on routes not included in the Federal-aid system will require similar improvement. The improvement of these 633 miles of the State-aid system with surfaces superior to

gravel during the next ten years will substantially complete the improvement of highways in Vermont for a considerable period of years, since it is estimated that the mileage of highways not included in the ten-year program which will require improvement with surfaces superior to gravel during the years immediately following 1936 will be comparatively small.

The State-aid system includes 30.6 per cent of the total mileage of rural roads, yet in 1926 it carried 87.2 per cent of the total traffic; and the town roads, which constitute 69.4 per cent of the total mileage, carried only 12.8 per cent of the total traffic on all rural roads.



The River Road between Farley and Bradford—a gravel road constructed with Federal aid

The principal routes of the State-aid system constitute the Federal-aid system and the survey clearly shows that the routes of this system are the most important in the State. Although there are included in it only 1,043 miles, approximately 7 per cent of the total road mileage, it carried in 1926 approximately one-half of the total rural traffic. Approximately 30 per cent of this most important system carried in excess of 800 vehicles daily in 1926, almost one-half of its mileage served between 400 and 600 vehicles a day, and less than a fourth of the system carried less than 400 vehicles a day. The average for the entire Federal-aid system was 702 vehicles a day as compared with an average traffic of 19 vehicles a day on the town road system.

In the State-aid system there are 4,462 miles, of which 1,968 miles constituting the more important sections have been numbered; and the 1,043 miles of the Federal-aid system is a part of this numbered system—as previously stated, the most important part.

Of the 925 miles of numbered State-aid roads not included in the Federal-aid system, only 10 miles carried more than 800 vehicles daily in 1926, and three-fourths of this 925 miles carried an average daily traffic of less than 400 vehicles.

The largest volume of traffic—both passenger cars and motor trucks—was found on the main "through" routes, the most important of which are U. S. Routes 2, 4, 5 and 7, all included in the Federal-aid system. These routes connect the larger cities of the State and their heavy traffic is due to this fact.

On the basis of the traffic carried by the roads, the State has been divided into six sections designated, in accordance with their approximate location, as the northwest and central, the southwestern, the southeastern, the north-central, the south-central, and the northeastern sections.

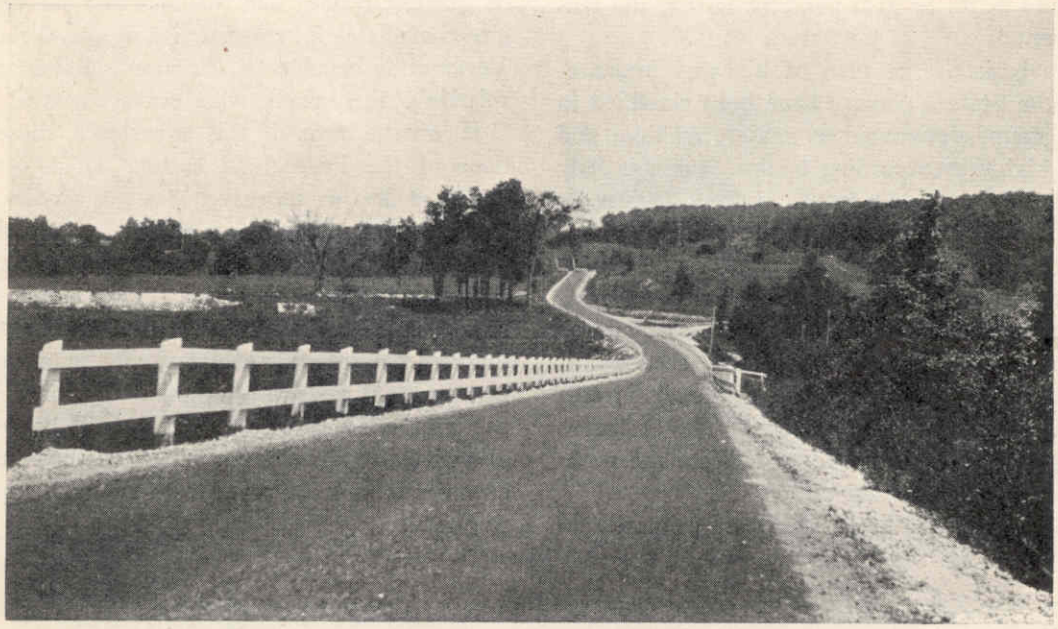
Of these sections the northwest and central has the heaviest highway traffic and it has, likewise, the greatest density of population. Its population, more than half of which resides in 8.7 per cent of its area, is slowly increasing. A large volume of traffic may be expected on the principal routes connecting centers of population in this area, and they should be correspondingly improved. But, even in this area of heaviest traffic the need for highway service on the unnumbered State-aid and town roads and other minor roads is small and will so remain for a considerable period of years.

The southwestern section ranks first in traffic on the Federal-aid system, second in traffic on the State-aid system and third in population. Its population decreased slightly between 1910 and 1920, but has increased in the more important cities and villages. The principal routes of this section will require additional improvement to meet future requirements. Traffic on the minor routes will remain small.

The southeastern section ranks second in population density and is increasing in population more rapidly than any other section of the State. Its highway requirements are similar to those of the northwest and central and the southwestern sections.

The north-central section is primarily an agricultural region, with a comparatively uniform distribution of population and traffic compared with the other sections of the State. Foreign traffic is not of great importance in this area and highway requirements are primarily the improvement of medium and minor traffic routes.

part of the highway mileage, motor trucks form a minor part of the total traffic, and the construction of surfaces to serve passenger car traffic will in most cases be adequate for motor truck traffic. On the Federal-aid system in 1926 only 22 miles carried 100 or more trucks per day and 241 miles, 50 or more.



U. S. Route No. 7, between Wallingford and Clarendon. This section was improved as Federal-aid project No. 75A

The south-central section, comprising the Green Mountain area, has a small volume of highway traffic and a small and decreasing population. The principal routes connecting with the other sections of the State will carry a traffic of medium volume, while the traffic on other routes in the area will remain very small.

The northeastern section is a relatively undeveloped area of small and decreasing population and small expectancy of future traffic importance.

Foreign traffic forms an important part of the total on Vermont highways, comprising 35.6 per cent of the traffic on the Federal-aid and numbered State-aid highways. Of the 1,043 miles of the Federal-aid system, 114 miles carried foreign passenger-car traffic in excess of 500 vehicles daily, 513 miles between 200 and 500 and 416 miles less than 200.

With the exception of a comparatively small

The survey shows that approximately nine-tenths of the traffic using the Federal-aid and numbered State-aid roads was city traffic and only the remaining one-tenth was farm traffic. The demand for improvement and maintenance of the principal routes of the State is, therefore, primarily the result of the use of rural highways by city motor vehicle owners.

The Forecast of Future Traffic

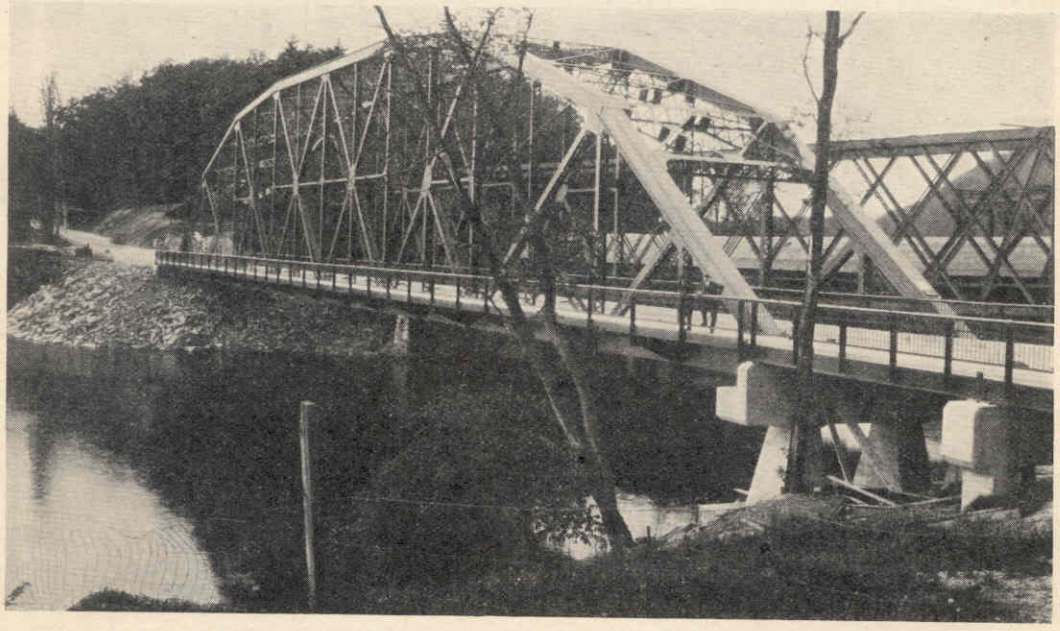
The density of traffic on the various sections of the State-aid system has been used as the basis for an estimate of traffic on the same sections in 1931 and 1936, applying for this purpose the relation between the increase in traffic on the highways and the ratio of population to motor vehicle registration observed in other States. In 1926 there was one motor vehicle for each 4.7 persons in Vermont. Extending the past trend of this

ratio to 1936 it is estimated that there will then be one vehicle for each 2.7 persons. As the yearly increase in motor vehicle traffic on the highways has been found to be practically in direct proportion to the growth of motor vehicle registration, it may therefore be expected that traffic on the State highways will increase 39.8 per cent between 1926 and 1931 and 24.5 per cent between 1931 and 1936, or 74.0 per cent during the ten-year period.

As a basis of the plan of highway improvement, the State highways have been classified in three groups designated as major, medium and minor highways according to their average daily present and expected future traffic. Routes or sections of routes carrying 1,500 or more motor vehicles daily are classed as major routes; those carrying from 800 to 1,500 vehicles daily as medium routes; and those carrying less than 800 as minor routes. The routes and sections of routes are classified on the basis of the 1926 traffic and the estimated traffic in 1931. The estimated traffic in 1936 is employed to indicate the probable classification in that year.

The above traffic limits are based primarily on experience and present practices in Vermont. The upper traffic limit of the minor classification is higher than is commonly accepted in many States but is in accordance with Vermont traffic conditions, particularly the very limited use of trucks of over 2½ tons capacity and the resulting absence of heavy wheel loads, the fact that the observed traffic represents traffic during the season of greatest traffic; and the fact that the type of gravel available for construction of gravel roads in Vermont is capable of carrying satisfactorily a relatively dense traffic when surface treated.

If, on the basis of this experience, those sections of the Federal-aid system which carry a traffic of 800 or more vehicles per day be considered as requiring a type of surface superior to gravel, it is found that approximately one-third of the 1,043 miles of this system, or 335.5 miles, will require such surfaces between 1926 and 1931, and that 278.5 miles will require similar improvement between 1931 and 1936, a total of 614 miles, or 60 per cent of the system, that should be so improved by 1936. Of this mileage approximately 60 miles is now improved with surfaces superior to gravel.



A Federal-aid bridge at Brattleboro

EARLY ROADS AND THE DEVELOPMENT OF STATE AID

IN THE settlement of Vermont, the early hunters and traders found traces and trails that had been used by the Indians for many years before the coming of Champlain and other explorers. These early ways were well defined and followed the waterways in many cases. In the western part of the State they paralleled Lake Champlain for more than a hundred miles and Otter Creek for its entire length. The northern and southwestern trails were located on the fairly level land between Lake Champlain on the west and the Green Mountains on the east. The cross-over trails and early roads connecting the eastern and western parts of the State usually followed a stream part of the way and then crossed the mountains through low gaps or notches, as shown on the earliest available road map, Figure 1, which represents the routes of travel in 1796.

Many of the highways were improved in the first half of the nineteenth century by private turnpike companies and operated as toll roads and Figure 2 shows the roads that had been thus improved by private initiative in 1853. Most of these toll roads, however, were poorly maintained and eventually, on this account, were returned to the jurisdiction of the towns, which ever since have been wholly or partly responsible for all road construction and maintenance in the State.

State Aid and Supervision

In 1892 the General Assembly passed an Act which, in addition to provisions for the election of road commissioners in each town and the collection of town taxes in money instead of labor, provided that a portion of the expense of maintaining the highways be raised by a general five-cent State tax to be expended as State aid to the towns. This was the first legislation providing for State participation in highway improvement and established the principle of State aid in the improvement of Vermont highways. The General Assembly, at the same time, authorized the appointment of a Commission to make an examination of the highway system of the State and to make recommendations to the legislature.

This commission during the next two years inspected several hundred miles of roads to ascertain their condition, held public hearings, and accummulated information from the road com-

One of the old tollgates as it appeared in 1912. This road was the last of the old toll roads to revert to public control

missioners concerning the condition of the roads, the nature of the soil, the availability of road materials, and the machinery and road equipment owned by the towns. It found that the working of the highways previously had been confined mainly to plowing and scraping the soil at the sides of the highway into the roadways, and roughly shaping it, and that little attention had been paid to the proper selection of material, so that a large amount of worthless, and in some cases harmful material had been used in the roadbed.

It reported that during the ten years prior to 1892 approximately four million dollars, exclusive of expenditures for bridges, had been expended on the roads by the towns, and that very little durable improvement had resulted.

The results of this investigation were the basis of the highway law of 1894, which required that the five-cent State tax should be used only for improvements of a more or less permanent character on the main roads, and that the town road commissioners should make a detailed report of the expenditure of this fund to the State Highway

FIG. 1.—*The earliest available road map of Vermont, showing the routes of travel in* 1796

Commission. It was also provided that town taxes voted for highway purposes should not be used for any other purpose than the construction and improvement of highways.

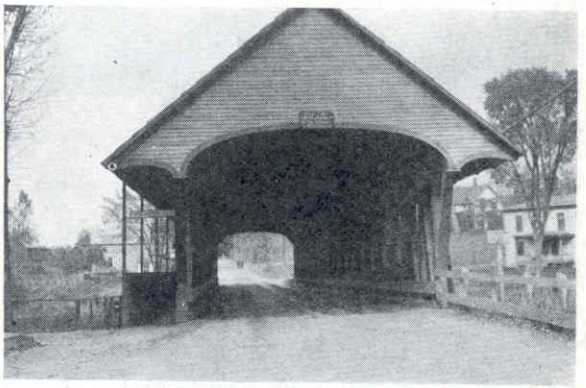
The act of 1898, creating the office of Highway Commissioner, was the first step toward control of the highways by a central State agency. The new Highway Commissioner was responsible, through the town commissioners, for the supervision of the expenditure of all money appropriated by the State for permanent highway improvement, and was to notify each town of the amount of money to which it was entitled under the State-aid apportionment for the year. He was required to issue instructions to the town road commissioners, defining the character of improvements that would be considered permanent, and to give advice as to the best methods of construction, the most advisable surfacing materials, the proper methods of drainage, and construction of culverts, and to make such other suggestions as would aid the town road commissioners in properly expending the State funds for permanent road improvement.

Realizing the necessity of identifying motor vehicles and licensing operators, the State legislature, in 1904, fixed the fees for the registration and driver's license at $2.00 each; but annual registration was not required until 1908.

No other important changes were made in the highway laws until 1906, when the extent of State supervision and the powers of the State Highway Commissioner were increased. The legislature then provided for the appointment of county commissioners under the complete control of the State Highway Commissioner, and, in addition to the regular five-cent tax, appropriated $50,000 annually to be available in sums of not less than $100 or more than $300 to those towns that duplicated this amount.

In 1908 the annual appropriation was increased to $75,000; the law also providing that all funds received from the registration of motor vehicles and the licensing of operators, above the cost of administering the motor vehicle bureau, should be set apart as a separate fund to be called the maintenance fund and to be used in the repair and maintenance of main thoroughfares under the direction of the State Highway Commissioner. The establishment of the maintenance fund enabled the Highway Commissioner to inaugurate a plan of systematic maintenance of State roads.

The legislation of 1912 provided for the establishment of patrol maintenance on all or a part of the State-aid system, the patrolmen to be employed by the State, and an equitable part of the town highway tax to be expended together with money furnished by the State for the purpose of maintaining the selected highways. Under the provisions of this act ten patrol routes were established, embracing 70 miles of State-aid highways, in 1913.



A covered 2-way wooden bridge over the Passumpsic River near St. Johnsbury

In 1914 the number of patrol maintenance routes were increased to 44, covering 286 miles, and the mileage thus provided for gradually increased, until in 1925 there were 2,232 miles of State-aid highways under patrol maintenance.

The legislation of 1915, by authorizing the appropriation of an annual bridge fund of $15,000, made it possible for the State Highway Commissioner to correlate the bridge work on the State highways with the improvement of the highways. Under this law, towns building or rebuilding bridges on State roads were entitled to the services of a State engineer, and 25 per cent of the cost of construction, with a limit of $300 for bridges from 4 to 30 feet in span. The Highway Commissioner was given full control of the expenditure of the bridge fund.

The law of 1906, which provided for the appointment of county highway commissioners, was amended by the Act of 1917, which provided for the division of the State into highway districts and the appointment of district highway commissioners as representatives of the State highway

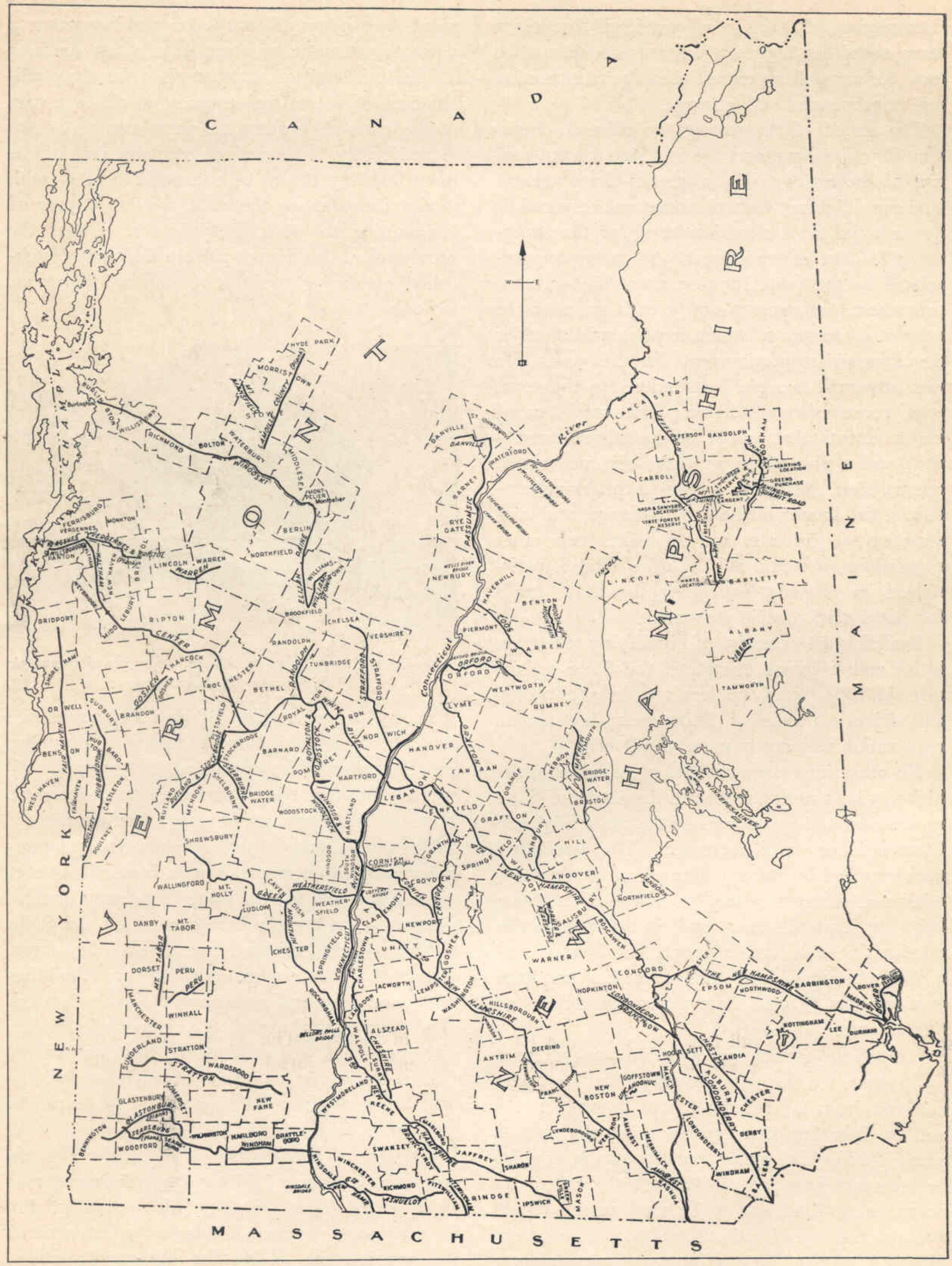
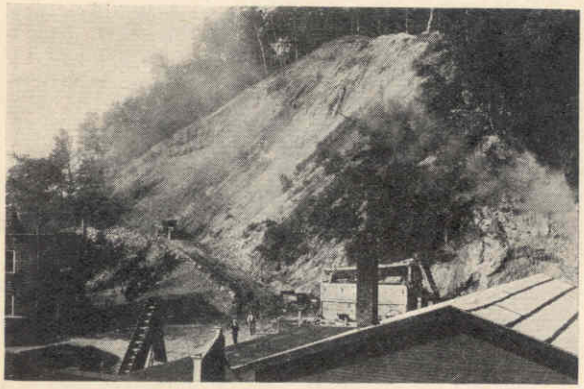


FIG. 2.—*The turnpikes of Vermont and New Hampshire in 1853*

department to supervise State-aid work. Under this law the State was divided into eleven districts, and the same number of district commissioners were appointed.

The Federal-aid Act, approved by Congress July 11, 1916, was accepted by the legislature in 1917, and full power was given the State Highway Commissioner to take advantage of the benefits provided thereby. The Commissioner was authorized to use as much as might be necessary of the available funds to secure aid from the Federal Government, and to designate the roads to be improved, constructed, or reconstructed under the provision of the Federal Aid Act.

The weight limit of motor vehicles was fixed in 1919 at 12,500 pounds, including the weight of the vehicle and load; and this limit was increased in 1925 to 16,000 pounds.

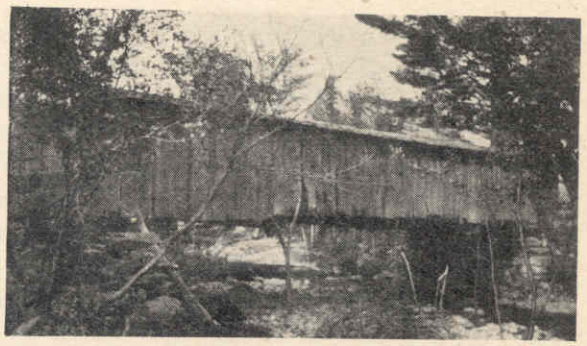


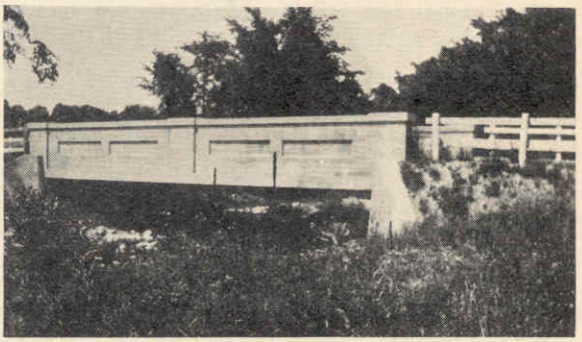
The gravel bank from which material was taken for the construction of Federal-aid Project No. 91A, near Hartford

State Highway Board Created in 1921

The year 1921 was marked by important changes in the highway laws, the most important of which was the creation of the State Highway Board consisting of three members, two appointed by the Governor, with the Governor as chairman. Under this law a Commissioner of Highways was appointed by the Highway Board.

The general duties of the State Highway Board were to manage and supervise the public highway system of the State and, through a State Commissioner of Highways, to control and direct the use and expenditure of all money available for use of the Board appropriated by the State or apportioned to towns or incorporated villages for constructive highway improvements. The duties of the Board were to assist the town road commissioners in the discharge of their duties by furnishing plans, specifications, and advice,





An old bridge on Route 103—Chester to Bellows Falls—and the new Federal-aid structure that replaced it

and offering such other services as might be necessary to secure the best results from the expenditure of State funds in the construction and improvement of the highways and bridges of the State. The State Highway Board under this Act appointed the Commissioner of Highways, the chief executive officer and secretary of the Board, whose chief duties were to recommend such action as would best further the development of the State Highway System. The highway Act of 1923 changed the law of 1921 by providing for a Highway Board of three members, all appointed by the Governor for six-year terms, and providing also for the annual appointment of the Commissioner of Highways by the Board.

A gasoline tax of one cent per gallon, authorized by the General Assembly of 1923, was increased to two cents in 1925 and to three cents in 1927. The receipts from this fund are expended for highway purposes.

A special State tax of seven and one-half cents on the grand list[1] was authorized in 1927 for highway and bridge improvement.

The powers of the State highway department have been gradually increased from those of a purely advisory agency in 1898 to complete supervision of the expenditure of all State highway funds at present. Authority has gradually been centralized in the State Highway Board and Commissioner, although the town is still the unit of government, and construction and maintenance of roads is still conducted on the State-aid principle.

There are two principal classes of roads in the State—State-aid and town roads. The State-aid roads are the most important highways in each town. Their aggregate length is approximately 4,462 miles, including the 1,043 miles of the Federal-aid system. The roads constituting the latter system and 925 miles additional have been numbered by the highway department, and the remainder, approximately 2,494 miles of the State-aid roads, remain in the unnumbered classification. The location of the Federal-aid system, the numbered State-aid routes, and the unnumbered State-aid roads, and the present improvements on these roads are shown in Figure 3. All other highways are known as town roads, and these are of the least importance both as to the volume of traffic and the amount of State funds expended for their improvement and maintenance. The mileage of town roads is approximately 10,120 miles.

The jurisdiction of the State Highway Board and Commissioner over town roads is limited to the supervision of improvements involving the annual State appropriation of $250,000.[2]

[1] The grand list represents one per cent of the assessed valuation of real and personal property.

[2] Increased to $300,000 in 1927.

HIGHWAY REVENUES AND EXPENDITURES

REVENUES for expenditure under the supervision of the State highway department are appropriated by the General Assembly. The appropriations for the fiscal year 1925 are shown in Table 1.

Table 1—Highway appropriations, fiscal year 1925

Fund	Appropriation
State highway tax	$144,476.37
State-aid road appropriation	200,000.00
State-aid bridge appropriation	75,000.00
Appropriation to meet Federal aid	400,000.00
Supervision and engineering	100,000.00
Maintenance, dust-laying, etc	1,075,000.00
Total available for State-aid roads	$1,994,476.37
Appropriation for town roads	250,000.00
Total appropriation	$2,244,476.37

The State highway tax fund represents income from a levy on the grand lists of towns and cities. This fund is apportioned to the towns, cities, and villages on the basis of road mileage. The State-aid appropriation is used to match funds raised by the towns. Funds available from these two appropriations are expended for improvement of the State-aid highways.

The State-aid bridge appropriation is available for aid to towns in the building or rebuilding of bridges on the State-aid highways.

The appropriation to meet Federal aid provides funds as required under the Federal-aid Act and its use is limited to construction on the Federal-aid highway system.

Appropriations for supervision and engineering provide the necessary administrative funds for the State highway department; and the maintenance and dust-laying funds provide for ordinary and special maintenance, resurfacing, surface treatment, and dust laying, on the State-aid highway system.

The appropriation for town roads is apportioned to the towns on the basis of the town road mileage in each and is available for maintenance or improvement of these roads.

Revenues for highway purposes in the State have increased regularly for a considerable period of years but the funds and appropriation methods have remained quite uniform. Special appropria-

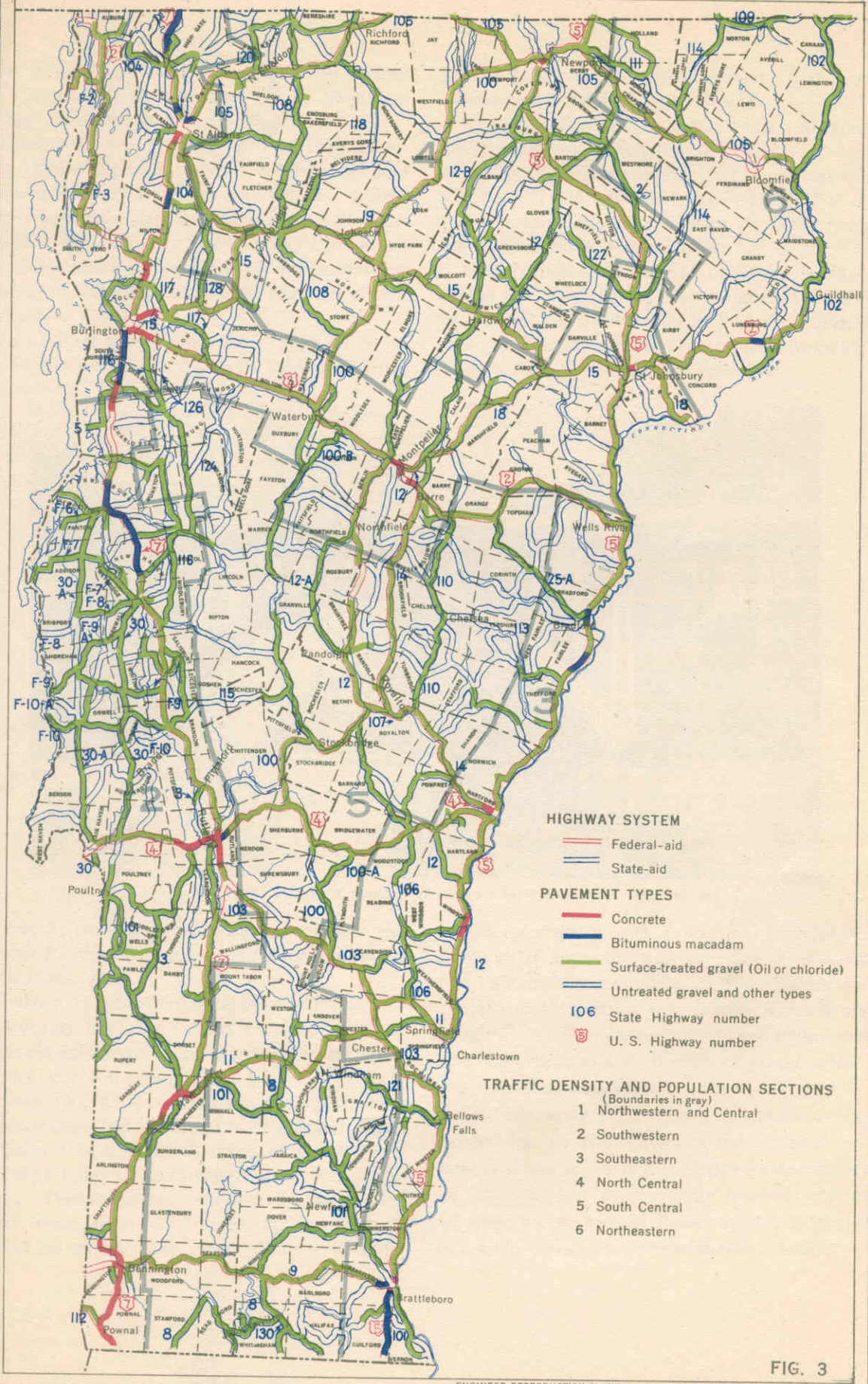


FIG. 3

ENGINEER REPRODUCTION PLANT, U. S. ARMY, WASHINGTON, D. C. 6999 1927

FEDERAL-AID AND STATE-AID HIGHWAYS, SHOWING TYPES OF IMPROVEMENT DEC. 31, 1926

tions are made for the elimination of toll bridges and for special projects, such as the Sand Bar Bridge and Smugglers Notch Road.

During the period from 1916 to 1925, inclusive, State expenditures for construction and maintenance on the State-aid highway system were approximately $10,828,000. Of this amount, approximately one-half has been spent for maintenance and one-half for permanent improvement. The expenditures by years are shown in Table 2.

In addition to expenditures of State funds on the State-aid roads, as shown in Table 2, approximately $1,100,000 of State funds have been expended for the maintenance and improvement of town roads.

During the period 1907 to 1925 inclusive, improvements have been made on 2,730 miles of State-aid highways. The construction by types in each year is shown in Table 3.

From 1907 to 1915, inclusive, these permanent improvements consisted of 175.11 miles of gravel on telford base, 1,246.08 miles of other gravel and 8.71 miles of macadam, a total of 1,429.90 miles. During the ten-year period from 1916 to 1926, there were constructed 152.82 miles of gravel on telford base, 1,074.78 miles of other gravel, 57.18 miles of macadam and 15.50 miles of concrete, a total of 1,273.28 miles.

The expenditure of State funds in constructing the 1,273.28 miles between 1916 and 1925 was $5,050,334.65. Expenditures by towns, cities and villages and expenditures from Federal-aid allotments toward the improvement of these roads were approximately $4,262,000.

Construction with Federal aid began in 1918, and at the close of 1925 approximately 130 miles of Federal-aid construction had been completed. The total cost of this construction including bridges was approximately $4,200,000.

The Westminster Bridge, a modern structure constructed with Federal aid

The construction with Federal aid includes the building of approximately 40 miles of concrete and bituminous macadam roads. Federal-aid projects under contract July 1, 1926, included approximately 26.5 miles of concrete and bituminous macadam surfaces and 16 miles of gravel surfacing, as well as 12 bridges.

The increasing proportion of State funds expended for the maintenance of the State-aid system, as shown in Table 2, indicates the desirability of improving the more heavily traveled sections of these routes with surfaces superior to gravel to avoid excessive future maintenance costs.

Table 2—Expenditures of State highways funds, on State-aid roads, 1916 to 1925[1]

Year	Maintenance		Permanent[2] improvements other than Federal-aid	Federal-aid[3] improvements	Improvements under bridge fund	Total expenditures
	Amount	Per cent of total				
1916	$212,232.94	36.1	$361,852.09	.....	$13,953.85	$588,038.88
1917	211,568.53	42.5	271,405.18	.....	14,596.78	497,570.49
1918	262,527.43	46.2	282,535.72	$5,119.74	17,533.76	567,716.65
1919	397,077.83	59.1	238,939.61	13,495.41	22,530.37	672,043.22
1920	513,378.94	54.8	318,089.75	76,831.57	28,670.24	936,970.50
1921	490,910.30	37.2	333,280.20	431,610.16	62,056.93	1,317,857.59
1922	452,647.69	47.0	331,797.56	131,465.68	47,647.48	963,558.41
1923	645,801.75	51.2	329,192.08	248,980.02	37,012.20	1,260,986.05
1924	1,142,147.30	55.9	388,029.65	472,736.50	40,199.93	2,043,113.38
1925	1,059,880.42	53.5	334,765.58	480,208.15	105,216.49	1,980,070.64
Total	$5,388,173.13	49.8	$3,189,887.42	$1,860,447.23	$389,418.03	$10,827,925.81

[1] Does not include expenditures for projects under special appropriations.

[2] Permanent improvements as defined by the Vermont Highway Department include primarily the correction of alignment, foundation, grading and drainage.

[3] Includes expenditure of State funds for projects completed during the year.

Table 3—Permanent improvements on the State-aid highway system, 1907 to 1925

Year	Gravel on telford base	Gravel	Macadam	Concrete	Total
	Miles	Miles	Miles	Miles	Miles
1907	.....	99.44	.....	.....	99.44
1908	.....	118.49	.....	.....	118.49
1909	28.54	103.75	.....	.....	132.29
1910	24.58	123.90	.....	.....	148.48
1911	20.98	161.20	.....	.....	182.18
1912	24.84	148.22	2.18	.....	175.24
1913	28.93	166.00	.46	.....	195.39
1914	23.40	163.55	1.93	.....	188.88
1915	23.84	161.53	4.14	.....	189.51
1916	19.72	135.38	2.55	.....	157.65
1917	18.17	95.16	2.23	.....	115.56
1918	10.35	88.27	.38	.....	99.00
1919	14.70	71.97	.67	.....	87.34
1920	13.35	80.47	4.94	1.40	100.16
1921	11.23	134.92	14.45	2.10	162.70
1922	9.99	117.51	8.00	.....	135.50
1923	14.88	117.74	9.69	.....	142.31
1924	21.18	136.25	5.94	7.30	170.67
1925	19.25	97.11	8.33	4.70	129.39
Total	327.93	2,320.86	65.89	15.50	2,730.18

ORGANIZATION OF THE STATE HIGHWAY DEPARTMENT

As a functioning organization the State highway department has been in existence since 1898 when the office of State highway commissioner was created. It has gradually been enlarged and its control and supervision over highway construction and maintenance have been extended.

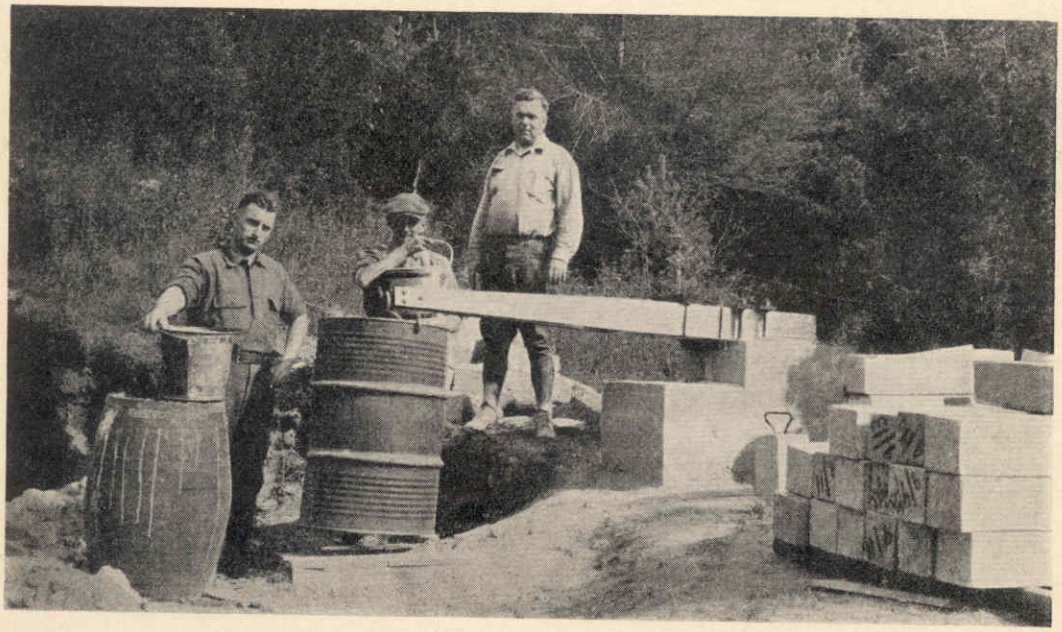
At the present time the State highway department is organized under the State highway board with the commissioner of highways as executive officer of the board. Under the commissioner of highways, the work of the department is subdivided into four parts as shown in Figure 4. In charge of each of these are, respectively, the chief engineer, 12 district highway commissioners, a chief clerk, and an assistant in charge of machinery.

The chief engineer has supervision of all Federal-aid construction and all bridge construction. He has three principal assistants: A bridge engineer, who prepares all surveys and plans for bridges; an office engineer, who prepares all plans, specifications, contracts and records for Federal-aid road construction; and a materials engineer, who inspects and tests materials and supplies used in construction by the department.

There are 12 district highway commissioners who are assistants to the commissioner of highways in their respective districts. They have immediate charge of all Federal and State-aid construction and all State maintenance work in their respective districts. They employ and supervise the patrolmen and special foremen on State maintenance and cooperate with the town road commissioners and selectmen.

The chief clerk has charge of administration under the commissioner of highways, including correspondence, accounting, and records.

The assistant in charge of machinery has charge of the State highway garage, all State-owned trucks and equipment for State construction and maintenance.



Testing specimens of concrete in the field as a means of controlling the strength of concrete pavements

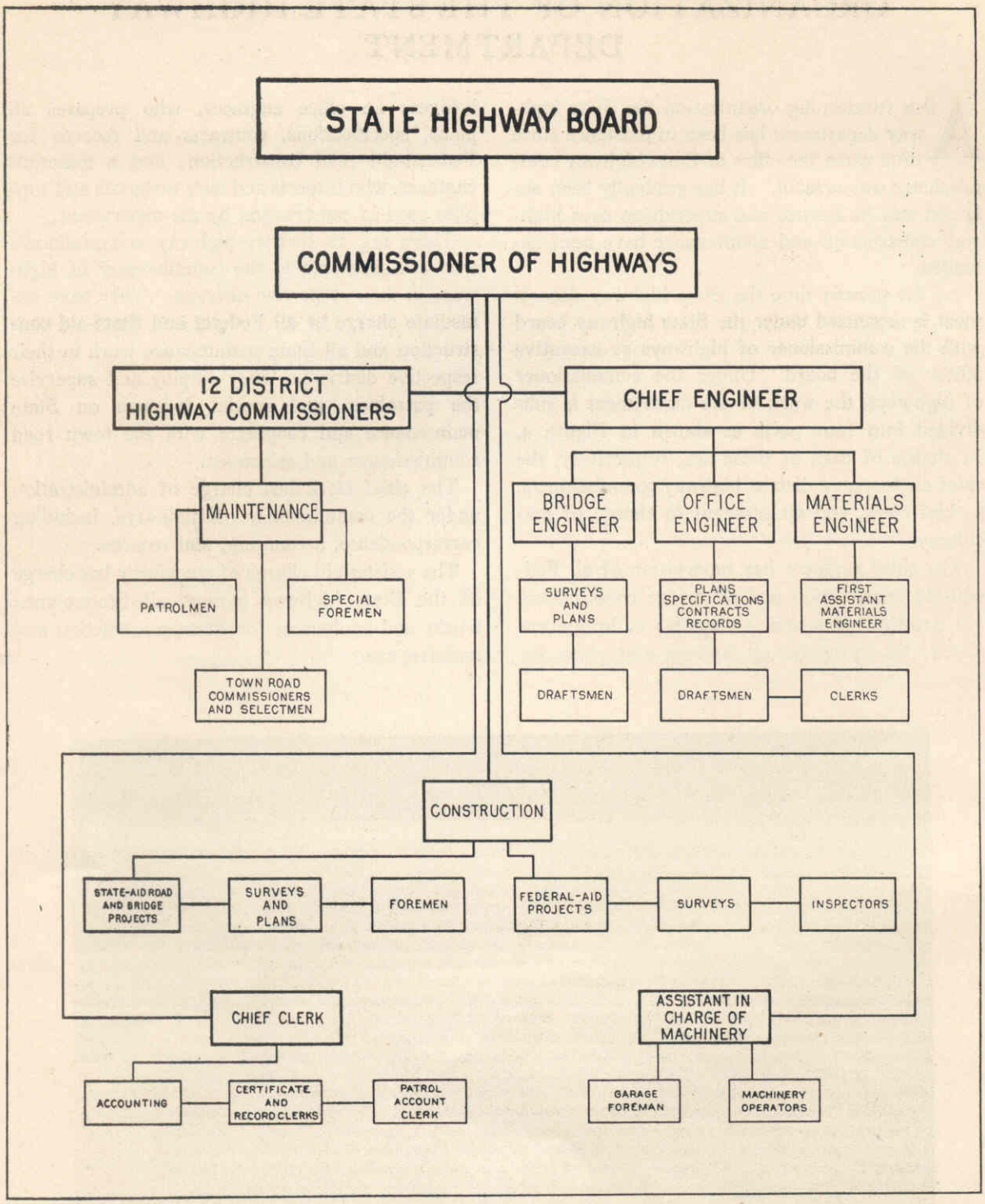


FIG. 4.—*Chart of the organization of the State Highway Department of Vermont*

THE TRANSPORTATION SURVEY

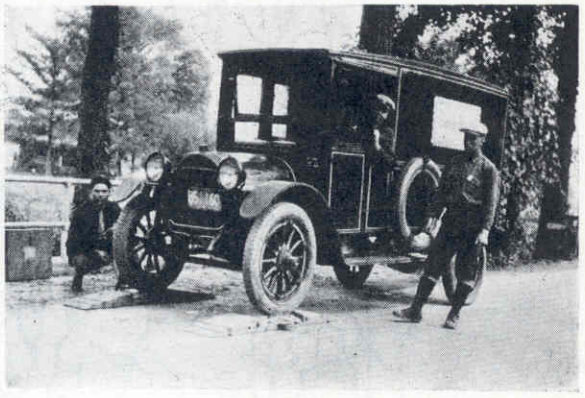
DEMANDS for highway service have been increasing rapidly in all States during the past two decades and Vermont is no exception. Its registered motor vehicles have increased from less than 6,000 in 1913 to 74,063 in 1926; and in the latter year there was one motor vehicle for each 4.76 persons. The public business of providing highway service for these fast-multiplying vehicles, through the development of highway systems, has become an industry of the first rank. Successful management of this public industry is fundamentally similar to the management of private business, requiring (1) sound analysis of the demand for the product, (2) efficient production methods, and (3) proper financing.

The development and improvement of a State highway system to meet traffic demands within the normal limitations of funds, and materials available, and labor supply requires careful planning over a period of several years. Plans must be made at the present time to meet future traffic demands, and improvements must be made so as to provide adequate service throughout the life of the improvement.

The demand for highway service can be measured only by an accurate and comprehensive study of the present traffic, its volume and type, upon which the prediction of future traffic must be based. To supply the highway executive with such evidence of the density and other characteristics of present and expected future traffic is the fundamental purpose of a highway transportation survey. Such was the purpose of the Vermont survey.

To meet this purpose the following specific information has been provided:

1. The relative traffic importance of the highway systems of the State as a basis for determination of the need for their improvement and the distribution of highway funds among the systems.
2. Classification of highway routes and sections of routes on the basis of the volume and characteristics of present and expected future traffic, involving (a) average, maximum, and future total traffic and truck traffic, (b) present and future number of small, medium, and large-capacity trucks, (c) present and expected future maximum loading and frequency of heavy gross loads and wheel loads, and (d) present and expected future special traffic movements.
3. Establishment of a plan of highway improvement for a period of several years.



A bakery truck mounts the scales

Methods of the Survey

The highway traffic survey cooperatively conducted by the Bureau of Public Roads, U. S. Department of Agriculture, and the Vermont Highway Department was begun on July 16, 1926, and continued for a period of three months.

During this period traffic data were recorded on two days each month at 149 points on the Vermont highways, as shown in Figure 5. Each operation consisted of a 10-hour observation period alternating between 6 a. m. to 4 p. m. and 10 a. m. to 8 p. m. Special observers tabulated traffic between 8 p. m. and 6 a. m. Complete 24-hour observations were also made to serve as the basis of a computation of hourly variation in traffic and of average daily traffic; and finally, traffic observations for one-week periods were also made at selected stations to determine variations in traffic by days of the week.

The data obtained at each of the observation points included counts of passenger cars, motor trucks, motor busses, horse-drawn vehicles and vehicles carrying foreign (extra-State) registra-

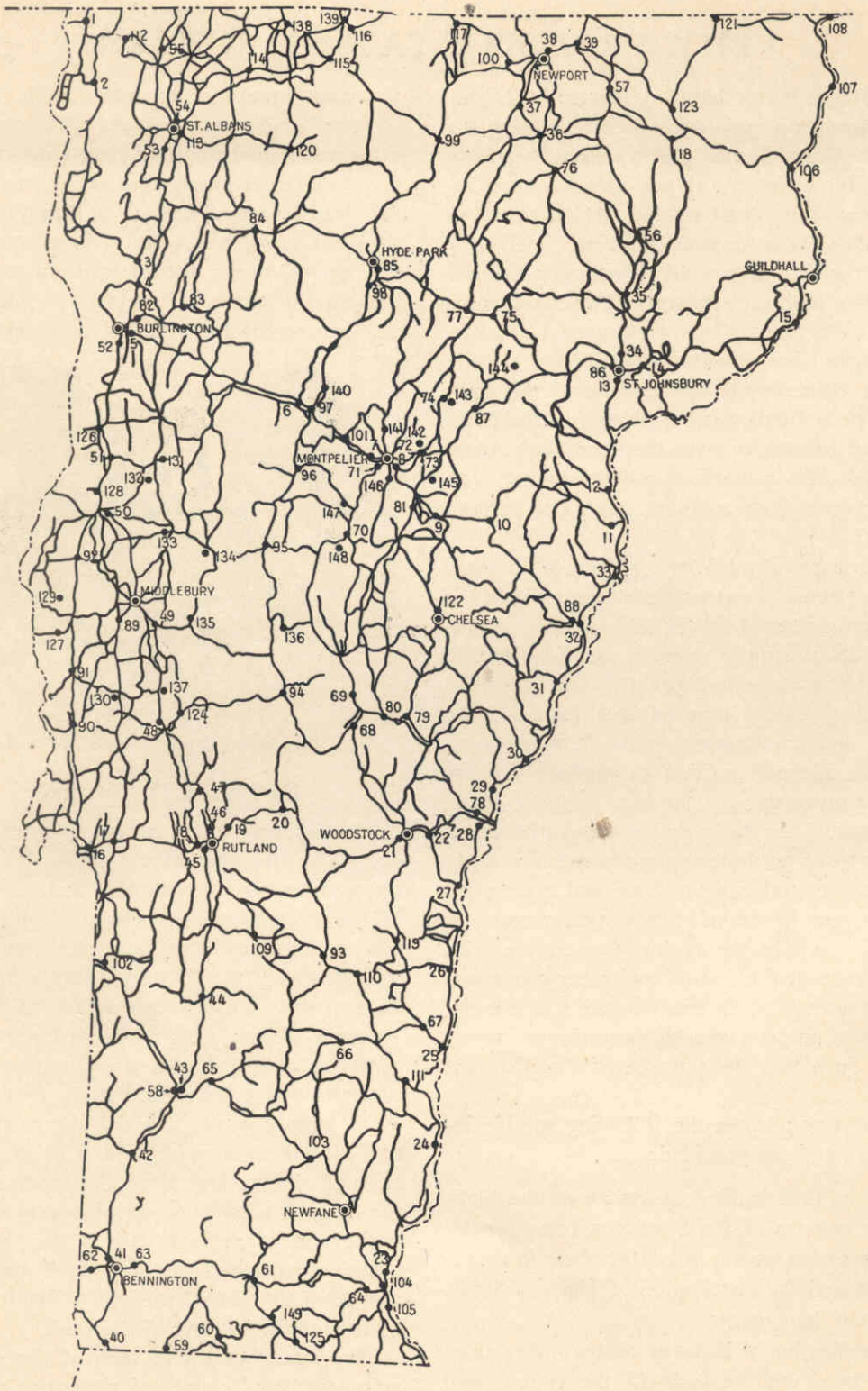


FIG. 5.—*Map showing stations at which traffic data were recorded*

tion tags. Detailed motor truck and passenger car data were also recorded at each station, the former including the capacity of the truck, State of registration, place of ownership, origin and destination of trip, type of origin and destination, commodity carried, and tire equipment. Gross and rear-axle weights of trucks were also measured by means of portable scales. Passenger car data included State of registration, place of ownership, purpose of trip, origin, destinations, and number of passengers.

Traffic was observed on all sections of the more important traffic routes, including practically all the numbered routes and many other State-aid roads and on representative sections of the town roads. Stations were located so as to enable close observation of variations in traffic on the several routes and sections of routes.

DENSITY OF HIGHWAY TRAFFIC

THERE are 14,900 miles of highway in Vermont, of which 14,582 miles are open to public travel. Of this mileage 4,462 miles have been selected as the more important highways in each town and are known as State-aid roads, the remaining 10,120 miles being town roads.

Of the 4,462 miles of State-aid roads 1,968 miles have been numbered and marked by the State highway department. These include the more important of the State-aid roads; and the Federal-aid highway system of 1,043 miles includes the more important of the numbered routes.

This classification of Vermont highways is used throughout this report and the several classes are referred to invariably by the following names:

Federal-aid system—1,043 miles[3]

Numbered State-aid routes (including all numbered State-aid routes other than the Federal-aid routes)—925 miles

Unnumbered State-aid routes (including all State-aid roads which have not been numbered by the State highway department)—2,494 miles

Town roads—10,120 miles

The location of the Federal-aid, numbered State-aid, and unnumbered State-aid routes, and the present improvements on these routes are shown in Figure 3.

Upon the 14,582 miles of highway it is estimated that there was an average daily motor-vehicle movement during the period of the survey of 1,516,000 vehicle-miles.[4]

[3] The Federal-aid system is 7 per cent of the certified mileage of 14,900 miles.

[4] In this report certain terms, frequently used, have invariably the same meaning. These terms and their definitions are as follows:

Vehicles refers only to motor vehicles (passenger cars and trucks), exclusive of horse-drawn conveyances.

Traffic is defined as the movement to and fro of vehicles over a highway.

Density of traffic is defined as the number of motor vehicles passing any given point on a highway in a unit of time. For example, on Route U. S. 2 between Montpelier and Barre the average daily density of traffic was 2,576 vehicles, which means that during an average 24-hour period 2,576 vehicles passed any given point on this two miles of highway. Unless a different unit of time is specifically stated, density of traffic refers to the number of vehicles passing any given point on the highway during a day of 24 hours.

The accuracy of the determination of density of traffic is influenced by the distance between the survey stations. Exactness of method would require a density record for each point on the highway system where traffic varies. The cost involved in proportion to the relatively small gain in accuracy does not justify location of traffic observation points at close intervals. The density computed for each station on the Vermont highway system is applied to the short sections of highway reasonably adjacent to each station on which there is but little variation in traffic.

In discussions of the utilization of the highway system, where it is desired to discriminate between the use of the highway by vehicles and the volume of traffic, the term *vehicle-miles per mile* is used in the former connection. Numerically, *vehicle-miles per mile* are equivalent to density of traffic.

Daily refers to a day of 24 hours.

Average daily refers to an average day during the period of the survey (July 16 to October 15, 1926).

Vehicle-mile is defined as the movement of a motor vehicle one mile.

Average daily vehicle-miles on the highway system are calculated by multiplying the average daily density of traffic on each section of highway by the length of the section in miles and adding the products.

Ton-mile is defined as the movement of a ton one mile.

Net tonnage refers to the net weight of the motor truck cargo.

Gross tonnage or *gross load* refers to the weight of the loaded motor truck-cargo and vehicle.

Foreign traffic or vehicles refers to vehicles having other than Vermont license tags. Foreign vehicle-miles are calculated by applying the percentage of foreign vehicles at each station to the total vehicle-miles on the sections of highway adjacent to each station and adding to obtain the total foreign vehicle-miles. Similar procedure is used in calculation of farm and city, business and non-business, touring traffic, and trucking for hire.

The State roads, comprising 30.6 per cent of the total highway mileage, carried 87.2 per cent of this total traffic; and the town roads, embracing 69.4 per cent of the total mileage, carried only 12.8 per cent of the total traffic. The traffic on the State-aid roads averages over fifteen times that on the town roads; on the Federal-aid system the traffic is more than double that on the numbered State-aid routes, and more than five times that on the unnumbered State-aid roads; and the traffic on the numbered State-aid routes is more than double that on the unnumbered State-aid roads.

Federal-aid Project No. 13, near Addison, a bituminous macadam road

The variation on individual sections of these routes is even greater. On the Federal-aid system, traffic varies from 2,673 vehicles daily on the section of heaviest traffic to approximately 100 vehicles on the least important sections. On the numbered State-aid routes, other than Federal-aid, and on the unnumbered State-aid routes, traffic of over 1,000 vehicles daily was observed only on very short sections immediately adjacent to the larger centers of population. The minimum traffic observed on the numbered routes was 33 vehicles; on the unnumbered roads several sections were observed which carried less than 10 vehicles per day. On the town roads a considerable number of roads observed carry less than 5 vehicles per day, and very few were observed to carry over 100 vehicles per day. The comparatively small mileage of town roads carrying over 100 vehicles per day is found in the immediate vicinity of villages. There is a considerable mileage of town roads which, although officially public roads, are unopened and carry no traffic.

Highway traffic is almost exclusively motor vehicle traffic. The density of horse-drawn vehicle traffic was recorded at all stations but was in all cases so small as to warrant no consideration in highway planning. Motor vehicle traffic is predominantly passenger car traffic; motor truck traffic is not an important factor except on the more heavily traveled routes and is considered separately in a subsequent section. Motor bus traffic is increasing in importance on several routes, but is a specialized movement and is there-

A marker erected by the State on Federal-aid Project No. 9

Table 5—Average daily traffic in 1926 and estimated traffic in 1931 on the U. S. Routes

Highway and section	Length of section	Average daily motor vehicle traffic	
		1926	1931
U. S. Route 2:	Miles		
Rouses Point to Grand Isle	23.3	362	510
Grand Isle to Jct. with U. S. Route 7[1]	14.5	802	1,100
Burlington to Jct. with State-aid Route 116	1.0	1,751	2,400
Jct. with State-aid Route 116 to Waterbury	21.0	1,108	1,500
Waterbury to Montpelier	11.6	1,709	2,400
Montpelier to Barre	2.1	2,576	3,600
Barre to E. Barre	2.2	906	1,300
E. Barre to Orange	2.0	654	910
Orange to Wells River[1]	25.2	327	460
St. Johnsbury to Jct. with State-aid Route 18	1.9	1,205	1,700
Jct. with State-aid Route 18 to Lancaster	21.8	518	720
U. S. Route 4:			
New York line to Fair Haven	1.6	1,330	1,900
Fair Haven to West Rutland	10.4	1,302	1,800
West Rutland to Rutland	2.0	2,648	3,700
Rutland to Mendon	2.4	1,109	1,600
Mendon to Jct. with State-aid Route 100	6.4	541	760
Jct. with State-aid Route 100 to W. Bridgewater	6.1	432	600
W. Bridgewater to Bridgewater	5.7	450	630
Bridgewater to White River Jct	19.8	727	1,000
U. S. Route 5:			
Massachusetts line to Brattleboro	8.0	1,203	1,700
Brattleboro to Jct. with State-aid Route 9	2.1	1,492	2,100
Jct. with State-aid Route 9 to Putney	7.2	1,101	1,500
Putney to Bellows Falls[2]	13.6	898	1,300
Jct. with State-aid Route 11 to Ascutneyville	10.7	567	790
Ascutneyville to Windsor	4.7	1,148	1,600
Windsor to White River Jct	14.6	946	1,300
White River Jct. to Jct. with road to Lewiston	4.7	671	940
Jct. with road to Lewiston to Norwich	0.8	495	690
Norwich to Pompanoosuc	5.4	594	830
Pompanoosuc to Fairlee	13.6	536	750
Fairlee to Barnet Station	32.3	622	870
Barnet Station to St. Johnsbury	9.0	1,046	1,400
St. Johnsbury to Lyndonville	7.1	1,557	2,200
Lyndonville to Jct. with State-aid Route 114	1.4	1,124	1,600
Jct. with State-aid Route 114 to W. Burke	7.8	822	1,100
West Burke to Barton	13.4	400	560
Barton to Jct. with State-aid Route 12B	11.9	513	720
Jct. with State-aid Route 12B to Newport	6.3	597	840
Newport to Derby Line	8.0	1,171	1,600
U. S. Route 7:			
Massachusetts line to Pownal	2.6	1,645	2,300
Pownal to Bennington	7.0	1,316	1,800
Bennington to Jct. to N. Bennington	0.7	2,294	3,200
Jct. to N. Bennington to S. Shaftsbury	3.5	1,134	1,600
S. Shaftsbury to Manchester Center	16.5	901	1,300
Manchester Center to Wallingford	23.7	748	1,000
Wallingford to Jct. with State-aid Route 103	4.8	800	1,100
Jct. with State-aid Route 103 to Rutland	3.8	1,016	1,400

Table 5—Average daily traffic in 1926 and estimated traffic in 1931 on the U. S. Routes—Continued

Highway and section	Length of section	Average daily motor vehicle traffic	
		1926	1931
	Miles		
Rutland to Jct. to E. Pittsford	0.7	1,659	2,300
Jct. to E. Pittsford to Brandon	12.8	1,362	1,900
Brandon to Jct. with town road, N	1.0	976	1,400
Jct. with town road, N. to Salisbury	6.0	849	1,200
Salisbury to Jct. near East Middlebury	6.6	710	1,000
Jct. near East Middlebury to Middlebury	3.6	877	1,200
Middlebury to Jct. S. E. of Vergennes	11.0	497	700
Jct. S. E. of Vergennes to Vergennes	0.3	477	670
Vergennes to Charlotte	9.2	644	900
Charlotte to Burlington	9.5	1,339	1,900
Winooski to Jct. with State-aid Route 117	3.7	1,548	2,200
Jct. with State-aid Route 117 to Jct. with U. S. Route 2	3.2	1,478	2,100
Jct. with U. S. Route 2 to St. Albans	16.6	808	1,100
St. Albans to Jct. with State-aid Route 105	0.2	1,755	2,500
Jct. with State-aid Route 105 to Swanton	7.1	1,277	1,800
Swanton to Canadian line	8.4	632	880

[1] U. S. Route 2 laps U. S. Route 7 from Old Chimney to Burlington, and U. S. Route 5 from Wells River to St. Johnsbury.

[2] The section between Bellows Falls and the Junction with State-aid Route 11 is not constructed; traffic follows an improved road in New Hampshire.

on routes immediately adjacent to the larger cities and villages is apparent in Figure 6. The principal through routes are also evident as main highways traversing the entire State. The most important of these are the routes adopted for uniform marking by the Vermont highway department and the American Association of State Highway Officials and designated as U. S. Routes 2, 4, 5 and 7.

U. S. Route 2 enters Vermont from Canada via Rouses Point, N. Y., and runs through Grand Isle, Burlington, Montpelier, Barre and St. Johnsbury to Lancaster, N. H.

U. S. Route 4 enters from New York at Fair Haven and runs through Rutland to White River Junction and thence into New Hampshire. These two routes form the most important east-west arteries of the State.

U. S. Route 5 enters the State from Massachusetts and follows the eastern side of the State through Brattleboro, Bellows Falls, White River Junction, St. Johnsbury and Newport to the Canadian boundary at Derby Line.

U. S. Route 7 enters from Massachusetts and follows the western valley through Bennington, Rutland, Burlington and St. Albans to the Canadian boundary. These two routes form the most important north-south arteries of the State.

The average daily motor vehicle traffic density in 1926 and estimated traffic in 1931 on various sections of these routes is shown in Table 5.

Other routes carrying a considerable volume of through traffic are: State-aid Route 14 from Barre to White River Junction, State-aid Route 15 from Winooski through Cambridge and Hyde Park to St. Johnsbury, State-aid Route 12 from Hartland through Bethel, Montpelier and Hardwick to Barton, State-aid Route 18 from East Montpelier through St. Johnsbury to the New Hampshire State line, State-aid Route 11 from Manchester Center through Londonderry and Springfield to the junction with U. S. Route 5,

State-aid Route 103 from Rutland through Ludlow and Proctorsville to Bellows Falls, and State-aid Route 105 from St. Albans through Richford, Newport, and Derby to Bloomfield.

The variations in traffic on these routes—the traffic increasing in the vicinity of the larger cities and villages and decreasing with increase in distance from such population centers—indicate that even on these routes the major part of the traffic is local in character.

The largest daily volume of traffic is found in the vicinity of the larger cities and villages on routes connecting these population centers.

Traffic Sections of the State

On the basis of traffic the State is divided into six traffic sections,[5] as shown in Figure 6, somewhat comparable with the distribution of population and industry. These sections, listed in order of traffic importance, and the area and population of each are shown in Table 6.

The mileage of Federal-aid and numbered State-aid highways by traffic classes in the six traffic sections is shown in Table 7.

The northwest and central section, including one-sixth of the area of the State and almost one-third of the population, has slightly more than

Table 6—Vermont traffic sections

Traffic sections	Area	Per cent	Population[1]	Per cent
	Square miles			
Northwest and central	1,519.89	16.7	115,646	32.8
Southwestern	1,467.39	16.1	78,126	22.2
Southeastern	930.96	10.2	51,489	14.6
North-central	1,815.97	19.9	56,398	16.0
South-central	2,556.60	28.0	40,427	11.5
Northeastern	833.19	9.1	10,342	2.9
Total	9,124.00	100.0	352,428	100.0

[1] 1920 census.

[5] The following towns and cities are included in each section:

Northwest and central.—Alburg, Barre City, Barre, Berlin, Barnet, Bolton, Burke, Burlington City, Colchester, Cabot, Calais, Danville, Duxbury, East Montpelier, Essex, Georgia, Grand Isle, Groton, Highgate, Isle La Motte, Jericho, Lyndon, Marshfield, Middlesex, Milton, Montpelier, Moretown, Northfield, North Hero, Peacham, Plainfield, Richmond, Ryegate, Shelburne, South Burlington, South Hero, St. Albans City, St. Albans, St. George, St. Johnsbury, Swanton, Waitsfield, Waterbury, Waterford, Williamstown and Williston.

Southwestern.—Addison, Arlington, Bennington, Benson, Brandon, Bridport, Bristol, Castleton, Charlotte, Clarendon, Cornwall, Danby, Dorset, Ferrisburg, Fair Haven, Hubbardton, Ira, Leicester, Manchester, Middlebury, Middletown Springs, New Haven, Orwell, Panton, Pawlet, Pittsford, Poultney, Pownal, Proctor, Rupert, Rutland, Rutland City, Salisbury, Sandgate, Shaftsbury, Shoreham, Sudbury, Tinmouth, Vergennes City, Wallingford, Waltham, Wells, Westhaven, West Rutland, Weybridge, and Whiting.

Southeastern.—Baltimore, Bradford, Brattleboro, Cavendish, Chester, Dummerston, Fairlee, Guilford, Hartford, Hartland, Ludlow, Newbury, Norwich, Putney, Reading, Rockingham, Springfield, Thetford, Vernon, Weathersfield, West Fairlee, Westminster, West Windsor, Windsor and Woodstock.

North-central.—Albany, Avery's Gore, Bakersfield, Barton, Belvidere, Berkshire, Brownington, Cambridge, Coventry, Craftsbury, Derby, Eden, Elmore, Enosburg, Fairfax, Fairfield, Fletcher, Franklin, Glover, Greensboro, Hardwick, Hyde Park, Irasburg, Jay, Johnson, Lowell, Montgomery, Morristown, Newport, Newport City, Richford, Sheffield, Sheldon, Stannard, Stowe, Sutton, Troy, Underhill, Walden, Waterville, Westfield, Westford, Wheelock, Wolcott, Woodbury and Worcester.

South-central.—Andover, Athens, Barnard, Bethel, Braintree, Bridgewater, Brookfield, Brookline, Buel's Gore, Chelsea, Chittenden, Corinth, Dover, Fayston, Glastonbury, Goshen, Grafton, Granville, Halifax, Hancock, Hinesburg, Huntington, Jamaica, Landgrove, Lincoln, Londonderry, Marlboro, Mendon, Monkton, Mount Holly, Mount Tabor, Newfane, Orange, Peru, Pittsfield, Plymouth, Pomfret, Randolph, Readsboro, Ripton, Rochester, Roxbury, Royalton, Searsburg, Sharon, Sherburne, Shrewsbury, Somerset, Stamford, Starksboro, Stockbridge, Strafford, Stratton, Sunderland, Topsham, Townsend, Tunbridge, Vershire, Wardsboro, Warren, Washington, Weston, Whitingham, Wilmington, Windham, Winhall and Woodford.

Northeastern.—Averill, Avery's Gore, Bloomfield, Brighton, Brunswick, Canaan, Charleston, Concord, East Haven, Ferdinand, Holland, Granby, Guildhall, Kirby, Lemington, Lewis, Lunenburg, Maidstone, Morgan, Newark, Norton, Victory, Warrens Grant, Warrens Gore and Westmore.

a fourth of the Federal-aid mileage of the State. In this section are 28 of the 37 miles of Federal-aid highway which carry over 1,500 motor vehicles per day, and one-half of the Federal-aid mileage in the section carries over 800 vehicles daily.

The southwestern section, including one-sixth of the area of the State and slightly more than a fifth of the population, has approximately one-seventh of the Federal-aid mileage. This section has 9 miles of Federal-aid highway carrying over 1,500 motor vehicles per day, 35 miles carrying between 1,200 and 1,500, and 41 miles carrying between 800 and 1,200 daily motor vehicles. Approximately 60 per cent of the Federal-aid mileage in the section carries over 800 vehicles per day.

These two sections are the most important traffic areas of the State, and include the greatest industrial development and the largest population centers, among them the cities of Burlington, Barre, Montpelier, Rutland, St. Albans and Winooski, and the important villages of Bennington, Fair Haven, Proctor and St. Johnsbury, and a number of smaller villages which are traffic centers for their surrounding territory.

The State Road between Sherburne and West Bridgewater in Rutland County, improved with Federal aid as a gravel road

The southeastern section, with one-tenth of the area and one-seventh of the population of the State, has approximately one-fifth of the Federal-

Table 7—Mileage of Federal-aid and numbered State-aid highways by traffic classes in the six traffic sections

Sections	Average daily traffic											
	Total		1,500 and over		1,200–1,499		800–1,199		400–799		0–399	
	Miles	Per cent	Miles	Per cent	Miles	Per cent	Miles	Per cent	Miles	Per cent	Miles	Per cent
Federal-aid highways:												
Northwest and central	273	26.1	28	2.7	19	1.8	91	8.7	91	8.7	44	4.2
Southwestern	142	13.6	9	0.9	35	3.3	41	3.9	49	4.7	8	0.8
Southeastern	201	19.3	.....	.....	10	1.0	61	5.8	104	10.0	26	2.5
North-central	202	19.4	.....	.....	.....	.....	12	1.2	124	11.9	66	6.3
South-central	174	16.7	.....	.....	.....	.....	2	0.2	123	11.8	49	4.7
Northeastern	51	4.9	.....	.....	.....	.....	.....	.....	22	2.1	29	2.8
Total	1,043	100.0	37	3.6	64	6.1	207	19.8	513	49.2	222	21.3
Numbered State-aid highways:												
Northwest and central	106	11.4	.....	.....	.....	.....	.....	.....	30	3.2	76	8.2
Southwestern	233	25.2	.....	.....	.....	.....	3	0.3	59	6.4	171	18.5
Southeastern	85	9.2	.....	.....	.....	.....	7	0.8	14	1.5	64	6.9
North-central	154	16.7	.....	.....	.....	.....	.....	.....	24	2.6	130	14.1
South-central	241	26.0	.....	.....	.....	.....	.....	.....	37	4.0	204	22.0
Northeastern	106	11.5	.....	.....	.....	.....	.....	.....	26	2.8	80	8.7
Total	925	100.0	.....	.....	.....	.....	10	1.1	190	20.5	725	78.4

aid mileage, of which 10 miles carries a daily traffic of between 1,200 and 1,500 vehicles and 61 miles carries between 800 and 1,200 vehicles, but it has no routes carrying over 1,500 vehicles per day.

Federal aid Project No. 15, a bituminous macadam road constructed in 1921

This section is third in traffic importance and includes the important villages of Bellows Falls, Brattleboro, Springfield and Windsor as well as a number of smaller villages which are traffic centers for their surrounding territory.

The southwestern and southeastern sections include the villages on each side of the Green Mountains which are traversed by the most important through routes in the State—U. S. Routes 5 and 7.

The north-central section, with one-fifth of the area and one-sixth of the population of the State, has approximately one-fifth of the Federal-aid mileage, of which only 12 miles carry a daily traffic of over 800 vehicles. This section includes the city of Newport and a number of smaller villages. It contains the most highly developed agricultural area in Vermont.

The south-central section, with over a fourth of the area of the State and slightly more than a tenth of the population, has approximately one-sixth of the Federal-aid mileage, of which only 2 miles carry more than 800 motor vehicles per day. This section includes the mountainous area and has no important cities or villages. Except on the routes connecting the eastern and western valleys of the State, and on the routes from Barre and Montpelier to these valleys, traffic is very light.

The northeastern section, with slightly less than one-tenth of the area and only 3 per cent of the population of the State, has 51 miles, 4.9 per cent, of the Federal-aid mileage, of which 29 miles carry less than 400 vehicles. It has no routes that carry over 800 vehicles a day. The section has no important cities or villages and is largely undeveloped.

The numbered State-aid routes, other than Federal-aid, are distributed throughout all sections of the State. Only 10 miles of these highways, located in the southwestern and southeastern sections, carry over 800 vehicles daily, and over three-fourths of their mileage carries less than 400 vehicles per day.

Foreign Traffic on Vermont Highways

Foreign traffic, i. e., traffic of vehicles registered in other States, forms an important part of the total traffic on Vermont highways. The State is traversed by the main routes of tourist traffic between southern New England and Canada and between New York and the White Mountains and Maine coast resorts, and is in itself an important recreational area.

During the period of the survey, motor vehicles of foreign registration made up 35.6 per cent of the total traffic on the Federal-aid and numbered State-aid highways. Of the total passenger car traffic, 36.6 per cent was of foreign registration, and the corresponding percentage for truck traffic was 9.6 per cent.

Foreign truck traffic is small in volume, and largely limited to the areas adjacent to the State boundaries. In capacity and loading the foreign truck traffic is similar to Vermont truck traffic.

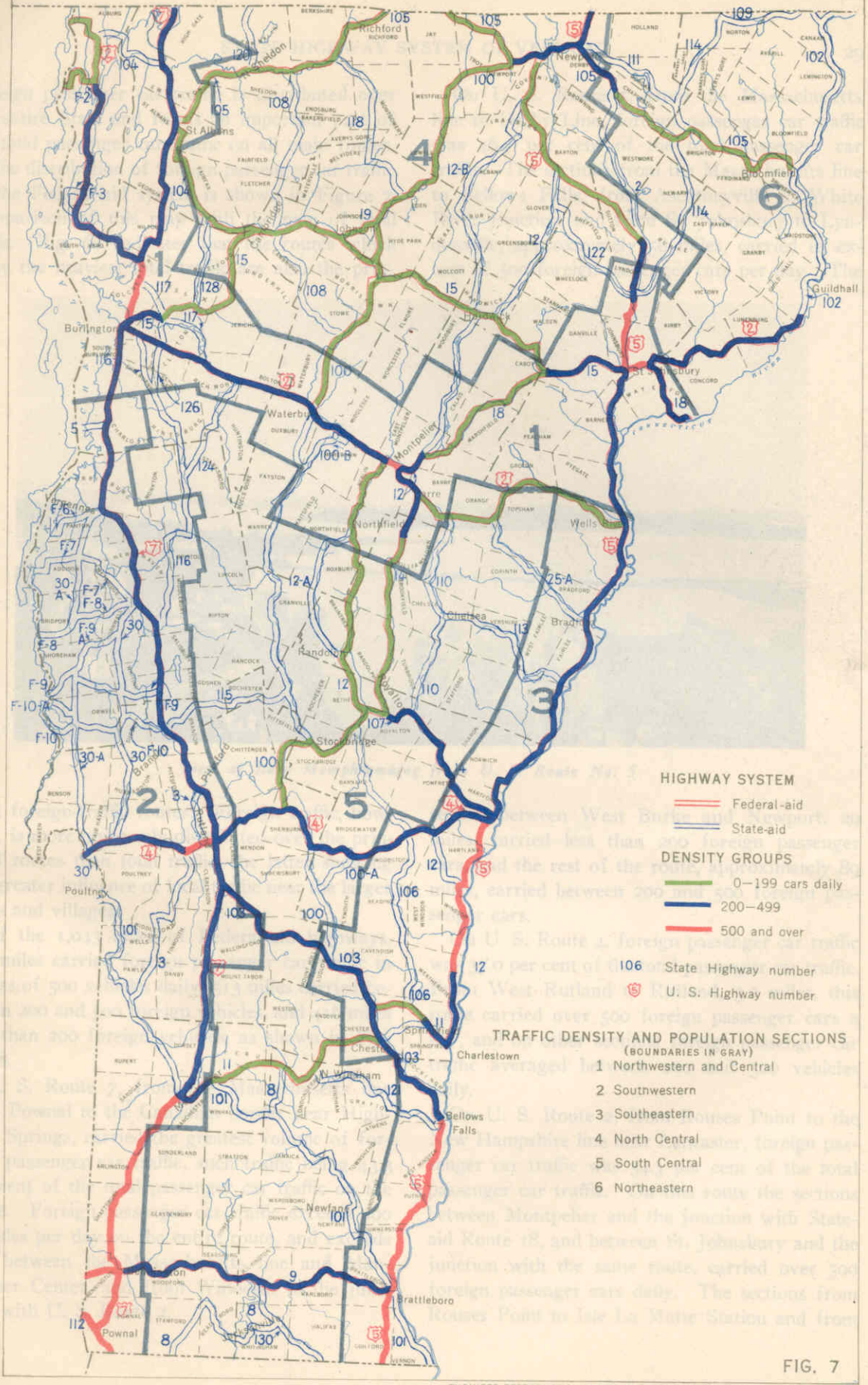


FIG. 7

ENGINEER REPRODUCTION PLANT, U. S. ARMY, WASHINGTON, D. C. 6999 1927

FOREIGN PASSENGER CAR TRAFFIC ON THE FEDERAL-AID SYSTEM

Foreign passenger car traffic is distributed over the entire State and forms an important part of the total passenger car traffic on all main routes.

The distribution of foreign passenger car traffic on the Federal-aid system is shown in Figure 7. Comparison of this map with the map of total traffic (Fig. 6) indicates that the routes which carry the heaviest total traffic are also the principal foreign-traffic routes. Foreign traffic, however, is more uniformly distributed over the principal routes than total traffic, the latter showing the greater influence of local traffic near the larger cities and villages.

Of the 1,043 miles of Federal-aid highways, 114 miles carried foreign passenger car traffic in excess of 500 vehicles daily, 513 miles carried between 200 and 500 foreign vehicles, and 416 miles less than 200 foreign vehicles, as shown in Figure 8.

U. S. Route 7, from the Massachusetts line near Pownal to the Canadian border near Highgate Springs, carried the greatest volume of foreign passenger car traffic, such traffic being 43.3 per cent of the total passenger car traffic on the route. Foreign passenger car traffic exceeds 200 vehicles per day on the entire route, and exceeds 500 between the Massachusetts line and Manchester Center, and from Winooski to the junction with U. S. Route 2.

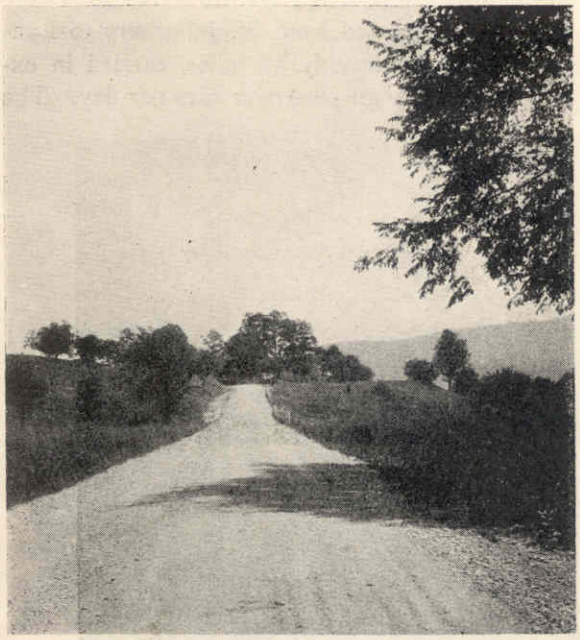
On U. S. Route 5, from the Massachusetts line to Derby Line, foreign passenger car traffic was 46.7 per cent of the total passenger car traffic. The sections from the Massachusetts line to Bellows Falls, from Ascutneyville to White River Junction, and from St. Johnsbury to Lyndonville, approximately 58 miles, carried in excess of 500 foreign passenger cars per day. The section between West Burke and Newport, 29 miles, carried less than 200 foreign passenger cars, and the rest of the route, approximately 89 miles, carried between 200 and 500 foreign passenger cars.

View of Lake Memphremagog from U. S. Route No. 5

On U. S. Route 4, foreign passenger car traffic was 37.0 per cent of the total passenger car traffic. From West Rutland to Rutland, 3.2 miles, this route carried over 500 foreign passenger cars a day, and on other sections foreign passenger car traffic averaged between 200 and 500 vehicles daily.

On U. S. Route 2, from Rouses Point to the New Hampshire line near Lancaster, foreign passenger car traffic was 34.3 per cent of the total passenger car traffic. On this route the sections between Montpelier and the junction with State-aid Route 18, and between St. Johnsbury and the junction with the same route, carried over 500 foreign passenger cars daily. The sections from Rouses Point to Isle La Motte Station and from

Barre to Wells River carried less than 200 foreign passenger cars, and the balance of the route a daily average of between 200 and 500 foreign cars.



The Connecticut River Road, a gravel-surfaced highway, improved with Federal aid

State-aid Route 103, from Bellows Falls to the junction with U. S. Route 7 near Rutland, is an important foreign traffic route, the daily average being between 200 and 500 foreign passenger cars.

State-aid Route 9 carries over 500 foreign passenger cars daily between Bennington and the New York line, and between 200 and 500 foreign cars daily from Bennington to Brattleboro.

State-aid Route 14, from Hartford to North Royalton, and from Williamstown to Barre, carries from 200 to 500 foreign cars.

Route 18 carries from 200 to 500 foreign cars between the New Hampshire line and West Danville and also between Montpelier and East Montpelier.

The remainder of the State-aid routes included in the Federal-aid system, with few exceptions, carry less than 200 foreign vehicles daily, but some foreign traffic was found on all these routes.

The daily number of foreign passenger cars at each of the traffic survey stations is shown in Appendix III.

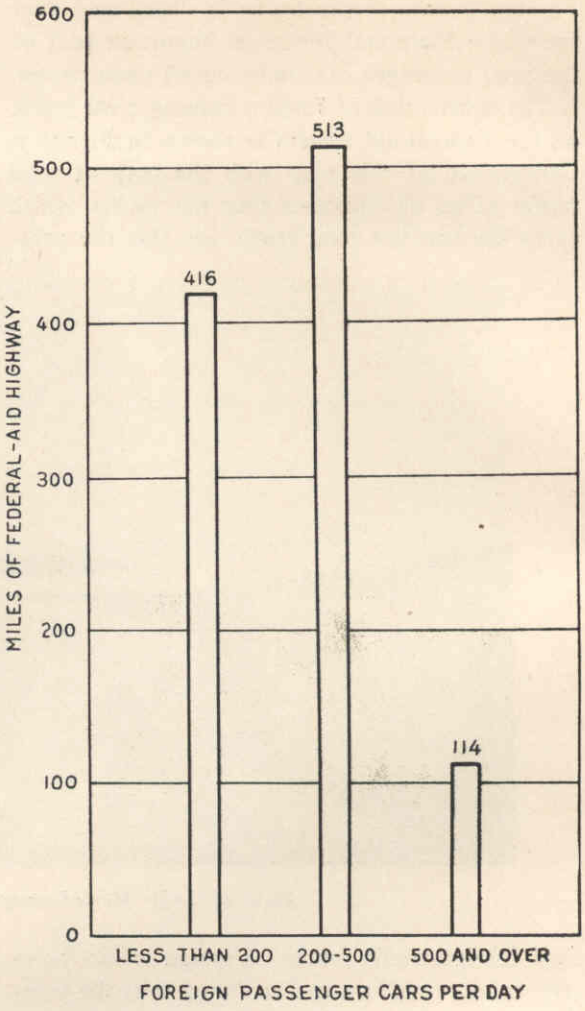
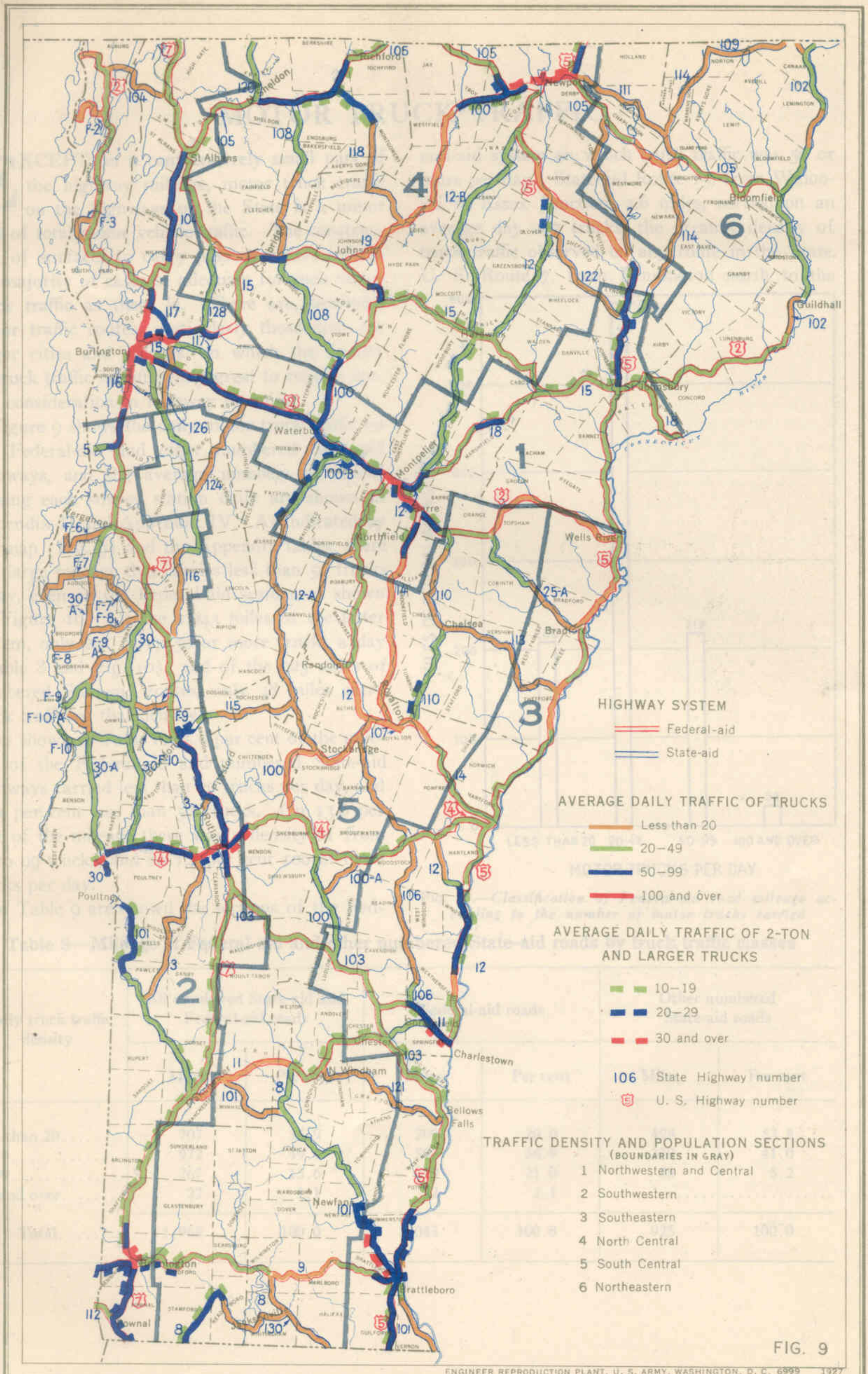


FIG. 8.—*Classification of Federal-aid road mileage according to the number of foreign passenger cars carried*

The large volume of foreign traffic on Vermont highways adds considerably to the cost of providing highway service on the main routes of travel. This volume of foreign traffic, in addition to local Vermont traffic, results in increased maintenance costs on present improvements, which are loaded beyond their economic capacity, and makes necessary earlier improvement or reconstruction of these routes by the construction of surfaces superior to gravel. The present contribution of foreign traffic to Vermont highway revenue is limited very largely to that derived from the taxation of gasoline sold to operators of foreign cars and it is doubtful if this revenue is at all commensurate with the increased cost of providing highway service caused by foreign traffic.



MOTOR TRUCK TRAFFIC ON THE FEDERAL-AID AND NUMBERED STATE-AID SYSTEMS

MOTOR TRUCK TRAFFIC

EXCEPT on a comparatively small part of the highway mileage, motor truck traffic on the highways of the State is a minor part of total motor vehicle traffic. The construction of surfaces to carry passenger cars will in the majority of cases be adequate for such motor truck traffic as there is. There are, however, major traffic routes, particularly those near the larger cities and villages, on which the density of truck traffic is sufficiently great to require special consideration in highway planning.

Figure 9 shows the daily motor truck traffic on the Federal-aid and other numbered State-aid highways, and the average numbers of trucks passing each survey station daily are shown in Appendix II and Appendix IV. As indicated by the map (Fig. 9) and the Appendix tables, there is a large mileage that carries less than 50 trucks a day, even on the Federal-aid system, as shown by Figure 10. Of the 1,043 miles of the latter system, only 241 carry 50 or more trucks a day (Table 8 and Fig. 10); and of the 925 miles of numbered State-aid routes, only 48 miles carry truck traffic of that density.

As shown in Table 8, 35.9 per cent of the mileage of the Federal-aid and numbered State-aid highways carried less than 20 trucks per day, and 85.3 per cent less than 50 trucks. On 13.6 per cent of the mileage there was a density of from 50 to 99 trucks, and on 1.1 per cent 100 or more trucks per day.

In Table 9 are shown the sections of the Federal-aid system on which truck traffic was 50 or more per day. State-aid Route 15, from Winooski to Essex Junction, 2.6 miles, carried on an average day 287 trucks, the greatest density of truck traffic observed on any route in the State. U. S. Route 7, from Bennington north to the

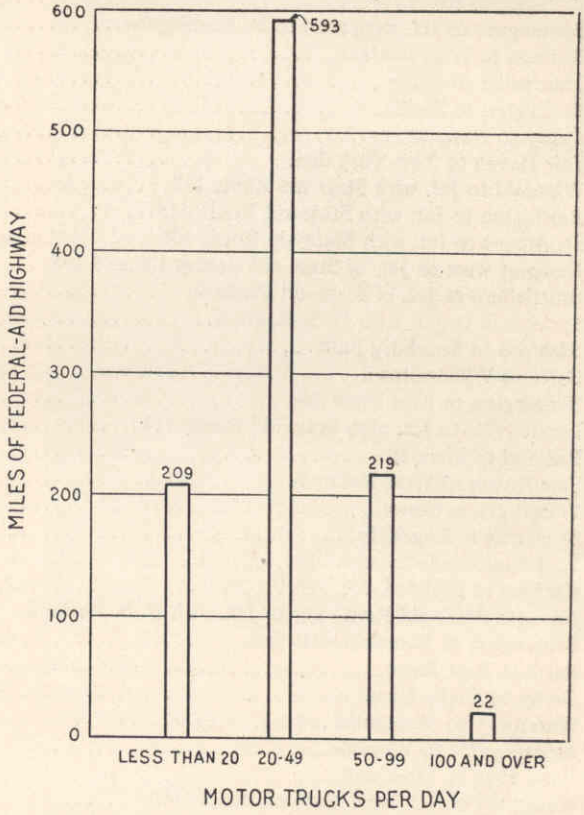


FIG. 10.—*Classification of Federal-aid road mileage according to the number of motor trucks carried*

Table 8—Mileage of Federal-aid and other numbered State-aid roads by truck traffic classes

Daily truck traffic density	All numbered State-aid and Federal-aid roads		Federal-aid roads		Other numbered State-aid roads	
	Miles	Per cent	Miles	Per cent	Miles	Per cent
Less than 20	707	35.9	209	20.0	498	53.8
20–49	972	49.4	593	56.9	379	41.0
50–99	267	13.6	219	21.0	48	5.2
100 and over	22	1.1	22	2.1	.....	.....
Total	1,968	100.0	1,043	100.0	925	100.0

Table 9—Sections of the Federal-aid system on which the density of motor truck traffic is 50 or more per day

Highway section	Route	Length of section	Average daily trucks—1926
		Miles	
Winooski to Essex Jct	15	2.6	287
Bennington to Jct. with road to N. Bennington	U. S. 7	0.7	216
Rutland to West Rutland	U. S. 4	2.0	164
Montpelier to Barre	U. S. 2	2.1	161
Burlington to Shelburne	U. S. 7	4.6	151
Derby to Newport	U. S. 5	4.0	120
Fair Haven to New York line	U. S. 4	1.6	119
Winooski to Jct. with State-aid Route 117	U. S. 7	3.7	106
Burlington to Jct. with State-aid Route 116	U. S. 2	1.0	105
St. Albans to Jct. with State-aid Route 105	U. S. 7	0.2	93
Newport west to Jct. of State-aid Routes 100 and 105	100 and 105	2.7	89
Brattleboro to Jct. of State-aid Route 9	U. S. 5	2.1	88
Springfield to Jct. with U. S. Route 5	11	3.2	86
Richford to Enosburg Falls	105	10.1	85
Barre to Williamstown	14	4.8	84
Bennington to New York line	9	3.2	84
Lyndonville to Jct. with State-aid Route 114	U. S. 5	1.4	83
Rutland to Mendon	U. S. 4	2.4	83
Fair Haven to West Rutland	U. S. 4	10.4	79
Waterbury to Stowe	100	9.6	76
Shelburne to Charlotte	U. S. 7	4.9	75
St. Johnsbury to Lyndonville	U. S. 5	7.1	75
Rutland to Brandon	U. S. 7	13.5	75
Jct. with State-aid Route 117 to Jct. with U. S. Route 2	U. S. 2 and U. S. 7	3.2	73
Bennington to Massachusetts line	U. S. 7	9.6	72
Barre to East Barre	U. S. 2	2.2	68
Derby to Derby Line	U. S. 5	4.0	64
Waterbury to Montpelier	U. S. 2	11.6	64
Ascutneyville to Windsor	U. S. 5	4.7	63
Hyde Park to Morrisville	15 and 100	2.4	61
Waterbury to Jct. with State-aid Route 116	U. S. 2	21.0	60
Putney to Jct. with State-aid Route 9	U. S. 5	7.2	60
S. Shaftsbury to Jct. Rd. to N. Bennington	U. S. 7	3.5	59
Essex Jct. to Jericho	15	6.4	58
Enosburg Falls to N. Sheldon	105	5.4	58
Springfield to Jct. E. of N. Springfield	106	2.8	58
West Burke to Jct. with State-aid Route 114	U. S. 5	7.8	56
Newport Center to Jct. with State-aid Route 100	105	1.7	54
Cambridge to Jeffersonville	15	2.5	54
St. Albans to Milton	U. S. 7	11.1	53
Troy to Jct. with State-aid Route 105	100	8.3	53
Rutland to N. Clarendon	U. S. 7	2.3	53
Marshfield to S. Cabot	18	4.5	52
Windsor to Jct. with State-aid Route 12	U. S. 5	5.8	51
Brattleboro to Massachusetts line	U. S. 5	8.0	51
E. Montpelier to Jct. with U. S. Route 2	12 and 18	5.0	50
Brattleboro to West Brattleboro	9	1.9	50
Total		240.8	

intersection with the road to North Bennington, had an average daily density of 216 trucks. All the sections carrying over 100 trucks are comparatively short, the longest being only 4.6 miles and the average length of the nine sections only 2.5 miles.

No one route stands out as a main trucking route. There are short sections on practically every important highway route which carry a considerable number of trucks. These sections, as shown in Figure 9 and Table 9, are distributed throughout the State. The longest is on U. S. Route 2 from Burlington to East Barre, a distance of 37.9 miles, on which motor truck traffic varied from 60 to 161 trucks at various points.

Practically all of the important trucking routes in the State are included in the Federal-aid system; and of the Federal-aid mileage carrying 50 or more trucks per day, approximately two-thirds is on the U. S. routes.

Sections of the numbered State-aid routes other than Federal-aid which have a density of over 50 trucks per day are shown in Table 10. Route 115, Brandon to Forestdale, is the most important of these sections and it carried 84 trucks per day. The section next in importance is between Brattleboro and West Dummerston on Route 101. On this six-mile section there was a daily density of 75 trucks.

The Brattleboro-Wilmington Road, a Federal-aid gravel road constructed in 1920. The photograph shows the excellent condition of the surface in 1924

Capacity and Loading of Motor Trucks

The provision of highway facilities for motor truck traffic in Vermont involves varied problems according to the capacity and weight of trucks as

Table 10—Sections of the numbered State-aid system other than Federal-aid roads on which the density of motor truck traffic in 1926 was 50 or more per day

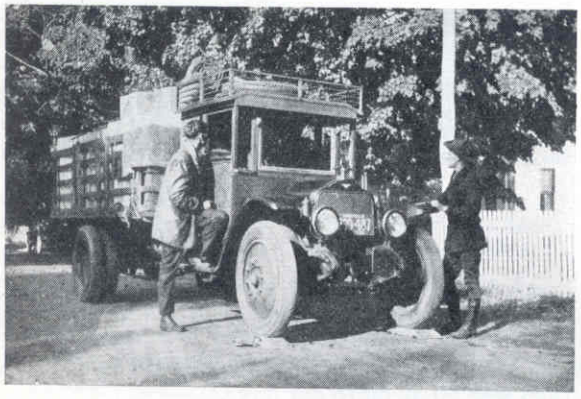
Highway section	Route	Length of section	Average daily trucks—1926
Brandon to Forestdale	115	2.7	84
Brattleboro to West Dummerston	101	6.0	75
Massachusetts line to Readsboro Falls	8	9.3	61
Essex Jct. to Jct. with U. S. Route 7	117	5.6	60
Poultney to Jct. with State-aid road to Granville, N. Y.	101	9.8	58
E. Berkshire to Montgomery Center	118	6.8	56
West Dummerston to Newfane	101	5.9	53
Poultney north to New York line	30	0.7	52
Fair Haven south to New York line	30	1.3	52
Total	.....	48.1	.....

well as the density of the traffic. On roads where few or no trucks of two tons or larger capacity were found, highway planning need make no other provision than that required for passenger car traffic. Trucks of less than two tons capacity, 97 per cent of which are equipped with pneumatic tires on their rear wheels,[6] have much the same effect upon highway surfaces as passenger cars.

Where trucks of two tons or greater capacity occur in appreciable numbers they must be given consideration in highway planning. These trucks carry considerably heavier loads than passenger cars and approximately 53 per cent of them are equipped with other than pneumatic tires on the rear axle.

Figure 11 shows the distribution by capacity groups of loaded motor trucks observed on the highways of the State.

Motor trucks of 2 to 2½ tons capacity were approximately one-fifth of the observed trucks, those of less than 2 tons capacity 77.4 per cent,



Interviewing the driver of a grocery truck at a weighing station

those of 3 to 4 tons capacity comprised only 3.3 per cent, while those of 5 tons or greater capacity, being only 0.4 per cent of the total number of trucks observed, were a negligible part of the total truck traffic. The distribution of loaded motor trucks by capacity groups at each survey station is shown in Appendix IV.

As shown in Table 11, loaded trucks of less than 2 tons capacity carry an average cargo of 1,800 pounds and have an average gross load of 5,140 pounds.

That motor truck traffic in Vermont is predominantly a movement of small trucks carrying light loads is further indicated by the fact that 72.8 per cent of the loaded trucks weigh less than 8,000 pounds gross and 87.4 per cent less than 12,000 pounds gross. Only 3.9 per cent weigh 16,000 or more pounds, as shown in Table 12.

Trucks of over 16,000 pounds gross weight carry an average cargo of 9,030 pounds and have an average gross weight of 18,280 pounds.

The average gross weight of loaded motor trucks by capacity classes at each traffic survey station where trucks were weighed is shown in Appendix V.

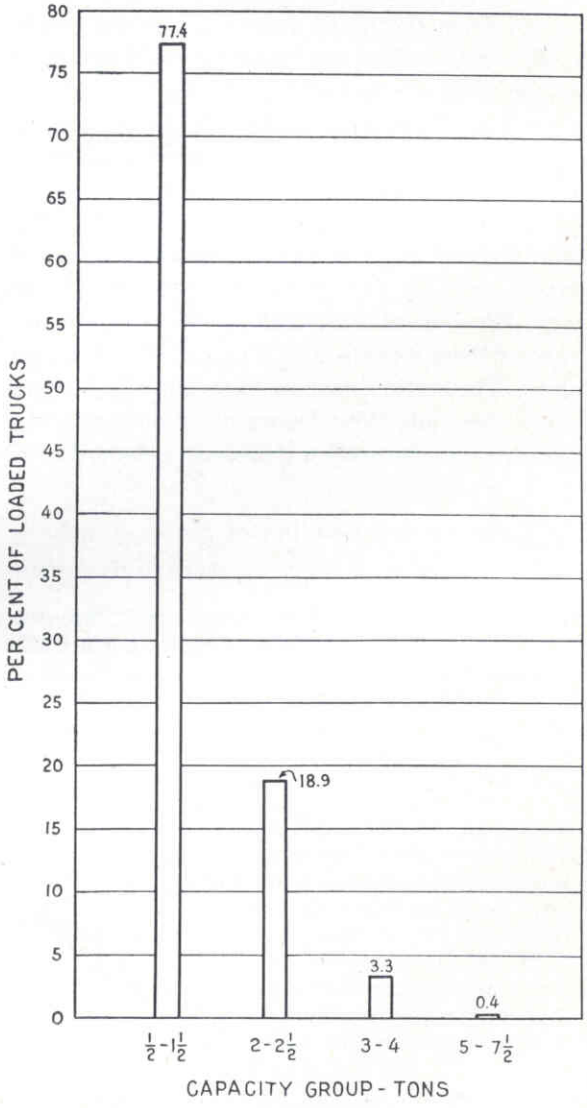


FIG. 11.—*Distribution of loaded motor trucks by capacity groups*

[6] The rear axle of a truck delivers a greater impact to the road surface because it carries, on an average in Vermont, 69 per cent of the total gross load.

Table 11—Average weight per loaded truck by capacity classes

Capacity class	Loaded trucks	Average net weight of cargo	Average gross weight
Tons		Pounds	Pounds
½–1½	2,523	1,800	5,140
2 –2½	524	4,920	12,410
3 –4	112	5,490	15,100
5 –7½	4	8,200	20,300

Table 12—Loaded trucks classified by gross weight

Gross weight	Loaded trucks		Average net weight of cargo	Average gross weight
	Number	Per cent		
Thousand pounds			Pounds	Pounds
Less than 4	869	27.5	630	3,060
4– 8	1,431	45.3	2,000	5,640
8–12	463	14.6	3,600	9,580
12–16	276	8.7	5,680	13,800
16 and over	124	3.9	9,030	18,280
Total	3,163	100.0	2,450	6,710

Table 13—Mileage of Federal-aid and other numbered State-aid highways by density of traffic of 2-ton or larger trucks

Two-ton and larger trucks per day	Federal-aid highways		Other numbered State-aid highways	
	Miles	Per cent	Miles	Per cent
0– 9	713	68.4	839	90.7
10–19	284	27.2	59	6.4
20–29	36	3.4	21	2.3
30 and over	10	1.0	6	0.6
Total	1,043	100.0	925	100.0

Extensive use of trucks of 2 tons capacity or larger is limited to a relatively small mileage of the highways of the State. On Federal-aid highways, the principally travelled routes of the State, less than ten trucks of 2 tons or larger capacity are found on 68.4 per cent of the mileage as shown in Table 13 and Figure 12.

On other numbered State-aid highways 90.7 per cent of the mileage carries less than ten 2-ton or larger trucks per day. Approximately 27 per cent of the mileage of Federal-aid roads and 6 per cent of other numbered State-aid roads carry between 10 and 19 trucks of 2 tons or larger

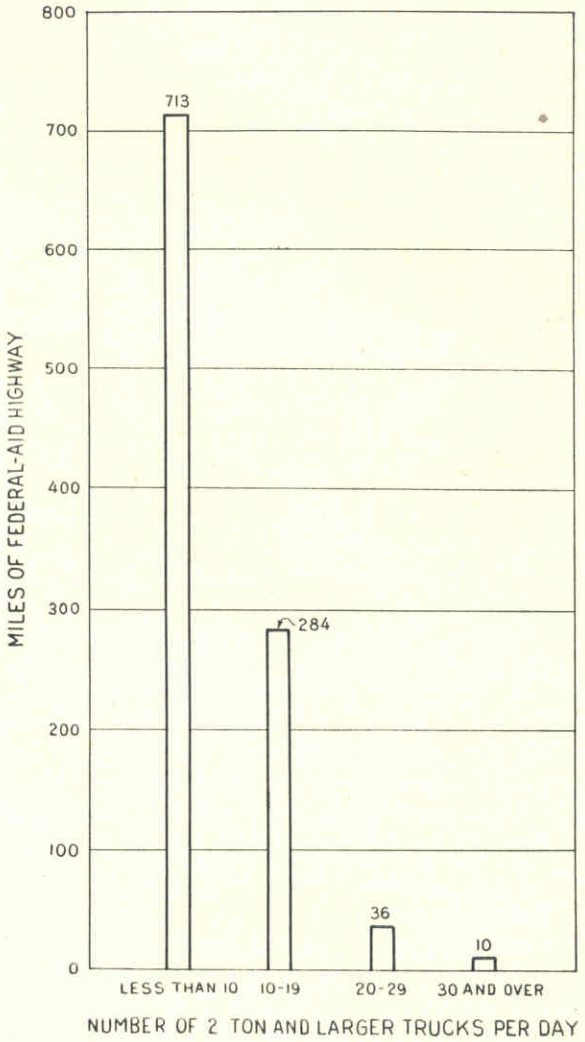


FIG. 12.—*Classification of Federal-aid road mileage according to number of 2-ton and larger motor trucks carried*

Table 14—Sections of the Federal-aid system on which the number of 2-ton and larger trucks in 1926 was 10 or more per day

Highway section	Route	Length of section	Two-ton and larger trucks per day
		Miles	
Bennington to Jct. with Road to N. Bennington	U. S. 7	0.7	53
Newport west to Jct. 100–105	100	2.7	41
Newport to Derby	U. S. 5	4.0	40
Rutland to Mendon	U. S. 4	2.4	35
Montpelier to Barre	U. S. 2	2.1	29
Bennington to New York line	9	3.2	28
Newport Center to Jct. with State-aid Route 100	105	1.7	27
Brattleboro to Putney	U. S. 5	9.3	25
Bennington to Massachusetts line	U. S. 7	9.6	25
Springfield to Jct. with U. S. Route 5	11	3.2	23
Winooski to Essex Jct	15	2.6	22
Lyndonville to Jct. with State-aid Route 114	U. S. 5	1.4	22
Rutland to West Rutland	U. S. 4	2.0	22
Burlington to Jct. with State-aid Route 116	U. S. 2	1.0	21
Waterbury to Jct. with State-aid Route 116	U. S. 2	21.0	19
Morrisville to Hardwick	15	13.7	19
Troy to Jct. with State-aid Route 105	100	8.3	19
Bennington to Woodford	9	5.7	19
St. Albans to Jct. with State-aid Route 105	U. S. 7	0.2	18
Chester to Londonderry	11	14.8	18
Hyde Park to Morrisville	15 and 100	2.4	17
St. Johnsbury to Lyndonville	U. S. 5	7.1	17
Fair Haven to New York line	U. S. 4	1.6	17
Brattleboro to Massachusetts line	U. S. 5	8.0	17
West Burke to Jct. with State-aid Route 114	U. S. 5	7.8	16
Marshfield to S. Cabot	18	4.5	16
Enosburg Falls to Richford	105	10.1	15
Richford to Canadian line	105	5.7	15
Derby to Derby Line	U. S. 5	4.0	14
S. Shaftsbury to Manchester Center	U. S. 7	16.5	14
Waterbury to Montpelier	U. S. 2	11.6	13
Barre to E. Barre	U. S. 2	2.2	13
Burlington to Shelburne	U. S. 7	4.6	13
St. Johnsbury to West Danville	15 and 18	8.5	12
West Rutland to Fair Haven	U. S. 4	10.4	12
Ascutneyville to Jct. E. of Hartland	U. S. 5	10.5	12
Weathersfield Bow to Jct. with State-aid Route 11	U. S. 5	7.7	12
Waterbury to Stowe	100	9.6	11
St. Johnsbury east to Jct. with State-aid Route 18	U. S. 2	1.9	11
Barre to Williamstown	14	4.8	11
Chester to Bellows Falls	103	12.0	11
Jct. with Road to N. Bennington to S. Shaftsbury	U. S. 7	3.5	11
Jct. with U. S. Route 7 to Greens Corner	105	4.1	10
Montpelier to Northfield	12	8.4	10
Woodstock to Bridgewater Corner	U. S. 4	8.0	10
Springfield to Jct. east of N. Springfield	106	2.8	10
Putney to Bellows Falls	U. S. 5	13.6	10
Manchester Center to Wallingford	U. S. 7	23.7	10
E. Montpelier to Jct. with U. S. Route 2	12	5.0	10
Total	.....	330.2	.....

capacity per day. In this class are included 284 miles of Federal-aid and 59 miles of other numnumbered State-aid roads.

There are only 46 miles of Federal-aid roads and 27 miles of other numbered State-aid roads on which the 2-ton or larger trucks number 20 or more daily.

In Table 14 are listed the sections of the Federal-aid system which have a density of 10 or more 2-ton and larger trucks.

U. S. Route 7, north of Bennington, carries, for seven-tenths of a mile, 53 trucks of 2-ton or larger capacity per day. Three other sections carry more than 30 of these trucks a day. They are: Route 100 from Newport west to the junction with Route 105; U. S. Route 5 from Newport to Derby; and U. S. Route 4 from Rutland to Mendon.

Sections of the numbered State-aid system other than Federal-aid roads on which the number of 2-ton and larger trucks is 10 or more per day are shown in Table 15. The most important of these sections is Route 101 from Brattleboro to West Dummerston, a distance of 6.0 miles, which has a density of 31 trucks of 2-ton capacity or larger. Route 100 and 100 B, between Middlesex and Waitsfield, carries 22 of these trucks per day; Route 101, from West Dummerston to Newfane, carries 21; and Route 115, from Brandon to Forestdale, carries 20.

On the unnumbered State-aid roads and town roads the total truck traffic as well as the traffic of large-capacity trucks is of little significance. With the exception of a few short sections adjacent to the larger cities and villages, trucks of 2-ton or larger capacity are rarely found on these roads and the total truck traffic is also small.

Applying seal coat on the Bernardstown Road

Motor Truck Traffic in the Six Traffic Sections

Comparative highway mileage and truck traffic on the Federal-aid and other numbered State-aid routes in the six traffic sections into which the State is divided (Fig. 6) are shown in Table 16 and Figure 13.

Table 15—Sections of the numbered State-aid system other than Federal-aid roads on which the number of 2-ton and larger trucks in 1926 was 10 or more per day

Highway section	Route	Miles	Two-ton and larger trucks per day
Brattleboro to West Dummerston	101	6.0	31
Middlesex to Waitsfield	100 & 100 B	13.0	22
West Dummerston to Newfane	101	5.9	21
Brandon to Forestdale	115	2.7	20
East Berkshire to Montgomery Ctr.	118	6.8	16
Barton to Glover	12	3.2	13
Tunbridge south to Jct. with State-aid Route 14	110	4.6	12
Dorset to Manchester Ctr.	3 & 101	6.4	11
Massachusetts line to Readsboro Falls	8	9.3	11
Hardwick to East Montpelier	12	18.7	10
Poultney to Jct. with State-aid road to Granville, N. Y.	101	9.8	10
Total	.....	86.4	.....

Table 16—Highway mileage and motor truck density on Federal-aid and other numbered State-aid roads in the six traffic sections

Traffic section	Federal-aid roads					Other numbered State-aid roads				
	Highway mileage		Truck traffic density			Highway mileage		Truck traffic density		
	Miles	Per cent	Total	½–1½ tons	2 tons and larger	Miles	Per cent	Total	½–1½ tons	2 tons and larger
Southwestern	142.4	14	55	43	12	232.9	25	27	23	4
Northwest and central	272.4	26	53	43	10	105.7	11	26	20	6
Southeastern	201.2	19	39	29	10	85.1	9	19	14	5
North-central	202.3	19	36	27	9	154.6	17	22	18	4
Northeastern	50.9	5	24	20	4	106.3	12	15	12	3
South-central	173.8	17	22	17	5	240.7	26	18	13	5
Total	1,043.0	100	41	32	9	925.3	100	22	17	5

The highest density of truck traffic on the Federal-aid highways is found in the southwestern and northwest and central sections where the total trucks average 55 and 53 per day, respectively, and the traffic of trucks of 2 tons and larger capacity is 12 and 10, respectively. These two sections include 40 per cent of the total mileage of Federal-aid roads. Truck traffic density on other numbered State-aid routes is also greatest in these two sections, being 27 in the southwestern and 26 in the northwest-central section. These sections include 36 per cent of the total mileage of other numbered State-aid routes.

The southeastern and north-central sections, as compared with the other sections, are of medium importance in respect to motor truck traffic; and the northeastern and south-central sections have the least amount of truck traffic on both the Federal-aid and other numbered State-aid routes, as shown in Table 16.

The comparative importance of the several sections from the standpoint of motor truck traffic, as previously explained from the standpoint of passenger car traffic, is determined very largely by the location of centers of population. The southwestern and northwest-central sections include seven of the nine cities and villages in the State having a population over 5,000. The remaining two are in the southeastern section, which ranks third in motor truck traffic density.

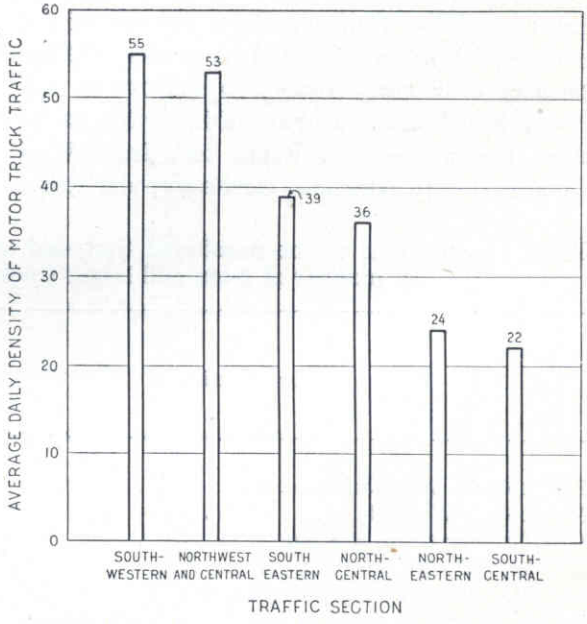
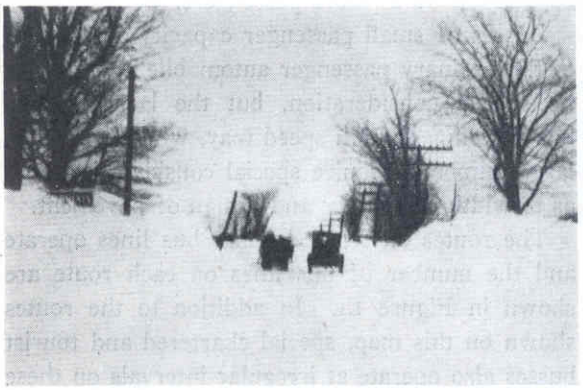


FIG. 13.—*Density of motor truck traffic on Federal-aid routes in the six traffic sections of the State*

VARIATIONS IN TRAFFIC DENSITY

HIGHWAY traffic in Vermont shows a very pronounced seasonal variation. Foreign traffic is observed mainly in the late spring, summer and early fall months. Local traffic also shows the effects of severe winter conditions and heavy snowfall in the State.



Traffic on the roads of Vermont is negligible during the winter season

During the winter months, motor vehicle traffic is largely confined to the more important routes and is limited principally to vehicles used for business purposes. The traffic density data used in the report are for an average 24-hour day during the period of the survey, July 16 to October 15. They represent, therefore, the period of maximum traffic and greatly exceed the average for the entire year. The maximum traffic at each survey station is shown in Appendix II.

There is also a marked variation in traffic volume by days of the week and by hours of the day. Maximum traffic occurs on Sunday, when it is 51.6 per cent greater than the average day. Passenger car traffic remains quite uniform from Monday through Friday, increasing somewhat on Saturday and showing a very sharp increase on Sunday. Motor truck traffic also remains quite uniform from Monday through Friday, shows a marked decrease on Saturday and becomes very small on Sunday.

Traffic is largely concentrated in the daylight hours, less than 20 per cent of the passenger car traffic and less than 10 per cent of the truck traffic occurring between 8 p. m. and 6 a. m. Approximately 70 per cent of the passenger car traffic is concentrated in the hours between 10 a. m. and 8 p. m. and approximately 35 per cent between 4 p. m. and 8 p. m.

An attractive vista on the Connecticut River Road. The road has an oiled gravel surface

Motor truck traffic is more concentrated in the morning hours, approximately 75 per cent occurring between 6 a. m. and 4 p. m. and approximately 45 per cent between 10 a. m. and 4 p. m. The hours between 6 a. m. and 10 a. m. include approximately 30 per cent of truck traffic as compared with 10 per cent of passenger car traffic.

MOTOR BUS AND MOTOR TRUCK LINES

MOTOR bus traffic, although small in total volume, is important on certain of the Federal-aid and numbered State-aid routes, and on a few of the unnumbered State-aid roads.

In 1926 there were 52 companies or individuals licensed by the Public Service Commission, engaged in intrastate and interstate bus transportation, operating on regular schedules over approximately 671 miles of Federal-aid roads, 168 miles of numbered State-aid and 62 miles of unnumbered State-aid routes.

The Molley's Brook Road—A gravel road treated with calcium chloride

On portions of several of the main routes two or more bus lines operate, some being through lines and others serving the local communities. Burlington, Rutland, Montpelier and White River Junction are the principal termini of motor bus transportation lines.

The busses observed varied in capacity from 5 to 38 passengers each; approximately one-third had a capacity of less than 10, and one-half a capacity of 20 or more passengers.

Busses of small passenger capacity are similar to the ordinary passenger automobile and require no special consideration, but the large-capacity bus traveling at high speed may, when present in large numbers, require special consideration both as to width of surface and design of pavement.

The routes on which regular bus lines operate and the number of bus lines on each route are shown in Figure 14. In addition to the routes shown on this map, special chartered and tourist busses also operate at irregular intervals on these and other highway routes. Such busses make frequent trips to the recreational areas and points of historic and scenic interest.

Figure 14 also shows the routes over which regular, licensed commercial trucking lines operate. Motor truck companies and individuals, operating under Public Service Commission certificates, furnish express and commodity transportation on several of the main routes and to a somewhat lesser extent on the numbered and unnumbered State-aid roads.

In 1926 there were sixteen licensed trucking concerns operating over fixed routes and on regular schedules. These routes covered approximately 346 miles of Federal-aid routes, 74 miles of numbered State-aid routes and 17 miles of unnumbered State-aid roads.

The capacities of trucks engaged in this form of common carrier transportation varied from 1 to 2½ tons.

While the tonnage hauled by companies operating for hire is small compared to the tonnage of the total truck traffic, it is of growing importance in those sections which have inadequate railroad transportation.

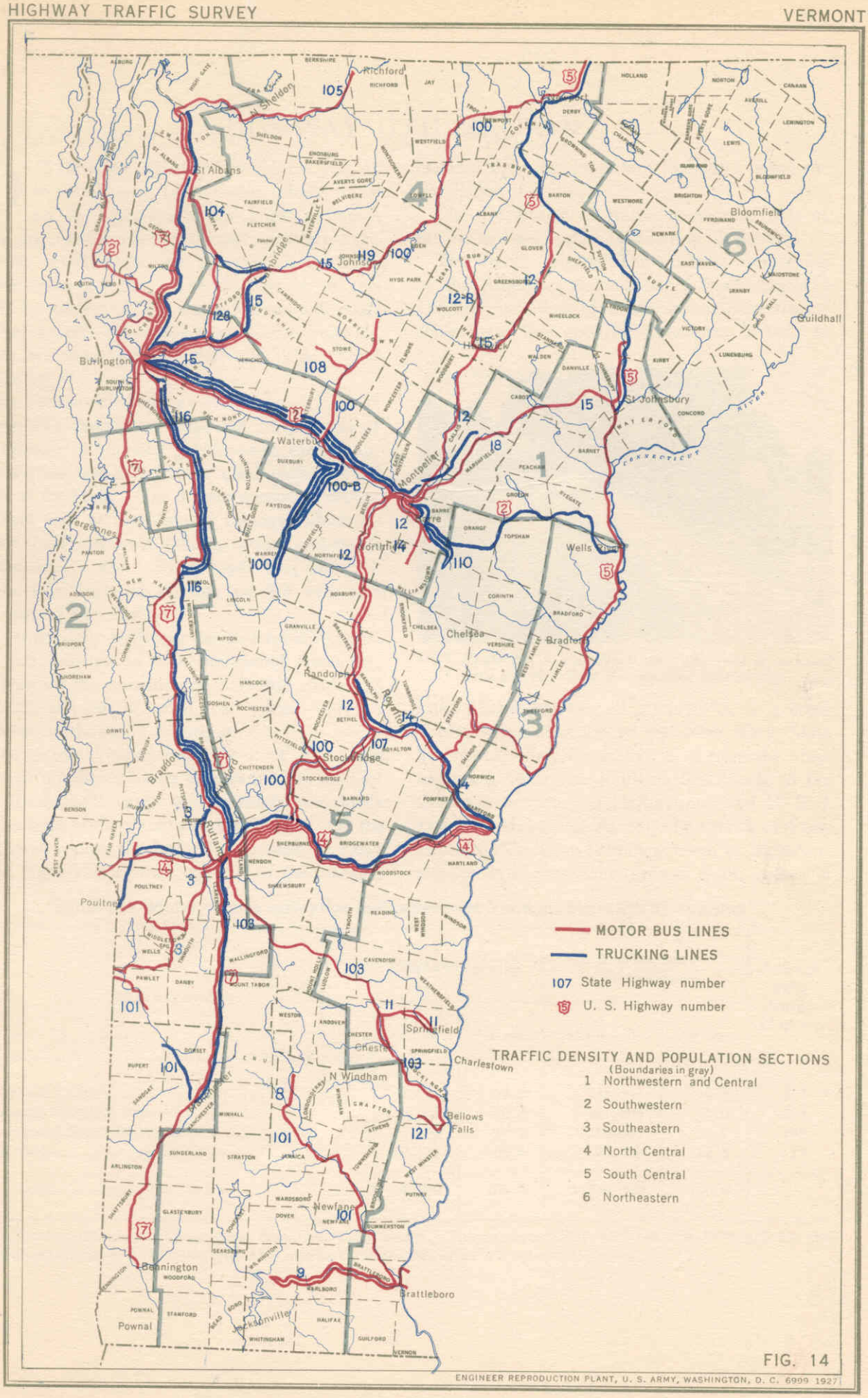


FIG. 14

ENGINEER REPRODUCTION PLANT, U. S. ARMY, WASHINGTON, D. C. 6909 1927

LICENSED MOTOR BUS AND MOTOR TRUCK LINES

HIGHWAY UTILIZATION

DURING the period of the survey, July 16 to October 15, 1926, motor vehicle traffic on the highways of the State, of which there are 14,582 miles, was approximately 139,472,000 vehicle-miles, an average of 1,516,000 vehicle-miles per day. The distribution of this traffic by classes of highway—Federal-aid, other numbered State-aid routes, unnumbered State-aid routes, and town roads—is shown in Table 17 and Figure 15.

The Federal-aid highway system, 7 per cent of the certified highway mileage and 7.2 per cent of the mileage of traveled public roads, carried approximately one-half of the total traffic on all roads of the State. The present numbered routes, 13.5 per cent of the highway mileage, which includes the Federal-aid system, carried two-thirds of the total traffic. Town roads 69.4 per cent of the total highway mileage, carried only 12.8 per cent of the traffic.

Average daily traffic on the Federal-aid system was 702 vehicles, on other numbered routes 293 vehicles, on the unnumbered State-aid roads 128 vehicles, and on the town road system only 19 vehicles, as shown in Figure 16.

The predominating importance of the 1,968 miles of numbered routes is evident from the fact that these roads carry approximately two-thirds of the total traffic on all rural highways. Of the numbered routes, the Federal-aid system of 1,043 miles, slightly more than one-half of the mileage, includes the most important highways, from the standpoint of traffic.

The distribution of traffic on various parts of the Federal-aid system is shown in Table 18.

The routes selected for uniform numbering by the American Association of State Highway Officials; including U. S. 2 from the New Hampshire State line opposite Lancaster, N. H., to Lake Champlain west of Alburg; U. S. 4 from White River Junction to the New York State line west of Fair Haven; U. S. 5 from the Massachusetts State line south of Brattleboro to the Canadian boundary at Derby Line; and U. S. 7 from the Massachusetts State line south of Pownal to the Canadian boundary north of Swanton; are the most important through traffic routes in

U. S. Route No. 5, near Hartland. The road is surfaced with gravel. Note the standard caution sign

Table 17—Motor vehicle utilization and mileage of Vermont highways by systems

Highway system	Highway mileage		Average daily vehicle-mileage		Average daily density of traffic
	Miles	Per cent	Vehicle-miles	Per cent	
Federal-aid system	1,043	7.2	732,000	48.3	702
Numbered State-aid routes[1]	925	6.3	271,000	17.9	293
Unnumbered State-aid routes	2,494	17.1	318,000	21.0	128
Town roads	10,120	69.4	195,000	12.8	19
Total	14,582	100.0	1,516,000	100.0	.....

[1] Numbered State-aid routes other than Federal-aid routes. The numbered State-aid routes in 1926 included the Federal-aid system of 1,043 miles, and other numbered routes, 925 miles, a total of 1,968 miles.

Table 18—Average daily traffic on the Federal-aid system

Section	Highway mileage		Vehicle-mileage		Average daily traffic
	Miles	Per cent	Vehicle-miles	Per cent	
U. S. Highways	525	50.3	435,000	59.4	829
Other Federal-aid routes	518	49.7	297,000	40.6	573
Federal aid, primary	446	42.8	388,000	53.0	870
Federal aid, secondary	597	57.2	344,000	47.0	576
Principal traffic routes	102	9.8	153,000	20.9	1,500
Other Federal-aid routes	941	90.2	579,000	79.1	615
Total Federal-aid system	1,043	100.0	732,000	100.0	702

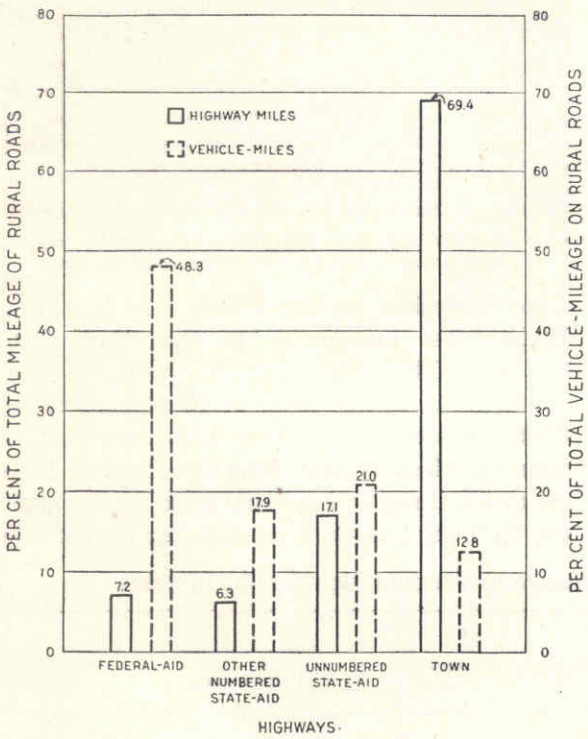


FIG. 15.—*Distribution of rural highway mileage and vehicle-mileage as between the Federal-aid roads, other numbered State-aid roads, unnumbered State-aid and town roads*

the State. These routes aggregating 525 miles, in length, approximately 50 per cent of the Federal-aid system, carry approximately 60 per cent of the traffic on the system.

The primary Federal-aid routes, 446 miles, three-sevenths of the Federal-aid system, carry 53.0 per cent of the traffic on the system.

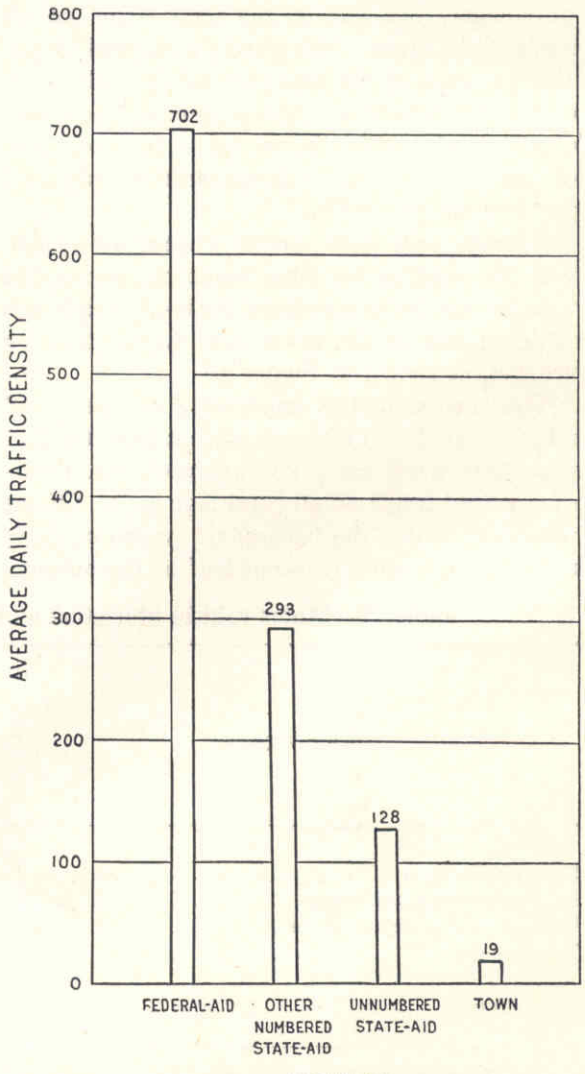


FIG. 16.—*Average daily traffic density on the Federal-aid and other numbered State-aid highways, and on the unnumbered State-aid and town roads*

The principal traffic routes of the Federal-aid system, including sections of U. S. 2, 4, 5, and 7 adjacent to the cities and villages of Burlington, Rutland, Barre, Bennington, St. Johnsbury, Brattleboro, St. Albans, and Montpelier, and State-aid Routes 9 and 15 adjacent, respectively, to Bennington and Winooski, comprising 102 miles, or approximately 10 per cent of the Federal-aid system, carry over 20 per cent of the total traffic on this system.

The numbered State-aid roads, other than the Federal-aid routes, are secondary in importance to the Federal-aid highways but greatly exceed in importance the unnumbered State-aid roads and town roads. Included in the numbered State-aid routes other than Federal-aid are approximately 266 miles, 28.8 per cent of the total mileage of this class, which carry a daily traffic of less than 200 vehicles per day. These routes carry only 13.8 per cent of the traffic on the routes of this system. Several of these routes are required as necessary connections to form a continuous highway system secondary in importance to the Federal-aid system. On these sections traffic will increase with the improvement of present surfaces, but a considerable portion of their mileage will continue to be very low in traffic density.

The unnumbered State-aid roads, as a whole carry but a small volume of traffic. There are, however, between 30 and 40 miles of highways in this group which carried over 500 vehicles per day in 1926. These routes are short sections of connecting highways which could well be included in the State secondary system.

A number of town roads carry no traffic or are abandoned routes, and town roads carrying less than five vehicles per day are frequent. Traffic on the town-road system is, with few exceptions, extremely small in volume and local in nature, and these roads, therefore, present only minor problems as compared with the Federal-aid system.

The relative mileage and use of the several highway systems by sections of the State are shown in Table 19. These sections—the northwest and central, southwestern, southeastern, north-central, south-central and northeastern—are shown in Figure 6.[7]

A comparison of the total traffic on Federal-aid highways in the six traffic sections is shown in Figure 17 and a comparison of the average traffic density on these roads in the several sections in Figure 18.

[7] The area included in each section is described on page 26.

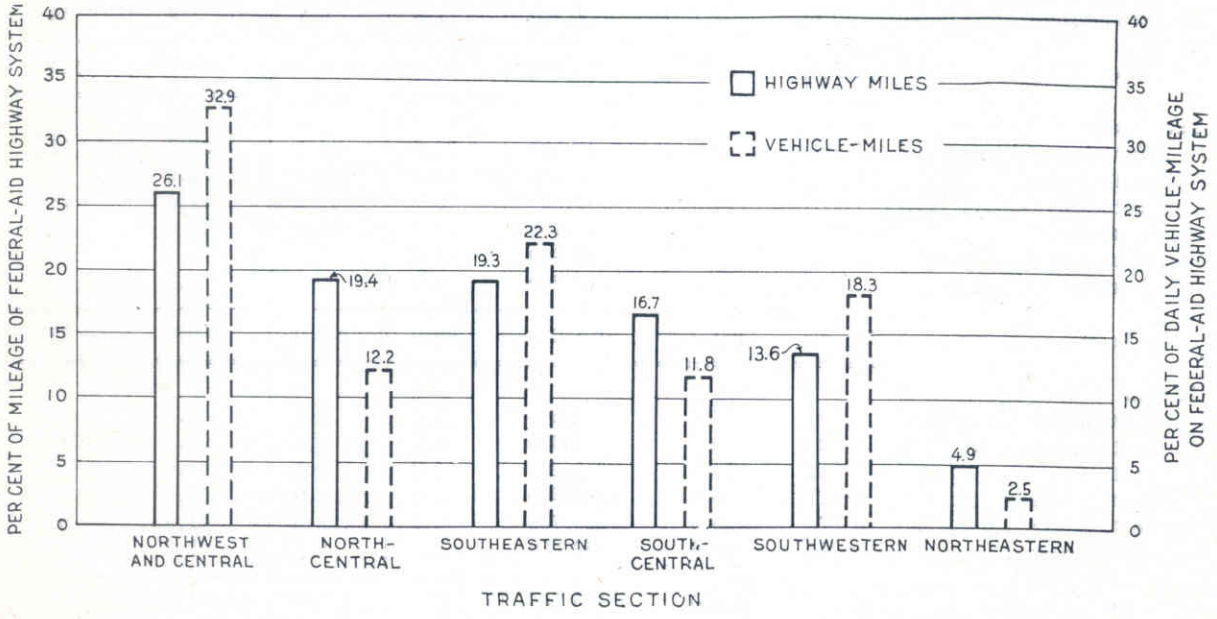


FIG. 17.—*Distribution of Federal-aid road mileage and of vehicle-mileage on the Federal-aid system in the six traffic sections of the State*

Table 19—Motor vehicle utilization and mileage of Vermont highways in the six traffic sections

Highway system and section	Highway mileage		Vehicle-mileage		Per cent of total area	Per cent of total population	Average daily traffic
	Miles	Per cent	Vehicle-miles	Per cent			
Federal-aid system:							
Northwest and central...	272.4	26.1	241,100	32.9	16.7	32.8	885
Southwestern.....	142.4	13.6	133,500	18.3	16.1	22.2	938
Southeastern.....	201.2	19.3	163,400	22.3	10.2	14.6	812
North-central.....	202.3	19.4	89,400	12.2	19.9	16.0	442
South-central.....	173.8	16.7	86,500	11.8	28.0	11.5	498
Northeastern.....	50.9	4.9	18,100	2.5	9.1	2.9	356
Total.....	1,043.0	100.0	732,000	100.0	100.0	100.0	702
Numbered State-aid roads:[1]							
Northwest and central...	105.7	11.4	33,700	12.4	16.7	32.8	319
Southwestern.....	232.9	25.2	74.200	27.4	16.1	22.2	319
Southeastern.....	85.1	9.2	28,300	10.4	10.2	14.6	333
North-central.....	154.6	16.7	42,800	15.8	19.9	16.0	277
South-central.....	240.7	26.0	64,700	23.9	28.0	11.5	269
Northeastern.....	106.3	11.5	27,300	10.1	9.1	2.9	257
Total.....	925.3	100.0	271,000	100.0	100.0	100.0	293
Unnumbered State-aid roads:							
Northwest and central...	610.9	24.5	91,000	28.6	16.7	32.8	149
Southwestern.....	471.7	18.9	79,800	25.1	16.1	22.2	169
Southeastern.....	216.7	8.7	31,600	9.9	10.2	14.6	146
North-central.....	469.1	18.8	66,700	21.0	19.9	16.0	142
South-central.....	645.5	25.9	44,600	14.0	28.0	11.5	69
Northeastern.....	79.8	3.2	4,300	1.4	9.1	2.9	54
Total.....	2,493.7	100.0	318,000	100.0	100.0	100.0	128
Town roads:							
Northwest and central...	1,766	17.4	47,700	24.5	16.7	32.8	27
Southwestern.....	1,573	15.5	37,800	19.4	16.1	22.2	24
Southeastern.....	1,412	14.0	32,500	16.7	10.2	14.6	23
North-central.....	2,092	20.7	41,900	21.5	19.9	16.0	20
South-central.....	2,810	27.8	30,900	15.8	28.0	11.5	11
Northeastern.....	467	4.6	4,200	2.1	9.1	2.9	9
Total.....	10,120	100.0	195,000	100.0	100.0	100.0	19
All rural roads:							
Northwest and central...	2,755	18.9	413,500	27.3	16.7	32.8	150
Southwestern.....	2,420	16.6	325,300	21.5	16.1	22.2	134
Southeastern.....	1,915	13.1	255,800	16.9	10.2	14.6	134
North-central.....	2,918	20.0	240,800	15.9	19.9	16.0	83
South-central.....	3,870	26.6	226,700	14.9	28.0	11.5	59
Northeastern.....	704	4.8	53,900	3.5	9.1	2.9	77
State total.....	14,582	100.0	1,516,000	100.0	100.0	100.0	104

[1] Numbered State-aid routes other than Federal-aid routes.

Table 20—Motor truck and passenger car utilization of Vermont highways by systems

Highway system	Motor truck miles		Passenger car miles		Total	Ratio truck miles to total vehicle-miles
	Vehicle-miles	Per cent	Vehicle-miles	Per cent	Vehicle-miles	
						Per cent
Federal-aid system.....	42,400	39.6	689,600	49.0	732,000	5.8
Numbered State-aid roads....	20,000	18.7	251,000	17.8	271,000	7.4
Unnumbered State-aid roads..	24,400	22.8	293,600	20.8	318,000	7.7
Town roads.....	20,300	18.9	174,700	12.4	195,000	10.4
Total.....	107,100	100.0	1,408,900	100.0	1,516,000	7.1

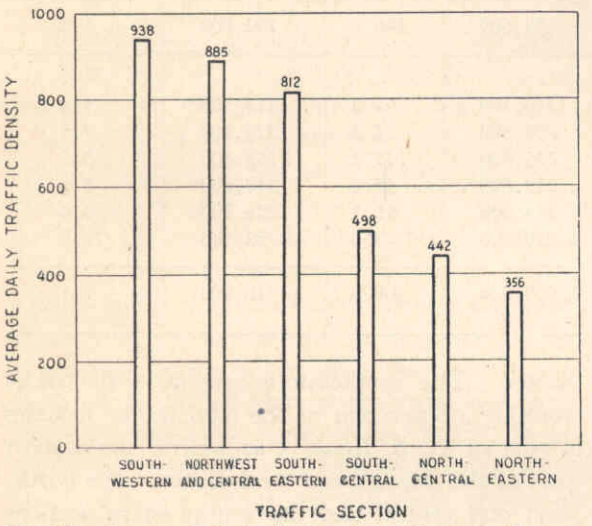


FIG. 18.—*Average daily traffic density on Federal-aid roads in the six traffic sections of the State*

Three sections, the northwest and central, the southwestern, and the southeastern, include 69.6 per cent of the population in 43.0 per cent of the area. These three sections, with 59.0 per cent of the Federal-aid system mileage, have 73.5 per cent of the traffic on this system. The same sections have 45.8 per cent of the other numbered State-aid routes and 50.2 per cent of the traffic on these routes; 52.1 per cent of the unnumbered State-aid routes and 63.6 per cent of the traffic on these routes; 46.9 per cent of the town roads and 60.6 per cent of the traffic on town roads. The distribution of mileage in the various classes of highway varies considerably, but in each case the percentage of the total rural traffic which is found in these sections considerably exceeds the percentage of the total highway mileage and area included in them.

In the south-central and northeastern sections, which are the most sparsely populated areas—having but 14.4 per cent of the population in 37.1 per cent of the area—traffic is correspondingly low. Of the Federal-aid highways, these sections have 21.6 per cent of the mileage and 14.3 per cent of the traffic; of the other numbered State-aid routes, 37.5 per cent of the mileage and 35.0 per cent of the traffic; of the unnumbered State-aid routes, 29.1 per cent of the mileage and 15.4 per cent of the traffic; and of the town roads, 32.4 per cent of the mileage and 17.9 per cent of the traffic.

The level of traffic in the northwest and central, the southwestern, and the southeastern sections is considerably above the State average on all classes of highway. The greatest variation is found on the Federal-aid system which includes in these sections the major part of the principal through routes that carry a large volume of foreign traffic in addition to the traffic produced in the area.

Passenger car traffic is of predominant importance on all highway systems, as shown in Table 20.

The importance of long distance and foreign passenger car traffic on the Federal-aid system is indicated by the lower ratio of trucks to total traffic on these routes. The greater proportion of trucks on the town roads is explained by the absence of foreign passenger car traffic rather than any important truck traffic, since the average total traffic is only 19 vehicles per day.

Table 21—Passenger car miles and motor truck miles on the Federal-aid system and on all highways of Vermont in the six traffic sections

Highway system and section	Motor truck miles		Passenger car miles		Total	Ratio truck-miles to total vehicle-miles
	Vehicle-miles	Per cent	Vehicle-miles	Per cent	Vehicle-miles	
Federal-aid system:						Per cent
Northwest and central...	14,400	34.0	226,700	32.9	241,100	6.0
Southwestern.....	7,800	18.4	125,700	18.2	133,500	5.8
Southeastern.....	7,900	18.6	155,500	22.5	163,400	4.8
North-central.....	7,300	17.2	82,100	11.9	89,400	8.2
South-central.....	3,800	9.0	82,700	12.0	86,500	4.4
Northeastern.....	1,200	2.8	16,900	2.5	18,100	6.6
Total.....	42,400	100.0	689,600	100.0	732,000	5.8
All highways:						
Northwest and central...	30,400	28.4	383,100	27.2	413,500	7.4
Southwestern.....	24,500	22.9	300,800	21.3	325,300	7.5
Southeastern.....	14,000	13.1	241,800	17.2	255,800	5.5
North-central.....	21,000	19.6	219,800	15.6	240,800	8.7
South-central.....	13,500	12.6	213,200	15.1	226,700	6.0
Northeastern.....	3,700	3.4	50,200	3.6	53,900	6.9
Total.....	107,100	100.0	1,408,900	100.0	1,516,000	7.1

The composition of motor vehicle traffic also varies considerably by sections of the State, as indicated by Table 21, which shows passenger car miles and truck miles on the Federal-aid system and the total for all highways by sections of the State.

On the Federal-aid system the ratio of truck traffic to total traffic varies from 4.4 per cent in the south-central section to 8.2 per cent in the north-central section. The lowest proportion of trucking is found in the mountainous and sparsely populated south-central area, the highest in the north-central section which is less rugged and more highly developed agriculturally. The effect of long distance and foreign passenger car traffic is also evident. The south-central section includes parts of the important east-west through traffic routes. The southeastern section, with trucks forming 4.8 per cent of the total traffic, includes a part of U. S. Route 5 as well as the eastern part of the through east-west routes. The northwest and central and the southwestern sections also carry a large volume of through passenger car traffic, but this traffic is in part offset by the motor truck traffic developed in the area.

The distribution of traffic on all roads as between passenger cars and trucks is similar to the distribution on the Federal-aid system. The proportion of trucks is slightly greater due to the inclusion of the local traffic found on the minor routes. The highest ratio of trucking to total traffic is found in the north-central section and the lowest in the southeastern and south-central sections.

COMPOSITION OF TRAFFIC

Passenger Cars

THE comparative use of the highways of the State by vehicles of Vermont and foreign registration, by city and farm-owned vehicles, and by various other types of vehicles can be expressed accurately in vehicles-miles.[8]

The total passenger car use of the Federal-aid and numbered State-aid roads on an average day, during the transportation survey, was 940,600 passenger car miles. The distribution of this traffic according to registration, ownership, type of trip, and type of usage of cars is shown in Table 22.

Foreign traffic[9] amounts to 344,300 passenger-car miles per day, or 36.6 per cent of the total passenger-car mileage, as shown in Figure 19.

The traffic of farm-owned passenger cars comprises 10.1 per cent and of city-owned passenger cars, 89.9 per cent of the total passenger car traffic on the Federal-aid and numbered State-aid routes as shown in Figure 20.

The volume of farm-owned passenger car traffic varies with the agricultural development of the area served by the routes but is more nearly uniform on all routes than is the case with city-owned traffic. On heavy-traffic routes, farm-owned traffic forms a very small part of the total. On light-traffic routes off the main routes of travel and not adjacent to centers of population, farm-owned traffic forms a much larger part of total traffic.

The approach to the Battle Monument at Bennington

The importance of long distance touring traffic on Vermont highways is indicated by the fact that 14.3 per cent of the total passenger car traffic, measured in vehicle miles, is made up of touring trips. This traffic is largely of foreign registration and limited to the main through routes and routes leading to points of historic or scenic interest.

Approximately two-thirds of the passenger car traffic, measured in vehicle-miles, on the Federal-aid and other numbered State-aid routes is made up of cars used for pleasure or recreational purposes. This traffic is limited largely to the main routes of travel, the scenic routes, and routes in the summer resort areas.

The different types of passenger car traffic vary greatly in length of trip as shown in Table 23.

[8] The various types of traffic as used in this and the following section are defined as follows:

State of registration:

Vermont includes all motor vehicles registered in Vermont.

Foreign includes all motor vehicles not registered in Vermont.

Place of ownership:

Farm includes all motor vehicles owned by persons residing on farms.

City includes all motor vehicles owned by persons residing in cities, villages, or urban areas.

Type of usage:

Business indicates that the car on the trip recorded was being used for business purposes.

Pleasure indicates that the car on the trip recorded was being used for pleasure or recreational purposes.

Type of trip:

Touring includes all trips of more than one day's duration taken primarily for recreation.

Non-touring includes all other trips.

Type of trucking:

For hire includes all trucks engaged in hauling commodities either on a contract or tariff basis.

[9] For a discussion of the distribution of foreign traffic see pages 28 to 30 and Figure 7.

Of the total passenger car traffic over one-half is made up of cars traveling less than 30 miles per trip, and approximately 20 per cent of cars traveling over 200 miles per trip. Of traffic of cars registered in Vermont almost two-thirds

Table 22—Composition of passenger car traffic on the Federal-aid and numbered State-aid roads

Type of passenger car traffic	Daily passenger car-miles	Percentage of daily passenger car-miles
State of registration:		
Vermont	596,300	63.4
Foreign	344,300	36.6
Place of ownership:		
City	845,600	89.9
Farm	95,000	10.1
Type of trip:		
Touring	134,500	14.3
Non-touring	806,100	85.7
Type of usage:		
Business	317,000	33.7
Pleasure	623,600	66.3
All types	940,600	100.0

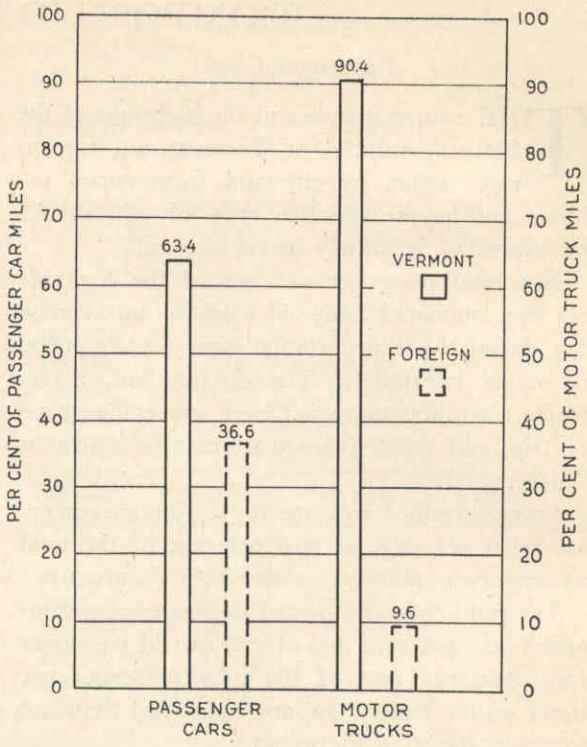


FIG. 19.—*Relation of Vermont and foreign passenger car and motor truck traffic on Federal-aid and other numbered State-aid routes*

Table 23—Distribution of passenger car traffic by length of trip[1]

Length of trip	Type of passenger car traffic								
	Total	Vermont	Foreign	City	Farm	Touring	Non-touring	Business	Pleasure
Miles	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent
Less than 10	29.8	42.0	10.8	28.1	75.6	0.0	36.3	43.0	23.1
10– 19	16.1	21.9	6.9	16.1	15.0	0.0	19.6	21.6	13.3
20– 29	6.9	8.7	4.1	7.0	3.7	0.0	8.4	7.9	6.4
30– 39	5.0	6.1	3.1	5.1	2.7	0.0	6.1	5.0	5.0
40– 49	3.8	4.5	2.7	3.9	1.0	0.0	4.6	3.8	3.8
50– 59	2.4	2.6	2.0	2.5	0.0	0.4	2.8	1.7	2.7
60– 69	1.9	2.1	1.6	1.9	0.3	0.5	2.2	2.1	1.8
70– 79	1.8	1.8	1.8	1.8	0.7	1.1	1.9	1.6	1.8
80– 89	1.5	1.3	1.8	1.5	0.0	1.0	1.6	1.3	1.6
90– 99	1.4	1.2	1.7	1.5	0.0	0.8	1.5	0.9	1.7
100–149	5.3	3.6	8.1	5.5	1.0	4.2	5.6	4.6	5.7
150–199	4.0	1.4	8.1	4.1	0.0	6.4	3.5	2.4	4.8
200–299	8.4	1.8	18.8	8.8	0.0	27.6	4.3	2.8	11.3
300 & over	11.7	1.0	28.5	12.2	0.0	58.0	1.6	1.3	17.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[1] Based upon a total of 8,262 cars.

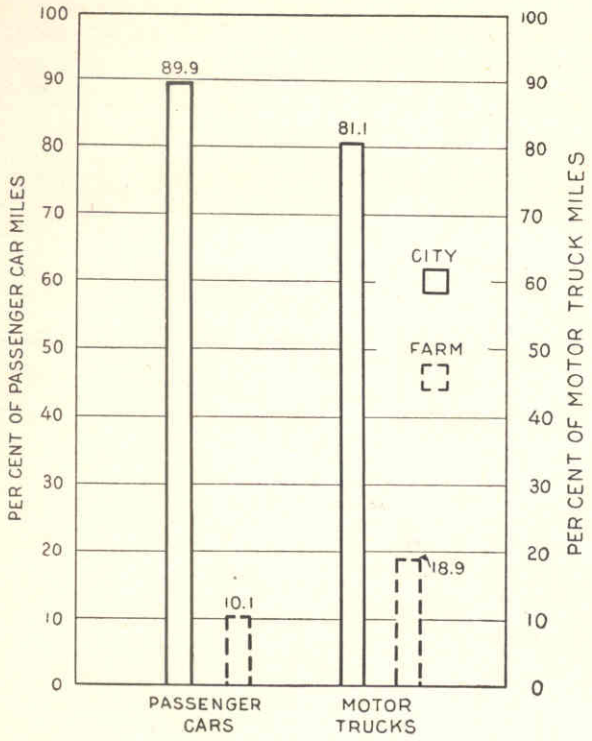


FIG. 20.—*Relation of city and farm passenger car and motor truck traffic on the Federal-aid and other numbered State-aid routes*

cover less than 30 miles per trip and less than three per cent over 200 miles; of the traffic of farm-owned cars, 94.3 per cent cover less than 30 miles per trip and there is no traffic of more than 200 miles per trip; of business traffic over 70 per cent is made up of vehicles traveling less than 30 miles per trip and less than 5 per cent over 200 miles.

Approximately 50 per cent of foreign traffic is made up of vehicles traveling over 200 miles per trip; of touring traffic, 85.6 per cent is of this character; and of pleasure or recreational traffic, 28.3 per cent is by vehicles making over 200 miles per trip.

The distribution by length of trip, as shown in Table 23, is based on the entire trip from point of origin to point of destination, which—particularly for long-distance traffic—includes a considerable mileage on highways of adjacent States. The average total trip mileage and trip mileage on highways of Vermont for each type of passenger car traffic are shown in Table 24.

The average mileage on Vermont highways traveled per trip by cars of foreign registration is approximately three times as great as that of Vermont cars. City-owned cars travel four times as far on Vermont highways as farm-owned cars; and pleasure or recreational cars use the Vermont highways for distances that average twice as great as the trips of business cars on the highways of the State. The number of passengers per car also varies considerably with the various types of

A dangerous railroad grade crossing eliminated by the construction of Federal-aid Project No. 58, an improvement of the Summit Road between Gassetts and North Clarendon. The new road is surfaced with gravel.

Table 24—Average mileage per trip and average passengers per car for various types of passenger car traffic

Type of traffic	Average mileage per trip [1]		Average number of passengers per car
	Total	On Vermont highways	
State of registration:			
Vermont	31	24	2.7
Foreign	199	75	3.0
Place of ownership:			
City	102	46	2.8
Farm	12	11	2.4
Type of trip:			
Touring	348	118	3.3
Non-touring	47	30	2.7
Type of usage:			
Business	38	25	1.9
Pleasure	123	52	3.2

[1] Averages shown are the arithmetic mean of the trip-mileage of cars observed. This average is influenced greatly by exceptionally long trips, but provides a reliable basis of comparing the various types of traffic.

traffic. Business cars average 1.9 persons per car as compared with 3.2 persons per car for pleasure or recreational cars; other variations are largely the result of variations in the proportion of business cars in each group.

Motor Trucks

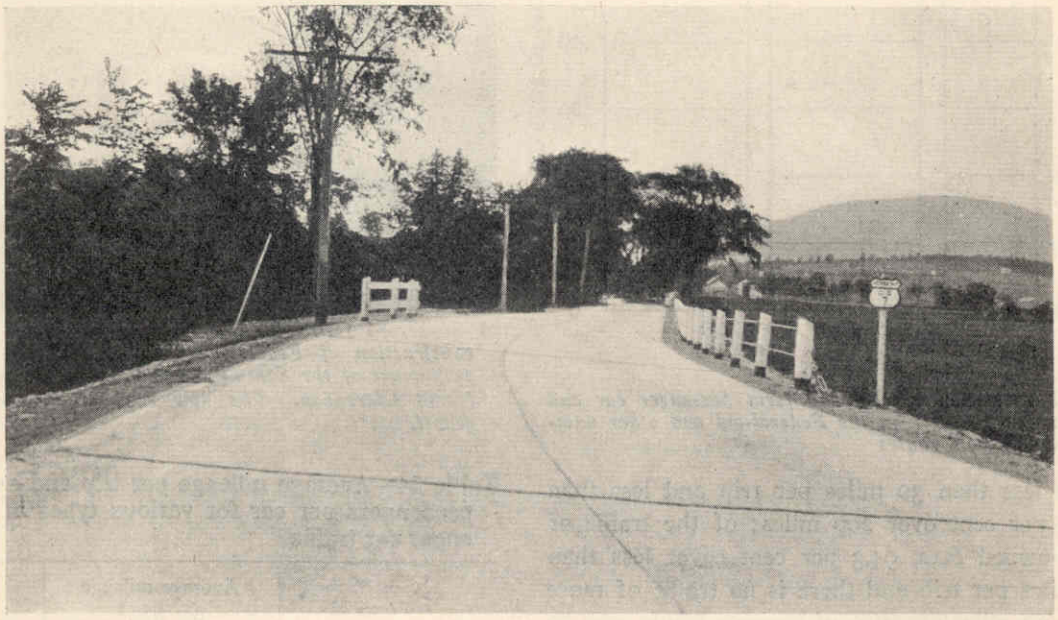
Average daily motor truck use of the Federal-aid and other State-aid highways during the period of the survey was 62,400 vehicle-miles. The distribution of this traffic by place of registration, ownership and type of trucking is shown in Table 25.

The proportionate use of highways in the State by trucks of foreign registration is considerably less than the use by foreign passenger cars. As shown in Table 25 and Figure 19, only 9.6 per cent of the total motor truck miles is produced by foreign trucks.

Foreign trucks operate primarily upon the principally traveled routes near the State boundaries. Used household furniture, fresh fruits, groceries, gasoline, and bakery goods are the principal commodities hauled by them.

Little difference was found in the average net cargo hauled by Vermont and foreign trucks, that of the former being 2,460 pounds and of the latter 2,360 pounds.

The use of the Federal-aid and numbered State-aid roads by trucks for hire totals 13,900 truck-miles per day, or 22.2 per cent of the total truck use of these highways. These trucks are engaged principally in the hauling of clay, gravel, sand, stone, milk, lumber, used household furniture, and general freight. Approximately 70 per cent of the trucks operating for hire are engaged in the transportation of these commodities. The average net cargo of trucks operated for hire is



A section of concrete pavement constructed with Federal aid on U. S. Route No. 7, near Pownal

Table 25—Composition of motor truck traffic on the Federal-aid and numbered State-aid roads

Type of truck traffic	Average daily truck-miles	Per cent of total daily truck-miles
State of registration:		
Vermont	56,400	90.4
Foreign	6,000	9.6
Type of trucking:		
For hire	13,900	22.2
Other than for hire	48,500	77.8
Place of ownership:		
City	50,600	81.1
Farm	11,800	18.9
Total	62,400	100.0

Table 26—Distribution of motor truck traffic by length of trip[1]

Length of trip	Motor trucks	Net cargo tonnage
Miles	Per cent	Per cent
Less than 10	45.2	42.7
10–19	22.9	25.8
20–29	10.3	9.5
30–39	6.3	6.4
40–49	5.0	5.0
50–59	2.8	2.8
60–69	1.3	1.3
70–79	1.0	1.1
80–89	0.8	0.7
90–99	0.6	0.6
100 and over	3.8	4.1
Total	100.0	100.0

[1] Based upon 3,163 loaded trucks.

3,300 pounds as compared with 2,240 pounds for other trucks.

City-owned trucks comprise 81.1 per cent of the motor truck use of the same systems as shown in Table 25 and Figure 20. The loads carried by city-owned trucks are considerably greater than those hauled by farm-owned trucks. The average net cargo hauled by city trucks is 2,710 pounds as compared with 1,270 pounds for farm-owned trucks. This small cargo hauled by farm-owned trucks and a correspondingly low gross weight indicate that the use of the highways of the State by farm-owned trucks is mainly by small-capacity trucks, hauling light loads.

That motor truck traffic is primarily a local and short-haul movement is shown by Table 26. Of the loaded trucks observed on the principal highways of the State, 45.2 per cent were traveling less than 10 miles per trip, and 78.4 per cent less than 30 miles. Of the net tonnage of commodities transported 42.7 per cent was being hauled less than 10 miles, and 78.0 per cent less than 30 miles. Only 7.8 per cent of the net tonnage hauled by loaded trucks was transported 60 miles or more.

Table 27—Average mileage per trip and average weight per truck for various types of motor truck traffic

Type of truck traffic	Average mileage per trip[1]		Average weight	
	Total	On Vermont highways	Net cargo	Gross
State of registration:			Pounds	Pounds
Vermont	19	16	2,460	6,660
Foreign	59	30	2,360	7,260
Type of trucking:				
For hire	24	18	3,300	8,040
Other than for hire	23	18	2,240	6,380
Place of ownership:				
City	26	20	2,710	7,200
Farm	12	11	1,270	4,440

[1] Averages shown are the arithmetic mean of trip mileage of trucks observed. This average is influenced by the relatively small number of long trips but provides a reliable basis of comparing the various types of traffic.

The distribution by lengths of trip, as shown in Table 26, is based on the total trip from point of origin to point of destination, which—particularly for the longer trips—includes the mileage traveled on highways of adjacent States. The average total trip mileage, the trip mileage on the highways of Vermont, the average net cargo weight and the average gross weight per truck for each type of truck traffic are shown in Table 27.

The average distance traveled on Vermont highways per trip by foreign trucks is almost double that of Vermont trucks. The length of trips by trucks operated for hire and other trucks is uniform; but city-owned trucks travel almost twice as far as farm-owned trucks per trip.

Table 28—Comparison of area, population, highway mileage, and traffic in the six traffic sections

Section	Area	Population 1920	Highway miles		Average daily vehicle-miles	
			Federal-aid system	All highways	Federal-aid system	All highways
	Square miles					
Northwest and central	1,519.9	115,646	272.4	2,755	241,100	413,500
Southwestern	1,467.4	78,126	142.4	2,420	133,500	325,300
Southeastern	930.9	51,489	201.2	1,915	163,400	255,800
North-central	1,816.0	56,398	202.3	2,918	89,400	240,800
South-central	2,556.6	40,427	173.8	3,870	86,500	226,700
Northeastern	833.2	10,342	50.9	704	18,100	53,900
Total	9,124.0	352,428	1,043.0	14,582	732,000	1,516,000

Section	Per cent of area	Per cent of population	Per cent of highway miles		Per cent of average daily vehicle-miles	
			Federal-aid	All highways	Federal-aid	All highways
Northwest and central	16.7	32.8	26.1	18.9	32.9	27.3
Southwestern	16.1	22.2	13.6	16.6	18.3	21.5
Southeastern	10.2	14.6	19.3	13.1	22.3	16.9
North-central	19.9	16.0	19.4	20.0	12.2	15.9
South-central	28.0	11.5	16.7	26.6	11.8	14.9
Northeastern	9.1	2.9	4.9	4.8	2.5	3.5
Total	100.0	100.0	100.0	100.0	100.0	100.0

Section	Population per square mile	Population increase[1] 1910–1920	Average daily vehicle-miles Federal-aid system			Average daily vehicle-miles all highways		
			Per square mile	Per highway mile	Per person	Per square mile	Per highway mile	Per person
Northwest and central	76	0.4	158.6	885.1	2.1	272.1	150.1	3.6
Southwestern	53	− 2.1	91.0	937.5	1.7	221.7	134.4	4.2
Southeastern	55	8.9	175.5	812.1	3.2	274.8	133.6	5.0
North-central	31	− 3.1	49.2	441.9	1.6	132.6	82.5	4.3
South-central	16	−11.1	33.8	497.7	2.1	88.7	58.6	5.6
Northeastern	12	− 2.5	21.7	355.6	1.8	64.7	76.6	5.2
Total	39	− 1.0	80.2	701.8	2.1	166.2	104.0	4.3

[1] Minus (−) indicates decrease.

HIGHWAY TRAFFIC AND POPULATION

HIGHWAY traffic is primarily a means of local transportation. The daily volume in any given area is generally dependent quite largely upon the population of the area, since population reflects motor vehicle registration and highway use.

In Vermont, however, an important part of the passenger car traffic is made up of tourist and recreational traffic originating in other States, and such traffic is mainly a comparatively long distance movement which has little relationship to the population of the area. Excluding foreign passenger car traffic, only 27.4 per cent of passenger car traffic and 20.7 per cent of total truck traffic is made up of vehicles traveling 30 miles or more per trip. Approximately three-fourths of the traffic of vehicles registered in the State is produced in any given area in Vermont within a radius of 30 miles.

The relationship between traffic and population in the State is shown in Figure 6. The greater density of traffic in and adjacent to the areas of densest population is evident.

A comparison of area, population, highway mileage, and highway traffic in the six traffic sections of the State is shown in Table 28.

The northwest and central section is the most densely populated area of the State, having a density almost double the State average. In the southwestern and southeastern sections, population density is approximately one-third higher than the State average. The remaining sections are below the State average in population density, that of the south-central section being less than one-half, and of the northeastern section less than one-third of the State average.

A more detailed analysis of the distribution of population is shown in Table 29.

Approximately 5 per cent of the area of the State has a population density of 100 persons per square mile or over, and in this area nearly 40 per cent of the total population resides. Over half of the State has a population of less than 25 persons per square mile, and in this area resides approximately one-fifth of the population.

The areas having a population density of 100 or more persons per square mile are limited to the northwest and central, the southwestern and the southeastern sections.

Analysis of the data presented for each section in Tables 28 and 29 indicates the characteristics of each section which are important in determining present and future highway requirements.

The northwest and central section is the most important traffic area in the State, has the greatest density of population, the greatest volume of traffic per mile of highway, and is exceeded only by the southwestern section in traffic per mile on

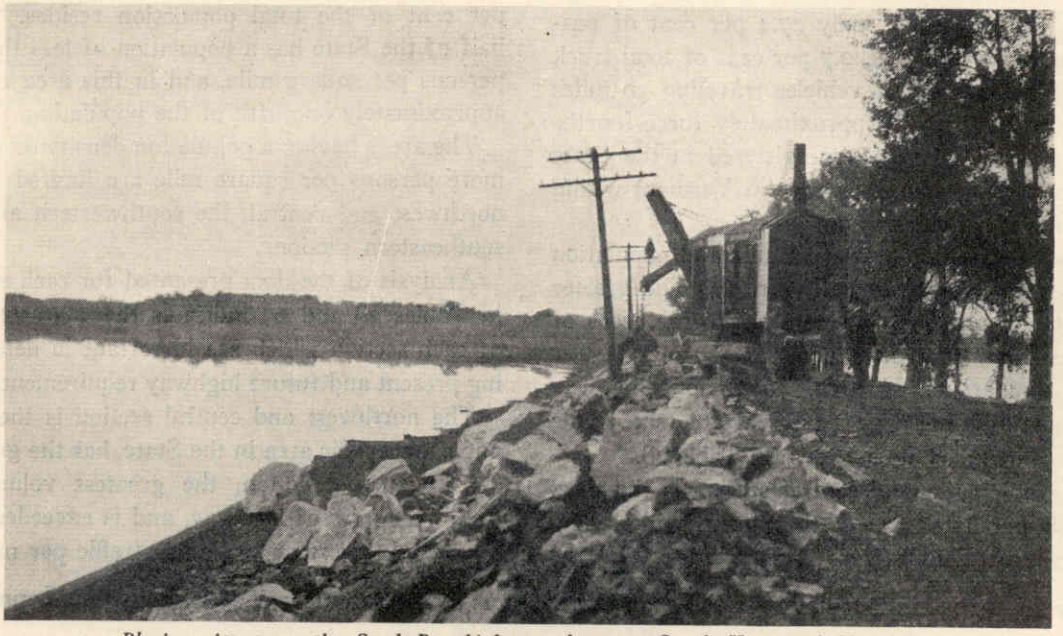
Table 29—Area and population in the six traffic sections of the State classified by density of population per square mile in 1920

Section	Per cent of area having a population per square mile of			Per cent of population residing in areas having a population per square mile of		
	0–24	25–99	100 & over	0–24	25–99	100 & over
	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent
Northwest and central	25.6	65.7	8.7	5.8	36.5	57.7
Southwestern	39.9	53.8	6.3	13.2	41.7	45.1
Southeastern	37.5	42.8	19.7	13.4	28.0	58.6
North-central	50.9	48.6	0.5	29.2	62.0	8.8
South-central	87.9	12.1	.....	70.7	29.3	.....
Northeastern	86.5	13.5	.....	58.3	41.7	.....
Total	57.2	38.2	4.6	21.3	39.8	38.9

the Federal-aid highway system. Its population is slowly increasing, and 57.7 per cent resides in 8.7 per cent of its area. In this section a large volume of traffic may be expected on the principal routes connecting the centers of population. Since a large part of the population is concentrated in a small area, the demand for highway service on the minor traffic roads—the unnumbered State-aid and town roads—will continue to be small. The highway needs of this area during the immediate future can only be served by the construction of surfaces adequate for the increasing traffic on the principal traffic routes.

The more important present traffic routes will require improvement to meet future traffic needs. Traffic on the minor routes will remain small.

The southeastern section, occupying the narrow valley between the Green Mountains and the Connecticut River, is small in area and ranks second in population density. Almost 20 per cent of its area has a population of 100 or more persons per square mile. It is increasing in population more rapidly than any other section of the State, but the increase is limited to the more important villages. This section ranks first in traffic on the Federal-aid system per square mile of area and



Placing riprap on the Sand Bar highway, between South Hero and Nutton

The southwestern section is third in population density and second in density of traffic on the highway system as a whole, but in traffic density on the Federal-aid system it ranks first. Of its total population, 45.1 per cent resides in 6.3 per cent of the area, and 39.9 per cent of the area has a population of less than 25 persons per square mile. Population of the section decreased between 1910 and 1920, but the more important cities and villages are increasing in population. Traffic is largely concentrated on the Federal-aid highways and the more important numbered State-aid routes. This section includes a part of U. S. Route 7 and other important through routes on which foreign traffic may be expected to increase.

per person, indicating the comparatively large mileage of Federal-aid highways in the area. It also exceeds the State average in total traffic per person, indicating the importance of foreign traffic in the area. Its highway needs are similar to those of the northwest and central and southwestern sections, and traffic on the important highways is similar in its characteristics to the traffic in the above sections. The main routes will require further improvement, but on the minor routes traffic will remain small, and will not demand much improvement.

The north-central section has a population density slightly below the State average and its population is more uniformly distributed than that of

the other sections of the State. It is primarily an agricultural region and traffic is more widely diffused than in the sections previously discussed. Traffic on the Federal-aid system is, therefore, lower in proportion to total traffic than in the other sections of the State. Foreign traffic is of less importance and highway requirements are primarily the need for improved medium and minor traffic routes. Population is decreasing slowly, but the section is developing agriculturally.

The south-central section, comprising the rugged Green Mountain area, has a very small and decreasing population. It has no centers of population, and 87.9 per cent of its area has a population density of less than 25 persons per square mile. Traffic is correspondingly small, although traffic on the Federal-aid highways is similar to that in the north-central section. Traffic per person on the Federal-aid highways is equal to the State average and total traffic per person greatly exceeds the State average, indicating the importance of traffic originating in other areas. The principal through and connecting routes will carry a medium volume of traffic, while the traffic on other routes will remain very small.

The northeastern section is a relatively undeveloped part of the State. Population is very small and decreasing. Traffic per mile of highway is small and highway mileage also low in proportion to area. Highway needs in this area will be met by providing service for traffic of medium density on a very limited mileage of highways. Traffic on the remaining highways will be very small.

FORECAST OF HIGHWAY TRAFFIC

SINCE no adequate historical series of traffic records are available in Vermont, it is impossible to make a forecast based directly upon past trends. In States where historical series of traffic records are available, highway traffic and motor vehicle registration have been found to increase at equal rates. A comparison of highway traffic and motor vehicle registration in Maine, Maryland, Massachusetts, Michigan and Wisconsin is shown in Figure 21.[10]

Vermont varies from these States with respect to traffic growth principally in the volume of foreign traffic on the more important highways and in the rate of population increase. The proportion of foreign traffic on Vermont highways was recorded at 33 points during a traffic count conducted by the State Highway Department in August, 1924. At 32 of these points, which were similar in location to stations of the 1926 survey, it was found that 38.1 per cent of the cars were of foreign registration. At the 32 similarly located stations during the 1926 survey it was found that 38.6 per cent of the traffic was foreign. In New Hampshire, which also has a large volume of foreign traffic, traffic counts obtained in 1918, 1922 and 1926 indicate that foreign traffic at corresponding points was 41 per cent of the total in 1918; 40 per cent in 1922; and 48 per cent in 1926.

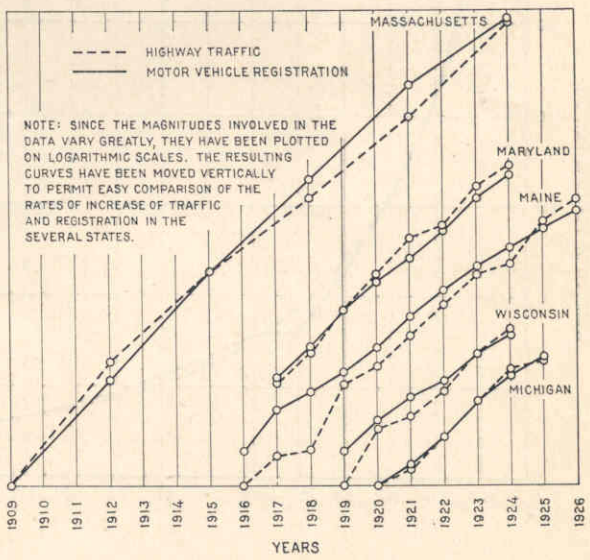


FIG. 21.—*Trends of highway traffic and motor vehicle registration in Massachusetts, Maryland, Maine, Wisconsin and Michigan.*

[10] For a detailed presentation of highway traffic and motor vehicle registration data in each of these States see "Report of a Survey of Transportation on the State Highway System of Connecticut," 1926; "The Maine Highway Transportation Survey," Public Roads, Vol. 6, No. 3, May, 1925; and "Report of a Survey of Transportation on the State Highway System of Ohio," 1927.

These data indicate that foreign traffic in these States is increasing slightly more rapidly than local traffic and that a forecast of total traffic on Vermont highways based on motor vehicle registration in the State would be conservative, but for a short period of years would represent total traffic with reasonable accuracy.

Motor vehicle registration can be predicted on the basis of exact records available since 1913. The increase in motor vehicle registration is a function of two variables, (1) increase in population, and (2) the increase in ownership and use of motor vehicles in proportion to population, measured by the number of persons per motor vehicle.

Population, motor vehicle registration, and persons per car from 1913 to 1926 and extended to 1936 are shown in Table 30.

The persons per car for each year from 1913 to 1925 and the extension of the trend to 1936 are shown in Figure 22.

The trend of motor vehicle registration in Vermont from 1913 to 1926, inclusive, indicates an increase in registration of 39.8 per cent between 1926 and 1931, and of 24.5 per cent between 1931 and 1936, or an increase of 74.0 per cent for the 10-year period from 1926 to 1936.[11] Assuming a uniform rate of increase in traffic and motor vehicle registration, traffic may be expected to increase in the same ratio as the registration.

This rate of increase in highway traffic will apply for the State as a whole. Traffic originating in the areas of the State which are rapidly increasing or decreasing in population will increase more or less rapidly than the average. Such areas, however, are small and, considering the volume of traffic on the principal highways which originates outside of the immediate local areas, the application of a uniform rate of traffic increase to the entire State is justified.[12]

The expected traffic in 1931 was obtained by applying the rates of motor vehicle registration

[11] Based on actual registration in 1926, which is the measure of traffic for this year, and estimated registration in 1931 and 1936.

[12] The validity of this assumption is substantiated by an analysis of registration increase by towns in New Hampshire for the years 1922 to 1925, inclusive. Notwithstanding variations in population density, population trends and present persons per car, the rate of decrease in persons per car in the different areas was very uniform.

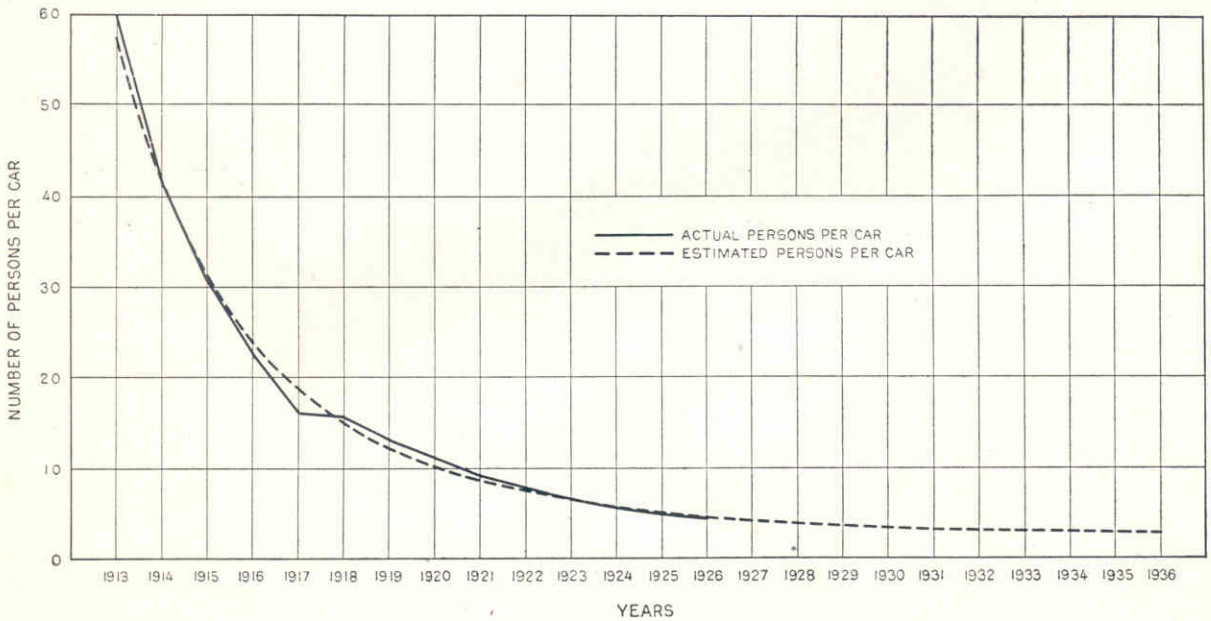


FIG. 22.—*Number of persons per motor vehicle in Vermont by years*

and traffic increase to the 1926 traffic at each survey station. The resulting forecast of traffic at each station is shown in Appendix II.

Industrial or recreational resort development, as well as changes affecting the present highway system as to location of routes, routing of traffic, detours, and condition of improvement, will influence traffic on short sections of highway, and it is not expected that the estimates of traffic for 1931 and 1936 will in all cases reflect the actual traffic on each section of highway in these years, but it is believed that the estimates will reflect, with reasonable accuracy, highway traffic on the Federal-aid and numbered State-aid highway systems.

A stone base under construction north of St. Albans

Table 30—Comparison of population and the number of motor vehicles in the State of Vermont

Year	Population[1] (hundreds)	Registration of motor vehicles (hundreds)		Persons per car	
		Actual	Estimated	Actual	Estimated
1913	3,548	59	62	60.0	57.6
1914	3,544	85	85	41.8	41.6
1915	3,541	115	114	30.8	31.1
1916	3,537	157	149	22.6	23.8
1917	3,533	216	188	16.3	18.8
1918	3,530	226	233	15.6	15.1
1919	3,526	268	284	13.2	12.4
1920	3,524	316	339	11.1	10.4
1921	3,524	373	397	9.46	8.87
1922	3,524	439	459	8.03	7.68
1923	3,524	528	523	6.68	6.74
1924	3,524	612	589	5.76	5.99
1925	3,524	696	655	5.07	5.38
1926	3,524	741	722	4.76	4.88
1927	3,524	.....	788	.....	4.47
1928	3,524	.....	853	.....	4.13
1929	3,524	.....	916	.....	3.85
1930	3,524	.....	977	.....	3.61
1931	3,524	.....	1,036	.....	3.40
1936	3,524	.....	1,290	.....	2.73

[1] Population as of July 1, each year. For the years 1913 to 1923, inclusive, the populations given are Bureau of Census estimates. Those for the years 1924 to 1936, inclusive, are extensions by the method used by the Bureau of the Census, which assumes an unchanging population.

TRAFFIC CLASSIFICATION OF VERMONT HIGHWAYS

THE fundamental purpose of any highway improvement is the provision of adequate service for the volume and type of traffic which is using and will use each section of highway, and the guiding economic principle is the selection of the class of improvement which will provide maximum traffic service at a minimum total cost including capital costs, maintenance and repair costs, salvage value, and vehicle operating costs.

The proper selection of highway improvements suitable for the various conditions to be met during the life of the improvement should be based on the principal physical and traffic factors dominating each section of highway requiring improvement.

The serviceability of a given type of improvement is influenced greatly by soil, subgrade, drainage, climatic and other physical conditions as well as by the design, quality of materials, construction methods, and characteristics of the traffic, particularly heavy motor truck wheel loads. The type of surface and the design selected for a given improvement should be the type and design which will most economically serve present and expected traffic, under existing soil, subgrade, drainage, climatic and other physical characteristics.

To provide a basis for the establishment of a balanced program of highway improvement to meet traffic needs in Vermont a traffic classification of Vermont highways has been established on the basis of the principal traffic data, which are (1) total present motor vehicle traffic and estimated traffic in 1931 and 1936, (2) total truck traffic, and (3) traffic of large capacity trucks. The highways are classified in three groups, designated as major, medium and minor traffic routes or sections of routes, according to their average daily present and estimated future traffic.

Routes or sections of routes carrying 1,500 or more motor vehicles are classed as major routes; those carrying from 800 to 1,500 vehicles medium routes; and those carrying less than 800 vehicles minor routes. The routes or sections of routes are classified on the basis of the observed 1926 traffic, and the estimated traffic in 1931. The estimated traffic in 1936 is employed to indicate the probable classification in that year.

Highways classed as major traffic sections include the routes carrying 1,500 or more vehicles in 1926, termed Major 1 sections, and also those routes or sections carrying less than 1,500 vehicles in 1926 but which are expected to carry 1,500 or more vehicles by 1931. This latter group, termed Major 2 sections, and included in the major classification since any proposed construction on these sections will carry in excess of 1,500 vehicles during all or a substantial part of the expected life of the improvement.

Highways classed as medium traffic sections include all sections carrying between 800 and 1,500 vehicles in 1926, exclusive of the sections that are expected to carry 1,500 or more vehicles by 1931. The Medium 1 group includes those sections which are expected to carry 1,500 or more vehicles by 1936 and the Medium 2 group those sections carrying between 800 and 1,500 vehicles in 1926 which are expected to carry less than 1,500 vehicles by 1936.

Included in the medium traffic group are also those sections carrying less than 800 vehicles in 1926 but which are expected to carry between 800 and 1,500 vehicles by 1931. This group, termed Medium 3, is included in the medium classification on the theory that improvements made on these routes should be designed to carry in excess of 800 vehicles. Such improvements, however, are not urgently required at the present time and the improvement of these routes should normally be deferred until the completion of the more urgently needed improvement in the higher classification.

Highways expected to carry less than 800 vehicles in 1931 are included in the minor classification. The Minor 1 group includes those sections expected to carry more than 800 vehicles by 1936 and the Minor 2 group those sections expected to carry less than 800 vehicles in 1936.

These classes and the traffic limits of each class are summarized in the following tabulation:

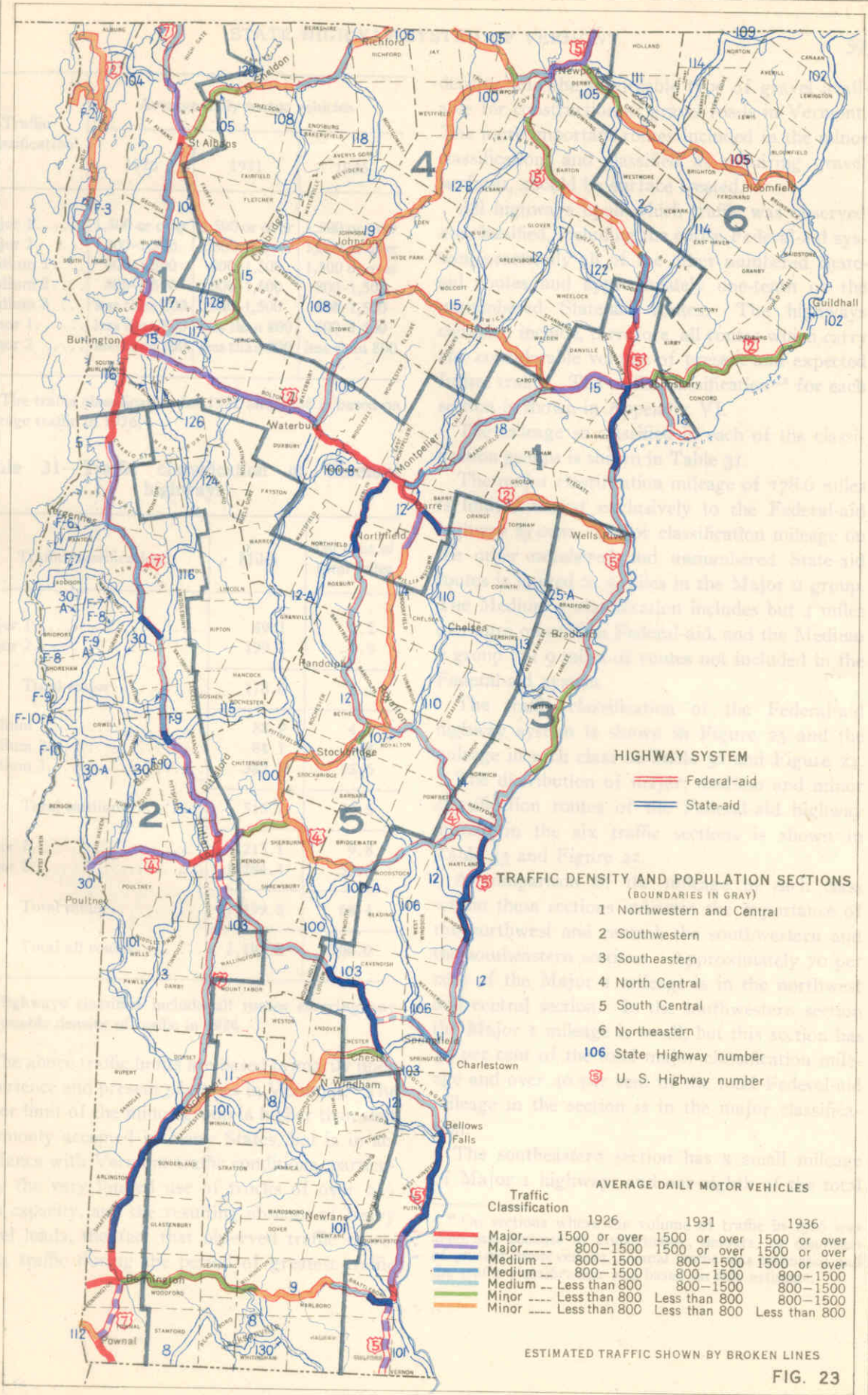


FIG. 23

ENGINEER REPRODUCTION PLANT, U. S. ARMY, WASHINGTON, D. C. 6999 1927

TRAFFIC CLASSIFICATION OF THE FEDERAL-AID SYSTEM

Traffic classification[1]	Average daily motor vehicles		
	1926	1931	1936
Major 1	1,500 or over	1,500 or over	1,500 or over
Major 2	800–1,500	1,500 or over	1,500 or over
Medium 1	800–1,500	800–1,500	1,500 or over
Medium 2	800–1,500	800–1,500	800–1,500
Medium 3	less than 800	800–1,500	800–1,500
Minor 1	less than 800	less than 800	800–1,500
Minor 2	less than 800	less than 800	less than 800

[1] The traffic classification for 1931 and 1936 is based on average traffic in 1926.

Table 31—Traffic classification of Vermont highways[1]

Traffic classification	Miles	Per cent of total miles
Major 1	49.1	2.2
Major 2	129.5	5.9
Total major	178.6	8.1
Medium 1	88.9	4.1
Medium 2	84.1	3.8
Medium 3	342.7	15.6
Total medium	515.7	23.5
Minor 1	215.1	9.8
Minor 2	1,284.4	58.6
Total minor	1,499.5	68.4
Total all routes	2,193.8	100.0

[1] Highways classified include all routes carrying any appreciable density of traffic in 1926.

The above traffic limits are based primarily upon experience and present practices in Vermont. The upper limit of the minor group is higher than that commonly accepted in many States, but is in accordance with Vermont traffic conditions, particularly the very limited use of trucks of over 2½ tons capacity, and the resulting absence of heavy wheel loads, the fact that observed traffic represents traffic during the period of greatest traffic density, and the serviceable type of gravel available for construction of gravel roads in Vermont. The more important routes included in the minor classification, and classified as requiring gravel surfaces, should be surface treated.

All highways upon which traffic was observed are classified, including the entire Federal-aid system, practically all of the other numbered State-aid routes and approximately one-tenth of the unnumbered State-aid routes. The highways classified include, therefore, all routes which carry any considerable volume of present and expected future traffic. The traffic classification [13] for each section is shown in Appendix VI.

The mileage so classified in each of the classification groups is shown in Table 31.

The major classification mileage of 178.6 miles is limited almost exclusively to the Federal-aid highway system. Major classification mileage on the other numbered and unnumbered State-aid routes is limited to 3 miles in the Major 2 group. The Medium 1 classification includes but 4 miles of routes other than Federal-aid, and the Medium 2 group but 9 miles of routes not included in the Federal-aid system.

The traffic classification of the Federal-aid highway system is shown in Figure 23 and the mileage in each class in Table 32 and Figure 24.

The distribution of major, medium and minor classification routes of the Federal-aid highway system in the six traffic sections is shown in Table 33 and Figure 25.

A comparison of the mileage in each class within these sections indicates the importance of the northwest and central, the southwestern and the southeastern sections. Approximately 70 per cent of the Major 1 mileage is in the northwest and central section. In the southwestern section the Major 1 mileage is small, but this section has 35 per cent of the total major classification mileage and over 40 per cent of the total Federal-aid mileage in the section is in the major classification.

The southeastern section has a small mileage of Major 1 highways and one-eighth of the total

[13] On sections where the volume of traffic in 1926 was abnormal because of construction, detours, or condition of present improvement, normal traffic was estimated and the traffic classification was based on this estimate.

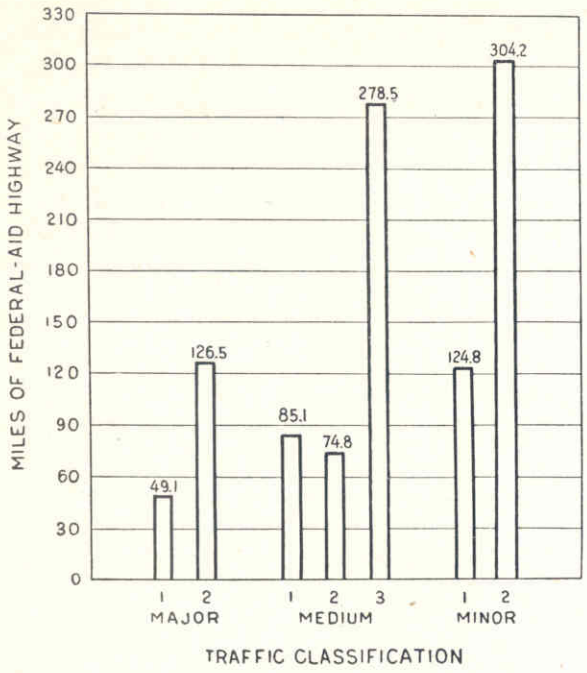


FIG. 24.—*Traffic classification of Federal-aid road mileage*

Table 32—Traffic classification of Vermont Federal-aid system

Traffic classification	Miles	Per cent of total miles
Major 1	49.1	4.7
Major 2	126.5	12.1
Total major	175.6	16.8
Medium 1	85.1	8.1
Medium 2	74.8	7.2
Medium 3	278.5	26.7
Total medium	438.4	42.0
Minor 1	124.8	12.0
Minor 2	304.2	29.2
Total minor	429.0	41.2
Total Federal-aid system	1,043.0	100.0

major classification routes. It has, however, a large mileage of medium classification routes, including more than one-half of the Medium 1 mileage and approximately one-third of the total medium classification mileage. Major and medium classification mileage constitutes 78 per cent of the total Federal-aid system in the northwest and central sections, 93 per cent in the southwestern and 81 per cent in the southeastern, as compared with 19 per cent in the north-central, 33 per cent in the south-central, and no mileage in the northeastern section.

Experience in Vermont indicates that when traffic exceeds approximately 800 vehicles per day, under average physical conditions, ordinary gravel and similar surfaces, even though surface treated, cannot be economically maintained. Above that traffic density the type and design of surface required is largely a function of the volume and type of traffic and the frequency of heavy wheel loads, the choice of types including bituminous-treated types for the lower densities and the several pavement types for the greater densities.

If, on the basis of this experience, those sections of Vermont Federal-aid highways which carry a traffic in excess of 800 vehicles per day in 1926 be considered as requiring a type of surface superior to gravel, plain or surface treated, it is found that approximately one-third of the 1,043 miles of the Federal-aid system, or 335.5 miles require such surfaces.

Comparison of this mileage with present improvements superior to gravel indicates the need for an extensive construction program. Of the 335.5 miles of Federal-aid highway carrying more than 800 vehicles in 1926 only 60 miles are now improved with surfaces superior to gravel, leaving 275 miles to be improved.

By 1931, 278.5 miles of Federal-aid highways now carrying less than 800 vehicles are expected, on the basis of the traffic forecast, to carry between 800 and 1,500 vehicles. As traffic on these routes increases surfaces superior to gravel will also be required on these routes.

Normal development of this highway system requires giving first consideration to the 275 miles carrying over 800 vehicles in 1926, which are not already constructed, followed by the improvement of the 278.5 miles which are expected to carry over 800 vehicles by 1931.

Table 33—Traffic classification of Vermont Federal-aid system in the six traffic sections

Classification	Sections						
	Northwest and central	South-western	South-eastern	North-central	South-central	North-eastern	Total
	Miles	Miles	Miles	Miles	Miles	Miles	Miles
Major 1	34.7	12.3	2.1	.....	.....	.....	49.1
Major 2	47.9	49.5	19.9	8.0	1.2	.....	126.5
Total Major	82.6	61.8	22.0	8.0	1.2	.....	175.6
Medium 1	20.6	19.1	43.4	.....	2.0	.....	85.1
Medium 2	43.9	22.1	8.8	.....	.....	.....	74.8
Medium 3	65.0	29.3	89.5	39.0	55.7	.....	278.5
Total Medium	129.5	70.5	141.7	39.0	57.7	.....	438.4
Minor 1	11.7	1.5	18.4	45.4	25.8	22.0	124.8
Minor 2	48.6	8.6	19.1	109.9	89.1	28.9	304.2
Total Minor	60.3	10.1	37.5	155.3	114.9	50.9	429.0
Total Federal-aid system	272.4	142.4	201.2	202.3	173.8	50.9	1,043.0
	Per cent of mileage of section						
Major 1	12.7	8.6	1.0	.....	.....	.....	4.7
Major 2	17.6	34.8	9.9	4.0	0.7	.....	12.1
Total Major	30.3	43.4	10.9	4.0	0.7	.....	16.8
Medium 1	7.6	13.4	21.6	.....	1.2	.....	8.1
Medium 2	16.1	15.5	4.4	.....	.....	.....	7.2
Medium 3	23.9	20.6	44.5	19.3	32.0	.....	26.7
Total Medium	47.6	49.5	70.5	19.3	33.2	.....	42.0
Minor 1	4.3	1.1	9.1	22.4	14.8	43.2	12.0
Minor 2	17.8	6.0	9.5	54.3	51.3	56.8	29.2
Total Minor	22.1	7.1	18.6	76.7	66.1	100.0	41.2
Total Federal-aid system	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	Per cent of total mileage in each class						
Major 1	70.7	25.0	4.3	.....	.....	.....	100.0
Major 2	37.9	39.1	15.7	6.3	1.0	.....	100.0
Total Major	47.0	35.2	12.5	4.6	0.7	.....	100.0
Medium 1	24.2	22.4	51.0	.....	2.4	.....	100.0
Medium 2	58.7	29.5	11.8	.....	.....	.....	100.0
Medium 3	23.4	10.5	32.1	14.0	20.0	.....	100.0
Total Medium	29.5	16.1	32.3	8.9	13.2	.....	100.0
Minor 1	9.4	1.2	14.7	36.4	20.7	17.6	100.0
Minor 2	16.0	2.8	6.3	36.1	29.3	9.5	100.0
Total Minor	14.1	2.3	8.7	36.2	26.8	11.9	100.0
Total Federal-aid system	26.1	13.6	19.3	19.4	16.7	4.9	100.0

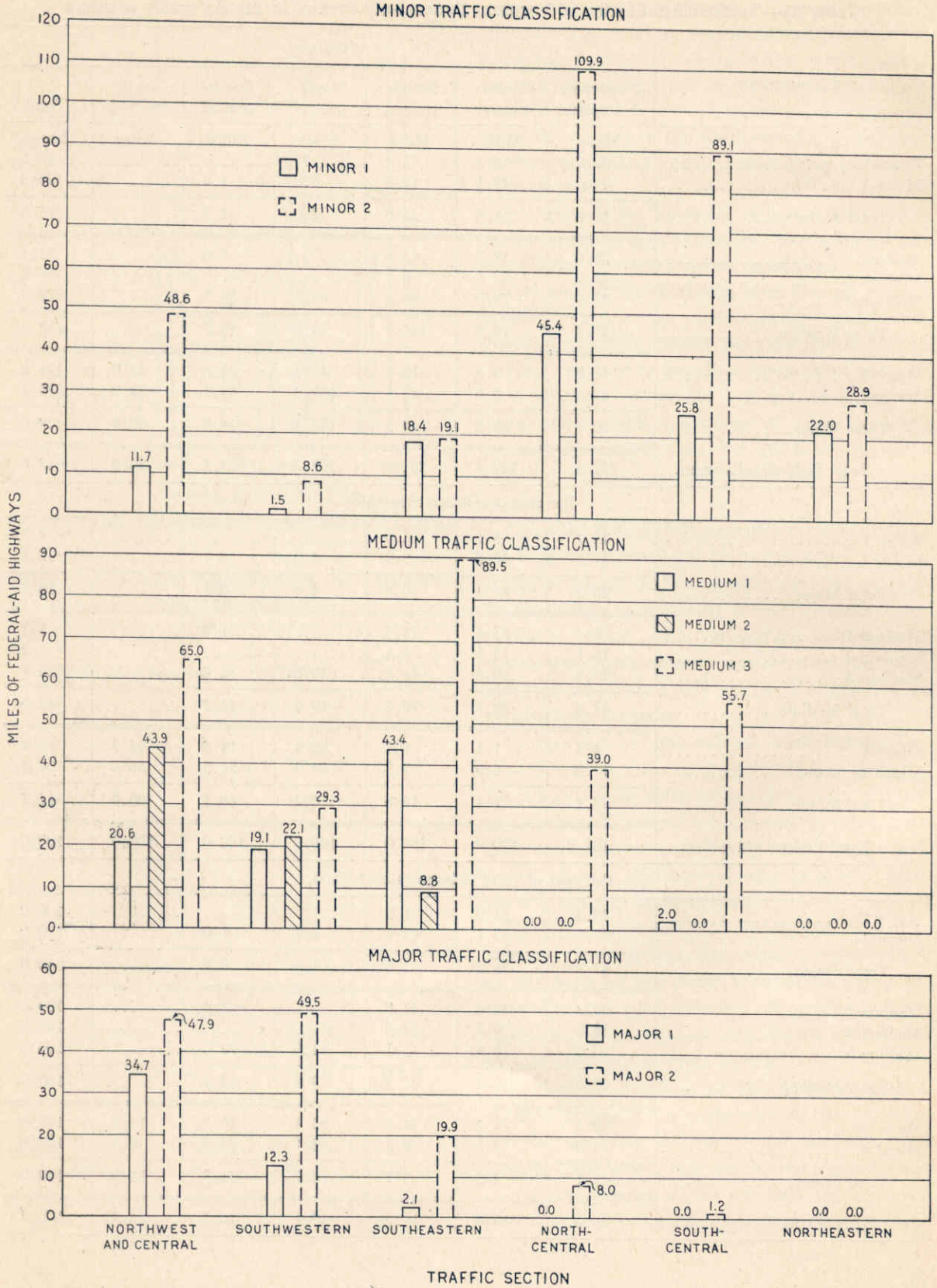


FIG. 25.—*Distribution of mileage of Federal-aid roads in the major, medium and minor traffic classes in the six traffic sections of the State*

THE PLAN OF HIGHWAY IMPROVEMENT

THE proposed plan of improvement, based upon the analysis of the Vermont Federal-aid highway system,[14] considering present improvements and traffic, shows that 275.5 miles of new construction superior to gravel surfaces will be necessary to meet traffic requirements during the five-year period from January 1, 1927 to December 31, 1931.

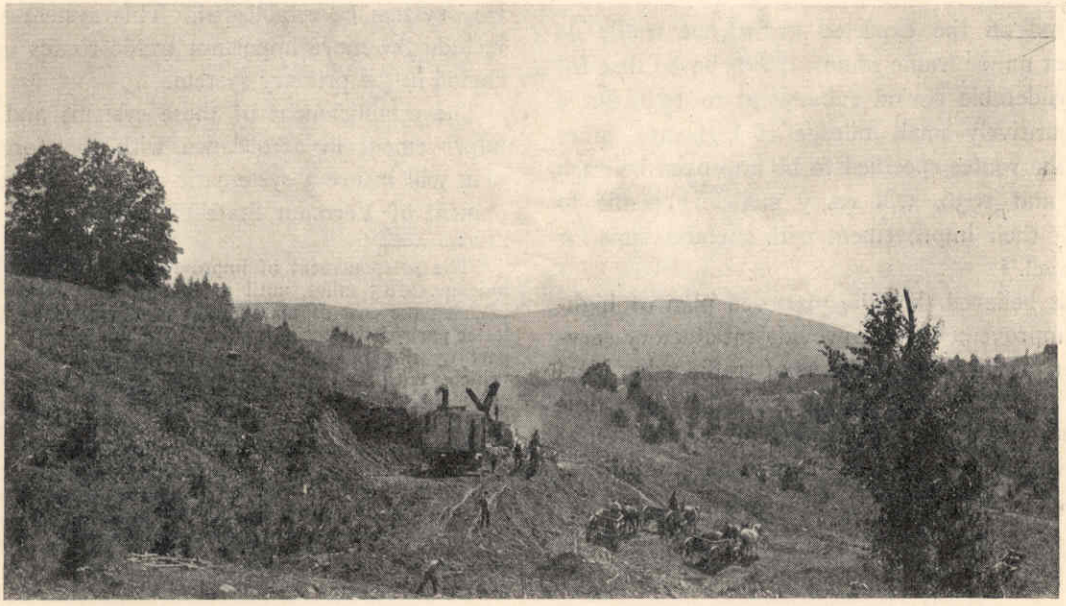
Of such improvements on the Federal-aid system in 1926 there were approximately 60 miles, and a construction program of 275.5 miles during the five-year period will result in a total improved mileage of surfaces superior to gravel of 335.5 miles in 1931. With the completion of this program all routes which carried in 1926 daily traffic of 800 or more motor vehicles will be improved with surfaces adequate to carry such traffic.

The location of the projects included in the proposed five-year construction program and the present condition of improvement of the Federal-aid system is shown in Figure 26.

Of the mileage proposed for improvement, approximately one-half will carry by 1931 traffic of over 1,500 vehicles per day, and approximately one-half will carry traffic between 800 and 1,500 vehicles per day. The cost of improving these highways with surfaces adequate to serve present and expected future traffic as estimated by the Vermont State Highway Department will be approximately $12,000,000. This estimate includes the cost of bridges and structures, grading, and surface costs.

The remainder of the Federal-aid system can be maintained in serviceable condition for the traffic using these routes by present maintenance methods, during the period 1927 to 1931. Traffic on these routes is also increasing and difficulties may be encountered in maintaining the more important sections during the latter part of the five-year period.

By 1931, because of the normal increase in traffic, 278.5 additional miles of Federal-aid highways are expected to carry 800 or more vehicles and will require surfaces superior to gravel. To serve the traffic on these routes adequately, construction of surfaces superior to gravel on this mileage will be required between 1932 and 1936. Since the major part of this mileage will be on medium traffic routes, the total cost of im-



Construction in progress on the Summit Road, between Gassetts and North Clarendon

[14] The Vermont plan of highway improvement is limited to the Federal-aid system since less than twenty miles not included in the Federal-aid system carried sufficient traffic to justify their inclusion in the five-year plan of improvement.

proving the 278.5 miles included in this group should be considerably less than the required expenditures during the period 1927 to 1931. This decrease, however, will be partially offset by the need for improvement of a comparatively small mileage of routes, approximately 80 miles, not included in the Federal-aid system, with surfaces superior to gravel between 1926 and 1936.

Construction of surfaces superior to gravel on 275.5 miles of the Federal-aid system during the five-year period 1927 to 1931, and on 278.5 miles of the Federal-aid system and approximately 80 miles not included in that system, during the five-year period 1932 to 1936, will substantially complete the Vermont program of new hard-surface construction.

Based on the expected growth of traffic on present minor traffic routes, it is believed that for a considerable period subsequent to 1936 but a comparatively small mileage of highways, other than the routes specified to be improved between 1927 and 1936, will carry sufficient traffic to justify their improvement with surfaces superior to gravel.[15]

It is believed that the proposed plan of highway improvements will provide satisfactory service for the increasing volume of traffic using Vermont highways and that it is at the same time commensurate with the dictates of financial economy which must always govern the expenditure of public funds.

It is also believed that a construction program more limited in scope than the proposed five-year program will result in increased total highway expenditures, because of the higher maintenance costs which may be expected to result from postponement of adequate improvement; and that it will also result in inadequate highway service and increased motor vehicle operating costs.

For the most economical accomplishment of the proposed improvement plan it is recommended that substantially the present Federal-aid highway system be established as a primary or State highway system under the jurisdiction of the State Highway Department as to construction, maintenance and control.

It is also recommended that a secondary highway system be established. This system should include the more important traffic routes not included in the primary system.

The establishment of these systems and their improvement in accordance with the foregoing plan will insure a systematic and scientific development of Vermont State highways.

[15] The postponement of improvement of the Medium 3 mileage, 278.5 miles, until after 1931 may result in increasing the cost of maintaining these routes during the latter part of the period 1926 to 1931, but since the major part of this mileage will not carry in excess of 800 vehicles until the latter years of the period, such postponement is believed to be justified in view of the economies resulting from having a relatively uniform building program over a ten-year period as compared with a considerably larger building program during the period 1927 to 1931 followed by a smaller program during the next five-year period.

APPENDIX I

TRANSPORTATION OF COMMODITIES BY MOTOR TRUCK

The nature of the commodities transported by highway shows the influence of cities and towns upon motor trucking on the principal routes of Vermont. Manufactured products produced in the cities and villages and distributed by motor truck from these centers of population, comprise approximately one-half the tonnage of goods hauled over the highways.

Products of animals and products of agriculture, which include all the commodities produced on farms, were found on only 22.9 per cent of the loaded trucks observed, and a considerable part of the haulage of these two classes of commodities represents the distribution of goods to consumers rather than the marketing of goods from the farms.

The several classes of commodities hauled, the percentage of the total cargo tonnage which they represent and the average length of haul are shown in Table 1.

The principal commodities included in the classification of manufactured products are bread and bakery goods, ice cream, groceries, gasoline, cans, cement, household goods, and bottles, these comprising approximately two-thirds of the net tonnage of manufactured products.

Products of animals transported by highway in the State consist mainly of milk, meat and packing house products, these comprising approximately two-thirds of the net tonnage of this class of commodities. Products of this class, although second in importance in respect to the number of trucks hauling them, include only 8.7 per cent of the total net tonnage transported. They are hauled an average distance of 19 miles.

In the remaining three classes, products of agriculture, mines and forests, there are approximately 10 per cent of the loaded trucks in each class. Although the percentages of trucks are similar, the percentage of net ton-

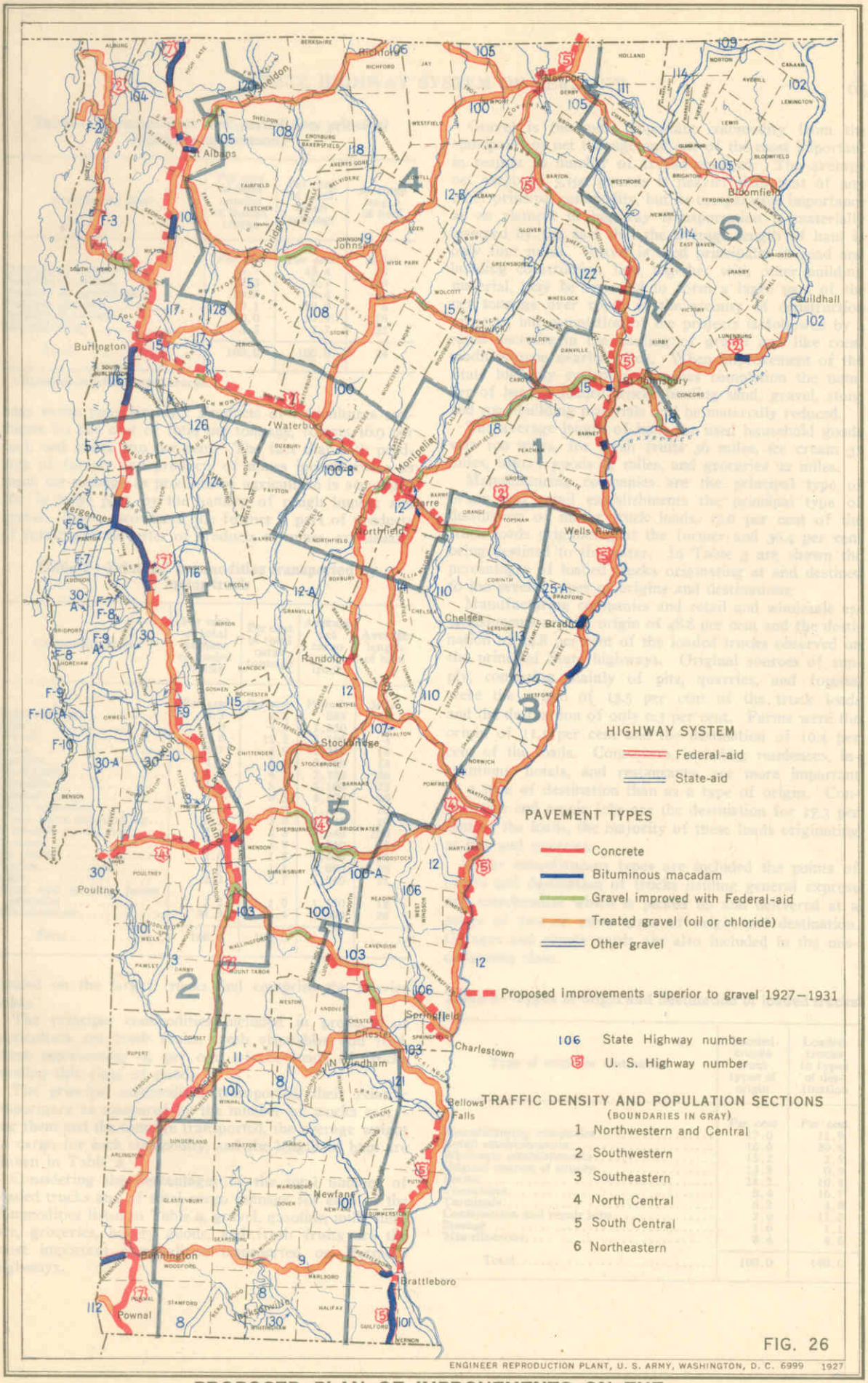


FIG. 26

ENGINEER REPRODUCTION PLANT, U. S. ARMY, WASHINGTON, D. C. 6999 1927

PROPOSED PLAN OF IMPROVEMENTS ON THE FEDERAL-AID SYSTEM

Table 1—Commodities transported over principal highways in Vermont[1]

Commodity class	Per cent of total number of loaded trucks	Per cent of total cargo tonnage	Average length of haul
	Per cent	*Per cent*	*Miles*
Products of manufactures	53.7	43.4	29
Products of animals	12.3	8.7	19
Products of agriculture	10.6	8.4	25
Products of mines	10.1	19.9	6
Products of forests	10.0	16.9	16
Miscellaneous	3.3	2.7	32
Total	100.0	100.0	24

[1] Based upon 3,163 loaded trucks.

nage varies considerably. Products of agricultures constitute 8.4 per cent of total net tonnage, forests 16.9 per cent, and mines 19.9 per cent. The fact that both products of forests and products of mines include twice as much net tonnage as products of agriculture is accounted for, in large part, by the hauling of rough lumber and gravel. These two items, the former a part of products of forest and the latter of products of mines, are usually

Table 2—Principal commodities transported by motor truck

Commodity class	Per cent of total number of loaded trucks	Per cent of total cargo tonnage	Average net cargo per truck	Average length of haul
	Per cent	*Per cent*	*Pounds*	*Miles*
Bakery goods	6.5	2.2	835	27
Milk	6.0	4.5	1,830	15
Gravel	5.8	12.2	5,190	4
Cans	5.7	2.9	1,260	14
Gasoline	4.8	7.3	3,760	13
Fresh fruits	4.5	4.1	2,220	36
Groceries	4.2	5.3	3,100	22
Lumber, rough	3.3	6.5	4,800	20
Fresh vegetables	3.2	2.0	1,577	20
Wood, stove and kindling	3.2	3.8	2,926	10
Household goods, used	3.1	3.3	2,640	100
Cement	2.9	3.9	3,240	3
Ice cream	2.6	1.8	1,660	31
Bottles	2.5	1.1	1,080	10
Feed	2.2	1.7	1,840	11
Meat and packing house products	2.2	1.0	1,170	18
Miscellaneous	37.3	36.4	2,390	28
Total	100.0	100.0	.....	.....

hauled on the larger trucks and comprise the heavier loads.

The principal commodities included in products of agriculture are fresh fruits, fresh vegetables and feed, these representing 94 per cent of the loads of trucks hauling this class of goods.

The principal commodities transported, their relative importance as measured by the number of trucks carrying them and the tonnage transported, the average weight of cargo for each commodity, and the length of haul are shown in Table 2.

Considering the percentages of the total number of loaded trucks and of total cargo tonnage for each of the commodities listed in Table 2, gravel, gasoline, milk, lumber, groceries, bakery goods, and fresh fruits are the most important commodities transported on Vermont highways.

Gravel is the most important commodity from the standpoint of net tonnage and one of the most important in respect to number of trucks engaged. The average net cargo of 5,190 pounds is heavier than that of any other principal commodity, but its comparative importance as an element in highway transportation is materially lessened by the fact that the average length of haul is only four miles. Gravel is used principally in road and building construction, and, together with other building material, may be expected to form a large part of the net tonnage over roads in the vicinity of construction projects, but completion of the projects is followed by a rapid decrease in the hauling of gravel and like commodities upon nearby roads. When improvement of the State highway system approaches completion the number of heavily loaded trucks hauling sand, gravel, stone and road-building materials will be materially reduced.

The average length of haul for used household goods was 100 miles, for fresh fruits 36 miles, ice cream 31 miles, bakery goods 27 miles, and groceries 22 miles.

Manufacturing companies are the principal type of origin and retail establishments the principal type of destination of motor truck loads, 17.0 per cent of the truck loads originating at the former and 30.4 per cent being destined to the latter. In Table 3 are shown the percentages of loaded trucks originating at and destined to the several types of origins and destinations.

Manufacturing companies and retail and wholesale establishments are the origin of 48.8 per cent and the destination of 44.8 per cent of the loaded trucks observed on the principal State highways. Original sources of supply, consisting mainly of pits, quarries, and forests, were the origin of 13.5 per cent of the truck loads and the destination of only 0.3 per cent. Farms were the origin of 11.1 per cent and the destination of 10.4 per cent of the loads. Consumers, including residences, institutions, hotels, and restaurants, are more important as a type of destination than as a type of origin. Construction and repair jobs are the destination for 17.3 per cent of the loads, the majority of these loads originating at pits and quarries.

Under miscellaneous types are included the points of origin and destination of trucks hauling general express and merchandise which is picked up and delivered at a series of two or more types of origin and destination. Garages and supply yards are also included in the miscellaneous class.

Table 3—Types of origin and destination of loaded trucks

Type of origin or destination	Loaded trucks from types of origin	Loaded trucks to types of destination
	Per cent	*Per cent*
Manufacturing companies	17.0	11.9
Retail establishments	16.6	30.4
Wholesale establishments	15.2	2.5
Original sources of supply	13.5	0.3
Farms	11.1	10.4
Consumers	8.4	16.7
Terminals	6.2	4.8
Construction and repair jobs	2.0	17.3
Storage	1.6	1.1
Miscellaneous	8.4	4.6
Total	100.0	100.0

APPENDIX II

Motor Vehicle Traffic at Vermont Traffic Survey Stations

Average Daily[1] 1926, Normal Maximum 1926, and Average Daily 1931

Station[2]	Direction[3]	Route number[4]	Average daily traffic			Maximum daily traffic, total vehicles	Average daily traffic—1931, total vehicles
			Trucks	Passenger cars	Total vehicles		
1....	N	30	47	465	512	780	720
	S	U.S. 2	41	379	420	630	590
	W	U.S. 2	17	91	108	160	150
2....	N	U.S. 2	24	246	270	410	380
	S	U.S. 2	30	410	440	680	620
	W	F. 2	10	256	266	420	370
3....	N	U.S. 7	41	730	771	1,200	1,080
	S	U.S. 2 & 7	60	1,321	1,381	2,170	1,930
	W	U.S. 2	38	764	802	1,260	1,120
4....	N	U.S. 7 & 2	87	1,484	1,571	2,450	2,200
	S	U.S. 7 & 2	106	1,442	1,548	2,390	2,160
	E	117	60	509	569	850	800
5....	N	T.R.	5	37	42	60	60
	S	116	48	561	609	930	850
	E	U.S. 2	69	1,104	1,173	1,820	1,640
	W	U.S. 2	105	1,646	1,751	2,720	2,450
6....	N	S.R.	21	75	96	130	130
	E	U.S. 2	68	1,009	1,077	1,670	1,510
	W	U.S. 2	52	1,025	1,077	1,690	1,510
7....	E	U.S. 2	64	1,645	1,709	2,700	2,390
	W	U.S. 2	64	1,645	1,709	2,700	2,390
8....	S	U.S. 2	119	1,779	1,898	2,940	2,650
	E	12	54	675	729	1,120	1,020
	W	U.S. 2	161	2,415	2,576	3,990	3,600
9....	N	U.S. 2	68	838	906	1,390	1,270
	S	110	37	265	302	450	420
	E	U.S. 2	60	594	654	990	910
	W	S.R.	29	251	280	420	390
10....	S	25	22	199	221	330	310
	E	U.S. 2	5	221	226	360	320
	W	U.S. 2	24	384	408	630	570
11....	E	U.S. 2	16	363	379	600	530
	W	U.S. 2	16	363	379	600	530
12....	N	U.S. 5 & 2	24	607	631	1,000	880
	S	U.S. 5	23	585	608	960	850
	W	S.R.	5	96	101	160	140
13....	N	U.S. 5 & 2	46	1,000	1,046	1,640	1,460
	S	U.S. 5 & 2	46	1,000	1,046	1,640	1,460
14....	N	U.S. 2	24	526	550	860	770
	S	18	21	660	681	1,080	950
	W	U.S. 2	47	1,158	1,205	1,900	1,680
15....	N	102	10	196	206	320	290
	E	U.S. 2	24	543	567	890	790
	W	U.S. 2	21	453	474	740	660
16....	S	30	52	553	605	920	850
	E	U.S. 4	165	1,698	1,863	2,830	2,600
	W	U.S. 4	119	1,211	1,330	2,020	1,860
17....	N	30	36	568	604	940	840
	S	S.R.	7	93	100	150	140
	E	U.S. 4	80	1,220	1,300	2,020	1,820
	W	U.S. 4	78	1,242	1,320	2,050	1,850
18....	N	3	42	636	678	1,050	950
	E	U.S. 4	167	2,506	2,673	4,140	3,740
	W	U.S. 4	132	2,124	2,256	3,510	3,150
19....	S	T.R.	5	34	39	60	50
	E	U.S. 4	81	1,010	1,091	1,680	1,530
	W	U.S. 4	85	1,035	1,120	1,720	1,570
20....	N	100	13	140	153	230	210
	E	U.S. 4	25	407	432	670	600
	W	U.S. 4	29	512	541	840	760
21....	E	U.S. 4	32	878	910	1,440	1,270
	W	U.S. 4	32	878	910	1,440	1,270
22....	S	12	8	202	210	330	290
	E	U.S. 4	26	544	570	900	800
	W	U.S. 4	32	691	723	1,140	1,010
23....	N	U.S. 5	60	1,041	1,101	1,720	1,540
	S	U.S. 5	88	1,404	1,492	2,320	2,090
	E	9	28	466	494	770	690
24....	N	U.S. 5	34	853	887	1,400	1,240
	S	U.S. 5	34	864	898	1,420	1,260
	W	T.R.	13	177	190	290	270
25....	N	U.S. 5	27	521	548	860	770
	E	11	98	1,000	1,098	1,670	1,540
	W	11	86	732	818	1,230	1,140
26....	N	U.S. 5	63	1,085	1,148	1,790	1,600
	S	U.S. 5	18	576	594	940	830
	E	12	48	731	779	1,210	1,090
27....	N	U.S. 5	40	827	867	1,360	1,210
	S	U.S. 5	51	966	1,017	1,590	1,420
	W	12	22	306	328	510	460
28....	N	T.R.	2	122	124	200	170
	S	U.S. 5	40	941	981	1,540	1,370
	E	U.S. 5	43	889	932	1,460	1,300
	W	T.R.	2	7	9	10	10
29....	N	U.S. 5	34	461	495	760	690
	S	U.S. 5	43	628	671	1,040	940
	E	S.R.	7	169	176	280	250
30....	N	U.S. 5	24	512	536	840	750
	S	U.S. 5	24	570	594	940	830
	W	S.R.	21	109	130	190	180
31....	N	U.S. 5	9	489	498	800	700
	S	U.S. 5	15	490	505	800	710
	W	113	6	252	258	410	360
32....	N	U.S. 5	34	694	728	1,140	1,020
	S	U.S. 5	31	694	725	1,140	1,010
	E	S.R.	16	196	212	320	300
	W	25 A	10	118	128	200	180
33....	N	U.S. 5	24	572	596	940	830
	S	U.S. 5	15	530	545	870	760
	E	25 A	9	112	121	190	170
34....	N	U.S. 5	75	1,482	1,557	2,440	2,180
	S	U.S. 5	75	1,482	1,557	2,440	2,180
35....	N	U.S. 5	56	766	822	1,270	1,150
	S	U.S. 5	83	1,041	1,124	1,730	1,570
	E	114	37	405	442	670	620
36....	N	U.S. 5	33	524	557	860	780
	S	U.S. 5	16	287	303	470	420
	E	S.R.	62	415	477	700	670

[1] The average daily traffic reported is the average for the period, July 16 to October 15.

[2] For location of stations see Figure 5.

[3] Direction of route from station.

[4] All numbered State-aid routes are designated by route numbers; United States routes by the initials U. S. Unnumbered State-aid roads are designated by the initials S.R., and town roads by T.R. The initial F indicates roads connecting with ferries across Lake Champlain

* Less than one vehicle per day.

Station[2]	Direction[3]	Route number[4]	Average daily traffic			Maximum daily traffic, total vehicles	Average daily traffic—1931, total vehicles
			Trucks	Passenger cars	Total vehicles		
36....	W	S.R.	47	201	248	350	350
37....	N	U.S. 5	40	557	597	920	830
	S	12 B	21	152	173	260	240
	E	U.S. 5	25	439	464	720	650
38....	N	T.R.	20	166	186	280	260
	E	U.S. 5	118	1,182	1,300	1,970	1,820
	W	U.S. 5	121	1,263	1,384	2,100	1,930
39....	N	U.S. 5	61	986	1,047	1,630	1,460
	S	U.S. 5	68	1,039	1,107	1,720	1,550
	W	T.R.	7	54	61	90	90
40....	E	U.S. 7	79	1,566	1,645	2,580	2,300
	W	U.S. 7	79	1,566	1,645	2,580	2,300
41....	N	U.S. 7	59	1,075	1,134	1,770	1,590
	S	U.S. 7	216	2,078	2,294	3,470	3,210
	W	4 A	168	1,116	1,284	1,890	1,800
42....	N	U.S. 7	38	852	890	1,400	1,240
	S	U.S. 7	41	870	911	1,430	1,270
	W	S.R.	8	109	117	180	160
43....	N	U.S. 7	32	731	763	1,200	1,070
	S	U.S. 7	32	731	763	1,200	1,070
44....	N	U.S. 7	40	696	736	1,150	1,030
	S	U.S. 7	40	696	736	1,150	1,030
45....	N	U.S. 7	45	825	870	1,360	1,220
	S	U.S. 7	45	825	870	1,360	1,220
46....	N	U.S. 7	62	1,424	1,486	2,340	2,080
	S	U.S. 7	70	1,589	1,659	2,610	2,320
	E	S.R.	9	169	178	280	250
47....	N	U.S. 7	88	1,286	1,374	2,130	1,920
	S	U.S. 7	78	1,163	1,241	1,920	1,730
	W	3	17	217	234	360	330
48....	N	U.S. 7	35	814	849	1,340	1,190
	S	U.S. 7	48	928	976	1,530	1,360
	W	T.R.	11	129	140	210	200
49....	N	U.S. 7	33	844	877	1,380	1,230
	S	U.S. 7	20	690	710	1,130	990
	E	116	15	216	231	360	320
50....	S	U.S. 7	34	463	497	770	690
	E	S.R.	4	31	35	50	50
	W	U.S. 7	37	440	477	730	670
51....	N	U.S. 7	41	563	604	930	840
	S	U.S. 7	46	616	662	1,020	930
	E	S.R.	40	223	263	380	370
	W	S.R.	31	145	176	250	250
52....	N	U.S. 7	151	1,410	1,561	2,360	2,180
	S	U.S. 7	151	1,410	1,561	2,360	2,180
53....	N	U.S. 7	53	773	826	1,280	1,150
	S	U.S. 7	53	773	826	1,280	1,150
54....	N	U.S. 7	68	1,209	1,277	1,990	1,790
	S	U.S. 7	93	1,662	1,755	2,740	2,450
	E	105	36	488	524	810	730
55....	N	U.S. 7	50	576	626	960	880
	S	U.S. 7	65	583	648	980	910
	E	S.R.	6	12	18	20	30
56....	N	2	12	459	471	750	660
	S	2	19	496	515	810	720
	E	S.R.	8	43	51	70	70
57....	N	105	39	516	555	850	780
	S	2	17	384	401	630	560
	E	105	26	204	230	340	320
58....	N	3 & 101	46	519	565	860	790
	S	3 & 101	46	519	565	860	790
59....	N	8	61	422	483	710	680
	S	8	61	422	483	710	680
60....	N	8	19	150	169	250	240
60....	S	S.R.	3	17	20	30	30
	E	8	14	141	155	240	220
61....	S	8	13	208	221	340	310
	E	9	9	351	360	570	500
	W	9	41	463	504	770	700
62....	S	T.R.	1	12	13	20	20
	E	9	84	1,515	1,599	2,500	2,240
	W	9	84	1,510	1,594	2,490	2,230
63....	E	9	37	457	494	760	690
	W	9	37	457	494	760	690
64....	S	S.R.	24	254	278	420	390
	E	9	50	893	943	1,470	1,320
	W	9	27	644	671	1,060	940
65....	N	11	10	303	313	500	440
	E	101	2	82	84	130	120
	W	11 & 101	12	377	389	620	540
66....	N	S.R.	6	76	82	130	110
	E	11	30	442	472	730	660
	W	11	24	376	400	620	560
67....	N	106	58	751	809	1,240	1,130
	E	11	91	1,264	1,355	2,090	1,890
	W	11	46	730	776	1,200	1,080
68....	N	12 & 107	16	514	530	840	740
	S	12	6	274	280	450	390
	W	107	14	324	338	530	470
69....	N	12	13	581	594	950	830
	S	12	13	583	596	950	830
	E	T.R.	*	9	9	20	10
70....	N	12	43	893	936	1,470	1,310
	S	12	31	516	547	850	760
	W	12 A	12	398	410	650	570
71....	N	12	40	948	988	1,560	1,380
	S	12	40	948	988	1,560	1,380
72....	N	12 & 18	66	1,229	1,295	2,020	1,810
	S	S.R.	34	618	652	1,020	910
	W	12 & 18	37	842	879	1,380	1,230
73....	N	12	24	624	648	1,020	910
	S	12 & 18	47	1,345	1,392	2,200	1,950
	E	18	23	650	673	1,060	940
	W	T.R.	6	74	80	120	110
74....	N	12	23	263	286	440	400
	S	12	23	344	367	570	510
	W	T.R.	2	91	93	150	130
75....	N	12	34	398	432	660	600
	S	15	21	410	431	670	600
	W	12 & 15	39	596	635	980	890
76....	N	12	54	468	522	780	730
	S	12	34	381	415	630	580
	W	S.R.	18	127	145	210	200
77....	N	12 B	21	242	263	400	370
	E	15	49	582	631	970	880
	W	15	40	403	443	670	620
78....	N	T.R.	3	6	9	10	10
	E	14	36	767	803	1,260	1,120
	W	14	33	764	797	1,260	1,110
79....	N	110	24	202	226	340	320
	S	110	28	324	352	540	490
	E	14	19	644	663	1,050	930
	W	14	18	663	681	1,080	950
80....	N	14	10	399	409	650	570
	E	14	24	656	680	1,080	950
	W	107	18	421	439	690	610
81....	N	14	84	1,045	1,129	1,730	1,580
	S	14	84	1,045	1,129	1,730	1,580

Motor Vehicle Traffic at Vermont Traffic Survey Stations—Continued

Station[2]	Direction[3]	Route number[4]	Average daily traffic			Maximum daily traffic, total vehicles	Average daily traffic—1931, total vehicles
			Trucks	Passenger cars	Total vehicles		
82....	E	15	287	2,072	2,359	3,490	3,300
	W	15	287	2,072	2,359	3,490	3,300
83....	N	S.R.	13	56	69	100	100
	N.E.	128	29	159	188	270	260
	E	15	53	603	656	1,000	920
	W	15	64	722	786	1,200	1,100
84....	S	15	42	475	517	790	720
	E	15	54	617	671	1,020	940
	W	104	13	139	152	230	210
85....	N	15 & 100	60	614	674	1,020	940
	S	15 & 100	62	670	732	1,120	1,020
	E	T.R.	3	23	26	40	40
	W	T.R.	2	17	19	30	30
86....	N	S.R.	17	222	239	370	330
	E	15 & 18	58	1,276	1,334	2,100	1,860
	W	15 & 18	43	1,069	1,112	1,750	1,550
87....	N	S.R.	21	218	239	360	330
	S	18	61	690	751	1,150	1,050
	E	18	52	610	662	1,010	930
88....	N	25 A	16	270	286	440	400
	S	S.R.	4	32	36	50	50
	E	25 A	23	316	339	520	470
	W	S.R.	1	31	32	50	40
89....	N	S.R.	2	30	32	50	40
	S	30	33	360	393	600	550
	E	30	32	353	385	590	540
90....	N	30 A	*	11	11	20	20
	S	30 A	31	262	293	440	410
	E	F. 10	49	339	388	570	540
	W	F. 10	33	312	345	520	480
91....	N	30 A	27	200	227	340	320
	S	30 A	36	190	226	320	320
	W	F. 9	43	314	357	530	500
92....	N	30 A	41	294	335	500	470
	S	30 A	18	126	144	210	200
	E	F. 7	17	190	207	320	290
	W	F. 7	15	140	155	230	220
93....	N	100	26	496	522	820	730
	S	103	43	1,043	1,086	1,710	1,520
	W	103	24	696	720	1,140	1,010
94....	N	100	17	318	335	520	470
	S	100	14	259	273	430	380
	W	115	2	87	89	140	120
95....	N	100	8	163	171	270	240
	S	100	8	180	188	300	260
	E	S.R.	1	35	36	60	50
96....	N	100	7	85	92	140	130
	S	100	48	309	357	520	500
	E	100 B	48	282	330	480	460
97....	N	100	76	719	795	1,200	1,110
	S	100	76	719	795	1,200	1,110
98....	N	S.R.	9	259	268	420	370
	S	100	28	545	573	900	800
	E	100	30	628	658	1,030	920
99....	N	100	14	260	274	430	380
	S	100	9	200	209	330	290
	E	S.R.	5	52	57	90	80
	W	S.R.	9	132	141	220	200
100....	N	105	54	479	533	800	750
	E	100	89	617	706	1,040	990
	W	100	53	239	292	410	410
101....	E	100 B	48	318	366	540	510
	W	100 B	48	318	366	540	510
102....	N	101	58	681	739	1,130	1,030
	S	101	27	364	391	600	550
	W	S.R.	69	870	939	1,440	1,310
103....	S	S.R.	5	94	99	160	140
	E	101	25	263	288	440	400
	W	101	23	213	236	360	330
104....	N	101	75	748	823	1,250	1,150
	S	101	75	748	823	1,250	1,150
105....	N	101	51	1,152	1,203	1,890	1,680
	S	101	51	1,152	1,203	1,890	1,680
106....	N	102	24	106	130	180	180
	S	102	21	266	287	440	400
	W	105	23	213	236	360	330
107....	N	102	34	625	659	1,030	920
	S	102	9	122	131	200	180
	E	T.R.	39	615	654	1,020	910
108....	N	T.R.	39	222	261	380	360
	E	102	49	188	237	330	330
	W	102	37	368	405	610	570
109....	N	103	26	671	697	1,100	970
	E	103	25	725	750	1,190	1,050
	W	S.R.	10	258	268	420	370
110....	S	103	41	950	991	1,560	1,390
	E	S.R.	32	581	613	960	860
	W	103	41	1,048	1,089	1,720	1,520
111....	S	S.R.	3	60	63	100	90
	E	103	33	652	685	1,070	960
	W	103	38	693	731	1,140	1,020
112....	S	104	10	106	116	180	160
	E	S.R.	12	54	66	90	90
	W	104	17	118	135	200	190
113....	N	S.R.	1	11	12	20	20
	S	104	22	258	280	430	390
	E	S.R.	8	172	180	280	250
	W	104	30	420	450	700	630
114....	N	120	37	125	162	220	230
	S	T.R.	14	35	49	60	70
	E	105	58	354	412	600	580
	W	105	48	359	407	600	570
115....	N	105	87	505	592	860	830
	E	118	56	281	337	480	470
	W	105	84	529	613	900	860
116....	N	105	39	264	303	440	420
	S	S.R.	5	69	74	110	100
	E	105	35	196	231	330	320
117....	S	S.R.	3	40	43	70	60
	E	105	31	328	359	550	500
	W	105	30	331	361	550	500
118....	S	114	3	80	83	130	120
	E	105 & 114	17	251	268	420	370
	W	105	16	205	221	340	310
119....	N	106	9	159	168	260	230
	S	106	18	299	317	490	440
	E	S.R.	10	168	178	280	250
120....	N	108	38	272	310	460	430
	S	108	16	216	232	360	320
	E	T.R.	17	56	73	100	100
	W	S.R.	12	124	136	210	190
121....	N	109	9	261	270	430	380
	S	114	8	130	138	220	190
	E	109	9	238	247	390	350
	W	T.R.	9	44	53	80	70
122....	N	110	12	164	176	270	250
	S	110	15	212	227	350	320
	E	S.R.	2	68	70	110	100

Station[2]	Direction[3]	Route number[4]	Average daily traffic			Maximum daily traffic, total vehicles	Average daily traffic—1931, total vehicles
			Trucks	Passenger cars	Total vehicles		
123....	N	114	15	126	141	210	200
	S	114	13	233	246	380	340
	W	111	10	136	146	220	200
124....	N	S.R.	68	530	598	890	840
	E	115	25	162	187	270	260
	W	115	84	624	708	1,050	990
125....	N	S.R.	2	9	11	20	20
	E	130	13	148	161	250	230
	W	130	11	144	155	240	220
126....	N	S.R.	42	377	419	630	590
	S	S.R.	14	54	68	90	100
	E	F. 5	65	461	526	780	740
	W	F. 5	39	210	249	360	350
127....	N	T.R.	1	9	10	20	10
	S	T.R.	*	6	6	10	10
	E	F. 8	2	32	34	50	50
	W	F. 8	2	31	33	50	50
128....	N	T.R.	5	40	45	70	60
	S	T.R.	1	32	33	50	50
	E	S.R.	7	62	69	100	100
	W	S.R.	4	67	71	110	100
129....	N	T.R.	3	12	15	20	20
	S	T.R.	3	9	12	20	20
	E	T.R.	*	2	2	.....	.....
	W	T.R.	2	9	11	20	20
130....	N	T.R.	1	6	7	10	10
	S	T.R.	4	20	24	30	30
	E	T.R.	3	25	28	40	40
	W	T.R.	1	9	10	20	10
131....	N	T.R.	*	10	10	20	10
	S	T.R.	3	12	15	20	20
	E	S.R.	*	12	12	20	20
	W	S.R.	3	24	27	40	40
132....	N	T.R.	*	1	1	.....	.....
	S	T.R.	3	33	36	60	50
	E	T.R.	3	40	43	70	60
	W	T.R.	*	8	8	10	10
133....	N	T.R.	2	32	34	50	50
	S	T.R.	48	642	690	1,060	960
	E	S.R.	80	785	865	1,310	1,210
	W	S.R.	42	443	485	740	680
134....	N	T.R.	*	3	3	.....	.....
	S	T.R.	*	4	4	10	10
	W	T.R.	*	4	4	10	10
135....	N	S.R.	1	8	9	10	10
	S	S.R.	1	14	15	20	20
	E	T.R.	*	1	1	.....	.....
	W	T.R.	*	7	7	10	10
136....	N	S.R.	*	4	4	10	10
136.....	S	T.R.	*	3	3	.....	.....
	E	S.R.	*	*		.....	.....
137....	N	T.R.	5	39	44	60	60
	S	T.R.	5	36	41	60	60
	E	T.R.	2	19	21	30	30
	W	T.R.	6	29	35	50	50
138....	N	S.R.	19	175	194	290	270
	S	S.R.	14	103	117	170	160
	E	S.R.	11	110	121	180	170
139....	N	S.R.	26	275	301	460	420
	S	S.R.	39	321	360	540	500
	E	T.R.	10	29	39	50	50
140....	N	T.R.	17	48	65	90	90
	S	T.R.	25	78	103	140	140
	E	T.R.	9	38	47	70	70
141	N	S.R.	18	190	208	320	290
	S	S.R.	19	213	232	350	320
	E	T.R.	1	9	10	20	10
	W	T.R.	*	15	15	20	20
142....	N	T.R.	9	26	35	50	50
	S	T.R.	10	23	33	40	50
	E	T.R.	1	16	17	30	20
	W	T.R.	1	24	25	40	30
143....	N	T.R.	1	7	8	10	10
	S	T.R.	*	9	9	20	10
	E	T.R.	1	15	16	20	20
	W	T.R.	1	25	26	40	40
144....	N	T.R.	*	4	4	10	10
	S	T.R.	*	6	6	10	10
	E	T.R.	*	15	15	20	20
	W	T.R.	*	10	10	20	10
145....	N	T.R.	2	24	26	40	40
	S	T.R.	*	11	11	20	20
	E	T.R.	*	32	32	50	40
	W	T.R.	2	40	42	70	60
146....	N	S.R.	13	126	139	210	190
	S	S.R.	10	108	118	180	160
	E	T.R.	6	31	37	50	50
	W	T.R.	*	11	11	20	20
147....	S	T.R.	*	3	3	.....	.....
	E	S.R.	3	53	56	90	80
	W	S.R.	3	50	53	80	70
148....	N	T.R.	2	41	43	70	60
	S	T.R.	*	31	31	50	40
	W	T.R.	2	9	11	20	20
149....	N	T.R.	3	56	59	90	80
	S	S.R.	4	59	63	100	90
	E	T.R.	*	6	6	10	10

APPENDIX III

FOREIGN MOTOR VEHICLE TRAFFIC AT VERMONT TRAFFIC SURVEY STATIONS[1]

Average Daily Passenger Cars and Trucks, July 16 to October 15, 1926

Station[2]	Passenger cars				Motor trucks			
	Total[3]	Average daily Vermont traffic	Average daily foreign traffic	Per cent foreign traffic	Total[3]	Average daily Vermont traffic	Average daily foreign traffic	Per cent foreign traffic
1	468	334	134	28.7	52	46	6	11.8
2	456	213	243	53.3	32	31	1	3.2
3	1,408	779	629	44.7	70	66	4	5.4
4	1,718	1,089	629	36.6	126	121	5	4.3
5	1,674	1,172	502	30.0	114	112	2	2.0
6	1,054	658	396	37.6	70	66	4	5.6
7	1,645	1,201	444	27.0	64	63	1	2.2
8	2,434	1,879	555	22.8	167	165	2	1.4
9	974	796	178	18.3	97	95	2	2.0
10	402	262	140	34.9	26	25	1	4.6
11	363	211	152	42.0	16	12	4	27.5
12	644	308	336	52.1	26	21	5	20.9
13	1,000	626	374	37.4	46	42	4	9.7
14	1,172	591	581	49.6	46	43	3	6.6
15	596	238	358	60.1	28	16	12	42.2
16	1,731	1,052	679	39.2	168	141	27	16.0
17	1,562	1,043	519	33.2	100	88	12	12.4
18	2,633	2,080	553	21.0	170	164	6	3.5
19	1,040	692	348	33.5	86	84	2	2.9
20	530	276	254	48.0	34	31	3	10.1
21	878	509	369	42.0	32	29	3	9.7
22	718	391	327	45.6	33	27	6	17.2
23	1,456	630	826	56.7	88	70	18	20.3
24	947	380	567	59.9	40	31	9	22.2
25	1,126	507	619	55.0	106	88	18	17.3
26	1,196	490	706	59.0	64	46	18	28.3
27	1,050	517	533	50.8	56	46	10	17.9
28	980	417	563	57.4	44	33	11	25.3
29	629	329	300	47.7	42	37	5	11.3
30	596	247	349	58.6	34	28	6	18.3
31	616	254	362	58.7	15	9	6	38.7
32	851	400	451	53.0	46	43	3	6.8
33	607	303	304	50.1	24	20	4	17.1
34	1,482	971	511	34.5	75	72	3	4.6
35	1,106	705	401	36.3	88	86	2	2.5
36	714	550	164	23.0	79	78	1	0.9
37	574	443	131	22.8	43	42	1	3.3
38	1,306	922	384	29.4	130	128	2	1.9
39	1,040	557	483	46.4	68	64	4	5.5
40	1,566	197	1,369	87.4	79	22	57	72.5
41	2,134	1,304	830	38.9	222	186	36	16.0
42	916	246	670	73.1	44	35	9	20.0
43	731	292	439	60.0	32	27	5	14.7
44	696	330	366	52.6	40	36	4	9.1
45	825	499	326	39.5	45	43	2	4.3
46	1,591	1,083	508	31.9	70	67	3	3.6
47	1,333	846	487	36.5	92	87	5	4.9
48	936	519	417	44.5	47	44	4	8.9
49	875	511	364	41.6	34	33	1	4.2
50	467	273	194	41.6	38	37	1	3.2
51	774	505	269	34.7	79	76	3	3.3
52	1,410	1,105	305	21.6	151	149	2	1.3
53	773	539	234	30.3	53	51	2	4.6
54	1,680	1,270	410	24.4	98	95	3	2.7
55	586	344	242	41.3	60	57	3	5.3
56	499	255	244	48.8	20	19	1	3.7
57	552	253	299	54.2	41	40	1	1.6
58	519	291	228	44.0	46	43	3	6.6
59	422	126	296	70.2	61	35	26	42.1
60	154	74	80	51.7	18	11	7	37.3
61	511	247	264	51.6	32	28	4	12.2
62	1,518	487	1,031	67.9	84	53	31	36.7
63	457	270	187	40.9	37	32	5	13.2
64	896	604	292	32.6	50	46	4	8.1
65	381	167	214	56.2	12	10	2	12.5
66	447	258	189	42.2	30	28	2	5.6
67	1,372	1,080	292	21.3	98	90	8	8.0
68	556	395	161	29.0	18	18	.....	1.8
69	586	451	135	23.1	13	13	.....	0.0
70	904	728	176	19.5	43	41	2	4.2
71	948	788	160	16.9	40	39	1	1.8
72	1,344	1,078	266	19.8	68	68	.....	0.7
73	1,346	1,015	331	24.6	50	49	1	2.3
74	349	308	41	11.8	24	24	.....	1.1
75	702	532	170	24.2	47	45	2	5.2
76	488	427	61	12.4	53	52	1	1.8
77	614	498	116	18.9	55	54	1	1.8

[1] Foreign traffic includes traffic of all motor vehicles not registered in Vermont.
[2] For location of stations see Figure 5.
[3] Total represents average daily passenger cars and average daily motor trucks passing station on all routes

Foreign Motor Vehicle Traffic at Vermont Traffic Survey Stations—Continued

Station[2]	Passenger cars				Motor trucks			
	Total	Average daily Vermont traffic	Average daily foreign traffic	Per cent foreign traffic	Total[3]	Average daily Vermont traffic	Average daily foreign traffic	Per cent foreign traffic
78	768	417	351	45.7	36	31	5	13.4
79	916	528	388	42.4	44	42	2	4.9
80	738	487	251	34.0	26	26	.....	1.5
81	1,045	839	206	19.7	84	83	1	1.1
82	2,072	1,699	373	18.0	287	279	8	2.7
83	770	649	121	15.7	80	79	1	1.1
84	616	482	134	21.8	54	53	1	1.4
85	662	547	115	17.3	64	63	1	1.2
86	1,284	922	362	28.2	59	54	5	8.1
87	759	564	195	25.7	67	67	.....	0.7
88	324	249	75	23.1	22	21	1	3.0
89	372	294	78	21.1	34	33	1	3.7
90	462	266	196	42.5	56	53	3	6.1
91	352	270	82	23.2	53	52	1	1.1
92	375	275	100	26.6	46	44	2	4.4
93	1,118	711	407	36.4	46	42	4	8.6
94	332	270	62	18.6	16	14	2	14.8
95	189	164	25	13.2	8	8	.....	0.0
96	338	304	34	10.2	52	52	.....	0.0
97	719	626	93	13.0	76	75	1	1.9
98	716	609	107	14.9	34	34	.....	0.6
99	322	262	60	18.6	18	18	.....	1.4
100	668	437	231	34.6	98	96	2	1.7
101	318	284	34	10.8	48	48	.....	0.0
102	958	343	615	64.2	77	41	36	46.7
103	285	186	99	34.8	26	22	4	13.7
104	748	562	186	24.8	75	67	8	10.0
105	1,152	437	715	62.1	51	24	27	52.0
106	292	106	186	63.6	34	23	11	33.6
107	681	138	543	79.8	41	11	30	74.0
108	389	135	254	65.2	62	23	39	63.3
109	827	526	301	36.4	30	27	3	9.1
110	1,290	893	397	30.8	57	53	4	7.1
111	702	342	360	51.3	37	32	5	12.2
112	139	102	37	26.6	20	19	1	4.7
113	430	366	64	14.9	30	30	.....	0.0
114	436	365	71	16.3	78	75	3	3.6
115	658	581	77	11.7	114	107	7	5.8
116	264	218	46	17.4	40	40	.....	0.6
117	350	176	174	49.8	32	24	8	23.5
118	268	207	61	22.8	18	17	1	4.6
119	313	234	79	25.1	18	17	1	6.6
120	334	297	37	11.0	42	41	1	2.2
121	336	96	240	71.3	18	14	4	20.0
122	222	193	29	12.9	14	14	.....	1.8
123	248	147	101	40.8	19	19	.....	1.3
124	658	513	145	22.1	88	87	1	1.7
125	150	44	106	71.0	13	8	5	39.2
126	551	363	188	34.1	80	78	2	2.4
127	39	30	9	23.2	2	2	.....	0.0
128	100	94	6	6.4	8	8	.....	0.0
129	16	14	2	11.8	4	4	.....	0.0
130	30	30	.....	0.0	4	4	.....	0.0
131	29	27	2	6.5	3	3	.....	0.0
132	41	40	1	1.7	3	3	.....	0.0
133	951	643	308	32.4	86	78	8	9.4
134	6	6	.....	0.0	.....	.....	.....	0.0
135	15	13	2	14.6	1	1	.....	0.0
136	4	4	.....	0.0	.....	.....	.....	0.0
137	62	54	8	13.4	9	9	.....	0.0
138	194	160	34	17.6	22	22	.....	2.0
139	312	212	100	32.1	38	26	12	32.3
140	82	79	3	3.3	26	26	.....	0.0
141	214	204	10	4.7	19	19	.....	0.0
142	44	43	1	1.8	10	10	.....	0.0
143	28	27	1	4.7	2	2	.....	0.0
144	18	17	1	5.1	.....	.....	.....	0.0
145	54	52	2	3.6	2	2	.....	0.0
146	138	134	4	2.9	14	14	.....	0.0
147	53	52	1	2.7	3	3	.....	0.0
148	40	38	2	6.0	2	2	.....	0.0
149	60	39	21	35.2	4	3	1	28.6

APPENDIX IV

Motor Truck Traffic at Vermont Traffic Survey Stations

Average Daily Traffic July 16 to October 15, 1926, and Distribution of Loaded Trucks by Capacity Classes

Station[1]	Direction[2]	Route number[3]	Average daily motor trucks: Total	Empty	Loaded trucks: Total	½–1½ tons capacity	2–2½ tons capacity	3–4 tons capacity	5–7½ tons capacity
1	N	30	47	26	21	21			
	S	U.S. 2	41	22	19	19			
	W	U.S. 2	17	7	10	10			
2	N	U.S. 2	24	14	10	10			
	S	U.S. 2	30	17	13	13			
	W	F. 2	10	6	4	4			
3	N	U.S. 7	41	15	26	23	3		
	S	U.S. 2 & 7	60	24	36	32	3	1	
	W	U.S. 2	38	16	22	20	1	1	
4	N	U.S. 7 & 2	87	51	36	32	2	2	
	S	U.S. 7 & 2	106	68	38	33	3	2	
	E	117	60	38	22	19	2	1	
5	N	T.R.	5	4	1	1			
	S	116	48	32	16	14	2		
	E	U.S. 2	69	49	20	14	6		
	W	U.S. 2	105	74	31	24	7		
6	N	S.R.	21	9	12	7	5		
	E	U.S. 2	68	31	37	24	11	2	
	W	U.S. 2	52	25	27	18	7	2	
7	E–W	U.S. 2	64	23	41	33	7	1	
8	S	U.S. 2	119	84	35	30	4	1	
	E	12	54	34	20	14	6		
	W	U.S. 2	161	111	50	42	7	1	
9	N	U.S. 2	68	50	18	14	4		
	S	110	37	28	9	6	3		
	E	U.S. 2	60	48	12	10	2		
	W	S.R.	29	27	2	2			
10	S	25	22	9	13	11	2		
	E	U.S. 2	5	4	1	1			
	W	U.S. 2	24	10	14	11	3		
11	E–W	U.S. 2	16	6	10	7	3		
12	N	U.S. 2 & 5	24	9	15	11	4		
	S	U.S. 2 & 5	23	9	14	9	5		
	W	S.R.	5	3	2	2			
13	N–S	U.S. 2 & 5	46	21	25	20	5		
14	N	U.S. 2	24	8	16	12	3	1	
	S	18	21	9	12	9	2	1	
	W	U.S. 2	47	19	28	22	4	2	
15	N	102	10	6	4	4			
	E	U.S. 2	24	10	14	13	1		
	W	U.S. 2	21	8	13	12	1		
16	S	30	52	18	34	29	4	1	
	E	U.S. 4	165	69	96	83	9	4	
	W	U.S. 4	119	52	67	58	6	3	
17	N	30	36	13	23	21	2		
	S	S.R.	7	3	4	4			
	E	U.S. 4	80	26	54	46	7	1	
	W	U.S. 4	78	24	54	46	7	1	
18	N	3	42	18	24	22	2		
	E	U.S. 4	167	72	95	80	14	1	
19	W	U.S. 4	132	57	75	62	12	1	
	S	T.R.	5	1	4	4			
	E	U.S. 4	81	36	45	27	16	1	1
	W	U.S. 4	85	36	49	31	16	1	1
20	N	100	13	5	8	7	1		
	E	U.S. 4	25	12	13	12	1		
	W	U.S. 4	29	13	16	14	1	1	
21	E–W	U.S. 4	32	14	18	12	6		
22	S	12	8	3	5	4	1		
	E	U.S. 4	26	11	15	13	1	1	
	W	U.S. 4	32	12	20	16	3	1	
23	N	U.S. 5	60	27	33	22	9	1	1
	S	U.S. 5	88	37	51	37	13	1	
	E	9	28	10	18	15	3		
24	N	U.S. 5	34	16	18	12	4	2	
	S	U.S. 5	34	16	18	12	4	2	
	W	T.R.	13	9	4	4			
25	N	U.S. 5	27	8	19	10	8	1	
	E	11	98	36	62	36	25	1	
	W	11	86	33	53	34	18	1	
26	N	U.S. 5	63	25	38	30	5	3	
	S	U.S. 5	18	5	13	8	3	2	
	E	12	48	21	27	23	3	1	
27	N	U.S. 5	40	16	24	19	2	3	
	S	U.S. 5	51	21	30	24	3	3	
	W	12	22	10	12	10	2		
28	N	T.R.	2		2	1	1		
	S	U.S. 5	40	18	22	17	3	2	
	E	U.S. 5	43	21	22	17	3	2	
	W	T.R.	2	1	1	1			
29	N	U.S. 5	34	15	19	17	2		
	S	U.S. 5	43	20	23	21	2		
	E	S.R.	7	4	3	3			
30	N	U.S. 5	24	10	14	10	2	2	
	S	U.S. 5	24	8	16	14	2		
	W	S.R.	21	7	14	9	3	2	
31	N	U.S. 5	9	6	3	3			
	S	U.S. 5	15	9	6	5	1		
	W	113	6	3	3	3			
32	N	U.S. 5	34	13	21	17	3	1	
	S	U.S. 5	31	12	19	15	4		
	E	S.R.	16	8	8	7	1		
	W	25	10	4	6	4	2		
33	N	U.S. 5	24	9	15	12	2	1	
	S	U.S. 5	15	5	10	8	2		
	E	25	9	4	5	3	2		
34	N–S	U.S. 5	75	29	46	35	10	1	
35	N	U.S. 5	56	20	36	25	11		
	S	U.S. 5	83	29	54	39	15		
	E	114	37	15	22	16	6		
36	N	U.S. 5	33	15	18	14	4		

[1] For location of stations see Figure 5.

[2] Direction of route from station.

[3] All numbered State-aid routes are designated by route numbers; United States routes by the initials U. S. Unnumbered State-aid roads are designated by the initials S. R., and town roads by T.R. The initial F indicates roads connecting with ferries across Lake Champlain.

* Less than one truck per day.

Station[1]	Direction[2]	Route number[3]	Average daily motor trucks						
			Total	Empty	Loaded trucks				
					Total	½–1½ tons capacity	2–2½ tons capacity	3–4 tons capacity	5–7½ tons capacity
	S	U.S. 5	16	5	11	7	4	.....	.....
36....	E	S.R.	62	27	35	24	11	.....	.....
	W	S.R.	47	18	29	19	10	.....	.....
37....	N	U.S. 5	40	18	22	15	7	.....	.....
	S	12 B	21	14	7	5	2	.....	.....
	E	U.S. 5	25	10	15	10	5	.....	.....
38....	N	T.R.	20	9	11	9	2	.....	.....
	E	U.S. 5	118	54	64	38	26	.....	.....
	W	U.S. 5	121	60	61	37	24	.....	.....
39....	N	U.S. 5	61	30	31	23	8	.....	.....
	S	U.S. 5	68	35	33	24	8	1	.....
	W	T.R.	7	6	1	1	.....	.....	.....
40....	E–W	U.S. 7	79	40	39	26	11	2	.....
41....	N	U.S. 7	59	26	33	27	5	1	.....
	S	U.S. 7	216	95	121	89	30	2	.....
	W	4 A	168	75	93	66	26	1	.....
42....	N	U.S. 7	38	15	23	16	7	.....	.....
	S	U.S. 7	41	17	24	16	8	.....	.....
	W	S.R.	8	2	6	4	2	.....	.....
43....	N–S	U.S. 7	32	12	20	14	4	2	.....
44....	N–S	U.S. 7	40	18	22	18	2	1	1
45....	N–S	U.S. 7	45	17	28	22	4	2	.....
46....	N	U.S. 7	62	24	38	34	4	.....	.....
	S	U.S. 7	70	29	41	35	6	.....	.....
	E	S.R.	9	4	5	4	1	.....	.....
47....	N	U.S. 7	88	35	53	48	4	1	.....
	S	U.S. 7	78	33	45	40	4	1	.....
	W	3	17	4	13	13	.....	.....	.....
48....	N	U.S. 7	35	11	24	20	3	1	.....
	S	U.S. 7	48	17	31	25	5	1	.....
	W	T.R.	11	5	6	4	2	.....	.....
49....	N	U.S. 7	33	20	13	10	3	.....	.....
	S	U.S. 7	20	12	8	5	3	.....	.....
	E	116	15	8	7	5	2	.....	.....
50....	S	U.S. 7	34	13	21	19	2	.....	.....
	E	S.R.	4	.....	4	4	.....	.....	.....
	W	U.S. 7	37	13	24	22	2	.....	.....
51....	N	U.S. 7	41	13	28	24	3	1	.....
	S	U.S. 7	46	13	33	28	4	1	.....
	E	S.R.	40	13	27	26	1	.....	.....
	W	S.R.	31	12	19	18	.....	1	.....
52....	N–S	U.S. 7	151	76	75	66	8	1	.....
53....	N–S	U.S. 7	53	30	23	21	1	1	.....
54....	N	U.S. 7	68	28	40	30	7	3	.....
	S	U.S. 7	93	38	55	44	10	1	.....
	E	105	36	17	19	14	3	2	.....
55....	N	U.S. 7	6	3	3	2	1	.....	.....
	S	U.S. 7	65	35	30	18	5	4	3
	E	S.R.	50	26	24	16	3	2	3
56....	N	2	12	5	7	5	1	1	.....
	S	2	19	9	10	7	2	1	.....
	E	S.R.	8	5	3	2	1	.....	.....
57....	N	105	39	10	29	25	3	1	.....
	S	2	17	4	13	11	2	.....	.....
	E	105	26	7	19	16	2	1	.....
58....	N–S	3 & 101	46	20	26	18	8	.....	.....
59....	N–S	8	61	32	29	23	6	.....	.....
60....	N	8	19	9	10	6	4	.....	.....
	S	S.R.	3	2	1	1	.....	.....	.....
61....	E	8	14	7	7	3	2	2	.....
	S	8	13	6	7	5	2	.....	.....
61....	E	9	9	4	5	5	.....	.....	.....
	W	9	41	19	22	19	3	.....	.....
62....	S	T.R.	1	1	.....	.....	.....	.....	.....
	E	9	84	32	52	34	15	2	1
	W	9	84	32	52	33	15	2	2
63....	E–W	9	37	20	17	7	8	2	.....
64....	S	S.R.	24	13	11	8	2	1	.....
	E	9	50	23	27	22	4	1	.....
	W	9	27	11	16	13	2	1	.....
65....	N	11	10	5	5	4	1	.....	.....
	E	101	2	1	1	1	.....	.....	.....
	W	11 & 101	12	5	7	5	2	.....	.....
66....	N	S.R.	6	3	3	2	1	.....	.....
	E	11	30	11	19	6	12	1	.....
	W	11	24	9	15	4	10	1	.....
67....	N	106	58	28	30	20	9	1	.....
	E	11	91	47	44	31	12	1	.....
	W	11	46	24	22	16	6	.....	.....
68....	N	107 & 12	16	9	7	5	1	1	.....
	S	12	6	4	2	2	.....	.....	.....
	W	107	14	5	9	7	1	1	.....
69....	N	12	13	5	8	6	2	.....	.....
	S	12	13	5	8	6	2	.....	.....
	E	T.R.	*	.....	.....	.....	.....	.....	.....
70....	N	12	43	23	20	16	4	.....	.....
	S	12	31	17	14	12	2	.....	.....
	W	12 A	12	6	6	4	1	1	.....
71....	N–S	12	40	21	19	14	5	.....	.....
72....	N	12 & 18	66	36	30	21	7	2	.....
	S	S.R.	34	18	16	10	5	1	.....
	W	12 & 18	37	21	16	13	2	1	.....
73....	N	12 & 18	24	11	13	11	2	.....	.....
	S	12	47	21	26	19	6	1	.....
	E	18	23	13	10	7	3	.....	.....
	W	T.R.	6	2	4	3	1	.....	.....
74....	N	12	23	12	11	7	2	2	.....
	S	12	23	11	12	8	2	2	.....
	W	T.R.	2	1	1	1	.....	.....	.....
75....	N	12	34	19	15	12	2	1	.....
	S	15	21	9	12	11	1	.....	.....
	W	12 & 15	39	20	19	15	3	1	.....
76....	N	12	54	16	38	29	8	1	.....
	S	12	34	13	21	15	6	.....	.....
	W	S.R.	18	3	15	13	2	.....	.....
77....	N	12 B	21	8	13	7	6	.....	.....
	E	15	49	19	30	18	10	2	.....
	W	15	40	15	25	12	11	2	.....
78....	N	T.R.	3	2	1	1	.....	.....	.....
	E	14	36	15	21	19	2	.....	.....
	W	14	33	13	20	18	2	.....	.....
79....	N	110	24	12	12	4	8	.....	.....
	S	110	28	13	15	7	8	.....	.....
	E	14	19	9	10	5	5	.....	.....
	W	14	18	8	10	5	5	.....	.....
80....	N	14	10	5	5	3	2	.....	.....

Motor Truck Traffic at Vermont Traffic Survey Stations—Continued

Station[1]	Direction[1]	Route number[3]	Average daily motor trucks: Total	Empty	Loaded trucks: Total	½–1½ tons capacity	2–2½ tons capacity	3–4 tons capacity	5–7½ tons capacity
80	E	14	24	13	11	8	3		
	W	107	18	10	8	5	3		
81	N–S	14	84	43	41	36	4	1	
82	E–W	15	287	190	97	86	9	1	1
83	N	S.R.	13	3	10	8	2		
	N–E	128	29	11	18	15	3		
	E	15	53	19	34	29	4	1	
	W	15	64	25	39	34	4	1	
84	S	15	42	23	19	16	2	1	
	E	15	54	31	23	18	3	2	
	W	104	13	8	5	4	1		
85	N	15 & 100	60	29	31	21	9	1	
	S	15 & 100	62	30	32	22	9	1	
	E	T.R.	3	1	2	2			
	W	T.R.	2	2					
86	N	S.R.	17	7	10	9	1		
	E	15 & 18	58	28	30	23	7		
	W	15 & 18	43	22	21	15	6		
87	N	S.R.	21	11	10	5	4	1	
	S	18	61	33	28	19	8	1	
	E	18	52	30	22	15	6	1	
88	N	25	16	6	10	6	4		
	S	S.R.	4	3	1		1		
	E	25	23	11	12	6	6		
	W	S.R.	1	1					
89	N	S.R.	2		2	2			
	S	30	33	10	23	21	1	1	
	E	30	32	10	22	20	1	1	
90	N	30 A	*						
	S	30 A	31	13	18	18			
	E	F. 10	49	17	32	31		1	
	W	F. 10	33	10	23	22		1	
91	N	30 A	27	10	17	16	1		
	S	30 A	36	13	23	21	2		
	W	F. 9	43	16	27	25	2		
92	N	30 A	41	10	31	28	3		
	S	30 A	18	4	14	14			
	E	F. 7	17	5	12	11	1		
	W	F. 7	15	4	11	10	1		
93	N	100	26	13	13	11	2		
	S	103	43	22	21	17	3	1	
	W	103	24	13	11	8	2	1	
94	N	100	17	9	8	6	1	1	
	S	100	14	6	8	5	2	1	
	W	115	2	1	1	1			
95	N	100	8	3	5	5			
	S	100	8	3	5	4	1		
	E	S.R.	1		1	1			
96	N	100	7	3	4	4			
	S	100	48	20	28	15	11	2	
	E	100 B	48	21	27	13	12	2	
97	N–S	100	76	36	40	36	3	1	
98	N	S.R.	9	5	4	3	1		
	S	100	28	16	12	11	1		
	E	100	30	17	13	12	1		
99	N	100	14	3	11	10	1		
	S	100	9	2	7	6	1		
99	E	S.R.	5	1	4	4			
	W	S.R.	9	3	6	5	1		
100	N	105	54	25	29	10	18	1	
	E	100	89	32	57	26	29	2	
	W	100	53	20	33	20	12	1	
101	E–W	100 B	48	16	32	20	11	1	
102	N	101	58	22	36	28	7	1	
	S	101	27	15	12	8	4		
	W	S.R.	69	29	40	29	9	2	
103	S	S.R.	5	2	3	3			
	E	101	25	9	16	12	3	1	
	W	101	23	9	14	10	3	1	
104	N–S	101	75	33	42	25	15	2	
105	N–S	101	51	20	31	20	7	4	
106	N	102	24	13	11	7	1	3	
	S	102	21	12	9	8	1		
	W	105	23	11	12	8	1	3	
107	N	102	34	17	17	15	2		
	S	102	9	4	5	4	1		
	E	T.R.	39	18	21	18	3		
108	N	T.R.	39	20	19	12	7		
	E	102	49	19	30	23	7		
	W	102	37	16	21	20	1		
109	N	103	26	13	13	11	2		
	E	103	25	12	13	11	2		
	W	S.R.	10	4	6	4	2		
110	S	103	41	21	20	14	5	1	
	E	S.R.	32	16	16	12	4		
	W	103	41	20	21	15	5	1	
111	S	S.R.	3	2	1	1			
	E	103	33	13	20	12	7	1	
	W	103	38	16	22	14	8		
112	S	104	10	6	4	4			
	E	S.R.	12	10	2	2			
	W	104	17	11	6	6			
113	N	S.R.	1	1					
	S	104	22	6	16	15	1		
	E	S.R.	8	3	5	4	1		
	W	104	30	9	21	19	2		
114	N	120	37	15	22	21		1	
	S	T.R.	14	8	6	6			
	E	105	58	27	31	29	1	1	
	W	105	48	19	29	28	1		
115	N	105	87	40	47	45	1	1	
	E	118	56	30	26	17	9		
	W	105	84	35	49	41	8		
116	N	105	39	21	18	10	6	2	
	S	S.R.	5	5					
	E	105	35	15	20	12	6	2	
117	S	S.R.	3	2	1	1			
	E	105	31	14	17	13	4		
	W	105	30	13	17	13	4		
118	S	114	3	1	2	2			
	E	105&114	17	9	8	6	2		
	W	105	16	8	8	6	2		
119	N	106	9	3	6	4	2		
	S	106	18	6	12	9	3		
	E	S.R.	10	4	6	6			
120	N	108	38	22	16	15	1		
		108	16	11	5	4	1		

Station[1]	Direction[2]	Route number[3]	Average daily motor trucks																	
			Total	Empty	Loaded trucks															
					Total	½–1½ tons capacity	2–2½ tons capacity	3–4 tons capacity	5–7½ tons capacity											
120	E	T.R.	17	7	10	10				135	N	S.R.	1		1	1				
	W	S.R.	12	7	5	5					S	S.R.	1		1	1				
121	N	109	9	6	3	2	1				E	T.R.	*							
	S	114	8	5	3	2	1				W	T.R.	*							
	E	109	9	4	5	5				136	N	S.R.	*							
	W	T.R.	9	5	4	2	2				S	T.R.	*							
122	N	110	12	5	7	4	3				E	S.R.	*							
	S	110	15	7	8	5	3			137	N	T.R.	5	2	3	3				
	E	S.R.	2	2							S	T.R.	5	3	2	2				
123	N	114	15	7	8	6	2				E	T.R.	2	1	1	1				
	S	114	13	6	7	5	2				W	T.R.	6	4	2	2				
	W	111	10	5	5	4	1			138	N	S.R.	19	3	16	14	2			
124	N	S.R.	68	28	40	30	9	1			S	S.R.	14	2	12	9	3			
	E	115	25	11	14	10	1	3			E	S.R.	11	1	10	8	2			
	W	115	84	35	49	35	9	5		139	N	S.R.	26	8	18	18				
125	N	S.R.	2		2	2					S	S.R.	39	14	25	24	1			
	E	130	13	6	7	5	2				E	T.R.	10	4	6	5	1			
	W	130	11	6	5	4	1			140	N	T.R.	17	8	9	9				
126	N	S.R.	42	26	16	15	1				S	T.R.	25	10	15	15				
	S	S.R.	14	11	3	3					E	T.R.	9	3	6	6				
	E	F. 5	65	43	22	20	2			141	N	S.R.	18	8	10	8	2			
	W	F. 5	39	24	15	14	1				S	S.R.	19	9	10	8	2			
127	N	T.R.	1	1							E	T.R.	1	1						
	S	T.R.	*								W	T.R.	*							
	E	F. 8	2	2						142	N	T.R.	9	4	5	2	3			
	W	F. 8	2	2							S	T.R.	10	4	6	2	4			
128	N	T.R.	5		5	5					E	T.R.	1		1	1				
	S	T.R.	1	1							W	T.R.	1		1	1				
	E	S.R.	7	2	5	5				143	N	T.R.	1		1	1				
	W	S.R.	4	3	1	1					S	T.R.	*							
129	N	T.R.	3		3	3					E	T.R.	1	1						
	S	T.R.	3		3	3					W	T.R.	1	1						
	E	T.R.	*							144	N	T.R.	*							
	W	T.R.	2	1	1	1					S	T.R.	*							
130	N	T.R.	1	1							E	T.R.	*							
	S	T.R.	4	2	2	2					W	T.R.	*							
	E	T.R.	3		3	3				145	N	T.R.	2	1	1	1				
	W	T.R.	1	1							S	T.R.	*							
131	N	T.R.	*								E	T.R.	*							
	S	T.R.	3		3	3					W	T.R.	2		2	2				
	E	S.R.	*							146	N	S.R.	13	3	10	10				
	W	S.R.	3		3	3					S	S.R.	10	2	8	8				
132	N	T.R.	*								E	T.R.	6	1	5	5				
	S	T.R.	3		3	3					W	T.R.	*							
	E	T.R.	3		3	3				147	S	T.R.	*							
	W	T.R.	*								E	S.R.	3	1	2	2				
133	N	T.R.	2	1	1	1					W	S.R.	3	1	2	2				
	S	T.R.	48	13	35	30	5			148	N	T.R.	2	1	1	1				
	E	S.R.	80	23	57	43	11	3			S	T.R.	*							
	W	S.R.	42	15	27	19	6	2			W	T.R.	2	1	1	1				
134	N	T.R.	*							149	N	T.R.	3	1	2	1	1			
	S	T.R.	*								S	S.R.	4	2	2	1	1			
	W	T.R.	*								E	T.R.	*							

APPENDIX V

Average Gross Weight of Loaded Motor Trucks by Capacity Classes at Vermont Traffic Survey Weight Stations

Station[1]	Direction[2]	Route number[3]	½–1½ ton trucks		2–2½ ton trucks		3–4 ton trucks		5–7½ ton trucks	
			Number of loaded trucks weighed[4]	Average gross weight	Number of loaded trucks weighed[4]	Average gross weight	Number of loaded trucks weighed[4]	Average gross weight	Number of loaded trucks weighed[4]	Average gross weight
				Pounds		*Pounds*		*Pounds*		*Pounds*
3	N	U.S. 7	63	5,160	9	15,720	1	13,600	.....	.....
	S	U.S. 7 & U.S. 2	86	5,370	9	15,730	3	15,470	.....	.....
	W	U.S. 2	41	5,390	2	13,250	2	16,400	.....	.....
5	N	T.R.	1	3,400	.....	.....	.....	.....	.....	.....
	S	116	58	4,720	6	12,550	.....	.....	.....	.....
	E	U.S. 2	81	4,190	24	13,460	4	13,900	.....	.....
	W	U.S. 2	122	4,460	30	13,280	4	13,900	.....	.....
7	E–W	U.S. 2	85	5,370	16	11,370	3	14,700	.....	.....
8	S	U.S. 2	227	5,890	29	12,220	3	16,230	.....	.....
	E	12	54	5,730	8	13,650	.....	.....	.....	.....
	W	U.S. 2	279	5,870	37	12,530	3	16,230	.....	.....
9	N	U.S. 2	95	5,300	14	12,660	.....	.....	.....	.....
	S	110	40	5,570	5	14,240	.....	.....	.....	.....
	E	U.S. 2	68	4,640	11	12,390	.....	.....	.....	.....
	W	S.R.	37	4,690	4	14,450	.....	.....	.....	.....
14	N	U.S. 2	31	4,850	7	10,840	1	14,900	.....	.....
	S	18	26	5,400	6	13,350	3	13,300	.....	.....
	W	U.S. 2	55	5,100	13	12,000	4	13,700	.....	.....
17	N	30	59	4,710	6	11,880	1	14,800	.....	.....
	S	S.R.	3	3,870	.....	.....	.....	.....	.....	.....
	E	U.S. 4	135	5,040	15	11,220	4	13,100	.....	.....
	W	U.S. 4	129	5,310	11	10,850	5	13,440	.....	.....
18	N	3	66	4,380	6	12,200	.....	.....	.....	.....
	E	U.S. 4	213	4,660	29	13,070	5	14,420	.....	.....
	W	U.S. 4	159	4,740	23	13,300	5	14,420	.....	.....
24	N	U.S. 5	40	4,770	10	11,860	5	17,700	.....	.....
	S	U.S. 5	35	4,860	10	11,860	6	16,650	.....	.....
	W	T.R.	9	4,210	.....	.....	1	11,400	.....	.....
25	N	U.S. 5	20	6,120	23	12,840	3	18,170	.....	.....
	E	11	83	6,690	75	13,640	4	16,980	.....	.....
	W	11	81	6,400	54	13,930	1	13,400	.....	.....
27	N	U.S. 5	40	4,880	2	14,200	12	17,470	.....	.....
	S	U.S. 5	64	4,950	6	12,370	12	17,470	.....	.....
	W	12	36	4,930	4	11,450	.....	.....	.....	.....
29	N	U.S. 5	38	5,320	4	11,700	1	10,800	.....	.....
	S	U.S. 5	45	5,190	4	11,700	1	10,800	.....	.....
	E	S.R.	7	4,440	.....	.....	.....	.....	.....	.....
34	N–S	U.S. 5	99	5,480	25	10,740	4	10,500	.....	.....
41	N	U.S. 7	58	4,380	13	11,150	4	11,600	.....	.....
	S	U.S. 7	205	5,330	70	13,050	8	12,650	1	22,500
	W	4 A	153	5,660	57	13,480	4	13,700	1	22,500
45	N–S	U.S. 7	54	5,150	6	14,520	7	16,940	.....	.....
46	N	U.S. 7	72	5,170	9	10,040	1	10,700	.....	.....
	S	U.S. 7	85	4,860	12	11,730	1	10,700	.....	.....
	E	S.R.	13	3,150	3	16,800	.....	.....	.....	.....
49	N	U.S. 7	49	5,360	11	11,240	2	12,800	.....	.....
	S	U.S. 7	27	5,930	7	10,970	1	13,600	.....	.....
	E	116	24	4,590	5	11,760	.....	.....	.....	.....
52	N–S	U.S. 7	138	5,000	22	10,920	2	11,050	.....	.....
54	N	U.S. 7	73	4,040	14	11,650	6	18,180	2	19,200
	S	U.S. 7	117	4,200	19	11,160	4	17,330	1	17,500
	E	105	46	4,400	7	10,840	3	20,030	2	20,600
62	S	T.R.	1	11,600	.....	.....	.....	.....	.....	.....
	E	9	90	5,380	38	12,480	6	13,750	3	16,830
	W	9	90	5,380	39	12,460	6	13,750	3	16,830
63	E–W	9	16	4,120	19	13,900	8	12,660	.....	.....
78	N	T.R.	.....	.....	.....	.....	.....	.....	.....	.....
	E	14	47	5,070	5	11,440	.....	.....	.....	.....
	W	14	47	5,070	5	11,440	.....	.....	.....	.....
83	N	S.R.	17	5,430	6	9,670	.....	.....	.....	.....
	N.E.	128	40	5,710	6	9,870	.....	.....	.....	.....
	E	15	74	5,440	6	11,000	4	15,620	.....	.....
	W	15	86	5,430	7	10,810	4	15,620	.....	.....
93	N	100	25	4,460	5	14,320	.....	.....	.....	.....
	S	103	41	5,140	8	12,580	2	14,200	.....	.....
	W	103	20	6,090	3	9,670	2	14,200	.....	.....
102	N	101	56	5,130	16	10,090	4	15,150	.....	.....
	S	101	18	3,990	10	10,790	.....	.....	.....	.....
	W	S.R.	66	4,630	24	10,520	6	16,700	.....	.....
105	N–S	101	49	4,800	18	11,480	11	16,640	.....	.....
113	N	S.R.	.....	.....	.....	.....	.....	.....	.....	.....
	S	104	29	4,900	5	11,460	1	14,600	.....	.....
	E	S.R.	11	4,480	2	13,560	.....	.....	.....	.....
	W	104	40	4,780	6	11,700	2	14,400	.....	.....

[1] For location of stations see Figure 5.
[2] Direction of route from station.
[3] All numbered State-aid routes are designated by route numbers; United States routes by the initials U.S. Unnumbered State-aid roads are designated by the initials S.R., and town roads by T.R. The initial F. indicates roads connecting with ferries across Lake Champlain.
[4] Total number of loaded trucks on each route during three 10-hour observations.

APPENDIX VI

Traffic Classification of Vermont Highways[1]

Highway section	Route number	Miles	Average daily traffic 1926[3]			Average daily traffic 1931[3]			Average daily traffic 1936[3]		Classification[5]
			Total motor vehicles	Total motor trucks	Total trucks of 2 to 7½-ton capacity[4]	Total motor vehicles	Total motor trucks	Total trucks of 2 to 7½-ton capacity[4]	Total motor vehicles	Total motor trucks	
Rutland to W. Rutland	U.S. 4 (F)	2.0	2,648	164	22	3,700	220	30	4,600	270	A
Montpelier to Barre	U.S. 2 (F)	2.1	2,576	161	29	3,600	210	40	4,500	260	A
Winooski to Essex Jct.	15 (F)	2.6	2,359	287	22	3,300	390	30	4,100	490	A
Bennington to Jct. with Rd. to N. Bennington	U.S. 7 (F)	0.7	2,294	216	53	3,200	300	75	4,000	370	A
St. Albans to Jct. with 105	U.S. 7 (F)	0.2	1,755	93	18	2,500	130	25	3,100	160	A
Burlington to Jct. with 116	U.S. 2 (F)	1.0	1,751	105	21	2,400	140	30	3,000	180	A
Waterbury to Montpelier	U.S. 2 (F)	11.6	1,709	64	13	2,400	95	20	3,000	120	A
Rutland to Jct. E. of Pittsford	U.S. 7 (F)	0.7	1,659	70	.....	2,300	95	.....	2,900	120	A
Pownal to Massachusetts line	U.S. 7 (F)	2.6	1,645	79	25	2,300	100	30	2,900	130	A
Bennington to New York line	9 (F)	3.2	1,599	84	28	2,200	130	45	2,800	140	A
St. Johnsbury to Lyndonville	U.S. 5 (F)	7.1	1,557	75	17	2,200	100	25	2,700	130	A
Winooski to Jct. with 117	U.S. 7 (F)	3.7	1,548	106	.....	2,200	140	.....	2,700	180	A
Brattleboro to Jct. with 9[6]	U.S. 5 (F)	2.1	1,492	88	27	2,100	120	35	2,600	150	A
Jct. 117 to Jct. with U. S. 2	U.S. 7 (F)	3.2	1,478	73	.....	2,100	100	.....	2,600	120	B
Brandon to Jct. E. of Pittsford	U.S. 7 (F)	12.8	1,362	82	.....	1,900	110	.....	2,400	140	B
Charlotte to Burlington[6]	U.S. 7 (F)	9.5	1,339	125	13	1,900	170	20	2,300	210	A
Fair Haven to New York line	U.S. 4 (F)	1.6	1,330	119	17	1,900	160	25	2,300	200	B
Pownal to Bennington[7]	U.S. 7 (F)	7.0	1,316	64	25	1,800	90	35	2,300	110	B
Fair Haven to W. Rutland	U.S. 4 (F)	10.4	1,302	79	12	1,800	110	15	2,300	130	B
N. Bennington to Jct. with U. S. 7	S.R.	3.0	1,284	162	45	1,800	220	60	2,200	280	B
Swanton to Jct. with 105	U.S. 7 (F)	7.1	1,277	68	.....	1,800	90	.....	2,200	120	B
St. Johnsbury to Jct. with 18	U.S. 2 (F)	1.9	1,205	47	11	1,700	65	15	2,100	85	B
Brattleboro to Massachusetts line[7]	U.S. 5 (F)	8.0	1,203	51	.....	1,700	70	.....	2,100	90	B
Newport to Derby Line	U.S. 5 (F)	8.0	1,171	88	28	1,600	120	40	2,000	150	B
Ascutneyville to Windsor	U.S. 5 (F)	4.7	1,148	63	12	1,600	85	15	2,000	110	B
S. Shaftsbury to Jct. with Rd. to N. Bennington	U.S. 7 (F)	3.5	1,134	59	11	1,600	80	15	2,000	100	B
Barre to Williamstown	14 (F)	4.8	1,129	84	11	1,600	110	15	2,000	140	B
Lyndonville to Jct. with 114	U.S. 5 (F)	1.4	1,124	83	22	1,600	110	30	2,000	140	B
W. Danville to St. Johnsbury	15 (F)	8.5	1,112	43	12	1,600	60	15	1,900	75	B
Rutland to Mendon	U.S. 4 (F)	2.4	1,109	83	35	1,600	100	40	1,900	130	B
Waterbury to Jct. with 116	U.S. 2 (F)	21.0	1,108	60	19	1,500	75	25	1,900	95	B
Putney to Jct. with 9	U.S. 5 (F)	7.2	1,101	60	24	1,500	80	30	1,900	100	B
Proctorsville to Jct. with 100[6]	103 (F)	4.6	1,086	42	.....	1,500	60	.....	1,900	70	C
Barnet Sta. to St. Johnsbury	U.S. 5 (F)	9.0	1,046	46	.....	1,400	65	.....	1,800	80	C
N. Bennington to S. Shaftsbury[7]	S.R.	2.2	1,022	45	.....	1,400	60	.....	1,800	80	C
Rutland to Jct. with 103[6 7]	U.S. 7 (F)	3.8	1,016	53	.....	1,400	70	.....	1,800	90	B
Proctorsville to Chester	103 (F)	8.7	991	41	.....	1,400	55	.....	1,700	70	C
Montpelier to Jct. S. of Northfield	12 (F)	9.4	982	40	10	1,400	55	15	1,700	70	C
Brandon to Jct. with town road N	U.S. 7 (F)	1.0	976	48	.....	1,400	65	.....	1,700	80	C
Windsor to White River Jct.	U.S. 5 (F)	14.6	946	43	10	1,300	60	15	1,600	75	C
West Brattleboro to Brattleboro	9 (F)	1.9	943	50	.....	1,300	70	.....	1,600	85	C
Granville, N. Y. to Jct. with 101	S.R.	1.6	939	69	15	1,300	90	20	1,600	120	C
Barre to E. Barre	U.S. 2 (F)	2.2	906	68	13	1,300	85	15	1,600	110	C
S. Shaftsbury to Manchester Center	U.S. 7 (F)	16.5	901	39	14	1,300	55	20	1,600	65	C
Putney to Bellows Falls	U.S. 5 (F)	13.6	898	34	10	1,300	45	15	1,600	60	C
Middlebury to Jct. E. of Middlebury	U.S. 7 (F)	3.6	877	33	.....	1,200	45	.....	1,500	60	C
Bristol to Jct. with Rd. to Beldens	116	3.0	865	80	.....	1,200	110	.....	1,450	140	D
Salisbury to Jct. with town road	U.S. 7 (F)	6.0	849	35	.....	1,200	50	.....	1,450	60	D
Brattleboro to W. Dummerston	101	6.0	823	75	31	1,200	100	40	1,400	130	D
W. Burke to Jct. with 114	U.S. 5 (F)	7.8	822	56	16	1,100	75	20	1,400	95	D
Springfield to Jct. with U. S. 5	11 (F)	3.2	818	86	23	1,100	120	30	1,400	150	D
Springfield to Jct. at N. Springfield	106 (F)	2.8	809	58	10	1,100	80	15	1,400	100	D
St. Albans to Jct. with U.S. 2	U.S. 7 (F)	16.6	808	49	.....	1,100	65	.....	1,400	85	D
Hartford to Jct. with town road to Norwich	14 (F)	1.1	803	36	.....	1,100	50	.....	1,400	60	D
Grand Isle to Jct.with U. S. 7	U.S. 2 (F)	14.5	802	38	.....	1,100	55	.....	1,400	70	D

[1] The traffic classification includes the entire Federal-aid system of 1,043 miles, 913 of the 925 miles of numbered State-aid routes, and 238 miles of unnumbered State-aid roads.

[2] Route numbers shown for all numbered routes. Routes designated as S. R. are unnumbered State-aid roads. (F) indicates Federal-aid system. The initial F. before a route number indicates routes connecting with ferries across Lake Champlain.

[3] Average daily motor vehicle traffic for the period July 16 to October 15 of each year.

[4] Total trucks of 2 to 7½-ton capacity not shown where less than 10 per day.

[5] Classification based on following class limits except as indicated in footnote 6.

Classification	Average daily motor vehicles 1926	1931	1936
A–Major 1	Over 1,500	Over 1,500	Over 1,500
B–Major 2	800–1,500	Over 1,500	Over 1,500
C–Medium 1	800–1,500	800–1,500	Over 1,500
D–Medium 2	800–1,500	800–1,500	800–1,500
E–Medium 3	less than 800	800–1,500	800–1,500
F–Minor 1	less than 800	less than 800	800–1,500
G–Minor 2	less than 800	less than 800	less than 800

[6] Classification of these sections on which traffic as shown is lower than or in excess of classification limits is based upon consideration of total traffic, total motor truck traffic, number of large-capacity trucks, connections with other routes, and abnormality of 1926 traffic due to construction, detours or condition of highway.

[7] Estimated traffic.

Traffic Classification of Vermont Highways—Continued

Highway section	Route number [2]	Miles	Average daily traffic 1926 [3]			Average daily traffic 1931 [3]			Average daily traffic 1936 [3]		Classification [5]
			Total motor vehicles	Total motor trucks	Total trucks of 2 to 7½-ton capacity [4]	Total motor vehicles	Total motor trucks	Total trucks of 2 to 7½-ton capacity [4]	Total motor vehicles	Total motor trucks	
Wallingford to Jct. with 103	U.S. 7 (F)	4.8	800	45	.....	1,100	60	.....	1,400	75	D
Stowe to Waterbury	100 (F)	9.6	795	76	11	1,100	100	15	1,400	130	E
Ascutneyville to New Hampshire line [6]	S.R.	0.3	779	48	.....	1,100	65	.....	1,400	85	D
Center Rutland to Proctor	3	4.8	778	42	.....	1,100	55	.....	1,400	70	E
Chester to Springfield	11	5.7	776	46	.....	1,100	65	.....	1,400	80	E
Hartford to White River Jct. [7] [6]	14 (F)	1.7	767	36	.....	1,100	50	.....	1,300	60	D
E. Montpelier to Jct. with U.S. 2 [6]	12 (F)	5.0	762	50	10	1,100	70	15	1,300	85	D
Gassetts to Jct. with 106 [7]	S.R. (F)	4.0	750	20	.....	1,000	25	.....	1,300	35	E
Manchester Center to Wallingford	U.S. 7 (F)	23.7	748	36	10	1,000	50	15	1,300	60	E
N. Royalton to Jct. with town road to Norwich	14 (F)	22.3	735	25	.....	1,000	35	.....	1,300	45	E
Bridgewater to White River Jct.	U.S. 4 (F)	19.8	727	29	.....	1,000	40	.....	1,300	50	E
Essex Jct. to Jericho	15 (F)	6.4	720	58	.....	1,000	80	.....	1,300	100	E
Jct. with U.S. 7 to Jct. with 100	103 (F)	16.5	713	25	.....	1,000	35	.....	1,200	40	E
Salisbury to Jct. near E. Middlebury	U.S. 7 (F)	6.6	710	20	.....	1,000	25	.....	1,200	35	E
Brandon to Forestdale	115	2.7	708	84	20	1,000	110	25	1,200	140	E
Newport to Jct. with 105	100 (F)	2.7	706	89	41	1,000	120	55	1,200	150	E
Chester to Bellows Falls	103 (F)	12.0	705	35	11	1,000	50	15	1,200	60	E
Hyde Park to Morrisville	15 (F)	2.4	703	61	17	1,000	80	20	1,200	100	E
E. Montpelier to W. Danville	18 (F)	19.7	693	50	18	1,000	70	25	1,200	85	E
Jct. with U. S. 2 to New Hampshire line	18 (F)	10.1	681	21	.....	1,000	30	.....	1,200	35	E
Poultney to New York line [7]	30	0.7	672	55	.....	940	65	.....	1,200	85	E
Cambridge to Jeffersonville	15 (F)	2.5	671	54	.....	940	75	.....	1,200	95	E
White River Jct. to Jct. to Lewiston	U.S. 5 (F)	4.7	671	43	.....	940	60	.....	1,200	75	E
W. Brattleboro to Jct. with Rd. to Marlboro	9 (F)	5.8	671	27	.....	940	35	.....	1,200	45	E
Canaan to Colebrook [6]	102	8.1	659	34	.....	920	45	.....	1,100	60	F
E. Barre to Orange	U.S. 2 (F)	2.0	654	60	.....	910	80	.....	1,100	100	E
Jct. with 102 to Connecticut River (Colebrook) [6]	S.R.	0.2	654	39	.....	910	55	.....	1,100	65	F
E. Montpelier to Barre	S.R.	4.0	652	34	.....	910	45	.....	1,100	60	E
E. Montpelier to N. Montpelier	12	3.0	648	24	.....	910	30	.....	1,100	40	E
Vergennes to Charlotte [6]	U.S. 7 (F)	9.2	644	44	.....	900	60	.....	1,100	75	B
Hardwick to Jct. with 15 E	12 (F)	2.3	635	39	.....	890	55	.....	1,100	65	E
Swanton to Canadian line	U.S. 7 (F)	8.4	632	54	.....	880	75	.....	1,100	90	E
Hardwick to Jct. with 12 B	15 (F)	1.0	631	49	19	880	65	25	1,100	85	E
Poultney to Jct. with Rd. to Granville, N. Y.	101	9.8	626	53	10	880	70	15	1,100	90	E
Fairlee to Barnet Sta	U.S. 5 (F)	32.3	622	23	.....	870	30	.....	1,100	40	E
Proctorsville to Cavendish	S.R.	1.6	613	32	.....	860	45	.....	1,100	55	E
Fair Haven to New York line	30	1.3	605	52	.....	850	70	.....	1,100	90	E
Richford to Enosburg Falls	105 (F)	10.1	604	85	12	840	120	15	1,100	140	E
Hubbardton to Castleton Corners	30	7.5	604	36	.....	840	50	.....	1,100	60	E
Forestdale to Jct. with U. S. 7	S.R.	9.5	598	68	14	840	90	20	1,000	120	E
Newport to Jct. with 12 B	U.S. 5 (F)	6.3	597	40	.....	840	55	.....	1,000	70	E
Norwich to Pompanoosuc	U.S. 5 (F)	5.4	594	24	.....	830	35	.....	1,000	40	E
Morrisville to Stowe	100 (F)	8.2	582	28	.....	810	40	.....	1,000	50	E
Conn. River to Jct. with U. S. 2 and 102	U.S. 2 (F)	0.2	567	24	.....	790	35	.....	990	40	F
Ascutneyville to Jct. with 11 [6]	U.S. 5 (F)	10.7	567	23	.....	790	30	.....	990	40	E
Dorset to Manchester Center	101	6.4	565	46	11	790	65	15	980	80	F
Perkinsville to Jct. at N. Springfield [7]	106	3.1	563	38	.....	790	50	.....	980	65	F
Bethel to Jct. S. of Northfield [6]	12 (F)	23.0	562	25	.....	790	35	.....	980	45	E
Newfane to W. Dummerston [7]	101	5.9	555	53	.....	780	70	.....	970	90	F
Jct. with 2 to Jct. with U. S. 5	105 (F)	7.0	555	39	.....	780	55	.....	970	65	F
Bristol to New Haven Jct	S.R.	4.8	548	48	18	770	65	25	950	85	F
Mendon to Jct. with 100	U.S. 4 (F)	6.4	541	29	.....	760	40	.....	940	45	F
Pompanoosuc to Fairlee	U.S. 5 (F)	13.6	536	17	.....	750	20	.....	930	30	F
Newport Center to Jct. with 100	105 (F)	1.7	533	54	27	740	75	35	930	95	F
Bristol to Jct. with U. S. 2	116	27.9	533	44	.....	740	60	.....	930	75	F
Bristol to Vergennes	S.R.	8.0	528	42	.....	740	60	.....	920	75	F
Jct. with U.S. 2 to Jct. with U.S. 7 [6]	117	13.6	527	45	.....	740	60	.....	920	75	E
Plymouth Union to Jct. with 103	100	8.2	522	26	.....	730	35	.....	910	45	F
Jct. with 18 to Jct. with 102 W. of Lancaster	U.S. 2 (F)	21.8	518	22	.....	720	30	.....	900	35	F
Jericho to Cambridge	15 (F)	12.6	517	42	.....	720	55	.....	900	70	F
W. Burke to Rd. to Newark	2	0.5	515	19	.....	720	25	.....	900	35	F
Bethel to Jct. with 12 and 107	12 (F)	2.0	514	16	.....	720	20	.....	890	30	F
Barton to Jct. with 12 B	U.S. 5 (F)	11.9	513	29	.....	720	40	.....	890	50	F
Canadian line to Jct. with U.S. 2 N. of Alburg	S.R.	1.6	512	47	.....	720	65	.....	890	80	F
Jeffersonville to Hyde Park [7]	15 (F)	13.8	500	40	.....	700	55	.....	870	70	F
Middlebury to Jct. S. E. of Vergennes [6]	U.S. 7 (F)	11.0	497	34	.....	700	45	.....	860	60	D
Norwich to Jct. to Lewiston	U.S. 5 (F)	0.8	495	34	.....	690	45	.....	860	60	F
Bennington to Wilmington	9 (F)	18.9	494	37	19	690	50	25	860	65	F
New Haven Mills to Beldens [6] [7]	S.R.	4.4	490	32	.....	680	45	.....	850	55	F
Sheldon Jct. to Jct. with U. S. 7	105 (F)	10.1	484	36	10	680	50	15	840	60	F
Vergennes to Jct. S. E. of Vergennes [6]	U.S. 7 (F)	0.3	477	37	.....	670	50	.....	830	65	D
Chester to Peaseville Jct.	11 (F)	4.0	472	30	.....	660	40	.....	820	50	F
Rd. to Newark to Jct. with Rd. to Barton	2	11.4	471	12	.....	660	15	.....	820	20	F
Bridgewater to West Bridgewater	U.S. 4 (F)	5.7	450	25	.....	630	35	.....	780	45	G
Morrisville to Jct. with 12 B	15 (F)	12.7	443	40	20	620	55	25	770	70	G
N. Royalton to Jct. S. of Bethel	107 (F)	3.0	439	18	.....	610	25	.....	760	30	G

Traffic Classification of Vermont Highways—Continued

Highway section	Route number[2]	Miles	Average daily traffic 1926[3]			Average daily traffic 1931[3]			Average daily traffic 1936[3]		Classification[5]
			Total motor vehicles	Total motor trucks	Total trucks of 2 to 7½-ton capacity[4]	Total motor vehicles	Total motor trucks	Total trucks of 2 to 7½-ton capacity[4]	Total motor vehicles	Total motor trucks	
W. Bridgewater to Jct. with 100	U.S. 4 (F)	6.1	432	25	.....	600	35	.....	750	45	G
Dorset to Jct. with Rd. to Granville, N. Y.	101	13.1	431	32	.....	600	45	.....	750	55	G
W. Danville to Jct. with 12 E. of Hardwick	15 (F)	10.6	431	21	.....	600	30	.....	750	35	G
Barton to Jct. with 15 E	12	20.1	421	34	.....	510	45	.....	730	60	G
Charlotte to Jct. with U.S. 7 (via Meach Cove)	S.R.	5.0	419	42	.....	590	55	.....	730	70	G
Enosburg Falls to Sheldon Jct	105 (F)	7.4	411	56	.....	580	75	.....	720	95	G
Randolph to Jct. S. of Northfield	12–A	19.3	410	12	.....	570	15	.....	710	20	G
Williamstown to N. Royalton	14 (F)	23.8	409	10	.....	570	15	.....	710	15	G
Beecher Falls to Canaan	102	2.0	405	37	.....	570	50	.....	700	65	G
Jct. Rd. to Barton to Jct. with 105	2	7.5	401	17	.....	560	25	.....	700	30	G
Sudbury to Hubbardton[7]	30	6.4	400	32	.....	560	45	.....	700	55	G
Barton to W. Burke[7]	U.S. 5 (F)	13.4	400	20	.....	560	25	.....	700	35	G
Sudbury to Jct. with Rd. S. W. of Middlebury[7]	30	13.7	386	31	.....	540	45	.....	670	55	G
Middlebury to Jct. with Rd. S. W. of town	30	3.2	385	32	.....	540	45	.....	670	55	G
Wilmington to N. Jct. with Rd. to Marlboro	9 (F)	9.8	373	12	.....	520	15	.....	650	20	G
Manchester Center to Peaseville Jct	11 (F)	24.8	366	16	.....	510	20	.....	640	30	G
Rouses Point Landing to Grand Isle	U.S. 2 (F)	23.3	362	28	.....	510	40	.....	630	50	G
Newport Center to Canadian line	105 (F)	8.2	359	31	.....	500	40	.....	620	55	G
Shoreham to Larabee's Point	F–9	4.6	357	43	.....	500	60	.....	620	75	G
Middlesex to Jct. with 100	100–B	8.0	350	48	20	490	65	25	610	80	G
Brandon to Jct. with 30[7]	S.R.	6.0	350	12	.....	490	15	.....	610	20	G
Brandon to Sudbury[7]	F–10	5.7	350	12	.....	490	15	.....	610	20	G
Stockbridge to Jct. with 12	107 (F)	8.0	338	14	.....	470	20	.....	590	25	G
E. Berkshire to Montgomery Ctr.	118	6.8	337	56	16	470	75	20	590	95	G
Pownal to New York line[7]	112 (F)	3.2	329	16	.....	460	20	.....	570	30	G
Orange to Wells River	U.S. 2 (F)	25.2	327	7	.....	460	10	.....	570	10	G
N. Montpelier to Hardwick	12	15.8	310	23	.....	430	30	.....	540	40	G
Charlotte to Cedar Beach	F–5	2.8	310	39	.....	430	60	.....	540	75	G
Woodstock to Jct. with 12 & 107	12	15.6	307	7	.....	430	10	.....	530	10	G
Richford to Canadian line	S.R.	1.5	304	26	.....	420	35	.....	530	45	G
Jacksonville to Massachusetts line	8	21.1	301	35	.....	420	50	.....	520	55	G
Bridgewater Corners to Plymouth Union[7]	100 A	6.0	300	18	.....	420	25	.....	520	30	G
W. Rutland to Pawlet[7]	3	22.0	300	12	.....	420	15	.....	520	20	G
Bloomfield to Jct. with 2	105 (F)	28.8	296	20	.....	410	25	.....	520	35	G
Jeffersonville to Stowe [7]	108	16.5	288	8	.....	400	10	.....	500	15	G
W. Brattleboro to Hinesburg	S.R.	4.8	278	24	.....	390	35	.....	480	40	G
Wallingford to E. Wallingford	S.R.	5.6	268	10	.....	380	15	.....	470	15	G
Jct. with 15 to Jct. with 100 (via Cady's Falls)	S.R.	3.2	268	9	.....	380	10	.....	470	15	G
Isle La Motte Sta. to Chazy	F. 2 (F)	6.0	266	10	.....	370	15	.....	460	15	G
Enosburg Falls to Jeffersonville	108	21.6	264	25	.....	370	35	.....	460	40	G
Sudbury to Montcalm Landing	F. 10	10.1	263	40	.....	370	55	.....	460	70	G
Beecher's Falls to Canadian line North	S.R.	0.1	261	39	.....	360	50	.....	450	65	G
Wilmington to Jacksonville	8	5.6	260	16	.....	360	20	.....	450	30	G
Vergennes to Fair Haven	30 A	29.4	259	31	.....	360	40	.....	450	55	G
Post Mills to Ely	113	5.6	258	6	.....	360	10	.....	450	10	G
Jct. with 12 to Jct. with U.S. 5[7]	122	15.5	250	10	.....	350	15	.....	440	15	G
Gordans Landing to Jct. with U.S. 2[7]	F. 3	3.8	250	10	.....	350	15	.....	440	15	G
Irasburg to Jct. with U.S. 5	S.R.	3.2	248	47	17	350	65	25	430	80	G
Richford to E. Richford	105 (F)	5.7	248	36	16	350	50	20	430	60	G
Bradford to Jct. with U.S. 2	25	17.6	247	20	.....	340	25	.....	430	25	G
Norton's Mills to Canadian line East	109	10.2	247	9	.....	340	10	.....	430	15	G
Hyde Park to Jct. with 105	100 (F)	33.4	242	19	.....	340	25	.....	420	35	G
Marshfield to Lower Cabot	S.R.	3.2	239	21	.....	330	30	.....	420	35	G
St. Johnsbury to N. Danville	S.R.	4.8	239	17	.....	330	25	.....	420	30	G
Taftsville to Hartland	12	8.0	238	11	.....	330	15	.....	410	20	G
Beecher Falls to New Hampshire line	S.R.	0.1	237	49	.....	330	65	.....	410	85	G
Proctor to Pittsford Mills	3	2.7	234	17	.....	330	25	.....	410	30	G
St. Albans to Cambridge	104 (F)	17.3	232	18	.....	320	25	.....	400	30	G
E. Middlebury to Jct. with U.S. 7	116	0.8	231	15	.....	320	20	.....	400	25	G
Whiting to Shoreham[7]	F. 9	6.4	226	36	.....	310	50	.....	390	60	G
Jct. with U.S. 5 to Jct. with 15	12 B	29.4	224	21	.....	310	30	.....	390	35	G
Montpelier to Wrightsville	S.R.	2.8	221	18	.....	310	25	.....	380	30	G
E. Barre to S. Royalton	110	26.0	220	22	.....	310	30	.....	380	40	G
Waterbury to Stockbridge	100	44.0	219	14	.....	310	20	.....	380	25	G
Colebrook to Jct. with U.S. 2	102	32.8	217	18	.....	300	25	.....	380	30	G
Woodstock to Perkinsville	106	12.8	216	12	.....	300	15	.....	380	20	G
Jct. with U.S. 5 to Connecticut River (near Piermont, N. H.)	S.R.	0.5	212	16	.....	300	20	.....	370	30	G
W. Bridgewater to Plymouth Union[7]	100	5.4	200	15	.....	280	20	.....	350	25	G
E. Middlebury to Jct. with Rd. to Beldens	116	9.1	200	10	.....	280	15	.....	350	15	G
Brattleboro to Massachusetts line	101	9.8	200	8	.....	280	20	.....	350	30	G
Newfane to Jct. with 11	101	27.0	198	16	.....	280	20	.....	340	30	G
W. Berkshire to Canadian line	S.R.	2.0	194	19	.....	270	25	.....	340	30	G
Montgomery Ctr. to Eden[7]	118	14.3	190	5	.....	270	5	.....	330	10	G
Essex Ctr. to Fairfax	128	12.0	188	29	.....	260	40	.....	330	50	G
Cornwall to Jct. with 30 A[7]	F. 9 A	8.3	180	10	.....	250	15	.....	310	15	G
Starksboro to Ferrisburg Sta	S.R.	12.0	178	27	.....	250	35	.....	310	45	G
Brownsville to Jct. with 106	S.R.	4.0	178	10	.....	250	15	.....	310	15	G

Traffic Classification of Vermont Highways—Continued

Highway section	Route number[2]	Miles	Average daily traffic 1926[3]			Average daily traffic 1931[3]			Average daily traffic 1936[3]		Classification[5]
			Total motor vehicles	Total motor trucks	Total trucks of 2 to 7½-ton capacity[4]	Total motor vehicles	Total motor trucks	Total trucks of 2 to 7½-ton capacity[4]	Total motor vehicles	Total motor trucks	
E. Pittsford to Jct. with U.S. 7	S.R.	3.6	178	9	.....	250	10	.....	310	15	G
N. Sheldon to Franklin	120	7.4	162	37	.....	230	50	.....	280	60	G
Jacksonville to S. Halifax	130	7.3	157	11	.....	220	15	.....	270	20	G
Norton Mills to Island Pond	114	15.5	157	10	.....	220	15	.....	270	15	G
Addison to Chimney Point	F. 7	8.4	155	15	.....	220	20	.....	270	25	G
Jct. with 105 to Jct. with U.S. 5	114	21.3	155	10	.....	220	15	.....	270	15	G
Stockbridge to Jct. with U.S. 4	100 (F)	11.1	153	13	.....	210	20	.....	270	20	G
Derby to Morgan Ctr[7]	111	9.7	150	10	.....	210	15	.....	260	15	G
Londonderry to Rawsonville[7]	8	6.2	150	8	.....	210	10	.....	260	15	G
Starksboro to Jonesville[7]	124	13.4	150	8	.....	210	10	.....	260	15	G
Bellows Falls to N. Windham[7]	121	19.6	150	8	.....	210	10	.....	260	15	G
Morgan Center to Jct. with 114	111	5.4	146	10	.....	200	15	.....	250	15	G
Montgomery Ctr. to Lowell	S.R.	10.0	141	9	.....	200	10	.....	240	15	G
Weybridge Hill to Addison	F. 7	7.6	140	11	.....	200	15	.....	240	20	G
St. Albans to 4 mi. E. of Bakersfield	S.R.	18.4	136	11	.....	190	15	.....	240	20	G
Pompanoosuc to Union Village	S.R.	3.0	130	21	.....	180	30	.....	230	35	G
Alburg Center to Swanton	104	11.0	124	13	.....	170	20	.....	220	20	G
Richford to W. Berkshire	S.R.	7.4	121	11	.....	170	15	.....	210	20	G
Jct. with U.S. 5 to Connecticut River (near Haverhill, N. H.)	S.R.	0.8	121	9	.....	170	10	.....	210	15	G
W. Berkshire to Enosburg Falls	S.R.	6.0	117	14	.....	160	20	.....	200	25	G
Arlington to W. Arlington	S.R.	3.6	117	8	.....	160	10	.....	200	15	G
Forestdale to Talcville	115	14.1	113	8	.....	160	10	.....	200	15	G
Ryegate to E. Ryegate	S.R.	2.7	101	5	.....	140	5	.....	180	10	G
Johnson to N. Hyde Park[7]	119 (F)	5.2	100	10	.....	140	15	.....	170	15	G
Chelsea to Post Mills[7]	113	12.5	100	7	.....	140	10	.....	170	10	G
Poultney to Castleton Corners	S.R.	6.4	100	7	.....	140	10	.....	170	10	G
Poultney S. W. to New York line[7]	30	0.8	100	7	.....	140	10	.....	170	15	G
Essex Jct. to Jct. with 116[7]	126	8.5	100	5	.....	140	5	.....	170	10	G
Middlebury to Weybridge Hill[7]	F. 7	3.0	100	10	.....	140	15	.....	170	15	G
E. Jamaica to N. Wardsboro	S.R.	4.0	99	5	.....	140	5	.....	170	10	G
Moscow to Jct. with U.S. 2	S.R.	8.8	96	21	.....	130	30	.....	170	35	G
Weston to Jct. with 11	S.R.	7.2	82	6	.....	120	10	.....	140	10	G
S. Richford to Jct. with 105	S.R.	4.0	74	5	.....	100	5	.....	130	10	G
S. Washington to Jct. with 110	S.R.	2.8	70	2	.....	100	5	.....	120	5	G
Essex Center to Westford Town line	S.R.	3.7	69	13	.....	100	20	.....	120	20	G
Charlotte to Ferrisburg Sta	S.R.	4.3	68	14	.....	100	20	.....	120	25	G
Swanton to W. Swanton	S.R.	6.0	66	12	.....	90	15	.....	120	20	G
Brockway's Mills to Saxton's River	S.R.	4.0	63	3	.....	90	5	.....	110	5	G
Jacksonville to Halifax Town line	S.R.	2.4	59	3	.....	80	5	.....	100	5	G
Lowell to Jct. with 12 B	S.R.	8.1	57	5	.....	80	5	.....	100	10	G
Newark to Jct. 2, N. of W. Burke	S.R.	3.2	51	8	.....	70	10	.....	90	15	G
Middlebury to Rd. West of Middlebury[7]	F. 8	1.6	50	3	.....	70	5	.....	90	5	G
Bridport to Rd. West of Middlebury[7]	F. 8	7.1	50	3	.....	70	5	.....	90	5	G
Whiting to Jct. with U.S. 7[7]	F. 9	6.6	50	3	.....	70	5	.....	90	5	G
Vergennes to Lake Champlain[7]	F. 6	8.5	50	4	.....	70	5	.....	90	5	G
Larabee's Point to Jct. with 30 A[7]	F. 10 A	4.2	50	2	.....	70	5	.....	90	5	G
Troy to N. Troy	S.R.	6.4	43	3	.....	60	5	.....	80	5	G
Bridport to W. Bridport	F. 8	5.7	34	2	.....	50	5	.....	60	5	G
Weybridge Hill S. to Jct. with 30	S.R.	3.6	32	2	.....	40	5	.....	60	5	G
Readsboro to Shermans	S.R.	3.2	20	3	.....	30	5	.....	40	5	G
Jct. with 104 to Jct. with 105	S.R.	2.0	12	1	.....	20	5	.....	20	5	G
W. Halifax to Jct. with 130	S.R.	2.0	11	2	.....	20	5	.....	20	5	G
Rockingham to Jct. with 11	—(F)	11.5	Unclassified								