

The Motor Truck as a
Carrier of fruits and
Vegetables to Greater
New York.

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The Motor Truck as a Carrier of Fruits and Vegetables to Greater New York

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PRODUCE ARRIVING IN WALLABOUT FARMERS' MARKET, NEW YORK CITY

COOPERATING AGENCIES:

NEW JERSEY AGRICULTURAL EXPERIMENT STATION

UNITED STATES DEPARTMENT OF AGRICULTURE

NEW JERSEY STATE DEPARTMENT OF AGRICULTURE

New Jersey Agricultural Experiment Station

New Brunswick, N. J.

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The Motor Truck as a Carrier of Fruits and Vegetables to Greater New York

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Introduction

The constant increase in the quantity of fruits and vegetables moved to market by motor truck has aroused much attention in the produce marketing field in recent years.

In New Jersey, Long Island, and Eastern New York, the principal territory from which Greater New York draws its motor truck receipts, approximately 73 per cent of the commercial production of fruits and vegetables is hauled to market by motor truck. Commercial truckmen haul 41 per cent, and producers and others the remaining 32 per cent.

More especially during the past two or three years this increase in motor truck receipts has been so rapid that today many cities receive a large percentage of their fresh fruits and vegetables in this way. Los Angeles received more than half of its produce by truck during the seven months ending August 31, 1929¹.

The growth of this type of transportation for produce has presented many problems to the dealers in the market and to the market news reporting agencies. In most markets today a report which does not include the receipts by motor truck is of limited value during the marketing season of the nearby producing sections.

Each year, many producing areas are very materially changing their habits of shipping. For instance, shippers and truckmen of Vineland, N. J., agree that trucking from that point has increased rapidly for the last three years, so that during the 1928 season 75 per cent of the fruits and vegetables were carried by motor truck. Many farmers have changed over to the use of the truck completely. A considerable number haul their own produce to market.

The areas from which produce is trucked have been steadily extended until today berries are brought by motor truck to New York from North

¹Compiled from "Fruit and Vegetable Monthly Summary, September, 1929, California."

Carolina, a distance of 600 miles, which is covered in 24 hours. Boston also receives berries from the same section of the country. This entails a haul of more than 800 miles in 30 to 34 hours.

The movement of produce-laden trucks over the main highways, passing through the center of many towns and villages, has developed to such an extent as to become a real menace to the residents. At some towns, such as Burlington, N. J., highways have been built around the populated area to take care of through traffic. Between 5:30 p. m. and 6:30 p. m. on an August day in 1928, produce trucks numbering 210 were counted passing through Hightstown, N. J.

✓ Purpose and Procedure of the Study

The purpose of this study is threefold: (1) to determine the importance of the motor truck as compared with other means of transportation of fruits and vegetables in respect to volume, rates, time in transit, claims, damage, effect on quality, schedules, and such other facts as may be related thereto; (2) to study the records of the receipts of fruits and vegetables by motor truck in the metropolitan area by states and sections of origin for twelve consecutive months; (3) to formulate, if possible, a feasible plan for reporting motor truck shipments daily, accurately, and early enough to be of service in the market.

In order to determine the facts it was found necessary to tap several sources of information.

In July, 1928, wholesale and jobbing dealers in the New York and Newark markets began reporting daily motor truck receipts of all fruits and vegetables to the United States Bureau of Agricultural Economics. This service has been continuous since its beginning. Included in the reports of receipts in jobbers' markets are the reports of receipts of produce at the warehouses of chain stores direct from the producing area.

Daily receipts of fruits and vegetables were obtained in the two municipal farmers' markets, Wallabout and Gansevoort, through the New York City Department of Markets. The other New York farmers' market, Harlem, is privately owned, and is not reported. However, reckoning on the basis of the average number of trucks a day, as suggested by the supervisor of each market, it is estimated by the author that half as much passes through Harlem Farmers' Market as through Wallabout Farmers' Market. The Newark Farmers' Market is reported by the New Jersey State Department of Agriculture.

Such data as costs of transportation, specialization by commission men in certain commodities, and buying by dealers from definite areas, were obtained

from the books of four of the largest receivers of motor truck shipments in Washington Market, New York City.

Sixteen of the representative wholesale dealers and jobbers in Washington Market, New York City, were interviewed personally as to their views relative to the use of the motor truck for produce shipments.

Schedules numbering 521 were executed personally among farmers in four farmers' markets in New York and Newark.

Field trips were made over parts of all the states and sections shipping to New York by motor truck, except North Carolina. In this way, the use of the motor truck was discussed with growers, commercial truckmen, local dealers, associations, and exchanges. Questionnaires obtained in interviews were combined when tabulated with replies received by mail from the same groups. Schedules were obtained from 768 growers, 94 commercial truckmen, and 107 from shipping point dealers, associations and exchanges which were considered as a group.

Officials of New York marketing and trucking associations were interviewed in order to secure results of their experiences with the motor truck and to learn the market side of the problems relating to long distance trucking.

In a word, an endeavor was made to seek out each group which was in any way connected with motor truck transportation, such as growers, shippers, truckmen, receivers, and others, in order to present in this study the viewpoint of each.

Present Position of the Motor Truck

The registration of motor trucks since 1904, the first date of record, is notable. At this time, only 410 trucks were being operated. In 1929, this number had grown to 3,379,854².

The rapid growth in the number of motor trucks in use has had a decided influence on other carriers. The farm-to-store-door service rendered to growers by commercial truckmen is not possible in the case of other carriers unless the latter use trucks.

The effect of this competition is seen in the effort of many railroad and boat companies to improve their service, and in some cases establish a pick-up service in the country. Many others, however, have apparently made no effort to compete. In this study growers were asked if their rail service had been improved since the advent of the motor truck. Only 25 per cent of the 538 replying stated that the rail service on produce to market from their

²National Automobile Chamber of Commerce, "Facts and Figures of the Automobile Industry," 1930 Edition.

section had shown improvement during the last few years. Table 1 shows that different counties in each state and section³ vary widely in this respect.

TABLE 1

Percentage of Growers Reporting Improved Rail Service Since the Advent of the Motor Truck, 1928

State or Section	Number of Replies	Per Cent Answering "Yes"
Connecticut	8	50
Delaware	9	33
Long Island	36	14
Nassau	19	11
Suffolk	17	18
Maryland	33	15
New York	196	19
Albany	21	14
Delaware	12	33
Greene	27	30
Orange	36	20
Ulster	90	17
Others	10	0
Pennsylvania	60	57
Chester	54	58
Others	6	50
New Jersey	196	22
Atlantic	15	33
Burlington	30	10
Cumberland	33	73
Gloucester	21	19
Middlesex	10	0
Monmouth	34	6
Salem	10	20
Others	43	2
Grand Total	538	25

Cumberland County, New Jersey, shows the highest percentage. Much has been done to improve the service from Cedarville, Cumberland County, in order to take care of the produce sold at auction. As a rule, the counties near New York shipping a heavy percentage to its markets, report very little improvement in rail service.

Growers have estimated the percentage of their total production which is hauled to market by motor truck. These estimates from growers located in the area in each state supplying New York with produce by motor truck are summarized in table 2.

³New York State is treated as two sections; Up-state (known herein as New York) and Long Island.

TABLE 2

Percentage of Fruit and Vegetable Production Moved by Motor Truck in the New York Motor Truck Area, 1928

State or Section and County	Average Per Cent Moved by Truck
Long Island	64.5
Nassau	96.6
Suffolk	32.4
New York	74.3
Albany	85.1
Delaware	72.5
Greene	69.4
Orange	79.2
Ulster	71.3
Others	92.6
New Jersey	79.8
Atlantic	90.5
Burlington	88.1
Cumberland	57.9
Gloucester	93.9
Middlesex	85.8
Monmouth	84.0
Salem	75.9
Others	83.7
All Areas	72.9

NOTE: All of the percentages, except those for Long Island, are based on the replies of growers. The number of growers reporting in New Jersey was 249, in Long Island 65, and in the Hudson Valley, N. Y., 268. For Delaware and the Eastern Shore of Maryland and Virginia 14 per cent of the fruits and vegetables in 1928 moved by motor truck, according to a study made by the U. S. Department of Agriculture and the Delaware State Board of Agriculture. Reports from growers in the mushroom section in Chester County, Pa., indicated that 83.3 per cent of the product was marketed by truck. The percentage estimate for Suffolk County was computed from estimates of country dealers, associations, and exchanges weighted by estimated production of the principal commodities. An arithmetic average was taken of Nassau and Suffolk Counties to obtain the average for Long Island. The same was done with Long Island, New York, and New Jersey to arrive at an average for all. "Others" for New York include Columbia, Rensselaer, Schenectady, and Dutchess. "Others" for New Jersey all counties not listed except Cape May, Hunterdon, Ocean, Sussex, and Warren.

The motor truck has had no appreciable effect upon rail transportation except in the case of comparatively short hauls. There are several reasons for this, among which are: (1) Motor truck rates average higher than car-lot railroad rates. As distance increases, the advantage of the motor truck in saving cartage assumes relatively less importance. (2) The saving in time through use of motor truck transportation becomes relatively less important as distance from market increases. At a distance of 600 miles from New York the truck occasionally has a time advantage because of time required by railroads in picking up cars at loading stations and assembling trains, switching in city railroad yards, and infrequency of schedules on some railroads. (3) Highly perishable commodities can be held in refrigerated cars for a

day or two after arrival, if desired, whereas motor truck receipts must usually be sold at once.

In the fruit areas of the Hudson Valley, the growing custom of storing at source of production has tended to increase tonnage by motor truck. There are two causes: (1) boat service is available only in the nine warmer months of the year; (2) the fruit thus stored may be rushed to market by motor truck upon short notice and without danger of freezing in cold weather. Closed vans heated by motor exhaust are used in some cases in the coldest weather.

TABLE 3

Number of Growers Planning to Make Greater Use of the Motor Truck in the Area Supplying New York with Produce by Motor Truck, 1928

State or Section and County	Number of Replies	Distribution of Replies			Growers Using Only Motor Truck Transportation
		"Yes"	"No"	"Same"	
Connecticut	15	6	3	6	8
Delaware	12	9	1	2	4
Long Island	63	30	27	6	45
Nassau	40	18	19	3	39
Suffolk	23	12	8	3	6
Maryland	27	18	7	2	8
New York	229	143	59	27	120
Albany	50	24	24	2	37
Delaware	11	5	5	1	2
Greene	30	22	7	1	12
Orange	39	31	4	4	21
Ulster	87	56	16	15	43
Others	12	5	3	4	5
Pennsylvania	53	37	11	5	36
Chester	45	31	9	5	31
Others	8	6	2	0	5
New Jersey	199	113	65	21	121
Atlantic	15	7	7	1	7
Burlington	36	12	16	8	24
Cumberland	26	14	12	0	4
Gloucester	27	10	12	5	20
Middlesex	11	10	1	0	7
Monmouth	34	15	12	7	34
Others	50	45	5	0	25
Total	598	356	173	69	342

NOTE: Many of the growers answering "No" were already making extensive use of the truck and implied that they would continue to use it at about the same rate. In field interviews no grower expressed an intention of decreasing his use of the truck in marketing. Some of those intending to increase their use of the truck (those answering "Yes") are included in the last column with those already using only motor truck transportation. This implies that such growers intend to produce a larger quantity than in the past.

The popularity of the motor truck is demonstrated by the replies of 598 growers to the question of their making greater use of the motor truck in the future. See table 3. Sixty per cent answered in the affirmative, while others stated that that would be impossible as they were already shipping 100 per cent by motor truck.

Receipts of Fruits and Vegetables in New York

The total volume of foreign and domestic receipts of fruits and vegetables in New York jobbing markets for the year August, 1928-July, 1929, was 230,382 car-loads. The receipts by motor truck in the same markets for the same period were 15,776 car-lot equivalents, or 6.8 per cent. Thus, 93.2 per cent of the receipts in these markets arrived by rail or boat. See table 4.

The month showing the smallest quantity received by motor truck was February, with only 270 car-lot equivalents, or 1.9 per cent of total receipts. This was also the month of lowest total receipts.

The month of maximum receipts and highest percentage by motor truck was in August, when the receipts reached 2,915 car-loads and the percentage 15.1. The month of maximum receipts by all means of transportation was October, when 30,277 car-loads were received. However, during this month 12,118 cars of grapes were handled in New York, or 8,302 more than the preceding month, and 6,650 more than the month following.

If receipts in farmers' markets were obtainable, these motor truck figures and percentages would be modified considerably—more than 100 per cent in some cases. Receipts in farmers' markets equal approximately those in jobbing markets. Table 5. On this basis, when the total for the year of motor truck receipts in jobbing markets, 15,776 cars, is doubled, the percentage of total receipts in New York arriving by motor truck is found to be 14 per cent.

In August, 1929, receipts by motor truck in all markets in New York amounted to 6,143 car-lot equivalents, or 35.5 per cent of the total receipts.

In table 4 such commodities as bananas, pineapples, and citrous fruits, which never arrive in New York markets by motor truck, are included so that the reader may get a complete picture of the situation in the market. However, for a direct basis of comparison in later tables these commodities have been omitted. (See table 1 of the Appendix for a list of commodities included. See figure 1 and table 4 of the Appendix for all receipts of fruits and vegetables in New York by type of carrier.)

Receipts on Farmers' Markets

Complete figures of receipts on the farmers' markets are not available. However, a comparison of jobbers' and farmers' markets in table 5 for the period April-October, 1929, shows receipts in farmers' markets to be 54.1

TABLE 4

Comparison, by Months, of Receipts of Fruits and Vegetables by Motor Truck and by Rail and Boat on New York Jobbing Markets, August, 1928-July, 1929

(Expressed in car-lot equivalents)

Month	Motor Truck Receipts*		Rail and Boat Receipts†		Total Receipts	
	Actual	Per Cent	Actual	Per Cent	Actual	Per Cent
1928						
August	2,915	15.1	16,401	84.9	19,316	100
September	1,930	9.4	18,572	90.6	20,502	100
October	1,757	5.8	28,520	94.2	30,277	100
November	1,230	6.3	18,416	93.7	19,646	100
December	680	4.3	15,147	95.7	15,827	100
1929						
January	427	2.9	14,304	97.1	14,731	100
February	270	1.9	13,671	98.1	13,941	100
March	410	2.7	14,841	97.3	15,251	100
April	547	3.0	17,482	97.0	18,029	100
May	1,446	7.1	19,036	92.9	20,482	100
June	1,742	8.5	18,818	91.5	20,560	100
July	2,422	11.1	19,398	88.9	21,820	100
Total	15,776	6.8	214,606	93.2	230,382	100

*Does not include receipts on farmers' markets.

†All foreign and domestic receipts including bananas, pineapples, citrus fruits, etc.

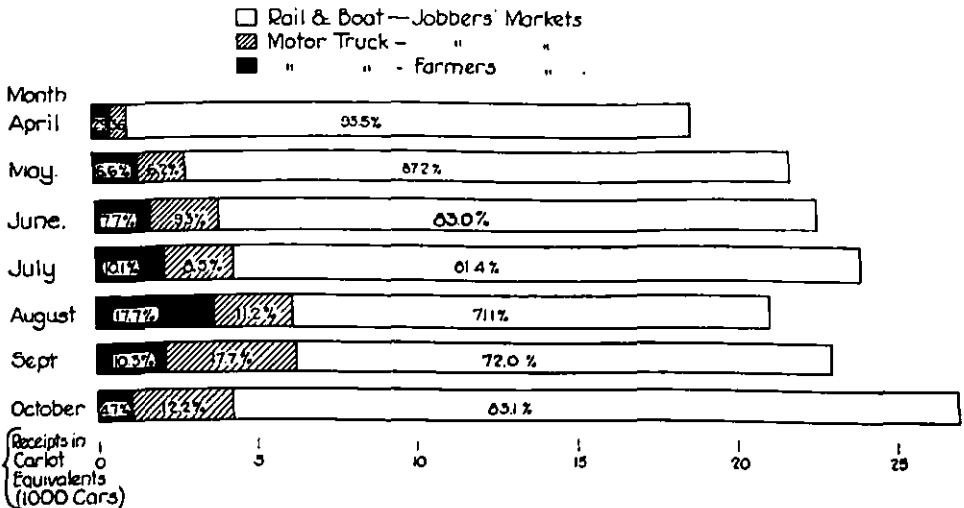


FIG. 1. Receipts of Fruits and Vegetables in New York, by Type of Carrier, April to October, 1929

per cent of total truck receipts. In April, June, September, and October truck receipts in the farmers' markets exceeded those in the jobbers' markets and were found to be 55.3, 54.9, and 63.3, and 72.5 per cent, respectively, of the total truck receipts, compared with 48.2, 45.5, and 38.9 per cent, respectively, in May, July, and August. It is possible that receipts on the two classes of markets might be more nearly equal for the year than for the seven months recorded, due to the possibility of a longer shipping period from the greater producing area supplying the jobbing markets. Harlem Farmers' Market is not reported, but receipts on that market were estimated to be one-half of those in Wallabout Market, since practically the same commodities are offered for sale on approximately half as many trucks. All receipts on the farmers' markets are trucked in with the exception of a small quantity received on wagons used by gardeners living close by the market.

Table 5 of the Appendix shows the combined receipts of fruits and vegetables in Wallabout Farmers' Market, Brooklyn, and Gansevoort Farmers' Market, New York City, by months, for the heavy season April-October, 1929. There are 50 different commodities in this list, a few of which are not commonly known, since they are produced to satisfy the specific demands of certain racial groups. The month of heaviest receipts was September with 3,054 car-lot equivalents, while the lightest in receipts was April with 491. The most important commodity received during these months was potatoes with 1,361 car-lot equivalents, while the least important was chives with only 1 car-lot equivalent.

TABLE 5
*Receipts of Fruits and Vegetables by Motor Truck in New York,
April-October, 1929*
(Car-lot Equivalents)

Month	Jobbers' Markets Receipts*		Farmers' Markets Receipts†		Total Receipts	
	Actual	Per Cent	Actual	Per Cent	Actual	Per Cent
April	547	44.7	678	55.3	1,225	100
May	1,446	51.8	1,346	48.2	2,792	100
June	1,742	45.1	2,119	54.9	3,861	100
July	2,422	54.5	2,023	45.5	4,445	100
August	3,753	61.1	2,390	38.9	6,143	100
September	2,375	36.7	4,104	63.3	6,479	100
October	1,251	27.5	3,299	72.5	4,550	100
Total	13,536	45.9	15,959	54.1	29,495	100

*Includes receipts in Washington, Gansevoort, and Harlem Markets in Manhattan, and Wallabout Market, Brooklyn.

†Includes receipts reported in Gansevoort, and Wallabout, and estimated receipts in Harlem Market.

Receipts in Jobbers' Markets

The reporting of truck receipts in New York was begun in July, 1928, but since the first month was not complete, it was found necessary in tabulating to use receipts for a fiscal year beginning with August, 1928, and extending through July, 1929.

In August, 1928, truck receipts were found to be 2,915 car-lot equivalents. In August, 1929, there were 3,753, an increase of 28.8 per cent. On the other hand, for the same month rail and boat receipts were 15,050 carloads in 1928, and 13,357 in 1929, a decrease of 11.2 per cent. Total receipts for the same month were 17,965 in 1928, and 17,110 in 1929, a decrease of 4.8 per cent. In August, 1928, truck receipts represented 16.2 per cent of total receipts. In August, 1929, this percentage had increased to 21.9. Shipments of peaches by motor truck in 1929 show an unusual increase over 1928. In August of that year, the jobbing markets received 85 car-lot equivalents of peaches, while in August, 1929, they received 1,013. This was due chiefly to the larger peach crop in 1929 in nearby sections.

Truck receipts over the 12 months ending with July, 1929, were equivalent to 15,776 car-loads, or 9.6 per cent of total foreign and domestic supply of corresponding commodities, amounting to 163,631 cars. See table 6 for comparison, by months, of motor truck receipts with the total foreign and domestic

TABLE 6

Comparative Receipts by Months, of Fruits and Vegetables by Motor Truck and by Rail and Boat on New York Jobbing Markets, August, 1928-July, 1929

(Expressed in Car-lot Equivalents)

Month and Year	Motor Truck Receipts		Rail and Boat Receipts*		Total Receipts	
	Actual	Per Cent	Actual	Per Cent	Actual	Per Cent
1928						
August	2,915	20.5	11,336	79.5	14,251	100
September	1,930	12.7	13,267	87.3	15,197	100
October	1,757	8.5	19,029	91.5	20,786	100
November	1,230	8.3	13,509	91.7	14,739	100
December	680	5.7	11,199	94.3	11,879	100
1929						
January	427	4.1	9,884	95.9	10,311	100
February	270	2.7	9,854	97.3	10,124	100
March	410	3.7	10,601	96.3	11,011	100
April	547	4.2	12,415	95.8	12,962	100
May	1,446	10.1	12,884	89.9	14,330	100
June	1,742	12.6	12,109	87.4	13,851	100
July	2,422	17.1	11,768	82.9	14,190	100
Total	15,776	9.6	147,855	90.4	163,631	100

*Excludes commodities which are not received in New York by motor truck, such as bananas, pineapples, and citrus fruits.

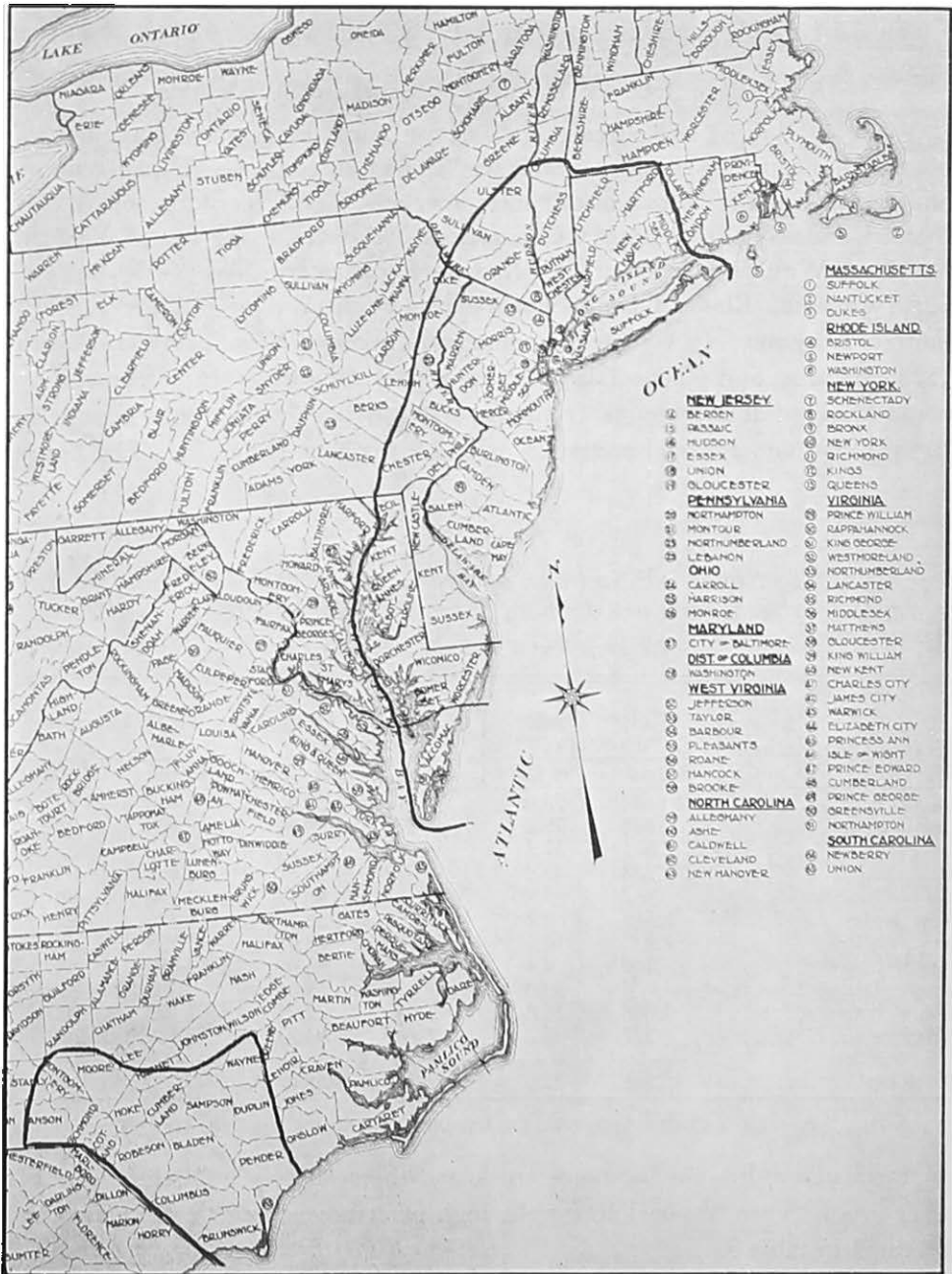


FIG. 2. The Principal Area from Which New York City Receives Fruit and Vegetables by Truck Includes New Jersey; Long Island and Hudson Valley, New York; Delaware; Parts of Connecticut and Pennsylvania; and the Eastern Shores of Maryland and Virginia, as Defined Approximately by the Heavy Line. There are Some Truck Receipts from Districts Outside this Area, Chiefly Such Commodities as Strawberries, Blackberries, Peaches, and Beans from Districts in North Carolina Bounded by the Heavy Line

receipts for corresponding commodities. A detailed comparison will be found in table 1 of the Appendix.

Receipts in Jobbers' Markets by Source of Production

When considered by source of production and for the same commodities from within trucking radius, motor truck receipts compose 32 per cent of total receipts in the New York jobbing markets. This territory consists of 11 states and sections of states: Connecticut, Delaware, Long Island, Eastern Maryland, Western Massachusetts, New Jersey, Eastern New York, Eastern North Carolina, Rhode Island, Southeastern Pennsylvania, and the Eastern Shore of Virginia. In volume of motor truck receipts New Jersey leads with 7,513 car-loads, and Rhode Island is last with 4 car-loads. In percentage by motor truck of total receipts from the state, Pennsylvania ranks first with 73.8 per cent and Massachusetts last with 3.9 per cent (table 7). The heavy

TABLE 7

Comparison, by States and Sections, of Receipts by Motor Truck and by Rail and Boat on New York Jobbing Markets, August, 1928-July, 1929

(Expressed in Car-lot Equivalents)

States and Sections	Motor Truck Receipts		Rail and Boat Receipts		Total Receipts	
	Actual	Per Cent	Actual	Per Cent	Actual	Per Cent
Connecticut	42	70.0	18	30.0	60	100
Delaware	638	70.2	271	29.8	909	100
Long Island	2,594	37.3	4,353	62.7	6,947	100
Maryland	1,233	40.2	1,832	59.8	3,065	100
Massachusetts	7	3.9	171	96.1	178	100
New Jersey	7,513	63.2	4,363	36.8	11,876	100
New York	2,220	14.1	13,509	85.9	15,729	100
North Carolina	160	4.4	3,497	95.6	3,657	100
Rhode Island	4	50.0	4	50.0	8	100
Pennsylvania	1,088	73.8	387	26.2	1,475	100
Virginia	277	5.2	5,045	94.8	5,322	100
Total	15,776	32.0	33,450	68.0	49,226	100

NOTE: See table 2 of the Appendix for list of commodities shipped from these states.

shipment of mushrooms by motor truck and the relatively light shipments of other products are responsible for the high percentage from Pennsylvania, as indicated in table 8.

Table 8 contains the fifteen most important commodities received by motor truck in the New York jobbing markets by state or section of origin. Five of these supply 92 per cent of these fifteen important commodities, as follows: New Jersey—49 per cent, New York—12 per cent, Long Island—13 per cent,

TABLE 8

Comparison, by States and Sections, of Receipts* by Motor Truck and by Rail and Boat in New York Jobbing Markets, August, 1928-July, 1929

(Fifteen most important commodities received by motor truck expressed in car-lot equivalents)

Commodity	Total						States							
	New York Motor Truck Territory													
	Motor Truck		Rail-Boat		Grand Total		Connecticut		Delaware		Long Island		Maryland	
	Actual	Percent	Actual	Percent	Actual	Percent	Motor Truck	Rail-Boat	Motor Truck	Rail-Boat	Motor Truck	Rail-Boat	Motor Truck	Rail-Boat
Apples	1,450	27.8	3,773	72.2	5,223	100	11	18	99	98	....	....	20	162
Strawberries	1,165	50.4	1,148	49.6	2,313	100	22	....	139	43	2	....	531	68
Tomatoes	1,057	44.8	1,302	55.2	2,359	100	....	....	7	....	11	....	95	625
Beans	997	45.7	1,183	54.3	2,180	100	9	....	3	....	154	....	122	28
Cauliflower	987	92.1	85	7.9	1,072	100	....	....	....	....	834	4	....	....
Mushrooms	965	95.2	49	4.8	1,014	100	....	....	10	....	....	....	10	....
Sweet Potatoes	791	28.7	1,967	71.3	2,758	100	....	....	104	102	....	....	21	349
Peppers	754	39.7	1,143	60.3	1,897	100	....	....	2	....	7	....	15	2
Corn	669	98.5	10	1.5	679	100	....	....	....	....	55	....	....	....
Lettuce	570	18.3	2,537	81.7	3,107	100	....	....	....	....	42	....	....	....
Potatoes	547	9.6	5,127	90.4	5,674	100	....	....	....	....	341	4,347	....	....
Asparagus	494	90.0	55	10.0	549	100	....	....	24	5	....	....	15	2
Spinach	446	16.9	2,194	83.1	2,640	100	....	....	....	....	87	....	....	123
Peaches	420	17.4	1,994	82.6	2,414	100	....	....	28	7	....	....	15	49
Cantaloupes	384	52.9	342	47.1	726	100	....	....	96	....	....	....	259	330
Total	11,696	33.8	22,909	66.2	34,605	100	42	18	512	255	1,533	4,351	1,103	1,738

Commodity	States													
	Massachusetts		New Jersey		New York		North Carolina		Rhode Island		Pennsylvania		Virginia	
	Motor Truck	Rail-Boat	Motor Truck	Rail-Boat	Motor Truck	Rail-Boat	Motor Truck	Rail-Boat	Motor Truck	Rail-Boat	Motor Truck	Rail-Boat	Motor Truck	Rail-Boat
Apples	660	33	660	3,462	....	....	....	....	....	....	....	....
Strawberries	4	4	232	105	50	90	64	584	....	....	....	....	121	254
Tomatoes	842	387	100	253	....	....	....	....	2	37	....	....
Beans	2	....	647	422	8	28	10	273	4	4	....	....	38	428
Cauliflower	10	....	143	81	....	....	....	....	....	....	....	....
Mushrooms	1	3	34	30	....	....	....	....	910	16	....	....
Sweet Potatoes	660	468	....	....	....	109	....	....	....	....	6	939
Peppers	714	995	2	....	10	142	....	....	....	....	4	4
Corn	613	9	1	1	....	....	....	....	....	....	....	....
Lettuce	252	263	269	1,883	2	358	....	....	5	....	....	33
Potatoes	190	528	16	252	....	....	....	....	....	....	....	....
Asparagus	358	47	1	....	....	1	....	....	96	....	....	....
Spinach	306	22	5	15	....	2	....	....	48	2	....	2,030
Peaches	255	23	116	257	4	1,422	....	....	2	236	....	....
Cantaloupes	29	12	....	....	....	....	....	....	....	....	....	....
Total	6	4	5,769	3,317	1,405	6,352	90	2,891	4	4	1,063	291	169	3,688

*Rail and boat receipts are limited to shipments from the territory specified.

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TABLE 9

Comparison, by Months, of Receipts* by Motor Truck and by Rail and Boat in the New York Jobbing Markets,
August, 1928-July, 1929

(Fifteen most important commodities received by motor truck expressed in car-lot equivalents)

Commodity	Total, 1928-1929				1928									
	Motor Truck		Rail-Boat		August		September		October		November		December	
	Actual	Percent	Actual	Percent	Motor Truck	Rail-Boat	Motor Truck	Rail-Boat	Motor Truck	Rail-Boat	Motor Truck	Rail-Boat	Motor Truck	Rail-Boat
Apples	1,450	10.3	12,657	89.7	292	472	286	1,062	161	2,701	67	2,261	45	1,205
Strawberries	1,165	36.0	2,075	64.0	....	4	....	2	....	....	....	....	....	3
Tomatoes	1,057	11.5	8,136	88.5	530	496	205	333	68	678	....	426	....	591
Beans	997	18.1	4,516	81.9	249	252	225	98	89	210	2	244	....	338
Cauliflower	987	26.3	2,764	73.7	32	24	113	238	286	128	395	44	139	352
Mushrooms	965	95.2	49	4.8	11	7	18	3	76	1	138	3	157	3
Sweet Potatoes	791	27.6	2,073	72.4	16	209	50	333	78	332	75	359	114	247
Peppers	754	21.7	2,728	78.3	161	289	256	340	254	340	30	121	....	36
Corn	669	47.5	738	52.5	306	6	34	3	2	....	....	....	....	....
Lettuce	570	5.4	9,994	94.6	9	989	7	690	47	651	59	665	3	931
Potatoes	547	2.4	22,475	97.6	158	1,289	131	1,603	73	1,901	71	1,330	15	1,435
Asparagus	494	45.2	598	54.8	....	....	....	....	....	....	....	....	....	....
Spinach	446	10.6	3,745	89.4	11	3	16	7	72	87	122	428	21	617
Peaches	420	7.0	5,604	93.0	85	2,151	215	646	2	178	....	....	....	....
Cantaloupes	384	8.5	4,116	91.5	359	605	5	399	....	113	....	9	....	....
Total	11,696	12.4	82,268	87.6	2,219	6,796	1,561	5,757	1,208	7,320	959	5,800	494	5,758

Commodity	1929													
	January		February		March		April		May		June		July	
	Motor Truck	Rail-Boat	Motor Truck	Rail-Boat	Motor Truck	Rail-Boat	Motor Truck	Rail-Boat	Motor Truck	Rail-Boat	Motor Truck	Rail-Boat	Motor Truck	Rail-Boat
Apples	56	1,168	56	1,077	67	944	69	777	32	611	14	285	305	94
Strawberries .....	....	63	....	230	....	323	31	616	745	631	385	155	4	48
Tomatoes .....	....	546	....	618	....	498	....	602	....	937	3	1,386	251	1,025
Beans .....	....	252	....	400	....	587	....	720	6	858	159	478	267	79
Cauliflower .....	....	440	....	414	....	372	....	304	....	354	16	80	6	14
Mushrooms	160	6	112	6	117	6	93	4	62	1	12	1	9	8
Sweet Potatoes	98	169	90	133	89	102	82	66	68	39	26	22	15	62
Peppers .....	....	116	....	234	....	292	....	259	....	290	1	191	52	220
Corn .....	....	....	....	....	....	....	....	3	....	185	....	394	327	147
Lettuce .....	....	870	....	697	....	938	2	981	71	953	297	276	75	1,353
Potatoes	12	1,732	7	1,573	4	1,774	4	2,259	3	2,484	2	2,875	67	2,220
Asparagus .....	....	....	....	....	....	66	24	405	238	105	205	20	27	2
Spinach	3	652	....	514	1	661	43	586	78	183	49	5	30	2
Peaches .....	....	....	....	1	....	1	....	....	....	25	5	838	113	1,764
Cantaloupes .....	....	....	....	....	....	....	....	....	....	70	....	1,363	20	1,553
Total	329	6,014	255	5,897	278	6,564	348	7,586	1,303	7,726	1,174	8,360	1,568	8,591

*Includes all foreign and domestic receipts of the given commodities.

Comparison, by Months, of Receipts by Motor Truck and by Rail and Boat in the New York Jobbing Markets,
From the Same Producing Areas,* August, 1928-July, 1929

(Fifteen most important fruits and vegetables received by motor truck expressed in car-lot equivalents)

Commodity	Total, 1928-1929				1928									
	Motor Truck		Rail-Boat		August		September		October		November		December	
	Actual	Percent	Actual	Percent	Motor Truck	Rail-Boat	Motor Truck	Rail-Boat	Motor Truck	Rail-Boat	Motor Truck	Rail-Boat	Motor Truck	Rail-Boat
Apples	1,450	27.8	3,773	72.2	292	150	286	502	161	757	67	527	45	363
Strawberries	1,165	50.4	1,148	49.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tomatoes	1,057	44.8	1,302	55.2	530	487	205	294	68	127	.....	2	.....	.....
Beans	997	45.7	1,183	54.3	249	252	225	98	89	166	2	38	.....	.....
Cauliflower	987	92.1	85	7.9	32	19	113	45	286	15	395	2	139	1
Mushrooms	965	95.2	49	4.8	11	7	18	3	76	1	138	3	157	3
Sweet Potatoes	791	28.7	1,967	71.3	16	187	50	332	78	332	75	356	114	244
Peppers	754	39.7	1,143	60.3	161	285	256	340	254	339	30	25	.....	.....
Corn	669	98.5	10	1.5	306	6	34	3	2	.....	.....	.....	.....	.....
Lettuce	570	18.3	2,537	81.7	9	569	7	342	47	213	59	121	3	19
Potatoes	547	9.6	5,127	90.4	158	555	131	1,180	73	1,036	71	594	15	352
Asparagus	494	90.0	55	10.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Spinach	446	16.9	2,194	83.1	11	3	16	6	72	86	122	428	21	608
Peaches	420	17.4	1,994	82.6	85	898	215	434	2	142	.....	.....	.....	.....
Cantaloupes	384	52.9	342	47.1	359	321	5	16	.....	.....	.....	.....	.....	.....
Total	11,696	33.8	22,909	66.2	2,219	3,739	1,561	3,595	1,208	3,214	595	2,096	494	1,590

Commodity	1929													
	January		February		March		April		May		June		July	
	Motor Truck	Rail-Boat	Motor Truck	Rail-Boat	Motor Truck	Rail-Boat	Motor Truck	Rail-Boat	Motor Truck	Rail-Boat	Motor Truck	Rail-Boat	Motor Truck	Rail-Boat
Apples	56	390	56	309	67	291	69	218	32	166	14	59	305	41
Strawberries .....	.....	.....	.....	.....	.....	.....	31	370	745	575	385	155	4	48
Tomatoes .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	1	251	391
Beans .....	.....	.....	.....	.....	.....	.....	.....	.....	6	162	159	399	267	68
Cauliflower .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	16	.....	6	3
Mushrooms	160	6	112	6	117	6	93	4	62	1	12	1	9	8
Sweet Potatoes	98	168	80	131	89	100	82	66	68	38	26	9	15	4
Peppers .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	4	52	150
Corn .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	327	1
Lettuce .....	.....	.....	.....	.....	.....	.....	4	2	188	71	255	297	53	75
Potatoes	12	427	7	351	4	342	4	202	3	54	2	1	67	33
Asparagus .....	.....	.....	.....	.....	.....	.....	24	4	238	29	205	20	27	2
Spinach	3	180	1	1	164	43	532	78	180	49	5	5	30	1
Peaches .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	5	24	113	494
Cantaloupes	20	5
Total	329	1,171	255	798	278	907	348	1,584	1,303	1,462	1,174	731	1,568	2,022

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*Only rail and boat receipts from the motor truck territory are included. The states and sections comprising the area are shown in table 8. The receipts are the same as those in table 8 but arranged by months rather than by states or sections.

Pennsylvania—9 per cent, and Maryland—9 per cent. These fifteen commodities, amounting to 11,696 car-lot equivalents, represent 74 per cent of the total receipts by motor truck, 15,776 car-lot equivalents. Fifty-eight different commodities are received by motor truck in the New York markets.

Comparison of Receipts by Months

In table 9 the 15 most important commodities received by motor truck are compared to total foreign and domestic receipts by rail and boat for the year ending July 31, 1929. In this comparison, the 11,696 car-lot equivalents of truck receipts are only 12 per cent of the total of 93,964 cars. Mushrooms are the only commodity of which motor truck receipts exceed those of other carriers.

Limiting the territory to that from which these commodities arrive by motor truck, we find in table 10 that motor truck receipts form 34 per cent of the total receipts of these commodities. Motor truck receipts of asparagus, cantaloupes, cauliflower, corn, mushrooms, and strawberries exceed receipts by other carriers. Comparative percentages of these commodities received by motor truck and by rail and boat will be found in the same table. The heaviest volume of motor truck receipts arrives in August and the lightest in February. In only one month, June, do the receipts of these 15 commodities by motor truck exceed those by other carriers. In that month, motor truck receipts represent 61 per cent of total receipts.

✓ The Motor Truck as a Practical and Profitable Means of Transportation

The motor truck has proved its value as a means of transportation of fruits and vegetables as evidenced by the rapid increase in its use in recent years. Many shippers say that railroads and the boat companies should be patronized in order to help them maintain their place as competitors. Statements were also made that the railroad will carry shipments no matter how small, while many truckmen will not make a trip to market without a paying load. Today some producers, dealers, and others favor motor truck transportation, while others are just as strongly against it. Some members of the latter class have expressed dislike for the motor truck, but state that they were forced to use this service because of competition. One large potato exchange gave this as a reason for using trucks in 1928 and had definite plans to purchase several for 1929. Rail transportation was still preferred but that means had proved too slow and rigid to compete with the trucks of speculators, dealers, and producers.

Shippers and receivers were asked to give the advantages and disadvantages of the motor truck as a means of transportation for fruits and vegetables. The replies to this question are discussed in the following.

✓ **Reasons for the Use of the Motor Truck**

Features of motor truck transportation which were considered by shippers and receivers to warrant the employment of this type of service have been grouped under twelve headings.

Faster Service.—This advantage appeared to be of paramount importance, since it was mentioned by 37 per cent of the growers, 32 per cent of the shippers, and 20 per cent of the city dealers. It is claimed that time in transit is cut from three to twenty-four hours by motor truck, as compared with rail and boat. This is the principal reason given for the motor truck shipments of berries from North Carolina. When the supply in New York is light and the demand strong, the berries of high quality can be rushed by light and speedy motor service and thus gain an excellent market. There may be an element of speculation in this operation, but the high price received for the merchandise pays for the added cost of motor truck service. It is only under such conditions that an operation of this kind is profitable. It would not be profitable to haul a heavy, bulky, or low-priced commodity bearing a low freight rate such a distance by motor truck.

Convenience and Saving in Labor.—An advantage of almost equal importance to faster service is that of saving the workman's time and introducing certain conveniences. It was mentioned in 28 per cent of the favorable replies. The time and labor of an employee is saved when the haul from the farm to the railroad station or boat landing becomes unnecessary. If a drayman is hired for the service, a specific expense is incurred.

Special services of marked convenience to shippers have been introduced by motor truck operators. At first, in some producing sections the truckmen established shipping platforms to which the growers hauled their produce for later assembly and packing in the commercial trucks. In order to obtain a greater volume of business and satisfy the desires of the farmers for added service, some of the truckmen began to gather up the produce on each farm. This has gone so far in some cases that the truckman goes by the farm as many as five or six times, in extreme cases, before the shipment is ready. Truckmen and growers have reported that some of the truckmen even help tie up bundles and pack in order to get away to market earlier. In most cases the trucks leave considerably later than the train, thus allowing the grower several more hours to gather and pack. When he is through with this work,

he stacks the produce in a place agreed upon and goes about other work. The truckman himself, in these instances, must load upon his arrival at the farm. Many growers state that the additional time allowed by truckmen not only makes their work easier, but allows the dew to dry from such commodities as beans, thus, lessening the risk of "spotting."

When the motor truck is used, no demurrage charges are payable and no necessity arises for an extended notice of the desire for an empty car. Commercial truckmen are seldom notified of a desire for their services earlier than the morning of the day of shipment.

The produce is frequently shipped by truck in open crates, which practice saves time and labor in packing. This is not permitted by other carriers.

Better Condition on Arrival.—Another outstanding advantage of the motor truck which was named in 40 per cent of the answers given by the city dealers is that the quality of truck shipments is maintained to a higher degree in transit. This advantage is most pronounced for the following crops: mushrooms, berries, asparagus, leaf crops, peas and beans, tomatoes, grapes, peaches, and sweet corn (table 11). It is quite apparent that these are the crops which deteriorate most quickly from heat, cold, bruising, and other adverse conditions present in shipping. The truck is not considered so important for the more staple crops like potatoes, sweet potatoes, apples, pears, and cabbage, which are easily stored.

The reasons given for the better condition on arrival of the produce is that it is handled fewer times, and, moreover, generally seems to receive more careful handling at the hands of the truckmen because of fixed personal responsibility. The packages are loaded at the farm or orchard and unloaded at the doors of the commission merchants, or sold from the truck, if selling is done through a farmers' market. This means a single handling of the packages against at least a double handling by rail or boat, since by the latter method the shipment must be hauled from the farm to the railroad loading platform or car, or boat landing, and rehandled at the point of destination by the market truckmen.

The necessity and cost of icing is saved when shipments by truck are made. Growers hauling leaf crops, such as spinach, on their own trucks often drench the whole load with cold water immediately before starting for market. Then, by driving in the cool of late evening, the commodity is kept cool and arrives in practically as good condition as when gathered. Some have also suggested that produce which has not been on ice will keep better while on display in the market than that out of cold storage.

In the winter, commodities such as apples, pears, potatoes, and sweet potatoes may be rushed to market before the cold can penetrate the heavy tarpaulin covering and do any damage. The truck is occasionally employed

in preference to the railroad box car, when a refrigerator car is not available, since they may remain in the railroad car long enough to freeze.

Experiments have been made with respect to the construction and operation of mechanically-cooled bodies for motor trucks engaged in hauling perishable commodities. Developments along this line may affect to a limited extent the use of the truck in marketing fruits and vegetables.

Early Delivery to Market with Maximum Time for Preparing Shipments.

—An earlier arrival in the market is the fourth important advantage of the motor truck. This fact is given more weight with the country dealers, city dealers, associations, and exchanges, than with the individual growers; however, many of the producers are beginning to realize its relation to prices received. It appears to be the concensus among city dealers, country dealers, and others that better prices are received for merchandise on sale in the early hours of the market. Practically the only difference in the types of buyers of rail and truck shipments is the presence of a large number of suburban dealers in the latter class. These men seem willing to pay more for truck shipments of the same quality offered on an early market, in order that they may return to an early retail trade and get away from the market before the period of congestion. In that way they feel that they are repaid for additional costs of their goods by being able to display the goods to the retail trade earlier, and also by escaping the delay in getting through the market, which is inevitable if they wait to buy some hours later.

The willingness of the railroads to cooperate in delivering the produce at an early hour in the market must not be overlooked. However, it is a fact that, if this were done, it would bring about the necessity of a correspondingly earlier time of departure from the shipping point. This, in itself, would prove impractical, since it would not allow growers in some producing areas sufficient time to gather and prepare their produce for shipment. That is already one complaint about railroads at present, even with later schedules. It is, therefore, a physical condition which is not easily overcome. The deterioration would be too great, if the produce were harvested the day before to avoid the dew and save time.

Greater Opportunity for Diversion.—The flexibility of the movement by motor truck facilitates the diversion of shipments to markets within a limited radius. This feature, however, is not being exploited to the fullest extent today because of the lack of organization and control. While this is a common operation in the case of rail shipping, yet it is clear that a motor truck, which has access to a network of highways and cross-roads, can get more easily to markets within a limited area. The motor truck also serves the smaller local markets which are not located on rails. These conditions make possible a wider choice of markets within the usual trucking distance.

Less Loss from Shortages and Damaged Packages.—A sixth feature of motor truck transportation having much favor with shippers is the fewer cases of shortage and broken packages. There is a definite reason why this condition might be prevalent. The truckman checks up and signs for the produce when he loads it, and immediately becomes responsible for the safe arrival of every package at the door of the city dealer, who in turn gives him a clearance receipt. Thus, there is no transfer of personal responsibility from the time the truck pulls away from the farm until it stops in front of the commission merchant's place of business. The truckmen present good records in this respect over a period of 5 and 10 years, as indicated by the small number of claims presented by either shippers or commission men.

Promptness in Payment of Claims.—In keeping with this improved condition is the promptness displayed by commercial truckmen in adjusting claims for loss or damage, which is largely the outgrowth of the economic pressure of competition. Several jobbers and wholesalers in Washington Market, New York, were asked for their records of losses and damage by motor truck. All stated that they had none, adding that these claims are settled directly between growers and commercial truckmen. Shippers agreed that truckmen settle promptly for such losses.

Lower Transportation Costs in Local Territory.—Some producers find that the use of motor trucks within a short radius is cheaper than other means of transportation. Many shippers refute this, but it is true with specific commodities from certain shipping points, when cartage at each end, and other costs, are considered. (See Appendix.) However, distance manifests itself as a strongly limiting factor.

Agreements to Pay for Loss of Early Market.—Many shippers state that, by agreement, claims are paid by some truckmen for late arrival in the market, even though the produce may be available for sale the same day. In these cases, the truckman agrees to deliver the produce in the market before a certain hour and for some reason does not do so. He then settles with the grower on the price obtained for other goods sold at the hour he should have made delivery. This assures the producer of the early prices, which are generally assumed to be the best. Certain of the truckmen stated that they had never given this service. Rail carriers are not known to enter into such agreements, and thus do not reimburse shippers for loss of early market when goods are available for sale in the same day's market.

Return of Empty Crates.—Truckmen sometimes pick up the empty crates at the city market and return them to the farm. The cost of this service may be included in the transportation charge from farm to market.

Increased Sales to Retailers.—Motor trucks have brought about a larger volume of sales direct from the farm to city retailers, particularly hucksters, who are enabled through faster service to drive to the farm and make direct purchases. This enables the producer to realize in many cases an equal or a better price than when he hauls his produce to the city market, and to save in transportation charges.

Intimate Touch with Market through Truckmen.—The shippers are able to keep in direct and daily touch with the market through the truckmen who become accustomed to judging the market. As a result of having this information, shippers are better fitted to plan their marketing more profitably.

Moreover, as a result of a better understanding of market conditions and operations, and because of the personal link which the truckmen form between shippers and receivers, differences are more easily ironed out between the shippers and receivers.

Reasons Against the Use of the Motor Truck

Weighed against the favorable features of motor truck transportation are certain conditions which have been designated by shippers and others as disadvantages. A fewer number responded with objection to the motor truck than with commendation. Growers who gave reasons favoring the use of the motor truck numbered 629; those who gave disadvantages totaled 99.

Lack of Advance Market Information.—The foremost complaint of motor truck transportation is that there is no advance information pertaining to shipments or receipts. This is a leading complaint among the city dealers but secondary among others. The former state that the conditions were such before the advent of the motor truck that advance information could be obtained as to the quantity which would be present and available for each marketing day before it arrived in the market. Buyers and sellers alike had this information and the result was that the market was relatively faster and more stable than at present. Since both parties knew the quantity available, they were able to state their offers and bids immediately and thus hasten the sale. Complaint is made today that no one knows how much of the commodity will be present in the market during the day. The supply may appear light, giving an impetus to high prices. Suddenly, however, numerous trucks may begin to arrive loaded with that commodity, resulting in a falling off of prices. Because of this insecurity, buyers often postpone their purchasing in the early part of a market that opens strong, believing that more of the commodity will arrive later. This causes an extension of the buying period and makes trading difficult.

Absence of Proper Regulation.—There is at present no regulation of interstate motor truck traffic, as in the case of motor bus transportation. This

is not surprising, however, when it is remembered that the same condition was prevalent during the first 60 years of steam railroad operation. As a result of a study made by the Interstate Commerce Commission and submitted February 10, 1928, it was decided that motor passenger, but not motor freight, transportation should come under Federal control at that time. The three most important points for control which have been suggested by those interested in motor transportation are: (1) limitation of commercial truck operation, by charter or otherwise, to those companies or individuals who are bonded or insured; (2) requirement of and adherence to definite schedules; and (3) establishment of published rate tariffs which are fair and which do not unjustly discriminate among shippers.

RESPONSIBILITY OF OPERATOR

The unreliability of operators and irresponsibility of motor truck owners has been an important complaint regarding motor truck transportation. Lack of confidence in commercial truckmen is passing with the gradual absorption of the business of small "one truckers" by larger and more responsible organizations. In some sections large companies are developing to handle a specific territory, while in other producing areas the small truckmen are organizing into large associations.

Lack of confidence is due partly to the unscrupulous practice of some of the "fly-by-night" truckmen, who not having any credit or capital, went to truck dealers, paid a small sum upon delivery of the truck and promised other payments monthly. Starting out without goodwill, they soon found it necessary to obtain tonnage upon one basis or another, and the easiest way was to reduce rates under those of the established truck companies. Not infrequently did they sacrifice all opportunity for profit in order to meet the monthly installments upon the truck. If, during this time, they met with accidents and losses, they had little or no funds with which to repay and no insurance, and, consequently, they were forced to give up the business of these shippers and seek that of others through their lower scale of rates. At or before the end of the season they took the profits, if any were made, and forfeited the truck, or what remained of it, in lieu of continuing payments. This type of operation was gradually curbed, at least in part, by the refusal of truck distributors to sell on such liberal terms, and by the lack of patronage of shippers. The results of this rate war were the crippling of some established truckmen and numerous losses to shippers.

REGULARITY OF SCHEDULE

Irregularity of trips or schedules is apparently characteristic of the truck. Of 94 truckmen asked, only 41 answered that they operated regularly. Some

of the smaller truckmen will not accept produce for a market trip unless they are assured a paying load. Their volume is not sufficient over the busy season to allow of any service below cost during the slack period of the year. Then, if not other truck is available, the producer must seek other means of conveyance for his produce. Irregularity and late arrivals in the market leave the city dealer at a loss as to what he should expect and when, and may result in a decrease in the price obtained for the merchandise. Many truckmen would welcome such control in this matter, since at the present time they are detained by shippers, and can not leave for market as early as they wish.

STANDARDIZATION OF RATES

Regulation and publication of rates has been suggested for two main purposes: (1) to help stabilize truck transportation by furnishing a fair return on the investment of labor and capital; and (2) to eliminate rate wars among truckmen and any chance for unjust discrimination among shippers. The operations of unreliable truckmen have made actual costs of truck operation higher to the truckmen as a whole. Thus, the established and responsible truckmen could probably give better and cheaper service if they could command a greater volume of traffic.

Necessity for Immediate Sale or Storage.—Somewhat related to the absence of advance market reports is the impossibility of holding perishable truck shipments in transit. They may be diverted but not held in transit, since no provision is made on the truck for icing. Placing of truck shipments in storage after arrival at destination has proved practicable only in the case of highly perishable and high-priced commodities such as berries.

Merchants in New York refer to that time in the past when everything was received by rail, and produce could be held in the cars and carted to the market as needed. This operation tended to diminish the psychological effect upon the buyer of a large quantity of a commodity at one time in the market. At present, motor trucks must be driven to market and unloaded immediately upon their arrival, or as soon thereafter as possible. It has been suggested that motor transportation companies may overcome this unfavorable condition by devising some plan for the installation of refrigeration equipment on their trucks. This, however, appears rather impracticable at present because of the space absorbed and additional weight created by proper insulation, and ice, or mechanical means of cooling.

Terminal Traffic Congestion.—A fourth criticism of the truck by dealers in New York is its contribution to traffic congestion in the market. This unhappy condition has presented problems to the out-of-town truckmen, market truckmen, buyers, and dealers. Congestion is rapidly increasing each year, and relief is being sought by all concerned. One suggestion for relief

which is emphasized by the trade is that truck shipments should arrive in the market not later than 10 p. m. This would place the produce on an early market which is generally supposed to bring better prices. By being sold early there would also be less deterioration and consequent loss to the shipper. Market congestion is treated more completely in the section "Terminal Conditions and Requirements."

Rising Transportation Charge with Increasing Distance.—The foremost objection offered by 43 per cent of the producers is that truck rates are higher than those by rail and boat to points outside of the local territory. This handicap increases with the distance of the shipping point from the market. On a commodity low-priced in relation to bulk or weight, this expense becomes an important percentage of the selling price. In some comparisons by shippers of truck rates with those of other carriers, the cartage to railroad station or boat landing is not taken into account. However, when this is considered, it is found to be appreciable. The city cartage is included in any estimate by the shipper inasmuch as it is deducted from gross returns by receivers. (See Appendix for detailed comparison of rates by different means of transportation.)

Lack of Opportunity for Shipping Point Inspection.—Transportation by motor truck does not in most cases allow the shipper an opportunity to have his produce pass under government inspection. It is true that similar conditions exist at many shipping points on the routes of other carriers, yet the absence of concentration points of shipment for produce going by motor truck makes this service impracticable. With a few exceptions, motor truck shipments are carried direct from the farm to the receiver in the market in the same truck. Exceptions are found where fruits and vegetables are sold locally at auction or through an association or an exchange.

Interrupted Service Resulting from Unfavorable Weather.—Unfavorable climatic conditions and bad rural roads are deterrents to the development of motor transportation, causing accidents and slower movement, and often resulting in late arrival in the market. While snow, sleet, rain, and fog have effect upon the operation of trains on schedule, the effect is more pronounced on the motor truck. Bad roads and detours around roads under construction cut down the speed of trucks.

Miscellaneous Disadvantages.—Several minor disadvantageous features of motor truck transportation have been suggested:

Break-downs and consequent delays, together with collisions and other mishaps, were cited as unfavorable to the use of the motor truck. The number of break-downs is being diminished by the use of good equipment, in-

spected and cared for regularly, and accidents are being covered by insurance. The wise grower has learned to require a certification from the truckman that he carries insurance.

Highway traffic congestion in some instances has proved to be a handicap to motor truck transportation.

Additional expenditures for goodwill are laid to the truck. Some of the city dealers raised the objection that they have found it necessary to tip the commercial truckmen, or give them "coffee money," as the fee is commonly called, in order to keep their good will and diminish the risks of loss of the growers' business. The dealers feel that this is an unnecessary expenditure by them which was never necessary when shipments came by rail.

The arrival of trucks at their door at all hours of the night are objected to by city dealers, since this necessitates the presence of salesmen and porters for a longer period and never allows them the opportunity to "clean up."

The occasional deliberate delay in unloading of trucks by unscrupulous dealers, so that a consignment is not delivered to their competitors until they have obtained a good price for their goods, is said to hamper the use of the motor truck.

Rough handling by commercial truckmen was charged by a few shippers. Other shippers were of the opinion that commodities did not ride as well in a truck as in a railroad car. Neither was a frequent objection.

✓ Cost of Transportation and Marketing

The fruits and vegetables which pass through the metropolitan markets arrive by six different methods of transportation: rail, motor truck, boat, express, parcel post, and wagon. The first four enumerated are, of course, the most important, the last two being almost negligible from the standpoint of volume. Mushrooms are shipped by parcel post to distant markets, but most shipments to nearby markets arrive by motor truck. The wagons are employed only within a five mile radius of the city markets. They are used by market gardeners cultivating about five acres or less of land, and quite often only a vacant lot or two. In Brooklyn and Queens a number of gardeners were found to contract with owners of vacant lots to raise truck crops. No rent is charged provided the ground is kept free of weeds. Small trucks and wagons are used to cart this produce to a nearby farmers' market. Ninety per cent of the 768 growers in the motor truck area about New York reported ownership of their farm, while only 69 per cent of the 521 farmers questioned in the farmers' markets stated that they owned the land they cultivated. This indicates that much of the gardening is done on high-priced land in and near the city while the owner holds it for appreciation in value.

No attempt is made in this discussion to show that the costs of transportation by one carrier are less than those by another. It would be impossible

to draw any such conclusion, since there are numerous individual cases in which local arrangements and conditions determine the different costs of transportation. It is quite apparent, for instance, that a grower living near a Hudson River landing might find it more advisable, on the basis of cost, to ship by boat, while another whose farm is several miles away might find it more convenient, quicker, and no more expensive to ship by motor truck, since the cost of cartage to the boat landing is considerable.

Table 3 of the Appendix shows a comparison of rates of the several public carriers. An effort has been made therein to include most commodities handled and to represent each section of the producing area supplying New York with fruits and vegetables by motor truck.

✓ Cost by Railroad

Obviously, the railroad holds the premier position as a carrier of fruits and vegetables to New York from the standpoint of volume, although during some months and for certain commodities the truck becomes a significant carrier in percentage volume. Railroad rates alone are lower than truck and express and, in some cases, boat rates. However, when cartage at both ends is added to this rate the marginal difference is sometimes eliminated, and in some cases favors the motor truck. In table 3, less than car-load rates were taken, since it was considered a fair basis of comparison with the other carriers of nearby produce. It is known that a large percentage of produce shipped by individuals from the local territory moves in less than car-load lots. This is sometimes hardly an accurate comparison, for then it appears that potatoes from Long Island can be shipped more cheaply by motor truck than by rail; whereas, this commodity is really shipped in car-loads, and the rate is much cheaper. The same applies to strawberries from Teachey, North Carolina. From this point the less than car-load railroad rate plus city cartage amounts to exactly the same per package as that by motor truck.

✓ Cost by Motor Truck

Unlike each of the other important carriers with which the motor truck is compared, there is no federal or state regulation of motor truck rates. Because of this, the rates have never been standardized and have been left to the discretion of the commercial truckmen. Many factors have influenced these individuals in fixing their rates. It appears that in most cases they were set as high as the traffic would bear. In other words, they were fixed as high above rail rates as would attract tonnage. Additional service and the convenience to the shipper is understood to make up for the additional cost. Weight alone has not been the basis of truck rates, as in the case of some of the rates of other carriers. The motor truck seems to be limited more in the volume of the load on some commodities than is the railroad car.

The motor truck load of such light commodities as spinach is frequently limited in height because of low viaducts and low-roofed ferries. On the other hand, weight is the determining factor with potatoes, since capacity in tons is reached long before the sacks can be stacked to the maximum height.

In several sections the rates of the truckmen have been standardized by several large trucking companies that have announced specific rates from each locality. Arrangements of this kind sometimes also include the mutual hiring of one company's trucks by another to supplement its own in the heavy shipping seasons from its territory. This is more profitable to the truckmen, since greater use is made of the equipment. It is better for the grower, since it eliminates any delay in the movement of his produce. Two cases are on record in which an association and an exchange have entered into an agreement with the truckmen on what their rates to each market should be. These rates are the same for all truckmen who haul for that organization.

The rates are quoted on a package basis, but have been converted to a rate per hundred pounds in the comparative tables in the Appendix. They include the whole cost from farm to city markets.

The truckmen have employed various methods of reducing their operating costs in an effort to justify, on the basis of profits, lower rates of transportation, and thus attract added tonnage.

The most effective method of decreasing these costs has been to keep the equipment in operation continuously over the year. The "nomadic type" of truckman has traveled from one producing section to another with the changing seasons. Truckmen established in a definite territory have accomplished the desired end by a change to general hauling during the dull season of six months for fruits and vegetables. Out of 93 truckmen, 54 stated that they did general hauling, while 39 reported that their trucks remained idle part of the year.

Another method is to keep the equipment operating regularly during the heavy season. There were 41 of the 93 truckmen who were able to do this. It is done by keeping the surplus equipment as low as possible, and renting trucks with drivers from truck companies in other territories in the heavy season. This also necessitates regular mechanical inspection and repairs.

A third method is the practice of developing a return trucking business. This has not gained favor with the majority of truckmen. These men state that it is impossible to do this and give the best service to their produce shippers. The reason is that so much delay is usually necessary in obtaining these loads that the truck does not get back to the producing area in time for the next market trip. Only 18 out of 94 truckmen attempt to obtain return loads.

On the other hand, some companies have developed this side of their trucking business successfully. One trucking concern in Suffolk County, Long Island, had brought the return tonnage up to 60 per cent of the available capacity. It consisted of fruit, building material, lumber, meat, and general merchandise. Their rates on these goods averaged 50 cents per 100 pounds.

Some merchants selling produce in small towns are known to operate trucks. They haul to market for growers, although their primary purpose is to bring produce from the market to their stores.

Cost by Express

The most significant fact about express rates is that there is no variation in the rate per hundred pounds on different types of commodities. All fruits and vegetables are considered in the same class. Thus, beans, lettuce, spinach, apples, and potatoes, each varying in weight, size of and type of package, bear the same 100 pound charge. Some of the commodities shown in the table rarely, if ever, move by express.

Express service carries with it store door delivery. However, in order to speed up delivery and make an early market, commission houses often send for an express shipment. This cartage must be added to the regular rate. When this is done and the country cartage is considered the total cost is generally much higher than by rail or even by motor truck. This extra expense is commonly incurred on shipments of mushrooms, where a few hours delay may affect appreciably the quality of the commodity.

Cost by Boat

The boat is a small factor as a carrier of fruits and vegetables from territory served by the motor truck. The boats of the Eastern Steamship Line bring produce from the Norfolk, Virginia, section to New York, but this service was not considered in this report, since it has very little, if any, competition at present from the motor truck. Again, other domestic, as well as foreign areas, shipping by boat were not included for the same reason.

Hudson River boat service is the only one considered. Only eight shipping points are shown for comparison in table 3 of the Appendix. Some of these are located inland but have truck service supplementing the boat, which allows pick-up at the farm. In some cases these rates, like express rates, do not vary per hundred pounds for different types of commodities.

The service is said to be very good and the produce arrives on time for an early market. However, there are two objections to boat service. First, it is not continuous over the whole year. Some other carrier must be relied upon for at least three months. This, too, is becoming an important consideration, since the custom of storing near point of production has been developing in last few years. Second, the motor truck travels faster—which

permits a later departure and, hence, allows the grower more time to gather and pack.

Cost by Parcel Post

Mushrooms are the only product in the fresh fruit and vegetable class shipped commercially by parcel post. Such movement to New York is not important. The rates are the same as those by motor truck from the seven shipping points studied. The service includes delivery, but, as in the case of express, it is a common practice to have the shipments delivered immediately by market truckmen.

Cartage

Cartage represents two distinct divisions: (1) country cartage, or cartage from farm to railroad platform or boat landing; and (2) city cartage, or cartage from the railroad platform or boat landing at the point of destination to the commission merchant's store.

Cost of city cartage is constant, since it has been standardized by the publication of specific rates by the Market Truckmen's Association of New York. The rates quoted in this pamphlet were made effective on July 1, 1924. At that time zones were defined within the market to which rates vary for delivery from team tracks in New Jersey, Manhattan, and Long Island, and piers on Manhattan. Rates from Long Island apply from Bushwick Terminal. The rates were quoted per package, but, for convenience of comparison, they have been converted to rates per hundred pounds in table 3 of the Appendix. There has been scarcely any variation in these rates for a number of years. The percentage of total receipts handled by the market truckmen has decreased in proportion to the increase in volume carried by motor trucks, since each package coming by the latter method is a direct loss in traffic to the city truckmen. At the time when all produce came by rail or boat, city truckmen handled the total volume. This has not meant an actual reduction in volume handled by market truckmen, for the total receipts have increased more than motor truck receipts.

Country cartage costs vary with each shipper, depending upon the location of the farm. Two main methods characterize the carting of produce from farm to railroad station or boat landing. The first and most common is for the grower to own a truck or wagon and do his own hauling, while the second method is to hire a truckman to move it. If the latter is done, the cost is more accurately shown. However, the cost of the former method may be estimated closely if the use of the truck and the driver's time is figured for this service. Some farmers believe this to be a negligible cost, since they must have a truck for other use on the farm and must keep a man hired for other work. Others estimate it is cheaper to save the time of the

driver and hire the cartage done. One reason many growers are turning to the motor truck is because of the convenience of having the truck come to the farm and load, thus saving their time and expense of carting produce to the railroad station or boat landing. It is estimated that the average cartage cost per bushel of such commodities as peaches, pears, and apples ranges between 4 and 8 cents. This estimate covers farms in the New York motor truck area.

Adjustment for Loss and Damage

In the marketing of perishable produce, loss and damage are very important considerations. When two methods of transportation are being compared on this basis, the first question to be answered is: Which type of carrier has fewer cases of loss and damage? The second question is: Which type of carrier pays claims more promptly? These questions are difficult to answer directly, since records of the settlement of motor truck claims are not available. A number of jobbers were asked about these matters, and all replied that they did not handle any claims against trucks and, therefore, had no records.

Growers stated that claims against truckmen for loss and damage were seldom necessary.

In accordance with this opinion of growers is the attitude of 16 of the largest wholesalers and jobbers in Washington Market, New York, as shown in table 11.

The same 16 wholesalers and jobbers were asked how the receipts by motor truck compared with those by rail in quality and condition on arrival. This table was set up to include all commodities or groups of commodities concerning which the dealers were asked their opinion. Their replies were classified just as they were answered. Some of the commodities were not handled by some houses and they were so recorded. Those commodities handled were recorded as arriving by motor truck in better, worse, or the same condition compared with receipts by rail. The total ran: 115, better condition; 6, worse condition; 43, same condition; and 44, not handled.

It will be seen from the table that mushrooms benefit most in quality preservation by this method of shipment. Dealers state that the product can be rushed by motor truck from the growing houses to the door of the commission merchant with minimum time in transit, and with the least handling. This is an important factor in the marketing of mushrooms. Next to mushrooms seem to be asparagus, berries, beans, and peas, although one dealer thought that berries arrive in worse condition because of the lack of refrigeration. Four thought that there was no difference. Other crops arriving in

TABLE 11

Comparative Condition on Arrival of Shipments by Motor Truck and by Rail from the Same Points of Origin, 1928

(Based on replies from 16 of the largest receivers of produce by motor truck in Washington Market, New York City)

Commodity	Total Replies	Distribution of Replies			
		Better Condition By Truck	Worse Condition By Truck	Same Condition Truck or Rail	Do Not Handle Truck Shipments
Apples	16	6	..	6	4
Asparagus	16	10	..	2	4
Berries	16	10	1	4	1
Cabbage	16	6	1	4	5
Cauliflower	16	9	1	4	2
Corn	16	9	1	4	2
Grapes	16	9	1	3	3
Leaf Crops	16	9	1	2	4
Mushrooms	16	11	..	1	4
Peas	16	10	..	3	3
Peaches	16	9	..	4	3
Root Crops	16	8	..	3	5
Tomatoes	16	9	..	3	4
Total	208	115	6	43	44
Percentage	100	55.3	2.9	20.7	21.1

better condition by trucks are tomatoes, leaf crops, grapes, and peaches. Very few stated that these arrive in as good condition by other methods of transportation.

Since the opinions of shippers and receivers seem to be that produce arrives in better condition by motor truck, it would naturally follow that there would be less frequent cause for claims of damage and loss.

The promptness and sureness with which claims are paid is the next consideration. Fifty truckmen answered the question as to how they settle claims for damage. Thirty-three of these carried insurance, while the remaining seventeen covered the loss with personal liability. The common practice seems to be to settle with shippers for losses and damage at the same time trucking charges are paid. Sixty-eight of the 73 country dealers, associations, and exchanges reported they were paid claims promptly by the truckmen. One exchange requires each truck owner to show a certificate of insurance before taking one of its loads. One association is known to delay payment of transportation charges for a week to cover the risk of loss. These are both cases wherein numerous small truckmen are required to move a crop. Some of them are "nomadic," moving from one section to another following the seasons. A few growers express themselves as desiring to

stand by the railroads because they are large corporations and more responsible, while others state that the truckmen with whom they deal are equally responsible and have paid claims without so much trouble and delay to the shippers.

Adjustment for Late Arrivals in the Market

When all the produce was shipped by rail, and a market train was very late arriving in the market, it was necessary to hold much of the produce over until the next day. This meant that the sale of all the produce from that area was delayed and probably sold at a lower price. Today with a considerable volume sent by truck from a given producing area, the loss is not so general to that area, since the break-down or delay of one truck involves only a comparatively small quantity of commodities.

Of 36 truckmen who stated that they had paid claims for late arrival in the market, 25 said they settled on the basis of average early market price, 4 through an association, and the remaining 7 by no set method.

Growers state that delayed arrivals are not frequent. This fact is borne out by 74 country dealers, associations, and exchanges, only 31 of whom had made claims of this kind. Sometimes there is actual deterioration, since no refrigeration is possible. In other cases buyers happen to know when goods are held over and will not offer current prices for them.

This guarantee of prompt arrival seems to be peculiar to some motor truck operators. Claims are paid by railroads on long hauls if a car is delayed so that it misses the day's market. However, no case could be found where a railroad had paid a claim for the late arrival in the market of a local train. Railroad claim agents state that it would have to be a special case and treated accordingly.

Comparison of Marketing Costs of Two Methods of Motor Truck Transportation

Two principal methods of marketing are commonly employed in the New York area with the motor truck as a medium of transportation: (1) shipment by commercial truckmen and selling through commission men; and (2) ownership of truck and selling in farmers' markets. The relative importance of volume marketed by each method varies from month to month. In some months the volume passing through the New York farmers' markets exceeds the volume of motor truck receipts passing through the jobbers' markets, while in other months the reverse condition occurs. The total truck receipts in New York jobbing markets in 1928 were 15,776 car-loads. It is estimated that there was an equal or a greater volume passing through the farmers'

markets. In the months of April-October, 1929, receipts in farmers' markets exceeded those in jobbing markets. (See table 5.)

The marketing expense when produce is shipped by commercial truck and sold through commission men falls into two general classes: (1) transportation costs, and (2) commissions. The first cost represents the transportation charges made by the commercial truckmen for moving the produce from the farm to the door of the commission man. A table of rates of commercial truckmen on specific commodities from certain shipping points is found in table 5 of the Appendix. The usual commission fee of commission houses is 10 per cent.

Truckmen were asked to state who settled with them for transportation costs. Out of 88 replying it was learned that 63 were paid by receivers, 9 by associations, 8 by growers, and 8 by receivers in some cases and growers in others.

In order to make a definite comparison of the two means of transportation and methods of marketing, a single commodity, tomatoes, has been selected. The shipping point represented is Matawan, Monmouth County, New Jersey. The type of package is the "lug," which has about the same dimensions as the grape crate and has a gross weight of approximately 35 pounds. The truck used in the comparison is one of 5 tons capacity.

Market reports of the U. S. Department of Agriculture reveal that during August, 1929, growers received an average of 85 cents a lug for tomatoes on New York jobbing markets. A grower selling through a jobbers' market and hiring a commercial truckman at the regular rate of 15 cents a package would show an account as follows:

Gross return on 300 packages at 85c. a package.....	\$255.00
Motor freight at 15c. a package.....	\$45.00
Sales Commission, 10 per cent.....	25.50
Total expenses	<u>70.50</u>
Net return	\$184.50

It is not possible to determine the difference in net income between these two methods of marketing, since no prices were reported on produce selling in farmers' markets.

It should be noted that this case covers shipping from the outer radius of the market garden area from which most produce is sold through a farmers' market. Points closer to or further from the market would present even greater difficulties of comparison. Some difficulties encountered are: (1) the difference in production cost for a unit grown on a large and on a small scale; (2) the difference in price received for a unit, and (3) the variation in size of the load. Production cost for a unit is considered to be higher in the market garden area, truck loads from this area to average smaller, and prices received for a unit to be lower in a farmers' market than in a jobbers' market.

Although the net income from selling on a farmers' market can not be determined, an expense account for a truck load of 300 packages of tomatoes sold on the farmers' market is shown for the purpose of general comparison with the foregoing:

Depreciation on truck.....	\$12.50
Insurance on truck.....	1.00
License on truck.....	1.00
Fee for market space.....	.50
Fee for carrier.....	3.00
Fee for night watchman.....	.50
Fee for day watchman.....	.10
Gasoline and oil.....	3.00
Bed and board.....	2.50
Wages of market man.....	10.00
Wages of driver-helper.....	6.00
	\$40.10

The difference in expenses is thus seen to be \$30.40 in favor of selling on a farmers' market. However, the average price received for produce on farmers' markets is probably lower because of stricter grading and packing for jobbers' markets in order to meet competition from distant producing areas. Facts are not at hand to show whether the average net returns on the farmers' markets are lower than on jobbers' markets.

Both of the foregoing accounts are hypothetical but are based upon actual costs in some cases and upon estimates of growers in others. If the commercial truckman were hauling full loads regularly for a grower he would probably make a reduction in his rate. Some growers using their own trucks may underestimate such overhead costs as depreciation on truck. Actual estimates of growers are given below, each under different conditions.

Some of the growers have been selling in a farmers' market for a number of years. Among 521 farmers using this method the average number of years of selling in the market was 13, and the maximum 50.

The fact that the average farmer uses his truck for only a small part of the year makes the cost per load greater, when investment, taxes, depreciation, and other annual expenses are considered. The average selling season was found to be 7½ months, while the average number of market days a week was 3.

Each of the farmers was asked to estimate his average transportation and marketing cost per day. The general average was found to be \$22.88. Three actual cost accounts are shown herein. The first represents the expenses of a farmer selling in Harlem Farmers' Market where a yearly space fee is paid for a choice location in addition to the daily charge. The farm is situated in Monmouth County, N. J., but the truck is also registered in the State of New York. The truck of 5 tons capacity was purchased for \$5,500 three

years previously. Two men ride the truck, the market man and the driver-helper. The daily expenses and the yearly expenses pro-rated for a single day are shown as follows:

Yearly space fee.....	\$1.65
Daily space fee.....	1.00
Depreciation on truck.....	5.00
New York and New Jersey licenses.....	1.75
Insurance	1.00
Carrier's fee	4.00
Tip to carrier.....	.50
Night watchman's fee.....	.50
Day watchman's fee.....	.15
Gasoline and oil.....	3.00
Ferriage fee	3.50
Beds	3.00
Board	4.00
Market man's wages.....	10.00
Driver-helper's wages	6.00
Total	\$45.05

The second statement covers the expenses incurred by a farmer selling in the same market without taking the annual space lease. It is shown for comparison with the above, since the truck is hired. The truck is owned by the market man who sells for a farmer in Nassau County, Long Island. It has a load capacity of 3½ tons:

Truck rental charge.....	\$25.00
Carrier's fee	3.50
Night watchman's fee.....	.50
Day watchman's fee.....	.15
Daily space fee.....	1.30
Market man's wages.....	8.00
Board and room for market man.....	3.50
Total	\$41.95

The third statement represents the transportation and marketing expense of a farmer from Nassau County selling in Wallabout Farmers' Market. The truck has a load capacity of 3 tons and was bought three years before for \$4,100:

Space fee	\$.50
Depreciation on truck.....	5.00
License .....	.75
Insurance	1.00
Carrier's fee	3.00
Night watchman's fee.....	.50
Day watchman's fee.....	.10
Gasoline and oil.....	3.00
Bed .....	.50
Board	2.00
Market man's wages.....	10.00
Total	\$26.35



FIG. 3

The carrier's fee varies with the size of the truck and between markets. The space charge varies with location in the market and between markets.

Some of the gardeners living close by drive a small truck and sell the whole load in the evening market. They save on board and bed, making their expenses light.

Terminal Conditions and Requirements

There are three classes of metropolitan fruit and vegetable markets: (1) wholesale, (2) jobbing, and (3) farmers' squares. The wholesale market is located on Manhattan Island, as are Washington, Gansevoort, and Harlem jobbing markets, and Gansevoort and Harlem farmers' markets. Newark jobbing market and Newark farmers' market are located in Newark. Wallabout jobbers' market and Wallabout farmers' market are situated in Brooklyn.

The wholesale or primary market extends from Barclay Street, both sides north to North Moore Street, both sides, and Greenwich Street, both sides, to West Street, east side. In this market are also included several railroad piers, the most important of which are 27, 28 and 29 of the Pennsylvania, 20 and 21 of the Erie, and 17 of the New York Central.

Jobbing or secondary markets are five in number: (1) Newark jobbers' market, occupying the north and south sides of Miller and the south side of Wright Streets, between Avenues A and B; (2) Washington jobbers' market bounded on the south by Barclay, on the north by North Moore, and on the east and west by Greenwich and West Streets, respectively. Most of the houses, however, are on Washington Street; (3) Gansevoort jobbers' market is located to the north of the latter market in the area marked by West 14th Street south to Gansevoort and between Ninth and Tenth Avenues, with concentration again on Washington Street; (4) Harlem jobbers' market extends along First Avenue from 100th to 106th Streets with a few stores fronting on intersecting streets; (5) Wallabout jobbers' market is located on and to the north of Washington Street to E Street, and on and to the west of Flushing Avenue to East Avenue, omitting the space occupied by the farmers' square.

There are four metropolitan farmers' markets: (1) Newark farmers' market surrounded by Commerce, River, Canal and Mulberry Streets, omitting Newark City Market on the west; (2) Gansevoort farmers' market is on the area defined by Little West 12th Street, Gansevoort and Washington Streets and Tenth Avenue; (3) Harlem farmers' market extends from the dealers' stores east to the River and between 102nd and 103rd Streets; (4) Wallabout farmers' market is bounded by East and West Avenues and B and E Streets.

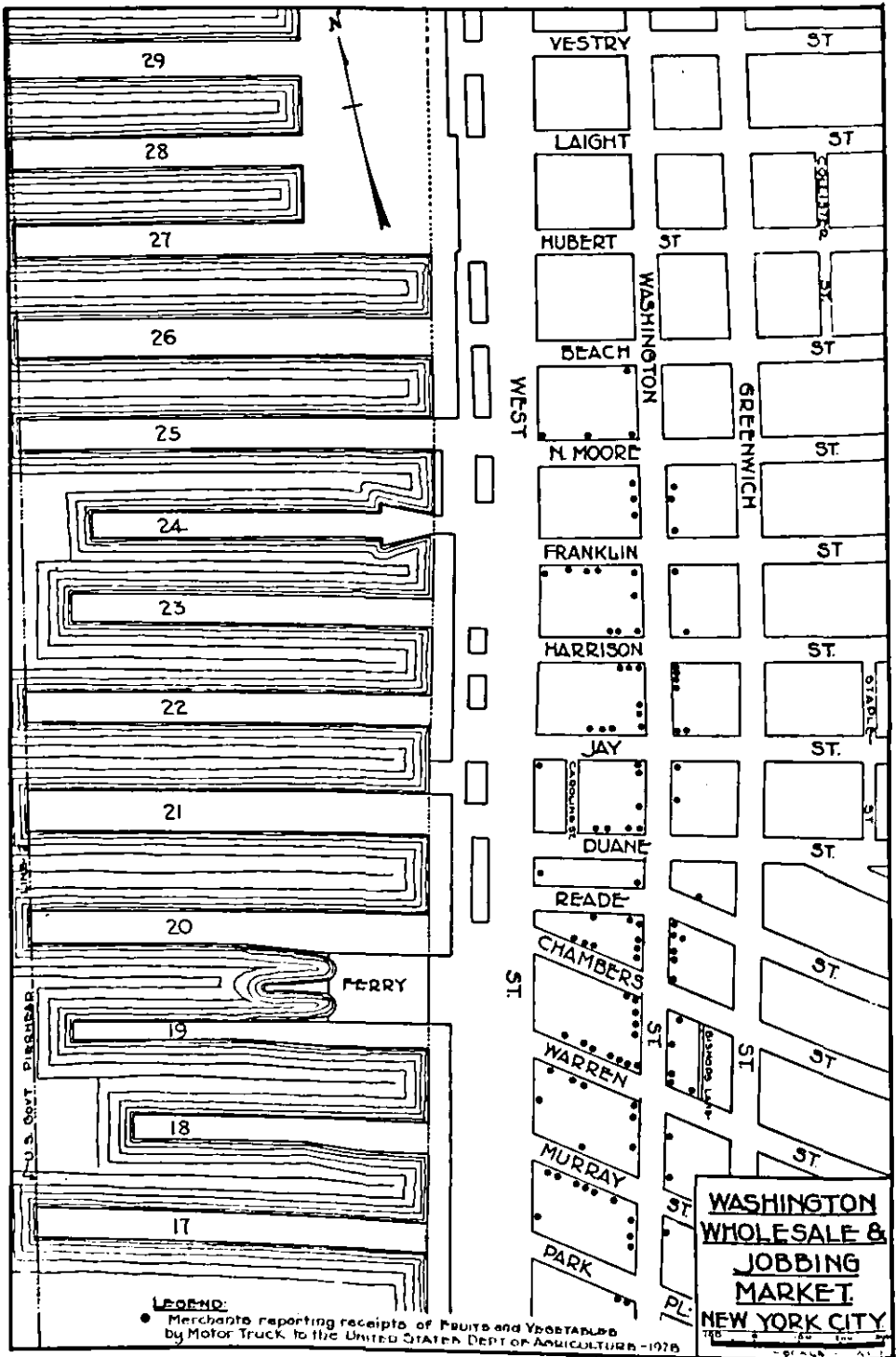


FIG. 4

Wholesale and Jobber Markets

Although all the jobbing markets receive shipments directly by motor truck, the one generally understood as the New York market is the wholesale and jobbing market located mostly along Washington Street in lower Manhattan. Most of the produce passes through this wholesale market to the jobbers' markets. The jobbing markets rank as to the volume received through the primary market in the order named: Downtown New York, Wallabout, Harlem, Gansevoort and Newark.

The Washington wholesale and jobbing markets will be treated together, since they overlap, many of the merchants acting in both capacities. Part of the houses receive locally-grown produce by truck, while others only represent distant growers and receive by rail or boat.

Those receiving shipments by motor truck number more than 100, more than 50 per cent of whom are found on Washington Street in the 8 blocks between Park Place and North Moore Street. Those remaining are either on West or intersecting streets.

Market Congestion and Its Causes

The market, exclusive of the piers, covers an area of about 150,000 square feet and is located in the congested downtown section of New York with narrow streets and no direct access to a railroad. This, in itself, is one of the primary causes of congestion. In the absence of direct rail connections all merchandise must be delivered by motor truck or horse-drawn vehicle from railroad team tracks, boat pier, or direct from the farm. This is not a desirable situation, as can be seen when the volume passing through the market is considered, amounting to approximately one-half of the 230,000 car-loads now being consumed annually in New York and adjacent areas.

The congestion in the market has been greatly multiplied by the increasing number of motor truck shipments, which, during July, 1929, amounted to practically 20 per cent of all produce passing through the market, including both foreign and domestic. The streets average in width about 32 feet, and Washington, the main street, is only 30 feet wide. These streets, therefore, are hardly adequate to accommodate the smaller cartage vehicles which are used to move the rail shipments. Nevertheless, in addition to this traffic, there are to be found out-of-town trucks, many of which are of 10 tons, or more, capacity. Trucks measuring 30 feet in length are common, and occasionally some of 35 feet and of the trailer type are observed carrying the equivalent of a car-load. Notwithstanding the fact that there are one-way-street regulations, many traffic jams occur, causing delays all along the street. It is readily seen that a large truck in a narrow street can cause much delay

to other vehicles, since it is too wide to pass through openings where smaller trucks and wagons could be accommodated. When backing up to a curb, the large truck extends so far into the street that it is difficult for traffic to pass. Many drivers of these large trucks, not having room to back in, stop in the middle of the street until the shipment of that particular dealer is removed. Most of the commercial trucks are large in size, since it is more profitable to operate a large truck.

The already limited store frontage of houses in the market has been felt more keenly with the steady increase of out-of-town motor trucks. Comparatively few of the dealers are situated on a corner, where space on the side street may be used for unloading. Some of the stores with narrow frontage are barely able to accommodate one large truck at a time. The necessity of unloading and releasing trucks as soon as possible magnifies the evil of limited store frontage and storage space inside. These limitations present a difficult situation affecting not only these country truckmen but the city truckmen as well. It has caused strained relations between the market truckmen and jobbers and wholesalers because the latter are said to give the country truckmen preference in unloading and releasing. The former state that they have not infrequently been asked by a dealer to "drive around the block," or otherwise delay their unloading, until the dealer can find room; while, in the meantime, the country truckmen are being unloaded.

The merchant offers the following explanation for his apparent favoritism. If he does not release the country truckmen promptly, the latter has the power to drive on and give the shipment to a competitor. The city truckmen must accede to the wishes of the dealer, since he has no alternative. This practice is obviously a discrimination against the market truckmen and adds to their expense of operation by overtime payment to drivers, and decrease in loads per unit of equipment. Conferences between the parties involved have resulted in the agreement of the dealers to give equal rights to both classes of truckmen. The latter say that this promise has been carried out fairly well, but not without occasional requests to the local drivers, under certain conditions, to allow prior unloading of country truckmen.

When all produce was received by rail, the flow of the merchandise to the market could be better regulated by schedules, and even by being left in the car until needed. At present this is impossible, for out-of-town trucks arrive from five in the afternoon on through the night.

Commercial truckmen were asked for the average time of their arrival in the market. Their replies show that about 50 per cent of them arrive about 10 p. m. or earlier. Two-thirds of those arriving before 10 appear in the

hour between 9 and 10, while one-half of those coming after 10 arrive between 10 and 12.

The period of greatest congestion in the market is between 10 and midnight. The reason for this is the presence of so many out-of-town trucks attempting to unload, and the large number of buyers' trucks ready to receive goods purchased. Combined with this array of vehicles, are the city truckmen's motor and horse-drawn trucks bringing in rail shipments. Each one is clamoring to be loaded or unloaded, as the case may be, and for passage through the market. To add to the confusion, some of the country truckmen are not well acquainted with the location of merchants, and must delay others by mistakes and needless driving through the market.

Long distance truckmen were asked to estimate the average number of hours they were forced to spend in the market delivering and unloading. Their replies are shown in table 12. The average was found to be 2½ hours with more than one-half, or 29 of the 54 replies, falling between 2 and 3 hours.

TABLE 12

Time Spent in Waiting and Unloading in Washington Market, New York, by 54 Commercial Truckmen Hauling Produce from the Areas Supplying New York by Motor Truck, 1928

(Estimated*)										
Hours	1	1½	2	2½	3	3½	4	4½	5	5½
Replies	5	6	13	7	9	3	6	2	2	1

*Each truckman estimated his own average time of waiting. The average time spent in the market was 2½ hours.

TABLE 13

Average Number of Consignees Per Truck Load of 38 Truckmen Hauling Fruits and Vegetables to New York from the Areas Supplying New York by Motor Truck, 1928

(Estimated)	
Number of Truckmen Replying	Average Number of Consignees Per Truck Load
4	1
9	2
14	3
5	4
3	5
1	7
1	10
1	12
Total	38
	Wtd. Av. 3.36

Another cause of congestion is the multiplicity of consignees per average truck load, necessitating frequent stops and delays. Truck loads from dealers, exchanges, and associations usually have comparatively few consignees. Out of the 93 answering, 58 reported that they usually hauled to one consignee and 35 to more than one. The maximum number of receivers to the truck load was found to be 15, and the average, 1.38. On the other hand, 63 out of 90 truckmen reported that they had an average of more than one consignee for a truck load. Table 13 shows that the weighted average number of consignees for a truck is 3.36, with 28 of the 38 replies falling between 2 and 4.

TABLE 14

Maximum Number of Consignees per Truck Load of 73 Truckmen Hauling Fruits and Vegetables to New York from the Arcas Supplying New York by Motor Truck, 1928

(Estimated)	
Number of Truckmen Replying	Maximum Number of Consignees Per Truck Load
1	2
6	3
9	4
15	5
13	6
2	7
5	8
2	9
3	10
5	12
4	15
4	20
1	25
1	30
1	40
1	60
Total 73	Wtd. Av. 9.12

In table 14 it is found that the maximum number of consignees range between 2 and 60 with more than 50 per cent of the truckmen replying stating the maximum number of their consignees to be between 4 and 6.

The transportation of mushrooms represents rather extreme, if not unique, operations. One of the largest corporations specializing in mushroom hauling, reported the number of pick-up stops at mushroom houses as follows: minimum, 2; maximum, 86; average, 25; and the number of deliveries in the market as: minimum, 2; maximum, 30, and average, 12.

These numerous unloadings in the market are made possible by a special arrangement between the commercial truckmen and the dealers. Some of

the trucks arrive before the worst congestion, and are able to unload promptly. As soon as they are unloaded they park their trucks and return to the edge of the market and follow the trucks arriving later, assisting the drivers in the unloading of their trucks. This naturally speeds up unloading, as there are always more than two crews unloading. The dealers also give special service for mushrooms by instructing their porters to help unload mushroom shipments immediately upon arrival. The mushroom trucks are driven down the street and stopped in front of the dealers' stores without taking the time to back in.

It is a common practice for porters to load buyers' trucks from incoming trucks directly while they are still some distance apart. This holds up both operations and makes for greater congestion.

Evil Effects of Congestion

Market congestion affects each class of people participating in the marketing of produce from the grower to the retailer.

Acquaintance with actual occurrences in the market, resulting from congestion, would furnish an explanation for many of the questions raised by growers concerning the handling of accounts by commission men. Frequently two neighbors, or one single grower, will send in the same commodity, grown on adjoining land and of equal quality, to two or more merchants in different parts of the market. When notices of sale are received, one dealer may have sold one lot for from 25 to 100 per cent more than is reported for the other lot. The explanation is often found in the difference in time of sale. The commission houses are often located some distance apart, and, on account of congestion and intermediate deliveries, two or three hours may elapse between the times the different lots were put on sale. This gives ample time for a considerable change in prices. Other losses occur to growers and shippers in similar ways.

Truckmen find operation more expensive as a result of delays in the market. Many times, the truck if unloaded promptly could return and make ready for a trip the following day, since time would remain for minor repairs. Beyond a certain distance from a market, it is impossible for the same driver to visit the market every day; but if several hours were cut from his working day by less time spent in the market, it would, no doubt, enable him in many cases to make more trips in a week. This would mean a saving to truck operators in wages.

Commission men say that more salesmen and porters are necessary and that prices received for merchandise are lower on account of increased use of the motor truck. This means more expense and less commission. If shippers should receive higher prices for their produce, commission men's profits

would be higher. Accurate advance news service should make for a shorter selling time and fewer hours for salesmen and porters. The number of porters might also be lessened.

The buyers are now delayed both in buying and in loading of trucks. They hesitate to buy when they see numerous truck loads of produce moving about the market. Relieving congestion would mean that goods could be found more easily. The buyers could estimate the supply earlier and, as a result, hasten their purchasing.

Suggestions for Relieving Congestion

Much discussion of the evils of congestion of traffic in Washington Market, New York, has been current among individuals for some time, but the first organized effort for relief came as a result of the strike of the Market Truckmen on October 5, 1929. The strike was precipitated by the refusal on the part of truck owners and operators to establish the 8-hour day and time and a half for overtime. The strike was of three days duration, ending October 8. The truckmen received a \$5 weekly increase, a 9-hour day, and \$1 an hour for overtime.

Besides these concessions, there was also an agreement composed of ten sections drawn up between the Fruit and Produce Trade Association and the Market Truckmen's Association. Section 9 of this agreement was strongly protested by growers, out-of-town truckmen, state officials, and others. Section 9 is quoted herewith:

All merchandise, carted by trucks and not carted from common carriers including railroad terminals and yards or steamship terminals, shall be delivered to receivers at the locality on West Street, New York City, N. Y., commonly termed "the farm," with the understanding that delivery thereof will not be accepted prior to 8 p. m. nor later than 5 a. m. No sales to be permitted on

If this rule had been put into effect, increased charges would have resulted from re-handling the merchandise, since out-of-town truckmen would have been obliged to unload on the "farm" and have their merchandise hauled over on the trucks and wagons of market truckmen. These objections brought about a conference, on October 16, of all parties concerned, all of whom were allowed to express their views freely. At this conference the chairman, Berne A. Pyrke, commissioner of the New York State Department of Agriculture and Markets, appointed a committee representing all interests to find a substitute for Rule 9 as a means of relieving congestion.

The two main objectives sought were:

- Relief of street and sidewalk traffic congestion in the wholesale market.
- Prevention of undue holding of market trucks as temporary storage houses, without extra compensation to truck owners.

As a result of thorough investigation of market conditions and of suggestions for improving the situation, the following recommendations were offered by the committee:

1. To lessen the street congestion in the wholesale market area (i. e. Barclay Street, both sides, to North Moore Street, both sides, and Greenwich Street, both sides, to West Street, east side). Rule 10 of the agreement between the fruit and produce trade and the market truckmen, which provides that "no truck is to park in front of any store in the wholesale market section unless actually engaged in loading or unloading merchandise at that address," is endorsed.

2. To prevent tie-up of narrow streets, all trucks over 30 feet in length over-all should be excluded from the market area between 9 p. m. and 9 a. m. during June, July, August, September, and October.

3. To cure undue holding of market trucks, an agreement should be reached by the fruit and produce trade and market truckmen whereby house truckmen are to collect demurrage charge of \$1.50 per hour beginning 60 minutes after tender of delivery to house store or to buyer. Demurrage charges to be filed daily with receivers employing house truckmen. Receivers to bill and collect from buyer all demurrage charges where holding of truck has been at buyer's option.

4. To lessen congestion and stabilize receipts, a campaign of education should be carried on through the rural organization and rural press to stimulate growers to ship early enough so that out-of-town trucks may reach the market not later than 10 p. m.

The reason for the first recommendation might be summed up as follows: Most of the 100 to 150 produce dealers between Park Place and Franklin Street occupy buildings with only a 25-foot frontage and located on narrow streets. During the busy season between the hours of 10 p. m. and 3 a. m., the congestion becomes very great, for three classes of traffic are to be found in the market at the same time: (1) trucks and horse-drawn vehicles of local market truckmen, (2) out-of-town trucks hauling for shippers and producers, and (3) trucks of suburban buyers. Therefore, only trucks which are ready to load or unload immediately should be admitted to the specified area.

The second recommendation was passed with the object of excluding from the narrow streets of the market, during the busy season of the year, trucks of 30 feet in length over all. Many of these, as well as the six-wheel tractor-trailers, have been found responsible for many of the traffic jams, due to the space they occupy and the difficulty with which they are manoeuvred about the market.

The third recommendation is aimed to fix upon the right party the responsibility of delay in unloading market truckmen, and assess a charge accordingly for the time of waiting. This would relieve the truck owners of the expense of having their trucks used for storage purposes without remuneration. The exact determination of the charge is based upon the regular overtime rate of one dollar paid to the drivers plus fifty cents to cover other expense and allow a profit. It was decided that the best method of collection would be to have the market truckmen bill the produce house. If the latter is

responsible for the delay it should pay the demurrage. If the buyer is responsible, the produce house should re-bill the buyer.

The fourth recommendation is the result of the experience of many merchants who have observed the sale of produce at different hours of the market day and have found that, generally, the best prices are obtained in the early market. If it brings results it should go a long way in relieving the ever-increasing congestion occurring after 10 p. m.

As this report goes to press, it is learned that these recommendations are being considered by the trade in private conferences of each group. Therefore, by the time the heavy season opens next spring they may have been worked out in a constructive form of improvement.

Another suggestion for relief which has been mentioned casually by some is that a central produce terminal be constructed in which truck receipts would be unloaded, displayed, broken up, and consolidated into job lots.

Management Regulations of Farmers' Markets

Three of the four metropolitan farmers' markets are municipally owned and operated. These include the farmers' markets of Newark, Ganesvoort, and Wallabout. The fourth, Harlem Market, is controlled by a corporation.

The regulations in each market are practically the same except in a few instances. Harlem Market differs from the others in that certain positions in the market are leased to farmers at specified annual rates, varying as to advantageous location in the market. The option on these positions expires for the market day at 12 midnight. If not claimed by the lessee by that time, they can be used by another farmer. There is always a waiting list for these "stalls." In the city-owned markets, each farmer is placed on the same basis and must obtain his choice position in the market by arriving at that place before anyone else for that marketing day. Some farmers selling in these open markets have declared a desire to have regulations like those found in Harlem Market. These requests have been refused by the department of markets for several reasons, one of which is that it appears to be against public policy, since it would tend to show discrimination.

All of the markets have an official time of opening. When a signal is given, the farmers rush their trucks into the market in order to obtain the preferred places. In many cases it is an unwritten law among the farmers to allow a farmer who goes into the market daily to take the same position each day.

All the markets, except Newark, have a specific time set for closing. After this hour, farmers and speculators must move out and dispose of whatever

produce they have left in any way they can. The market is then kept clear until the signal is given for entry at the opening of the following marketing day. In Newark similar regulations are prevalent, except that farmers and speculators are allowed to remain in the market by the payment of an additional fee. Many speculators take advantage of this, and so maintain a regular place of sale. The opening and closing time in each market varies from summer to winter.

The fees charged vary in each market according to the type of vehicle entered, such as a wagon, a small truck, or a large truck, and as to the position desired, a corner or an inside. In Harlem Market such a daily fee is charged in addition to the amount charged for the annual lease.

Customs and Methods Followed in Farmers' Markets

There are three methods by which produce is marketed in a farmers' market: (1) by the farmer himself; (2) by his representative, known as a market man, and (3) through speculators.

The majority of farmers prefer to sell their own produce or hire a market man rather than sell through speculators. When the farmer markets his own produce, he must assume, beside his work of production, all the duties required in placing the commodities in the hands of the city retailer, or other middle men at the farmers' market. This means that he must cultivate, gather, pack, and load the produce on his truck and then sell it in the market. Growers who use this method prefer it, since they think they receive a larger profit by a saving in transportation, and by taking the profit received by the speculator, who would assume the marketing duties. The marketing of the produce takes considerable time, which might be used in production. However, these farmers figure a greater gain as a result of their taking more interest in getting the best possible price for their products.

Other farmers prefer to have their crops hauled to market and sold by their direct representative, known as a market man. These duties may be assumed by a father, son, brother, or other relative of the grower, or by a hired man. In this way, the farmer is allowed to remain on the farm and concentrate his energy upon production, gathering, and packing. The market man is allowed full authority to sell at the best price obtainable. The market man may own part interest in the farm, or he may be paid a stipulated sum by the day or week.

The third method of selling is through the speculator. The middle man does not work on a commission, but buys the produce from the farmer at a price far enough under the current market to allow him a substantial profit. Thus, the farmer is repaid for the profit which would be derived from marketing the produce himself or through a market man, by being allowed more

time for the essential duties of a grower. The services of speculators are very helpful to a new farmer who is beginning operations, since he is not known in the market and does not have the goodwill of the regular buyers. Some new farmers have started this method, and, finding it profitable, have continued it. Other farmers, who have never sold to speculators, object to their presence in the market. They say that the speculators are unnecessary middle men and cause lower prices in the market by under-pricing the commodities.

It is the custom of the farmers to sell from their trucks. The speculators obtain a place, usually a corner, in the market and arrange the fruits and vegetables on the pavement, classified by commodities.

In each farmers' market there are two periods of sale. The first period begins as soon as the market is open and the trucks are arranged in order. In some cases a few sales are made throughout the night but it is customary for the market to quiet down after a short selling period. There is a lull in the selling from then until early morning when the second marketing period begins. During this interim, the farmers and market men go to hotel rooms, sleep on their trucks, or otherwise occupy themselves. In some cases the carrier paid by several of the farmers watches over several of the trucks, while the farmers are asleep. In Wallabout Market these carriers are organized and assume all responsibility for loss during this time. In Newark Market it is customary for the farmers to take turns at watching the trucks.

At the height of the trucking season, these markets are taxed to capacity to take care of the many truck loads of produce brought in for sale.

The fees of the carriers vary in different markets. They are paid by the farmers to assist them in delivering the commodities sold from their truck to the truck of the buyer. They also make themselves useful in selling and in guarding the truck while the market man or farmer is away eating or sleeping. A farmer is not compelled to hire a carrier, but the custom is so strong that he is practically forced to do so. Farmers do not complain of this, since it is generally thought that they receive full value in services.

Effect of Motor Truck on Marketing

Immediate Marketing Outlets for Producers

There are six immediate market outlets for fruits and vegetables produced in the seven states and sections supplying New York by motor truck: (1) commission men; (2) farmers' markets; (3) at farm; (4) shipping points; (5) city retailers, and (6) cooperatives. "At farm" represents selling through a roadside stand or otherwise at the farm, except to city retailers.

"Shipping point" means the method of selling to country dealers and at local auction.

The percentage of total production, based upon the experience of 737 producers, which passed through each of the above was found to be: commission men—46.4; farmers' markets—20.9; at farm—15.8; shipping point—7.5; city retailers—5.9; cooperatives—3.5; as shown in table 15.

TABLE 15

Market Outlets for Producers: Percentages of Total Production Passing Through Each from the Areas Supplying New York by Motor Truck, 1928

	Number Reply- ing	Com- mission Men	Farm- ers' Markets	Coop- eratives	City Retail- ers	Ship- ping Point	At Farm
Connecticut	13	29.2	10.8	0	23.4	5.8	30.8
Delaware	12	42.2	8.3	0	0	39.5	10.0
Long Island	68	19.3	59.0	0.3	9.6	7.6	4.2
Maryland	38	45.6	5.0	7.7	6.2	17.2	18.3
New York	280	39.2	18.5	6.5	9.2	5.5	21.1
Pennsylvania	75	83.0	5.1	0.8	0.3	1.3	9.5
New Jersey	251	52.0	21.4	1.5	2.2	8.8	14.1
Grand Total	737	46.4	20.9	3.5	5.9	7.5	15.8

These percentages of immediate outlets vary widely for the different states and sections as shown more completely in table 6 of the Appendix. On Long Island, the farmers' market is the medium of most importance with 59 per cent. This might be expected, owing to the accessible outlet found in Wallabout and Harlem markets. Two counties in this section were studied, Nassau and Suffolk. The other two counties of Long Island were not included since it is known that practically 100 per cent of the produce from these areas, which are within the city limits, is sold through farmers' markets. Nassau County's sales are essentially through farmers' markets, as shown by the 76.7 per cent. Sales through retailers from the latter county take second place with 11.4 per cent. Suffolk County shows commission men first with 38.8 per cent and farmers' markets second with 26.6 per cent. New York State shows more selling at the farm than through farmers' markets. However, there are several outstanding exceptions to this, as in the case of Albany County, which sells half of its produce through a farmers' market. Counties in Pennsylvania shipping by motor truck to New York favor the commission method very strongly because of a highly developed mushroom industry. New Jersey is exactly in line in the order of importance of different outlets as shown in the general average.

There is a decided variation in percentage of total production marketed by different methods when distance from the New York market is considered.

In table 16, arbitrary mileage classes of farms supplying New York markets have been set up. In this tabulation the outlets, commission men, farmers' markets, and at the farm, have been classified individually, while the remaining outlets have been combined.

TABLE 16

Market Outlets Related to Distance of Farms from New York, 1928

Mileage of Farms from New York	Number of Growers	Percentage Distribution of Sales			
		Commission Men	Farmers' Markets	At Farm	Other Outlets
1-5	20	0	60.5	5.5	34.0
6-10	44	20.4	53.0	6.9	19.7
11-20	56	34.6	39.5	11.7	14.2
21-40	87	26.9	52.1	14.3	6.7
41-60	54	46.5	19.4	19.8	14.3
61-100	134	61.1	6.5	14.8	17.6
Over 100	79	82.6	0.5	7.3	9.6

It is evident from this table that the farmers' market method of selling has preference for an area of forty mile radius about New York. After that point is reached the lead goes to the commission method which reaches over 82 per cent outside a radius of 100 miles from New York. In these classes the commission method gains from nothing to the point stated above, while the farmers' market method decreases from 60.5 per cent to practically nothing. Sales at the farm gain steadily from 5.5 to 19.8 in the mileage class of 41-60 and then drops rapidly. In the same class, 29 of the 41 farmers replying from Nassau County, Long Island, sell 100 per cent through a farmers' market, and 3 sell 98 per cent.

Distance from the market not only influences the selection of market outlets but also a choice of the different means of motor transportation, if such transportation is preferred. Thus, if a farmer grows produce only a few miles from market and desires to sell through a farmers' market, he generally buys a truck for use in getting it to market. As the distance from market increases and the change to other outlets, such as the commission merchant, occurs, there is a like tendency to employ a commercial truckman in lieu of owning a truck. Table 17 indicates two facts: (1) that percentage of total production hauled by commercial truckmen increases with the distance of the farm from market, and (2) that percentage of total production moved by truck in any manner decreases with distance from market.

These facts are also borne out in table 18 which indicates that states and sections nearest the market send a greater percentage of production to market

TABLE 17

Comparison, by Mileage of Farms from New York, of Fruits and Vegetables Carried by Commercial Truckmen with the Total Amount Hauled by Motor Truck, 1928
(Percentage of Total Production)

Mileage of Farms from New York	Percentage by Motor Truck	Percentage by Commercial Truckmen
1-5	98	0
6-10	97	11
11-20	90	17
21-40	90	30
41-60	83	60
61-100	79	83
Over 100	76	90

by motor truck than those farther away, and a smaller part of that by commercial truck. It is evident from table 18 that of total production 41 per cent is moved by commercial truckmen and 32 per cent by growers and others, making a total of 73 per cent by motor truck. These estimates are based upon questions answered by 710 growers as to the percentage of their production carried to market by motor truck which was hauled by commercial truckmen. It was then evident from those data what percentage of total production was hauled by producers and others. More complete information will be found in table 7 of the Appendix.

TABLE 18

Estimated Percentage of Total Production of Fruits and Vegetables Moved by Motor Truck to New York from the Principal Producing Areas, 1928

Origin	Total by Motor Truck Average Per Cent	By Commercial Truckmen Computed Per Cent	By Producers and Others Computed Per Cent
Long Island	64.5	19.3	45.2
New York*	64.3	36.7	27.6
Pennsylvania†	83.3	69.9	13.4
New Jersey	79.8	39.9	39.9
All Areas	72.9	41.4	31.5

*Hudson Valley only.

†Small section of Southeastern Pennsylvania, where mushrooms are the principal product.

The farmers answering this question are scattered widely over the production area, some less than five miles from New York market, and others 250

miles distant. It is not surprising, therefore, that there should be a wide variation in the percentage of production hauled by commercial truckmen between states and sections, and even adjacent counties.

The lowest percentage of production hauled by commercial truck is found in the Long Island section composed of Nassau and Suffolk Counties. Although 65 per cent is moved by motor truck, only 19 per cent is hauled by commercial truck. Nassau County, moving 97 per cent of its crop by truck, has the smaller percentage by commercial truck, that of 14 per cent. In Suffolk County 34 per cent is moved by truck and 19 per cent by commercial truck. "Others" under New Jersey, moving 84 per cent by truck, has the lowest percentage by commercial truck, that of 8 per cent. The reason for the latter condition is that the counties included are principally Essex, Hudson, and Union, from which practically all produce is marketed through farmers' markets. The highest percentage is found in the southeastern counties of Pennsylvania from which 83 per cent of the production is transported by motor truck. In this section 70 per cent of production, or four-fifths of all that is trucked, is handled by commercial truck. This high percentage is accounted for in the heavy movement by truck of mushrooms, which is one of the principal crops. Only 28 per cent of the 521 farmers selling through farmers' markets stated that they had ever used a commercial truck. Although this is done in a few cases to bring in an extra load, the general rule is to use one only when the farmer's truck is being repaired. A few cases were found in which farmers stated that although most of their produce passed through a jobbing market, they had found it more profitable to sell in a farmers' market at certain times of the year. However, they did not consider the number of trips to those markets warranted the ownership of a truck.

The load capacity of trucks is influenced both by the acreage of the farm and by the mileage of the farm from market. This is a natural condition, since the production of a small farm will not warrant the use of a large truck, and a light, fast truck is essential to the rapid movement of produce from farms to distant markets.

Truck tonnage from a farm increases with the acreage. Tonnage to the truck increases with acreage up to farms of over 120 acres. This is not surprising, since it is more profitable to use a large truck than two small ones because of the saving in salaries of drivers. Then, most of the produce from the large farms is marketed through outlets other than the farmers' markets. In those cases only small trucks are used for local markets close by. The number of trucks to the farm has no regularity (see table 19).

It is interesting to note from a comparison of tables 20 and 21 that mileage of the farm from market has the same effect upon tonnage per grower and

TABLE 19

Variation, by Acreage of Farms, of Tonnage Per Truck, Tonnage Per Farm, and Trucks Per Farm in the Area Supplying New York by Motor Truck, 1928

(Based on replies of 322 fruit and vegetable growers)

Acreage of Farm	Number of Replies	Number of Trucks	Tonnage Per Truck	Tonnage Per Farm	Trucks Per Farm
1-10	50	53	1.2	1.3	1.1
11-18	50	51	1.5	1.6	1.0
19-27	50	59	1.7	1.9	1.2
28-40	50	55	1.8	2.1	1.1
41-60	50	67	2.0	2.7	1.3
61-120	50	66	3.1	4.0	1.3
121-1,400	22	58	2.9	7.0	2.6
1-1,400	322	409	2.1	2.6	1.3

TABLE 20

Comparison, by Mileage of Farms from New York, of Trucks Per Grower, and Tonnage Per Grower in the Territory Serving New York by Motor Truck, 1928

(Based on the replies of 497 fruit and vegetable growers)

Mileage of Farm From New York	Number of Growers	Trucks per Grower	Tonnage per Grower
1-5	23	1.04	1.1
6-10	45	1.15	1.5
11-20	57	1.12	2.1
21-40	90	1.16	3.0
41-60	57	0.96	1.9
61-100	147	0.86	1.2
Over 100	78	0.75	1.1

TABLE 21

Comparison, by Mileage of Farms from New York, of Tonnage Per Truck Owned by Growers in the Territory Supplying New York with Produce by Motor Truck, 1928

Mileage of Farms from New York	Number of Trucks	Tonnage per Truck
1-5	24	1.1
6-10	52	1.3
11-20	64	1.9
21-40	105	2.6
41-60	55	1.9
61-100	127	1.4
Over 100	58	1.4

tonnage per truck. Both values increase up to and including the 21-40 mileage class. Afterwards, a drop is experienced by both. This would indicate definitely the outer limit of the market gardening area. At a distance of 40 to 50 miles from market, truck tonnage of growers' trucks reaches a climax because of the change over to the commercial truck.

Truck tonnages for each of the seven producing areas studied are compared in table 22. It will be seen from this table that corresponding tonnages per grower and per truck for each territory do not vary in the same manner. Tonnage per truck in Long Island and New Jersey is large as a result of

TABLE 22

Comparison, by Tonnage Capacity of Trucks, of Each Producing Area Supplying New York with Fruits and Vegetables by Motor Truck, 1928

State or Section	Number of Trucks	Trucks Per Grower	Tonnage Per Truck	Percentage of Trucks in Each Tonnage Class					
				5 & .75	1.0	1.5	2.0	2.5	3.0-8.0
Connecticut	27	2.25	1.98	4	15	30	18	18	15
Delaware ..	8	1.14	1.44	13	25	50	..	..	12
Long Island	80	1.27	2.84	1	16	11	15	14	43
Maryland .	39	1.39	1.5	5	33	36	15	3	8
New York.	262	1.16	1.34	10	49	25	11	1	4
Penna.	63	1.47	1.27	8	61	14	11	..	6
New Jersey	277	1.39	2.36	6	16	18	21	11	28
Total ...	756	1.31	1.9	7	32	21	15	7	18

the large quantity of potatoes sold from both sections and the heavy production of tree fruits in New Jersey.

Marketing Methods of Country Dealers, Associations, and Exchanges

Dealers, exchanges, and associations in the New York motor truck area employ three methods of marketing their produce: (1) consignment; (2) f. o. b. shipping point, and (3) f. o. b. arrival. Of the 90 replies from these marketing organizations, 37 reported use of the first of these methods, 29, the second, and 10, the third. Seven were using the first and second plan of selling, 4 the first and third, 1, the second and third, and 2 were using all three. The influence of the truck seems to be that of allowing more flexibility in the methods of marketing. This is illustrated in the case of potatoes, where it is found that all three methods might be employed in the same day. A regular daily shipment might be made to a commission merchant, a special shipment to a chain store f. o. b. the receiving point, and

another sale to a speculator coming to the packing plant to buy a single truck load.

The consignment method is still the most important, with f. o. b. shipping point a close second.

Selling at the Farm by Growers

The percentage of production sold at the farm declined 2.4 per cent during the two years from 1926 to 1928, as indicated by replies of growers. (See table 23.) This includes the average for each year, weighted according to the number of replies from each section.

TABLE 23

Percentage of Fruit and Vegetable Production Sold at the Farm by Growers in the Territory from which Produce is Received in New York by Motor Truck, 1928 and 1926

States and Sections	1928	1926
Connecticut	30.8	32.0
Delaware	10.0	9.0
Long Island	4.2	5.2
Maryland	18.3	16.6
New York	21.1	26.4
Pennsylvania	9.5	10.5
New Jersey	14.1	15.7
Total	15.8	18.2

Each state and section shows a loss in 1928 over 1926 with the exception of Delaware. New Jersey's decrease, however, is only 1.5 per cent.

There was a 40 per cent increase indicated in Monmouth County, which was apparently caused by the rapid increase in the sale of potatoes at the farm to speculators or itinerant dealers, who buy single truck loads, or even a whole crop, and haul it away in their own trucks.

Effect Upon Commission Men

The two places wherein the motor truck might affect commission men are in the producing areas and in the market.

Commission men do not agree upon the question of the effect of the motor truck upon competition in the field. Of the 16 replying to this question,

6 stated that competition had been increased, 2 that it had been decreased, and 8 that it had not been affected. Four could see the importance of more field representatives, 9 could not see the advisability of this added expense, while three believed that they could have no effect.

Contrary to this, in some sections, there is a tendency of commercial truckmen to assume either the additional function of a country dealer or the position as representative of a commission merchant, receiving a commission of 3 per cent. Acting in the first capacity he must buy the produce outright. On the other hand, if he acts as agent on a commission, he is only required to solicit and haul to the merchant in the market. The latter arrangement is more common. Quite often the truck owner never actually sees the goods, but makes in advance the necessary arrangements for selling the produce through a specific commission house. At the same time the truckman has it understood that he is to do the hauling to market. This might be considered a more efficient arrangement, since it allows personal and more frequent communication between grower and commission merchant. In this way the truckman gets the commission and also the cartage. Sometimes this type of truckman receives 3 per cent on *all* produce shipped from his territory to the commission man whom he represents. On the other hand, the arrangement might be condemned, since it takes away part of the commission merchant's profit and mixes the functions of trucking and selling, which some believe should be kept separate.

Commission men were asked whether motor trucks had caused any increase in: (1) the dividing of regular consignments of a single grower between commission houses on the same marketing day; and, (2) the constancy of shipping to the same dealers from day to day. The first question received two affirmative answers, ten negative answers and four as no effect. The second question was recorded in the same order: Yes—4; No—4; No effect—8. This reaction would seem to indicate that the motor truck has had very little influence on the first of the above mentioned habits of growers, and even less on the second.

The question as to the effect of the motor truck on the consignment method of selling was answered as follows: Increased, 4; Decreased, 5; and No effect, 7. Apparently this method of selling has not been increased since the motor truck has come into use.

Effect Upon Stability of Markets

Eleven of the commission men agreed that motor truck transportation has caused an unstable condition in the market, seven thought that it had created

a buyers' market in New York. One answered in each case that it had no effect in either way. Those answering in the affirmative gave several reasons for their conclusions, the most important of which are: (1) the uncontrollable supply in each market, since practically all trucks arriving must be unloaded and none of the products held in storage; (2) lack of advance news service on truck receipts; (3) decentralization in markets, and (4) the shifting of patronage of growers among receivers in the market.

The fact that the available volume of a commodity is never determinable, since arrivals occur throughout the night, creates a nervous condition in the market. This coupled with the absence of advance reports of receipts due to arrive makes it very difficult for merchants to determine the highest prices that will attract buyers. It, likewise, makes buying more careful inasmuch as buyers wish to ascertain the supply in the market in order that they may not place their house at a disadvantage by paying prices that will be unreasonable for that day. The decentralized condition of markets is found not only in New York but in the adjacent territory. The smaller markets outside of New York can be served directly with more ease and dispatch with the motor truck than was possible with the earlier means of transportation. Many of these markets are receiving directly by motor truck produce which would pass through larger markets and be broken up into smaller lots, if handled by rail.

The growers often give the truckmen the authority to carry the produce to any one of several merchants. Commission men state that not infrequently they receive telephone calls from growers who state their intention of sending them a shipment. Many times they never receive this shipment, which means that it was diverted to someone else in the same or another market. If a large quantity which they did not anticipate is diverted to them, it creates an unfavorable impression upon buyers who might have found them previously short of that commodity. During the time when shipments were commonly made through country dealers or representatives of commission men, they reported loadings to the receiver in the market.

When inquiry was made of the 16 commission men as to the effect of the motor truck in stabilizing nearby markets, 6 answered yes, 1 answered no, and 9 answered no effect. Thus, more than half of them were of the opinion that the motor truck had had no influence in this way. Some say that the effect has been favorable on some commodities, as in the case of potatoes. The speculators have had a large part in this, since they buy a load and drive from one market to another until a favorable price is offered. This favors a more even distribution of the commodity and, consequently, a more uniform

price level between markets. Of the 16 commission men, 12 stated that they receive supplies and 8 stated that they shipped to dealers in other city markets.

✓ Influence of the Motor Truck Upon Production

The convenience and time-saving qualities of the motor truck have contributed to the extension and intensive development of the gardening area around New York City.

There are three fairly defined areas shipping produce to New York: (1) the gardening section within a radius of 50 miles; (2) the commercial truck belt between this area and a 150-mile radius; and (3) the rail territory beyond a 150-mile radius. There is some overlapping of these areas, but the divisions mentioned are fairly accurate. The average one-way mileage of more than 500 growers selling in the four metropolitan farmers' markets was 28.7, with a minimum of 2, and a maximum of 85 miles. The average loaded trip time was 2 hours and 9 minutes, the minimum 15 minutes, and the maximum 5½ hours. Exclusive of growers selling in a farmers' market, the average distance of haul to New York is 99.5 miles.

When wagons were employed to move crops to market such distances of haul were not possible. During this period the disadvantage of distance was overcome in part in Long Island by the operation of a market train into Long Island City. The wagons filled with produce were loaded upon flat cars, and the teams placed in stock cars. From the Long Island City terminal the wagons were ferried across the East River and driven to Gansevoort farmers' market.

✓ There are various reasons why a grower changes from one crop to another: (1) increased demand, (2) better suited to soil, (3) greater profits, (4) more easily marketed. The motor truck has brought about the last factor as regards transportation of truck crops.

✓ Before the truck came into use, the belt then outside of the practical distance of wagon haul and now within the gardening area was used for field crops, and fruits and vegetables grown on an extensive scale. With the coming of the truck it was possible to change to the more profitable truck crops, and place them in the market quickly and conveniently direct from the farm. With the increase in demand for these commodities, this type of intensive farming developed rapidly.

Ninety-four growers scattered over the New York motor truck area who use the truck to haul their produce to market state that they have increased the acreage of the commodities raised, and name ten reasons prompting the

changes. These reasons are listed below in the order of their importance as indicated by the frequency with which each was mentioned:

- ✓ 1. Better and quicker transportation by motor truck.
2. Decrease in cost per unit.
3. To make larger loads possible.
4. Better local markets.
5. Increased consumption.
6. Possibility of two loads a day to a farmers' market.
7. Lower marketing costs.
8. Increased sale to retailers.
9. To supply roadside market.
10. To be on the market daily.

It is difficult to estimate just how much the motor truck may have influenced growers to increase their crops, since only 12 per cent of the 768 growers replied to this question. However, viewing the facts as they stand, we find that 41 of the 94 replies were found to be the first reason given above—better and quicker transportation by motor truck. These growers believe it is a better means of transportation, for, among other things it makes possible less handling and a fixing of direct responsibility. The

TABLE 24

Estimated Percentage Hauled by Truck of the Total Movement of the Principal Fruit and Vegetable Crops Grown in the Trucking Territory Serving New York, 1928

(Reported by 768 fruit and vegetable growers)

Commodity	Percentage Moved by Truck	Commodity	Percentage Moved by Truck
Apples	75	Grapes	95
Asparagus	90	Lettuce	95
Beans	90	Mushrooms	80
Broccoli	90	Onions	85
Brussels Sprouts	90	Peaches	90
Berries	85	Peppers	75
Beets	90	Peas	98
Cucumbers	50	Pears	70
Cauliflower	75	Potatoes	25
Celery	90	Spinach	90
Cantaloupes	50	Sweet Potatoes	25
Corn	90	Tomatoes	90
Carrots	90	Turnips	90
Cherries	75	Others	90
Currants	90		

NOTE: Information in this table is based on replies from New Jersey, Eastern New York, Long Island, Southeastern Pennsylvania, Connecticut, Delaware, and Eastern Maryland.

increase in the crops also makes possible larger loads, and in some cases, two loads a day. Both of these factors would tend to decrease the cost of cartage and marketing. A large truck load can be transported and sold practically as cheaply as a small one. Sometimes two men ride a truck load of produce to a farmers' market and sell as much as possible in the evening market. Then the remaining merchandise is unloaded at the stall and one man returns for another load to be sold in the morning market, while the other remains behind with the unsold goods. This makes possible a greater use of equipment.

Of 687 growers included in the survey in the trucking territory supplying New York with produce, 477, or 69.4 per cent grew from 2 to 6 crops in 1928, while 218, or 31.7 per cent grew 2 or 3 crops. Among the 521 farmers selling only in farmers' markets, there was much less variation in the number of crops grown by a farmer. However, 309 or 59.3 per cent grew from 6 to 16, and the average number for a farmer was found to be 11.6. The greatest number grown by any one farmer was 33. This indicates a strong intensification of market gardening near the metropolitan markets.

Of the 58 fruits and vegetables received in New York by motor, 49 are grown in the gardening area. The eleven most commonly grown in the area from which the farmers' markets are largely supplied are: cabbage, beans, beets, carrots, sweet corn, tomatoes, spinach, radishes, potatoes, parsley, and lettuce. The absence of any great quantity of fruits in these farmers' markets is noticeable, and is a further evidence of the passing of the extensive method of farming in this area adjacent to New York.

Growers in the area serving New York by motor truck were asked to state the percentage hauled to market by truck of all their fruit and vegetable crops. A mean average, taken of each crop, is found in table 24.

Importance of Adequate News Service

An accurate determination of the quantity of fruits and vegetables moved by motor truck each day is necessary for a proper knowledge of current market conditions as well as for statistical records. There are two methods of obtaining this information: (1) by securing daily reports of actual receipts of receivers in the market; (2) by advance estimating based upon daily loadings in the production areas. The latter method is entirely in the experimental state, while the other has not yet passed that stage in some markets.

The Bureau of Agricultural Economics of the U. S. Department of Agriculture has established a news service on motor truck receipts in seven cities of the United States. These are New York, Boston, Cincinnati, Denver,

Newark, Salt Lake City, and Los Angeles. In Boston, Newark, and Los Angeles assistance is furnished by the state and in New York and Cincinnati by the city. The information below is furnished by officials of the Market News Service of the U. S. Department of Agriculture.

The first city to employ this new type of news service was Salt Lake City where it was begun in May, 1925. The information is obtained by personal interviews with farmers in the growers' market, and chain store buyers and large peddlers, who handle produce not passing through the above mentioned market. Reports are made by the wholesale houses on the truck receipts not bought on the farmers' square. Practically all the truck receipts are sold through the latter market. The report of receipts in this market is considered to be 90 to 95 per cent accurate.

Boston was the second city to have all truck receipts reported. This service was begun June 25, 1928. However, about nine years before, the Massachusetts Division of Markets began to secure the volume of produce received from the area known as the "homegrown district," embracing eastern Massachusetts, southern New Hampshire, northern Connecticut, and parts of Rhode Island. The other type of receipts known as "interstate receipts" were first reported in June, 1928, the date mentioned above. About a month later these figures were combined with those obtained from the state department, thus giving for the first time a single complete report of all produce arriving by motor truck. The information in this market, as in each of those discussed below, is obtained in a way similar to that described for Salt Lake City. The Boston reports are thought to be nearly accurate.

In July, 1928, this type of service was established regularly in New York. Five commodities were reported experimentally prior to this date during a period from July 20 to October 22, 1927. It is not only the largest market for all receipts of fruits and vegetables but also for truck receipts. One obstacle to complete reporting of receipts in New York is the private ownership of one of the farmers' squares, Harlem Market, for which reports are not obtained. However, a fair degree of accuracy is estimated for reports of truck receipts on the other markets. The reports on the jobbers' markets have been continued. A government employee telephones daily to 125 jobbers and wholesalers in the four markets. The work in the two city farmers' squares was discontinued during the fall and started again in April, 1929.

The inauguration of the system of reporting truck receipts in Newark was concurrent with that of New York, or in July, 1928. The service was discontinued from December 31st to May, 1929. The results are considered highly satisfactory.

November 1, 1928, marked the opening of motor truck news service in Denver. Practically nothing is trucked into Denver from outside the state

and the greater part of the produce is sold on the growers' market. The wholesale and chain stores are either visited in person or communicated with by telephone.

Los Angeles followed with this type of news service on December 17, 1928. A complete canvas is made among the receivers of produce through the four wholesale markets, the farmers' squares, and elsewhere. This information probably covers nearly 100 per cent of the produce hauled by truck, excluding oranges, many of which are received directly at roadside stands without passing through the wholesale markets.

Cincinnati began to report truck receipts only a few days after Los Angeles, on January 1, 1929. The work was started as an experiment and no definite arrangements were made at the time for its continuance. However, the work has been successful and is estimated to include 85 per cent of the motor truck receipts. There are four markets in the city, but approximately 50 per cent of the truck receipts pass through the Municipal Market.

Advance News Service

In addition to these news services there is a strong and growing demand for accurate estimates of truck shipments due to arrive in the markets. The lack of this service is the chief complaint by receivers in New York markets against the increasing volume of receipts by motor truck. It is a well-known fact that to be of the greatest benefit to commission men in selling, a report of truck shipments must be had in advance of the opening of the market.

Recognizing the need of this service in New York, certain individuals have attempted it as a private enterprise. Dealers participate voluntarily by the payment of a fee. The members are visited by men of the organization and are asked for a statement of their receipts. A list of the principal commodities showing an estimate of the volume received in the market is then delivered to each member. Certain receivers state that this is not highly accurate for two principal reasons: (1) all receivers are not members and, therefore, do not report; (2) some members under-quote the volume of commodities received for obvious business reasons.

On July 23, 1929, an experiment in supplying advance news service was begun by the Bureau of Agricultural Economics of the U. S. Department of Agriculture, the New Jersey State Department of Agriculture, and the New Jersey Agricultural Extension Service, co-operating. The reports included seven selected commodities: apples, beans, corn, cucumbers, peaches, peppers, and tomatoes. The production area covered six counties in New Jersey: Atlantic, Burlington, Camden, Cumberland, Gloucester, and Salem. Five

market days a week were covered: Tuesday, Wednesday, Thursday, Friday, and Saturday. The experimental period was terminated on September 28.

The plan of operation was as follows: The county agent in each of these counties received reports of loadings in the production area from commercial trucking companies and large shippers. Individual farmers and small shippers were not included. This information was compiled and telephoned to Trenton where it was assembled, totalled, and telegraphed to New York and Newark. The telegrams were then displayed on bulletin boards placed in the center of the wholesale market. The time of posting was usually before 7 p. m.

Although the experimental period represented little more than two months, it allowed sufficient time to disclose some of the good and bad features of the system. The principal fault appeared to be in the lack of complete information. For example, apples were often underestimated because individual shippers, many of whom shipped large quantities by their own trucks, were not included. The experiment serves as a basis for determining whether this type of service can be given successfully by the government agencies and at a reasonable cost. A study is to be made of the experiment in order to discover its weak points and how they can be improved or eliminated, and to estimate as accurately as possible the expense of installing and operating permanently this or a better system of reporting.

When a successful system of estimating and reporting motor truck shipments destined for New York market is established, the principal objection to the motor truck as a carrier of fruits and vegetables will be removed and the motor truck may become even a greater factor in the transportation of perishable produce.

Summary

New York received by motor truck approximately 14 per cent of its fruit and vegetable supply during the year August, 1928, to August, 1929. The receipts by truck were about equally divided between the jobbing markets and the farmers' markets. Fifty-eight different fruits and vegetables were received by truck in New York during this period.

Most of the motor-truck receipts on the jobbing markets arrive at the Washington Street market, although the Wallabout, Harlem, and Gansevoort jobbing markets receive some supplies. The farmers' markets are Wallabout, Gansevoort, and Harlem.

The average distance from farm to market, for farmers trucking produce to the New York farmers' markets, was 29 miles. Most of the farmers' market receipts were produced within 50 miles of the market in which they

were sold. Fruits and vegetables shipped to New York by truck from a greater distance than 50 miles were sent mostly to the jobbing markets. Fruits and vegetables received by truck in the jobbing markets were hauled an average distance of 100 miles. Some strawberries were trucked from North Carolina, 600 miles distant. The truck shipments to the jobbing markets are hauled largely by commercial truckmen rather than by the farmers or shippers.

The principal area supplying New York with motor truck shipments includes New Jersey, Long Island, and the Hudson Valley of New York. Some supplies also come from Delaware and the Eastern Shores of Maryland and Virginia, Connecticut, Pennsylvania and North Carolina.

From August, 1928, to August, 1929, the equivalent of 15,776 car-loads of fruits and vegetables arrived by truck on the New York jobbing markets. Of these, 7,513 were from New Jersey, 2,594 from Long Island, and 2,220 from the Hudson Valley section of New York. Thirty-two per cent of all receipts on the New York jobbing markets from the 10 states considered in the New York motor truck area were by truck. Of jobbing market receipts from New Jersey 63 per cent were by truck. The corresponding percentage for Long Island was 37.

The 15 of these trucked-in commodities most important as to volume, in the jobbing markets, were in order: apples, strawberries, tomatoes, beans, cauliflower, mushrooms, sweet potatoes, peppers, corn, lettuce, potatoes, asparagus, spinach, peaches, cantaloupes. These 15 commodities comprised 74 per cent of the truck receipts on the jobbing markets, and the quantities ranged from 1,450 car-lot equivalents for apples, to 384 for cantaloupes. August was the month of heaviest truck receipts on the jobbing markets with 2,916 car-lot equivalents, and February was smallest with 270. Receipts on the farmers' markets during the principal part of the 1929 season, April to October, totalled 15,959 car-lot equivalents. Forty-nine different commodities were reported in the farmers' markets during this period. The five received in heaviest volume in order were: potatoes, corn, tomatoes, celery, and cabbage. Only relatively small quantities of fruits were received on the farmers' markets. September was the month of heaviest receipts with 4,104 car-lot equivalents.

Estimates from growers indicated that 73 per cent of the fruits and vegetables grown in New Jersey, eastern New York, and Long Island for market were shipped by truck. For Long Island, the percentage was 65, for eastern New York, 74, and for New Jersey, 80.

A larger percentage of the more highly perishable commodities are shipped by truck than of the bulkier low-priced, low-freight-rate commodities. For example, of the New York jobbing market receipts from the sections shipping

to New York by truck, only 10 per cent of the potatoes and 29 per cent of the sweet potatoes came by truck, compared with 90 per cent of the asparagus and 95 per cent of the mushrooms.

The chief advantages ascribed to the use of the truck by shippers and receivers in marketing fruits and vegetables in this area were: faster service, convenience and saving of extra handling both at the shipping point and in the market; better condition of the produce upon arrival in the market; less loss from shortages and damaged packages; lower transportation costs in local territory.

Disadvantages mentioned were: lack of information on the market as to the quantity of the day's truck receipts, thus tending to make prices unstable and trading difficult; increased traffic congestion in the market, particularly from 10 p. m. to 12 p. m. during the season when truck receipts are heavy; unlike refrigerator car receipts, highly perishable commodities received by truck must be sold soon after arrival in the market or placed in cold storage; as distance from market increases motor truck transportation costs become higher than rail rates plus cartage charges.

Traffic congestion in Washington market has become a serious problem. The Commissioner of the New York State Department of Agriculture and Markets, after the strike of the market truckmen on October 5, 1929, appointed a committee to study the situation and suggest remedies. Recommendations of the committee were as follows: (1) no truck of more than 30 feet in length should be allowed in the market area between 9 p. m. and 9 a. m. during the period beginning with June and ending with October; (2) demurrage should be assessed by market truckmen against any house, store, or buyer that deliberately delays the unloading of a truck after delivery is tendered; and (3) growers should be encouraged in every possible way to ship early enough to allow out-of-town trucks to reach the market not later than 10 p. m.

There is need for advance market news reports of the quantity of daily motor truck shipments of each fruit or vegetable to New York. Such a service is difficult because of the diverse points of origin and lack of control of truck shipments and the short time in transit.

APPENDIX

Pages 70 to 87

TABLE 1-A

Comparative Receipts of Fruits and Vegetables by Motor Truck and by Rail and Boat in the New York Jobbing Markets, August, 1928, to February, 1929

(Expressed in car-lot equivalents)

1928

Commodity	August		September		October	
	Motor Truck	Rail and Boat	Motor Truck	Rail and Boat	Motor Truck	Rail and Boat
Apples	292	472	286	1,062	161	2,701
Asparagus .....	..	..	..	..	..	..
Beans	249	252	225	98	89	210
Beets	13	17	12	9	12	5
Blackberries	136	..	10	..	..	..
Huckleberries	22	78	3	20	..	..
Raspberries	6	..	2	..	1	..
Strawberries .....	..	4	..	2	..	..
Other Berries	1	26	..	13	..	1
Broccoli .....	..	..	..	..	..	2
Brussels Sprouts .....	..	..	5	..	61	2
Cabbage	44	131	42	247	49	403
Cauliflower	32	24	113	238	286	128
Celery	60	156	20	288	7	399
Cherries	10	10	..	3	..	..
Cucumbers	109	363	24	339	3	44
Carrots	118	117	28	255	27	418
Corn	306	6	34	3	2	..
Cantaloupes	359	605	5	399	..	113
Currants	6	3	..	..	..	..
Chicory	1	..	..	..	3	2
Cranberries .....	..	..	..	13	..	43
Dandelion .....	..	..	..	..	..	..
Escarole	1	..	2	..	2	..
Eggplant	72	48	43	18	13	8
Grapes .....	..	775	86	1,852	287	6,190
Kale .....	..	..	1	..	6	..
Lettuce	9	989	7	690	47	651
Mixed Vegetables	4	300	1	417	1	163
Mushrooms	11	7	18	3	76	1
Onions	36	755	19	1,504	2	1,888
Peppers	161	289	256	340	254	340
Peaches	85	2,151	215	646	2	178
Potatoes	158	1,289	131	1,603	73	1,901
Parsley	3	4	..	3	1	1
Peas	7	455	..	208	..	118
Pears	14	1,108	38	1,676	22	1,427
Parsnips .....	..	..	2	..	5	2
Plums .....	..	163	1	567	..	388
Radishes	2	1	2	3	8	5
Rhubarb	1	..	..	..	..	2
Soup Greens	4	..	6	..	8	..
Squash	6	28	2	7	12	7
Spinach	11	3	16	7	72	87
Scallions	2	..	..	..	..	..
Sweet Potatoes	16	209	50	333	78	332
Turnips	16	2	19	67	17	191
Tomatoes	530	496	205	333	68	678
Other Vegetables	2	..	1	1	2	..
Total	2,915	11,336	1,930	13,267	1,757	19,029

NOTE: Excludes commodities which are not received in New York by motor truck, such as bananas, pineapples, and citrus fruits.

MOTOR TRUCK AS FRUIT AND VEGETABLE CARRIER

TABLE 1-A

Comparative Receipts of Fruits and Vegetables by Motor Truck and by Rail and Boat in the New York Jobbing Markets, August, 1928, to February, 1929

(Expressed in car-lot equivalents)

1928-1929

November		December		January		February	
Motor Truck	Rail and Boat	Motor Truck	Rail and Boat	Motor Truck	Rail and Boat	Motor Truck	Rail and Boat
67	2,261	45	1,205	56	1,168	56	1,077
..
2	244	..	338	..	252	..	400
14	17	3	53	2	84	..	105
..
..
..	..	..	3	..	63	..	230
..
1	36	..	94	..	91	..	69
99	2	81	3	30	9	3	7
39	411	31	429	19	597	..	617
395	44	139	352	..	440	..	414
5	441	4	692	..	575	..	547
..
..	55	..	32	..	31	..	27
30	239	12	349	12	348	1	369
..
..	9	..	..	..	..	..	..
2	12	..	36	..	28	..	26
..	85	2	32	2	1	3	4
1	2	..	13	..	15	..	12
4	3	2	80	..	162	..	165
..	2	..	7	..	36	..	114
6	4,307	4	830	..	104	..	40
9	8	4	95	1	144	..	104
59	665	3	931	..	870	..	697
..	144	..	481	3	355	..	481
138	3	157	3	160	6	112	6
2	818	..	1,373	..	663	..	616
30	121	..	36	..	116	..	234
..	..	..	..	..	..	..	1
71	1,330	15	1,435	12	1,732	7	1,573
5	8	6	26	1	35	..	33
1	121	..	189	..	207	..	201
7	678	3	379	3	267	4	249
7	3	6	8	6	4	1	3
..	3	..	..	..	2	..	2
..	22	1	25	1	23	1	6
..	9	..	6	..	8	..	16
10	..	4	..	..	..	..	..
12	22	9	15	2	9	..	13
122	428	21	617	3	652	..	514
..
75	359	114	247	98	169	80	133
14	171	11	194	10	71	..	131
..	426	..	591	..	546	..	618
3	..	3	..	6	1	2	..
1,230	13,509	680	11,199	427	9,884	270	9,854

NOTE: Excludes commodities which are not received in New York by motor truck, such as bananas, pineapples, and citrus fruits.

TABLE 1-B

Comparative Receipts of Fruits and Vegetables by Motor Truck and by Rail and Boat in the New York Jobbing Markets, March to July, 1929, and Total for Year

(Expressed in car-lot equivalents)

Commodity	1929					
	March		April		May	
	Motor Truck	Rail and Boat	Motor Truck	Rail and Boat	Motor Truck	Rail and Boat
Apples	67	944	69	777	32	611
Asparagus	..	66	24	405	238	105
Beans	..	587	..	720	6	858
Beets	2	149	1	159	..	154
Blackberries	..	..	..	..	10	1
Huckleberries	..	..	..	..	2	..
Raspberries	..	..	..	..	..	..
Strawberries	..	323	31	616	745	631
Other Berries	..	..	..	..	..	..
Broccoli	113	89	111	44	10	13
Brussels Sprouts	2	2	1	..	..	..
Cabbage	..	612	..	..	..	..
Cauliflower	..	372	..	651	..	824
Celery	..	496	..	304	..	354
Cherries	..	..	..	494	..	476
Cucumbers	..	92	..	..	..	63
Carrots	..	370	..	471	1	666
Corn	..	..	..	445	..	404
Cantaloupes	..	..	..	3	..	185
Currants	..	..	..	4	..	70
Chicory	..	47	2	..	..	..
Cranberries	..	3	..	25	..	2
Dandelion	8	36	26	15	..	..
Escarole	..	78	..	5	..	..
Eggplant	..	127	..	..	..	..
Grapes	..	40	..	79	..	68
Kale	..	90	12	21	11	51
Lettuce	..	938	2	981	71	2
Mixed Vegetables	1	545	..	508	4	953
Mushrooms	117	6	93	4	62	555
Onions	..	524	..	871	..	1
Peppers	..	292	..	259	..	1,146
Peaches	..	1	..	..	..	290
Potatoes	4	1,774	4	2,259	3	25
Parsley	..	35	..	51	4	2,484
Peas	..	251	..	419	6	37
Pears	1	242	..	254	..	468
Parsnips	4	1	1	1	..	150
Plums	..	..	..	..	..	4
Radishes	1	41	13	162	64	..
Rhubarb	..	36	19	68	17	20
Soup Greens	..	..	..	..	..	22
Squash	..	12	..	20	..	..
Spinach	1	661	43	586	78	20
Scallions	..	..	9	2	9	183
Sweet Potatoes	89	102	82	66	68	..
Turnips	..	118	..	64	..	39
Tomatoes	..	498	..	602	..	12
Other Vegetables	..	1	4	..	5	937
Total	410	10,601	547	12,415	1,446	12,884

NOTE: Excludes commodities which are not received in New York by motor truck, such as bananas, pineapples, and citrus fruits.

MOTOR TRUCK AS FRUIT AND VEGETABLE CARRIER



TABLE 1-B

Comparative Receipts of Fruits and Vegetables by Motor Truck and by Rail and Boat in the New York Jobbing Markets, March to July, 1929, and Total for Year

(Expressed in car-lot equivalents)

1929

June		July		Total for Year August, 1928-July, 1929	
Motor Truck	Rail and Boat	Motor Truck	Rail and Boat	Motor Truck	Rail and Boat
14	285	305	94	1,450	12,657
205	20	27	2	494	598
159	478	267	79	997	4,516
57	82	27	7	143	841
77	42	63	..	296	43
19	37	41	27	87	162
24	2	25	27	58	29
385	155	4	48	1,165	2,075
1	..	1	..	3	40
1	8	1	..	237	446
..	..	..	..	282	25
35	570	52	107	311	5,599
16	80	6	14	987	2,764
57	73	214	46	367	4,683
8	239	21	328	39	643
6	574	218	311	361	3,005
5	372	49	249	282	3,935
..	394	327	147	669	738
..	1,548	20	1,553	384	4,301
3	..	34	8	43	11
..	..	..	..	8	178
..	..	..	..	7	181
..	..	..	..	35	93
1	..	1	..	13	493
..	33	6	49	134	510
..	20	..	142	383	14,430
1	..	..	..	45	464
297	276	75	1,353	570	9,994
..	484	..	248	14	4,681
12	1	9	8	965	49
2	579	43	766	104	11,503
1	191	52	220	754	2,728
5	838	113	1,764	420	5,604
2	2,875	67	2,220	547	22,475
7	12	5	6	32	251
237	248	5	490	256	3,375
..	25	..	170	92	6,625
..	3	..	..	32	29
..	95	..	144	1	1,364
8	1	3	1	104	310
6	..	1	..	44	167
..	..	..	..	32	..
..	45	17	50	60	248
..	5	30	2	446	3,745
49	..	1	..	25	2
4	..	15	62	791	2,073
26	22	20	1	110	1,033
3	11	251	1,025	1,057	8,136
3	1,386	6	..	40	3
6	..	..	..	..	..
1,742	12,109	2,422	11,768	15,776	147,855

NOTE: Excludes commodities which are not received in New York by motor truck, such as bananas, pineapples, and citrus fruits.

TABLE 2

Comparison of Motor Truck Receipts with Foreign and Domestic Receipts of the Same Commodities by Rail and Boat in the New York Jobbing Markets, August-December, 1929

(Expressed in car-lot equivalents)

1929

Commodity	August		September	
	Motor Truck	Rail and Boat	Motor Truck	Rail and Boat
Apples	315	306	209	981
Asparagus .....	..	..	..	..
Beans	373	249	412	213
Beets	19	6	22	8
Blackberries	81	..	2	8
Huckleberries	12	72	..	30
Raspberries	4	1	7	2
Strawberries .....	..	..	..	..
Other Berries .....	..	14	..	9
Broccoli	1	4	2	4
Brussels Sprouts .....	..	..	2	1
Cabbage	10	348	21	409
Cauliflower	74	48	106	254
Celery	166	94	109	187
Cherries	1	23	..	..
Cucumbers	105	190	17	194
Carrots	25	263	18	231
Corn	198	3	64	7
Cantaloupes	281	694	24	499
Currants	2	..	..	..
Chicory (Endive) .....	..	..	..	1
Cranberries .....	..	..	..	12
Dandelion .....	..	..	..	..
Escarole	3	..	3	..
Eggplant	50	22	31	8
Grapes	9	563	105	1,569
Kale .....	..	..	1	..
Lettuce	16	1,160	18	748
Mixed Vegetables .....	..	458	2	617
Mushrooms	9	1	31	8
Onions	88	613	61	750
Peppers	175	80	233	189
Peaches	1,013	800	414	262
Potatoes	137	1,344	23	1,980
Parsley	4	7	4	5
Peas	3	587	..	217
Pears	7	925	32	1,122
Parsnips .....	..	..	..	..
Plums .....	..	148	..	543
Radishes	3	3	3	2
Rhubarb .....	..	..	..	..
Soup Greens .....	..	..	..	..
Squash	8	16	8	15
Spinach	33	4	35	24
Scallions	1	..	..	..
Sweet Potatoes	17	178	52	356
Turnips	11	16	7	76
Tomatoes	492	300	311	306
Other Vegetables	7	..	8	..
Total	3,753	9,540	2,397	11,847

MOTOR TRUCK AS FRUIT AND VEGETABLE CARRIER

TABLE 2

Comparison of Motor Truck Receipts with Foreign and Domestic Receipts of the Same Commodities by Rail and Boat in the New York Jobbing Markets, August-December, 1929

(Expressed in car-lot equivalents)

1929

October		November		December		Total	
Motor Truck	Rail and Boat	Motor Truck	Rail and Boat	Motor Truck	Rail and Boat	Motor Truck	Rail and Boat
105	2,423	59	1,762	41	1,169	729	6,641
..	2	..	1	..	..	..	3
104	422	2	348	..	669	891	1,901
18	3	14	12	4	71	77	100
..	..	..	..	..	..	83	8
..	..	..	..	..	..	12	102
..	..	..	..	..	..	11	3
..	..	..	..	..	29	..	29
..	..	..	..	..	..	..	28
..	5	..	..	..	..	..	199
11	15	20	85	9	91	43	8
30	1	83	2	43	4	158	8
25	415	23	458	8	477	87	2,107
143	316	278	31	47	324	648	973
24	331	7	481	..	629	306	1,722
..	..	..	..	..	..	1	23
5	34	..	74	..	86	127	578
21	287	15	233	12	404	91	1,418
7	..	..	..	..	..	269	10
..	110	..	179	..	39	305	1,521
..	..	..	..	..	..	2	..
..	..	..	..	..	45	2	61
1	2	1	13	..	..	18	163
..	40	9	73	9	38	..	5
..	..	..	..	..	5	..	..
4	..	6	3	1	134	17	137
8	17	..	37	..	61	89	145
66	6,294	22	4,776	10	696	212	13,898
3	..	5	5	2	120	11	125
86	655	146	670	7	689	273	3,922
1	252	..	210	1	414	4	1,951
100	2	146	3	139	6	425	20
8	902	5	594	1	513	163	3,372
188	276	26	141	..	140	622	826
1	93	..	..	..	..	1,428	1,155
8	2,366	6	1,842	6	1,958	180	9,490
4	3	17	4	12	19	41	38
..	106	..	98	..	229	3	1,237
20	846	9	427	..	310	68	3,630
3	1	3	4	3	6	9	11
..	444	..	16	..	..	..	1,151
4	2	4	16	1	7	15	30
..	2	..	4	..	2	..	8
..
16	14	13	14	3	12	48	71
79	47	147	223	6	588	300	886
..	..	..	..	..	..	1	..
84	406	98	389	140	203	391	1,532
5	211	5	130	5	163	33	596
63	615	2	581	..	437	868	2,239
6	..	9	..	19	68	49	68
1,251	17,960	1,180	13,939	529	10,855	9,110	64,141

TABLE 3

Comparison, by States and Sections, of Motor Truck with Rail and Boat Receipts on New York Jobbing Markets, August, 1928-July, 1929
(Expressed in car-lot equivalents)

Commodity	Delaware		Long Island		Maryland		New Jersey	
	Motor Truck	Rail & Boat	Motor Truck	Rail & Boat	Motor Truck	Rail & Boat	Motor Truck	Rail & Boat
Apples	99	98	....	....	20	162	660	33
Asparagus	24	5	....	....	15	2	358	47
Beans	3	....	154	....	122	28	647	422
Beets	....	....	59	....	....	....	83	34
Blackberries	15	....	....	....	19	....	211	....
Huckleberries	1	....	....	....	9	....	41	2
Raspberries	....	....	....	....	3	....	36	2
Strawberries	139	43	2	....	531	68	232	105
Other Berries	....	....	....	....	....	....	....	....
Broccoli	20	....	1	....	7	1	108	47
Brussels Sprouts	....	....	280	2	....	....	....	....
Currants	....	....	....	....	....	....	1	....
Cranberries	....	....	5	....	....	....	1	14
Cabbage	2	....	228	....	....	....	69	47
Cantaloupes	96	....	....	....	259	330	29	12
Carrots	....	....	135	....	....	....	141	41
Cherries	....	....	....	....	....	....	6	....
Cucumbers	49	14	52	....	86	71	165	187
Cauliflower	....	....	834	4	....	....	10	....
Celery	....	....	7	....	....	....	129	11
Chicory	....	....	3	....	....	....	4	12
Corn	....	....	55	....	....	....	613	9
Dandelion	....	....	9	....	....	....	26	27
Escarole	....	....	11	....	....	....	2	....
Eggplant	....	....	1	....	....	....	133	59
Grapes	36	2	....	....	1	....	....	....
Kale	....	....	35	....	....	....	10	....
Lettuce	....	....	42	....	....	....	252	263
Mushrooms	10	....	....	....	10	....	1	3
Mixed Vegetables	....	....	5	....	....	....	8	2
Onions	....	....	11	....	....	....	51	301
Pears	3	....	1	....	1	....	25	5
Parsley	....	....	7	....	....	....	25	28
Potatoes	....	....	341	4347	....	....	190	528
Peas	....	....	32	....	4	24	210	86
Peaches	28	7	....	....	15	49	255	23
Peppers	2	....	7	....	15	2	714	995
Parsnips	....	....	29	....	....	....	3	....
Plums	....	....	....	....	....	....	....	....
Radishes	....	....	31	....	....	....	73	27
Rhubarb	....	....	12	....	....	....	25	17
Scallions	....	....	10	....	....	....	15	2
Sweet Potatoes	104	102	....	....	21	349	660	468
Soup Greens	....	....	32	....	....	....	....	....
Squash	....	....	7	....	....	....	53	81
Spinach	....	....	87	....	....	121	306	22
Tomatoes	7	....	11	....	95	625	842	387
Turnips	....	....	39	....	....	....	71	10
Other Vegetables	....	....	19	....	....	....	19	4
Total	638	271	2594	4353	1233	1832	7513	4363

*Includes 11 from Connecticut.

†Includes 18 from Connecticut.

‡Includes 9 from Connecticut, 2 from Massachusetts, and 4 from Rhode Island.

MOTOR TRUCK AS FRUIT AND VEGETABLE CARRIER



TABLE 3

Comparison, by States and Sections, of Motor Truck with Rail and Boat Receipts on New York Jobbing Markets, August, 1928-July, 1929
(Expressed in car-lot equivalents)

New York		North Carolina		Pennsylvania		Virginia		Total	
Motor Truck	Rail & Boat	Motor Truck	Rail & Boat	Motor Truck	Rail & Boat	Motor Truck	Rail & Boat	Motor Truck	Rail & Boat
660	3462	....	....	....	....	....	....	1450*	3773†
1	....	....	1	96	....	....	....	494	55
8	28	10	273	....	....	38	428	997†	1183**
....	....	....	....	1	....	....	....	143	54
3	....	48	43	....	....	....	....	296	43
1	....	19	46	16	96	....	....	87	144
19	1	....	....	....	....	....	....	58	3
50	90	64	584	....	....	121	254	1165††	1148††
3	5	....	....	....	....	....	....	3	5
....	....	....	....	....	....	101	171	237	219
2	....	....	....	....	....	....	....	282	2
42	11	....	....	....	....	....	....	43	11
....	....	....	....	....	....	....	....	7***	181†††
9	1785	....	....	....	....	3	1124	311	2956
....	....	....	....	....	....	....	....	384	342
6	662	....	....	....	....	....	....	282	703
33	21	....	....	....	....	....	....	39	21
8	613	1	283	....	....	....	....	361	1168
143	81	....	....	....	....	....	....	987	85
230	1041	....	....	1	....	....	....	367	1052
1	....	....	....	....	....	....	....	8	12
1	1	....	....	....	....	....	....	669	10
....	....	....	....	....	....	....	....	35	27
....	....	....	....	....	....	....	....	13	....
....	....	....	....	....	....	....	....	134	59
....	....	....	....	....	....	....	....	383	468
346	466	....	....	....	....	....	....	45	....
....	....	....	....	....	....	....	33	570	2537
269	1883	2	358	5	16	....	....	965	49
34	30	....	....	910	....	....	....	14	823
1	821	....	....	....	....	....	....	104	680
42	379	....	....	....	....	....	....	92	570
62	565	....	....	....	....	....	....	32	28
....	....	....	....	....	....	....	....	547	5127
16	252	....	....	....	....	4	62	256	1093
4	687	2	234	....	....	....	....	420	1994
116	257	4	1422	2	236	....	....	754	1143
2	....	10	142	....	....	4	4	....	....
....	....	....	....	....	....	....	....	32	....
1	100	....	....	....	....	....	....	1	100
....	....	....	....	....	....	....	....	104	27
....	....	....	....	....	....	....	....	44	17
....	....	....	....	7	....	....	....	25	2
....	....	....	....	....	....	....	....	791	1967
....	....	109	....	....	....	6	939	32	....
....	....	....	....	....	....	....	....	60	81
....	....	....	....	....	....	....	2030	446	2192
5	15	....	2	48	2	....	....	1057	1302
100	253	....	....	2	37	....	....	110	10
....	....	....	....	....	....	....	....	40	4
2	....	....	....	....	....	....	....	....	....
2220	13509	160	3497	1088	387	277	5045	15776	33450

**Includes 4 from Rhode Island.
††Includes 22 from Connecticut and 4 from Massachusetts.
†††Includes 4 from Massachusetts.
***Includes 1 from Massachusetts.
†††Includes 167 from Massachusetts.

TABLE 4

Comparison, by States and Sections, of Motor Truck with Rail and Boat Receipts on New York Jobbing Markets, August-December, 1929
(Expressed in car-lot equivalents)

Commodity	Delaware		Long Island		Maryland		New Jersey	
	Motor Truck	Rail & Boat	Motor Truck	Rail & Boat	Motor Truck	Rail & Boat	Motor Truck	Rail & Boat
Apples	23	15	....	....	7	106	375	6
Asparagus .....	....	....	....	....	....	....	....	....
Beans	1	....	205	....	28	8	602	371
Beets .....	....	....	27	....	....	....	48	7
Blackberries .....	....	....	....	....	....	....	83	....
Huckleberries .....	....	....	....	....	1	....	4	....
Raspberries .....	....	....	....	....	....	....	10	....
Strawberries .....	....	....	....	....	....	....	....	....
Other Berries .....	....	....	....	....	....	....	....	....
Broccoli .....	....	....	9	....	....	....	34	....
Brussels Sprouts .....	....	....	156	....	....	....	....	....
Currants .....	....	....	....	....	....	....	....	4
Cranberries .....	....	....	4	....	....	....	14	4
Cabbage .....	....	....	58	1	....	....	29	2
Cantaloupes	83	51	....	....	209	154	13	5
Carrots .....	....	....	48	....	....	....	36	7
Cherries .....	....	....	....	....	....	....	....	....
Cucumbers	2	....	26	....	2	....	96	66
Cauliflower .....	....	....	463	1	....	....	1	....
Celery .....	....	....	6	....	....	....	31	33
Chicory .....	....	....	2	....	....	....	....	....
Corn .....	....	....	50	....	....	....	216	6
Dandelion .....	....	....	....	....	....	....	....	....
Escarole .....	....	....	15	....	....	....	2	2
Eggplant .....	....	....	1	....	....	....	88	15
Grapes	25	....	....	....	1	....	2	....
Kale .....	....	....	10	....	....	....	1	....
Lettuce .....	....	....	....	....	....	....	238	172
Mushrooms .....	....	....	....	....	....	....	....	....
Mixed Vegetables .....	....	....	2	....	....	....	2	1
Onions .....	....	....	7	....	....	....	6	5
Pears	15	3	....	....	1	5	33	3
Parsley .....	....	....	13	....	....	....	28	20
Potatoes .....	....	....	13	1994	....	....	101	198
Peas .....	....	....	2	....	....	....	....	....
Peaches	61	62	....	....	95	65	1194	83
Peppers	1	....	....	....	25	17	586	453
Parsnips .....	....	....	6	....	....	....	3	....
Plums .....	....	....	....	....	....	....	....	....
Radishes .....	....	....	11	....	....	....	4	8
Rhubarb .....	....	....	....	....	....	....	....	....
Scallions .....	....	....	1	....	....	....	....	....
Sweet Potatoes	35	20	....	....	39	293	303	74
Soup Greens .....	....	....	....	....	....	....	....	....
Squash .....	....	....	2	....	....	....	46	40
Spinach .....	....	....	52	....	....	....	217	6
Tomatoes	4	....	10	....	45	189	705	158
Turnips .....	....	....	7	1	....	....	26	8
Other Vegetables	2	8	33	....	....	....	13	....
Total	252	159	1305	1997	453	837	5190	1753

*Includes 6 from Connecticut.
†Includes 7 from Connecticut.
‡Includes 2 from Connecticut.

TABLE 4

Comparison, by States and Sections, of Motor Truck with Rail and Boat Receipts on New York Jobbing Markets, August-December, 1929
(Expressed in car-lot equivalents)

New York		North Carolina		Pennsylvania		Virginia		Total	
Motor Truck	Rail & Boat	Motor Truck	Rail & Boat	Motor Truck	Rail & Boat	Motor Truck	Rail & Boat	Motor Truck	Rail & Boat
317	1709	....	....	1	74	....	....	729*	1910
....
6	12	1	44	....	....	41	315	891†	750
2	9	....	....	....	....	....	....	77	16
....	....	....	....	....	....	....	....	83	....
....	....	....	....	7	49	....	....	12	49
1	....	....	....	....	....	....	....	11	....
....
....	....	....	....	....	....	....	....	43	....
2	3	....	....	....	....	....	....	158	3
2	....	....	....	....	....	....	....	2	....
....	....	....	....	....	....	....	....	18	4
....	....	....	....	....	....	....	....	87	3
....	....	....	....	....	....	....	....	305	210
7	506	....	....	....	....	....	....	91	513
1	....	....	....	....	....	....	....	1	....
1	321	....	....	....	....	....	....	127	387
184	117	....	....	....	....	....	....	648	118
269	934	....	....	....	....	....	....	306	967
....	....	....	....	....	....	....	....	2	....
1	4	....	....	2	....	....	....	269	10
....
....	....	....	....	....	....	....	....	17	2
....	....	....	....	....	....	....	....	89	15
....	....	....	....	....	....	....	....	212	131
184	131	....	....	....	....	....	....	11	....
....	....	....	....	....	....	....	....	273†	1375
33	1203	....	....	....	....	....	....	425	20
17	15	....	....	408	5	....	....	4	1
....	....	....	....	....	....	....	....	163	759
150	754	....	....	....	....	....	....	68	195
19	184	....	....	....	....	....	....	41	20
....	....	....	....	....	....	....	....	180	2192
....	....	....	....	....	....	....	....	3	351
1	351	....	....	....	....	....	....	1428**	517
50	134	....	....	21	....	1	173	622	566
....	....	5	64	....	....	5	32	9	....
....
....	....	....	....	....	....	....	....	15	8
....
....	....	....	....	....	....	....	....	1	....
....	....	....	....	....	....	14	1038	391	1425
....
....	....	....	....	....	....	....	....	48	40
....	....	....	....	....	....	....	....	300	25
11	19	....	....	20	....	....	....	868††	598
91	238	....	....	10	13	....	....	33	9
....	....	....	....	....	....	....	....	49	52
....	....	1	44	....	....	....	....	....	....
1349	6644	7	152	469	141	61	1558	9110	13241

**Includes 6 from Connecticut.
††Includes 3 from Connecticut.

TABLE 5

Fruit and Vegetable Rates of Public Carriers to New York from Specific Shipping Points, 1928

(Cents per 100 pounds)

Shipping Point	Commodity	Package	Motor Truck	Express	Boat	Parcel Post	Railroad (l.c.l.)	City Cartage	
Long Island:									
Eastport	Beans	Basket	84	94	....	....	46½	41½
	Cabbage	Crate	60	94	....	....	46½	20
	Cauliflower	Crate	79	94	....	....	46½	26
Greenport	Peas	Basket	69	94	....	....	46½	34½
	Beans	Basket	104½	94	....	....	46½	41½
	Cauliflower	Crate	79	94	....	....	46½	26
Mattituck	Potatoes	Bag	40	94	....	....	31	15
	Asparagus	Crate	94½	94	....	....	46½	27
	Beans	Bag	104½	94	....	....	46½	41½
Patchogue	Cauliflower	Crate	92½	94	....	....	46½	26
	Potatoes	Bag	33½	94	....	....	29	15
	Beans	Bag	104½	86	....	....	40½	41½
Peconic	Cauliflower	Crate	92½	86	....	....	40½	26
	Potatoes	Barrel	53	86	....	....	24	15
	Tomatoes	Crate	79	86	....	....	40½	26
Setauket	Beans	Bag	104½	94	....	....	46½	41½
	Cauliflower	Crate	92½	94	....	....	46½	26
	Spinach	Basket	80	94	....	....	46½	40
Setauket	Potatoes	Bag	43½	94	....	....	29	15
	Beans	Bag	84	86	....	....	40½	41½
	Cauliflower	Crate	66	86	....	....	40½	26
Delaware:	Potatoes	Barrel	29½	86	....	....	24	15
	Bridgeville	Apples	Basket	80	139	70	16
		Strawberries	Crate	124½	139	70	19
Hockessin	Mushrooms	Bundle	120	109	....	120	53½	40
Wilmington	Mushrooms	Bundle	120	109	....	120	53½	40
Maryland:									
E. New Market..	Beans	Basket	146	139	....	....	70	33½
Elkton	Mushrooms	Bundle	120	109	....	....	63	40
Hurlock	Strawberries	Crate	138½	139	....	....	70	19
Marion	Strawberries	Crate	154	139	....	....	70	19
Pocomoke City..	Beans	Hamper	167	139	....	....	70	33½
	Strawberries	Crate	138½	139	....	....	70	19
	Tomatoes	Crate	118½	139	....	....	70	13
Rising Sun.....	Mushrooms	Bundle	140	124	....	....	70	40
Rhodesdale	Strawberries	Crate	138½	139	....	....	70	19
Rockawalkin	Blackberries	Crate	124½	139	....	....	70	19
	Cantaloupes	Crate (Flat)	175	139	....	....	70	25
	Cantaloupes	Crate (Jumbo)	100	139	....	....	70	20
Salisbury	Strawberries	Crate	124½	139	....	....	70	19
	Beans	Basket	167	139	....	....	70	33½
	Cantaloupes	Crate (Jumbo)	120	139	....	....	70	20
Snow Hill	Cucumbers	Basket	90	139	....	....	70	16
	Strawberries	Crate	124½	139	....	....	70	19
	Broccoli	Basket	160	139	....	....	70	32
Vienna	Cucumbers	Basket	60	139	....	....	70	16
	Spinach	Basket	160	139	....	....	70	28
	Strawberries	Crate	154	139	....	....	70	19
New Jersey:	Strawberries	Crate	138½	139	....	....	70	19
	Beverly	Apples	Basket	50	94	28½	16
		Beans	Basket	84	94	28½	33½
Cherries		Crate	53½	94	....	....	41½	13½
Corn		Bag	54	94	....	....	28½	24½
Cantaloupes		Crate (Flat)	125	94	....	....	28½	25
Peas		Basket	69	94	....	....	28½	27½
Pears		Basket	45½	94	....	....	28½	14½
Peaches		Basket	45½	94	....	....	41½	14½
Peppers		Basket	80	94	....	....	41½	28
Tomatoes		Basket (12 qt.)	54½	94	....	....	28½	22½
Bridgeton		Asparagus	Crate	81	109	60½	19
	Beans	Basket	104½	109	....	....	32	33½
	Lettuce	Crate	80	109	....	....	34	24
Cranbury	Apples	Basket	30	86	....	....	34	16
	Potatoes	Bag	17	86	....	....	17½	17

MOTOR TRUCK AS FRUIT AND VEGETABLE CARRIER

TABLE 5 (Continued)

Fruit and Vegetable Rates of Public Carriers to New York from Specific Shipping Points, 1928

(Cents per 100 pounds)

Shipping Point	Commodity	Package	Motor Truck	Express	Boat	Parcel Post	Railroad (l.c.l.)	City Cartage	
Elm	Apples	Basket	60	109	....	....	36	16
	Peaches	Basket	54½	109	....	....	45	14½
Elmer	Strawberries	Crate	77	109	....	....	50	19
	Beets	Crate	50	109	....	....	32	11½
	Cabbage	Crate	50	109	....	....	32	40
	Carrots	Crate	87½	109	....	....	32	20
			Basket	50	109	32	16
	Beans (String)	Hamper	104½	109	....	....	32	33½
	(Lima)	Hamper	94	109	....	....	32	25
	Leeks	Box	44½	109	....	....	51	22
	Lettuce (Boston)	Box	100	109	....	....	34	30
	(Iceberg)	Box	80	109	....	....	34	24
	(Iceberg)	Crate	70	109	....	....	34	30
	Onions	Hamper	50	109	....	....	51	16
	Parsley	Basket	83½	109	....	....	51	27
	Peaches	Crate	69	109	....	....	76½	14
	Peppers	Hamper	83½	109	....	....	32	23
	Romaine	Crate	67	109	....	....	51	40½
	Spinach	Basket	83½	109	....	....	82	35
	Hammonton	Peaches	Basket	54½	109	57	14½
		Blackberries	Crate	77	109	90	19
		Huckleberries	Crate	77	109	90	19
Raspberries		Crate	77	109	....	....	90	19
Strawberries		Crate	77	109	....	....	90	19
Moorestown	Apples	Basket	50	109	....	....	28½	16
	Beans	Hamper	84	109	....	....	28½	33½
	Cherries	Crate	53½	109	....	....	46	13
	Corn	Bag	54	109	....	....	28½	24½
	Peas	Hamper	69	109	....	....	28½	27½
	Peaches	Basket	45½	109	....	....	69	14½
	Strawberries	Crate	46½	109	....	....	46	19
	Tomatoes	Basket	54½	109	....	....	28½	22½
	Mullica Hill	Apples	Basket	50	109	41½	16
		Asparagus	Crate	67½	109	51	19
Peaches		Basket	45½	109	....	....	76½	14½
Peppers		Hamper	80	109	....	....	51	28
Potatoes		Bag	20	109	....	....	28½	25
Tomatoes		Crate	53	109	....	....	51	21
Pedricktown		Asparagus	Crate	67½	109	51	19
	Peppers	Hamper	100	109	....	....	51	28
	Peaches	Basket	45½	109	....	....	76½	14½
	Strawberries	Crate	46½	109	....	....	90	19
	Sweet Potatoes	Hamper	45½	109	....	....	31	14½
	Tomatoes	Crate	66	109	....	....	34	21
Swedesboro	Apples	Basket	50	109	....	....	51	16
	Asparagus	Crate	67½	109	....	....	51	19
	Cantaloupes	Crate	62½	109	....	....	32	22
	Peaches	Basket	45½	109	....	....	76½	14½
	Peppers	Basket	69	109	....	....	51	28
	Sweet Potatoes	Hamper	45½	109	....	....	28½	14½
	Tomatoes	Crate	53	109	....	....	32	21
Vineland	Beans	Hamper	104½	109	....	....	32	33½
	Beets	Bundle	100	109	....	....	32	....
	Broccoli	Basket	80	109	....	....	32	32
	Blackberries	Crate	85	109	....	....	70	19
	Strawberries	Crate	85	109	....	....	70	19
	Carrots	Bundle	30	109	....	....	32	....
	Lettuce	Crate	80	109	....	....	34	24
	Peas	Basket	69	109	....	....	32	27½
	Parsley	Basket	66½	109	....	....	59½	23
	Potatoes	Hamper	45½	109	....	....	32	14½
	Radishes	Basket	62½	109	....	....	32	20
	Sweet Potatoes	Basket	45½	109	....	....	32	14½
	Williamstown	Apples	Basket	50	109	41½	16
		Asparagus	Crate	69½	109	51	20½
Beans		Hamper	84	109	....	....	51	33½
Broccoli		Basket	80	109	....	....	51	32
Cucumbers		Hamper	50	109	....	....	41½	16

TABLE 5 (Continued)

Fruit and Vegetable Rates of Public Carriers to New York from Specific Shipping Points, 1928
(Cents per 100 pounds)

Shipping Point	Commodity	Package	Motor Truck	Express	Boat	Parcel Post	Railroad (i.c.l.)	City Cartage
Williamstown (Cont.)	Peas	Hamper	69	109	....	....	51	27½
	Peaches	Basket	54½	109	....	....	76½	14½
	Radishes	Hamper	62½	109	....	....	28½	20
	Spinach	Basket	80	109	....	....	51	28
	Strawberries	Crate	77	109	....	....	76½	19
New York:								
Arkville	Cauliflower	Crate	131½	102	81	....	70	18
Chester	Apples	Hamper	50	86	45	....	41½	14
	Celery	Crate	67	86	45	....	41½	25
	Lettuce	Crate	56	86	45	....	47½	24
	Spinach	Basket	60	86	45	....	47½	24
	Onions	Bag	35	86	45	....	29	10
Fleischman's	Cauliflower	Crate	131½	102	....	....	70	18
Goshen	Lettuce	Crate	60	86	50	....	47½	24
	Onions	Bag	35	86	50	....	29	10
Halcottville	Cauliflower	Crate	131½	102	....	....	70	18
Highlands	Apples	Basket	50	79	30	....	55½	14
	Grapes	Basket	50	79	25	....	65	20
Kinderhook	Apples	Basket	50	109	....	....	48½	14
	Pears	Basket	50	109	....	....	48½	14
Margaretville	Cauliflower	Crate	158	102	....	....	70	18
Marlborough	Apples	Basket	50	79	30	....	31	14
	Grapes	Basket	50	79	25	....	38	20
	Tomatoes	Crate	66	79	31½	....	38	18
Middletown	Celery	Crate	58½	86	50	....	41½	25
	Lettuce	Crate	60	86	50	....	47½	24
	Onions	Bag	35	86	50	....	47½	10
	Spinach	Basket	80	86	50	....	29	24
Newburgh	Apples	Basket	40	86	30	....	28½	14
	Grapes	Basket	40	86	25	....	36½	20
Poughkeepsie	Apples	Basket	50	79	30	....	32	14
	Grapes	Basket	50	79	25	....	40½	20
	Peaches	Basket	45½	79	36	....	61	13
	Pears	Basket	50	79	34	....	32	14
North Carolina:								
Cameron	Blackberries	Crate	230	229	....	....	326	19
Teachey	Strawberries	Crate	307	255	....	....	288	19
Pennsylvania:								
Avondale	Mushrooms	Bundle	120	109	....	120	63	40
Kennett Square	Mushrooms	Bundle	120	109	....	120	63	40
	Tomatoes	Basket	45½	109	....	....	63	22½
Media	Mushrooms	Bundle	120	109	....	120	63	40
Morrisville	Asparagus	Crate	67	94	....	....	38	20½
Oxford	Mushrooms	Bundle	120	109	....	120	63	40
Toughkennamon	Mushrooms	Bundle	120	109	....	120	63	40
Virginia:								
Bloxom	Broccoli	Basket	200	154	....	....	76	32
Exmore	Broccoli	Basket	200	154	....	....	76	32
Hallwood	Broccoli	Basket	200	154	....	....	76	32
	Sweet Potatoes	Hamper	91	154	....	....	40½	14½
New Church	Broccoli	Basket	200	154	....	....	76	32
Onley	Strawberries	Crate	138½	154	....	....	76	19
Parksley	Beans	Basket	250	154	....	....	76	33½
	Broccoli	Basket	200	154	....	....	76	32
	Strawberries	Crate	138½	154	....	....	76	19
Wierwood	Beans	Basket	250	154	....	....	76	33½

NOTE: The figures in this table are presented as a matter of information, but, since the rates of public carriers are frequently changed, the information here published can have no standing in adjusting claims against the carriers.

TABLE 6
Receipts of Fruits and Vegetables in New York by Type of Carrier,
April-October, 1929 (Expressed in Car-lot Equivalents)

Month	Motor Truck Receipts						Rail and Boat Receipts		All Receipts	
	Jobbers' Markets		Farmers' Markets*		Total in All Markets		Actual	Percent	Actual	Percent
	Actual	Percent	Actual	Percent	Actual	Percent				
April	547	2.9	678	3.6	1,225	6.5	17,482	93.5	18,707	100
May	1,446	6.6	1,346	6.2	2,792	12.8	19,036	87.2	21,828	100
June	1,742	7.7	2,119	9.3	3,861	17.0	18,818	83.0	22,679	100
July	2,422	10.1	2,023	8.5	4,445	18.6	19,398	81.4	23,843	100
August	3,753	17.7	2,390	11.2	6,143	28.9	15,081	71.1	21,224	100
September ..	2,375	10.3	4,104	17.7	6,479	28.0	16,625	72.0	23,104	100
October	1,251	4.7	3,299	12.2	4,550	16.9	22,409	83.1	26,959	100
Total	13,536	8.5	15,959	10.1	29,495	18.6	128,849	81.4	158,344	100

*Includes estimate for Harlem Farmers' Market.

TABLE 7
Combined Receipts of Fruits and Vegetables in Wallabout and Gansevoort
Farmers' Markets, April-October, 1929 (Expressed in Car-lot Equivalents)

Commodity	April	May	June	July	Aug.	Sept.	Oct.	Total
Apples .....	....	....	....	....	7	32	22	61
Beets	49	32	27	67	85	138	126	524
Broccoli	18	63	77	72	23	34	37	324
Barouch .....	....	2	31	25	11	8	8	85
Beet Tops .....	....	....	8	6	7	12	10	43
Beans .....	....	....	4	74	51	69	45	243
Cucumbers .....	....	....	....	....	21	60	24	105
Cantaloupes .....	....	....	....	....	4	8	5	17
Corn .....	....	....	....	46	356	644	144	1190
Cauliflower .....	....	....	41	31	....	....	60	132
Cabbage .....	....	2	44	163	88	126	117	540
Celery .....	....	2	17	17	49	254	225	564
Chicory	13	124	79	41	12	12	18	299
Chives	1	....	....	....	....	....	....	1
Carrots	10	10	27	71	52	177	156	503
Dandelion	76	52	23	8	5	8	8	180
Dill .....	....	1	13	11	1	7	6	39
Eggplant .....	....	....	....	....	....	....	....	....
Escarole .....	....	3	85	78	23	37	40	266
Fenouch .....	....	....	....	....	....	....	....	....
Grapes .....	....	....	6	....	....	....	....	6
Heimisher	12	9	19	24	18	39	38	159
Horseradish	7	....	....	....	....	....	....	7
Kale	22	73	46	36	12	26	44	259
Kohlrabi .....	....	....	25	41	6	17	33	122
Leeks	11	27	31	19	6	17	22	133
Lettuce	1	38	271	139	33	7	10	499
Mangoes .....	....	1	48	32	5	8	36	130
Miscellaneous Vegetables ..	3	....	....	....	....	....	....	3
Mustard Greens .....	....	....	7	39	9	7	15	77
Onions	1	....	....	7	89	80	92	269
Oysterplant .....	....	....	....	....	....	8	12	20
Potatoes	123	80	4	27	269	454	404	1361
Parsley	1	7	17	25	18	18	34	120
Parsnips	11	8	1	....	....	21	51	92
Pears .....	....	....	....	....	....	....	6	6
Pumpkin .....	....	....	93	28	5	....	....	126
Peas .....	....	....	....	....	9	20	32	61
Peppers .....	....	....	....	....	10	55	2	67
Peaches .....	....	....	7	6	7	7	1	45
Rapes	2	15	7	6	....	....	....	....
Radishes	16	61	138	50	28	31	34	358
Rhubarb	13	96	72	26	3	....	....	210
Soup Greens	22	67	88	55	26	42	37	337
Sorrel Grass	15	37	32	18	9	8	20	139
Scallions	15	60	90	41	39	8	9	262
Spinach	34	145	77	56	32	36	61	441
Swiss Chard .....	....	4	19	33	9	15	35	115
Squash .....	....	....	4	12	60	88	74	238
Turnips	15	8	26	22	4	16	66	177
Tomatoes .....	....	....	....	9	218	348	105	680
Total	491	1027	1597	1455	1728	3054	2376	11728

TABLE 8

Percentage Distribution, by Markets, of Fruits and Vegetable Production by Growers in the New York Motor Truck Area, 1928

(Estimated by Growers)

Origin	Total Replies	Markets												
		New York	Newark	Phila- delphia	Wil- ming- ton	Balti- more	Wash- ing- ton	Boston	Pater- son	Albany	Tren- ton	atlan- tic City	Cam- den	Others
Connecticut	12	33.8	---	---	---	---	---	---	---	---	---	---	---	66.2
Delaware	11	33.5	---	29.1	16.1	---	---	1.4	---	---	---	---	---	10.9
Long Island	69	98.6	---	1.1	---	---	---	---	---	---	---	---	---	0.3
Nassau	44	99.4	---	---	---	---	---	---	---	---	---	---	---	0.6
Suffolk	25	97.0	---	3.0	---	---	---	---	---	---	---	---	---	---
Maryland	34	34.8	0.3	25.3	4.2	11.8	4.7	0.1	---	---	---	---	---	18.8
New York	256	49.7	6.5	---	---	---	---	0.7	0.7	20.3	---	---	---	22.1
Albany	48	2.5	---	---	---	---	---	---	---	69.9	---	---	---	27.6
Delaware	11	98.0	---	---	---	---	---	---	---	1.5	---	---	---	0.5
Greene	28	18.4	---	---	---	---	---	---	---	45.4	---	---	---	36.2
Orange	40	52.7	31.3	---	---	---	---	---	3.9	---	---	---	---	12.1
Ulster	112	72.9	2.9	---	---	---	---	---	---	0.5	---	---	---	21.8
Others	17	43.0	5.0	---	---	---	---	1.6	0.3	0.5	---	---	---	22.6
Pennsylvania	70	62.1	4.9	19.8	2.7	0.4	---	---	---	29.4	---	---	---	10.1
Chesetr	62	65.4	4.9	17.8	2.2	0.4	---	---	---	---	---	---	---	9.3
Others	8	36.4	5.5	35.7	6.2	---	---	---	---	---	---	---	---	16.2
New Jersey	243	43.2	15.2	23.6	0.6	0.1	0.1	---	0.4	---	1.1	---	---	11.2
Atlantic	16	67.6	3.4	3.8	---	---	---	---	---	---	---	25.2	---	---
Burlington	42	31.3	3.2	54.7	---	---	---	---	---	---	---	0.1	4.7	3.6
Cumberland	30	58.4	2.1	21.9	---	0.1	0.1	---	---	---	---	6.7	---	10.7
Gloucester	32	36.2	5.5	48.1	---	---	---	---	---	---	---	0.2	7.5	2.5
Middlesex	11	30.0	26.8	---	---	---	---	---	---	---	---	---	---	43.2
Monmouth	53	55.2	14.8	4.9	---	---	---	---	---	---	3.3	---	---	20.9
Salem	11	69.3	1.4	5.2	11.8	---	---	---	---	---	---	---	---	12.3
Others	48	24.2	45.6	18.0	---	0.2	0.4	---	2.2	---	---	---	---	9.4
Grand Total	695	52.3	8.3	12.0	0.9	0.6	0.3	0.3	0.4	7.5	0.4	0.9	0.7	15.4

TABLE 9

Market Outlets for Producers: Percentage of Total Production Passing Through Each from the Producing Areas Supplying New York by Motor Truck, 1928 (Estimated by Growers)

Origin	Market Outlets						
	Total Replies	Commission Men	Farmers' Markets	Cooperatives	City Retailers	Shipping Point	At Farm
Connecticut	13	29.2	10.8	....	23.4	5.8	30.8
Delaware	12	42.2	8.3	....	....	39.5	10.0
Long Island	68	19.3	59.0	0.3	9.6	7.6	4.2
Nassau	43	8.4	76.7	0.6	11.4	0.6	2.3
Suffolk	25	38.8	26.6	....	6.9	20.1	7.6
Maryland	38	45.6	5.0	7.7	6.2	17.2	18.3
New York	280	39.2	18.5	6.5	9.2	5.5	21.1
Albany	56	9.6	49.6	0.9	15.6	6.3	18.0
Delaware	12	95.4	....	....	....	....	4.6
Greene	33	42.4	13.2	0.3	15.6	5.4	23.1
Orange	41	41.6	24.6	0.5	6.1	4.9	22.3
Ulster	122	46.4	1.9	14.2	6.2	6.2	25.1
Others	16	34.0	45.5	....	10.9	3.1	6.5
Pennsylvania	75	83.0	5.1	0.8	0.3	1.3	9.5
Chester	66	85.8	2.5	0.6	0.2	1.4	9.5
Others	9	62.7	24.4	2.1	1.2	....	9.6
New Jersey	251	52.0	21.4	1.5	2.2	8.8	14.1
Atlantic	18	50.6	13.8	....	....	19.2	16.4
Burlington	42	69.1	7.1	6.2	0.5	5.3	11.8
Cumberland	34	66.7	3.3	0.5	1.8	13.3	14.4
Gloucester	31	75.6	7.8	....	0.8	6.9	8.9
Middlesex	12	22.5	47.5	....	8.7	10.8	10.5
Monmouth	55	34.1	22.8	1.2	4.5	11.3	26.1
Salem	11	91.8	....	....	....	6.4	1.8
Others	48	31.0	54.8	0.4	1.7	3.3	8.8
Grand Total	737	46.4	20.9	3.5	5.9	7.5	15.8

TABLE 10

Estimated Percentage of Total Production of Fruits and Vegetables Moved by Motor Truck to New York from the Principal Producing Areas, 1928

Origin	Total By Motor Truck	By Commercial Truckmen	By Producers and Others
	Average Per Cent	Computed Per Cent	Computed Per Cent
Long Island	64.5	19.3	45.2
Nassau	96.6	13.5	83.1
Suffolk	32.4	19.1	13.3
New York	64.3	36.7	27.6
Albany	85.1	11.1	74.0
Delaware	72.5	55.8	16.7
Greene	69.4	21.5	47.9
Orange	79.2	49.1	30.1
Ulster	71.3	53.5	17.8
Others	92.6	55.5	37.1
Pennsylvania	83.3	69.9	13.4
Chester	79.8	39.9	39.9
New Jersey	90.5	74.2	16.3
Atlantic	88.1	46.7	41.4
Burlington	57.9	37.1	20.8
Cumberland	93.9	47.9	46.0
Gloucester	85.8	41.2	44.6
Middlesex	84.0	52.9	31.1
Monmouth	75.9	50.1	25.8
Salem	83.7	8.4	75.3
Others	72.9	41.4	31.5
All Areas	72.9	41.4	31.5

TABLE 11
*Number and Tonnage of Trucks per Grower in Sections Shipping Produce to
 New York by Motor Truck, 1928*

	Number of Replies	Number of Trucks	Distribution of Trucks Classified by Tonnage										
			.5	.75	1.0	1.5	2.0	2.5	3.0	3.5	4.0	5.0	Over 5.0
Connecticut	12	27	1		4	8	5	5	2	1		1	
Delaware	7	8	1		2	4			1				
Long Island—Total	63	80	1		13	9	12	11	11	2	6	11	4
Nassau	44	55	1		5	4	8	8	9	1	6	9	4
Suffolk	19	25			8	5	4	3	2	1		2	
Maryland	28	39	2		13	14	6	1	3				
New York—Total	227	262	25		127	66	28	4	5	2	2	1	2
Albany	51	59	1		37	14	4	1	1			1	
Delaware	8	8			8								
Greene	29	35	3		14	8	6	2	1		1		
Orange	28	36	6		19	5	4				1		1
Ulster	96	105	13		44	34	9	1	2	1			1
Others	15	19	2		5	5	5		1	1			
Pennsylvania—Total	43	63	5		38	9	7		4				
Chester	38	57	5		33	8	7		4				
Others	5	6			5	1							
New Jersey—Total	199	277	14	2	45	50	60	30	21	11	14	17	13
Atlantic	15	27	4	1	10	2	5	2	1		1	1	
Burlington	35	45	1		4	9	14	7	4	1	2	2	1
Cumberland	23	38	2		9	13	6		1	2	3	2	
Gloucester	28	36	1		3	6	16	3	1	2	1	1	2
Monmouth	35	48	6	1	8	10	6	7	4	3	2	1	1
Others	63	83			11	10	13	11	10	3	5	11	9
Grand Total	579	756	49	2	242	160	118	51	47	16	22	30	19

TABLE 12

Percentage Distribution of Growers' Trucks by Tonnage and by Average Mileage from Markets, 1928*
(Based on Statements of Growers)

Mileage Class	Number of Trucks	Distribution of Trucks by Percentage of the Number of Trucks in Each Tonnage Class													
		.5	.75	1.0	1.5	2.0	2.5	3.0	3.5	4.0	5.0	6.0	7.0	7.5	8.5
1-5	24	12.5	4.2	62.5	16.6	4.2	....	....	..	....	....	....	....	....	....
6-10	52	9.6	....	48.0	25.0	9.6	....	7.8	....	....	....	....	....	....	....
11-20	64	7.8	7.8	18.8	26.5	18.8	1.5	3.2	3.2	6.2	6.2	....	....	....	....
21-30	105	3.8	0.9	15.3	11.5	26.7	7.6	7.6	4.8	4.8	12.4	0.9	1.9	0.9	0.9
41-60	55	5.5	....	18.2	30.9	12.7	14.5	9.1	7.3	....	....	1.8	....	....	....
61-100	127	13.4	1.6	33.7	21.7	19.6	5.5	3.1	0.7	0.7	....	....	....	....	....
Over 100	58	8.5	5.1	40.7	22.1	8.5	1.7	5.1	5.1	1.6	1.6	....	....	....	....

*The mileage from each market used was weighted by the percentage of total motor truck shipments to each. An average was taken of these.

TABLE 13

Percentage Distribution of Growers' Trucks by Tonnage and by Acreage of Farm, 1928
(Based on Statements of Growers)

Acreage Class	Number of Replies	Distribution of Trucks by the Percentage of the Number of Trucks of Each Tonnage															
		.5	.75	1.0	1.5	2.0	2.5	3.0	3.5	4.0	5.0	5.5	6.0	7.0	7.5	8.0	8.5
1-10	50	22.8	3.9	41.5	16.6	7.5	3.9	1.9	1.9	....	....	....	....	....	....	....	....
11-18	50	7.8	4.0	37.2	23.4	15.6	....	4.0	4.0	....	....	....	....	....	....	....	....
19-27	50	8.4	3.4	28.8	20.3	27.2	1.7	....	3.4	3.4	3.4	....	....	....	....	....	....
28-40	50	3.7	3.7	28.9	25.3	12.7	7.3	7.3	3.7	3.7	3.7	....	....	....	....	....	....
41-60	50	3.0	1.5	22.5	24.0	15.0	16.0	6.0	3.0	4.5	4.5	....	....	....	....	....	....
61-120	50	3.0	1.5	9.0	10.5	19.5	13.0	9.0	6.0	1.5	18.0	1.5	3.0	3.0	1.5	....	....
121-1400	22	8.6	....	6.8	18.8	10.4	10.4	18.8	5.5	1.7	8.6	....	1.7	3.5	....	3.5	....
1-1400	322	7.8	2.5	24.2	19.8	15.6	8.1	6.8	3.9	2.7	5.9	0.2	0.7	0.9	0.2	0.5	0.2

MOTOR TRUCK AS FRUIT AND VEGETABLE

COLUMBIAN 1929

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