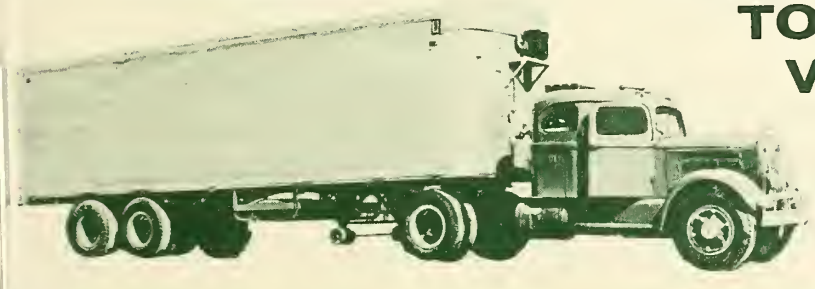
# Shifts In RAIL AND TRUCK TRANSPORTATION OF FRESH FRUITS AND VEGETABLES



**APPLES**
**GRAPEFRUIT**
**ORANGES**
**CELERY**

**LETTUCE**
**POTATOES**
**TOMATOES**
**WATERMELONS**



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CONTENTS



SUMMARY


Reports of shipments of 8 fresh fruits and vegetables unloaded at 13 major markets reveal that, while total movement of this produce by rail and truck to these markets was about the same in 1954 as in 1951, truck movements rose 5 percent (from 171,864 to 181,008 carlots). In the same period, rail shipments of the 8 commodities to the 13 markets dropped off 4 percent (from 150,508 to 144,225 carlots). The truck portion of this traffic thus rose from 53 to 56 percent. The net effect of these changes in traffic patterns was a shift of almost 14,000 carlots from rail to truck, about 4 percent of the 1954 unloads of the selected commodities at these markets.

This shift to trucks was an almost universal trend throughout the movement studied, but at varying rates. The majority of the carlots affected were shipments of oranges, grapefruit, and potatoes terminating at four cities in the Northeast: New York, Boston, Philadelphia, and Baltimore. Two States, Florida and Maine, originated 78 percent of this increase in the truck share of traffic. Much of the change involved long hauls; more than two-thirds occurred on hauls from 751 to 1,500 miles in length.

The individual movements most heavily affected were shipments of Maine potatoes to Boston, and Florida citrus and tomato shipments to New York City. Rail rate increases were common to all these movements, with the speed and convenience of trucks also figuring prominently in explaining this tendency toward increasing use of highway transport.

# SHIFTS IN RAIL AND TRUCK TRANSPORTATION OF FRESH FRUITS AND VEGETABLES

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## INTRODUCTION

Year-round availability of fresh fruits and vegetables has come to be regarded as an essential feature of life in America. This availability would have been impossible, however, without the growth of a vast transportation system linking specialized growing areas and centers of population. During the winter, production is concentrated in a few high-yield areas with suitable winter climates. The result is that today California and Florida grow approximately one-half of the Nation's commercially produced fruits and vegetables.

Most of this fresh produce moves to market by rail or truck. During recent years, the percentage of the total volume moved by truck has risen, while that moved by railroads has declined. The purpose of this study is to determine the characteristics of the gains by one type of carrier in relation to the other by comparing traffic patterns in 1954 with those in 1951.

Information about the nature of this shift is needed by many segments of the economy. Transportation, by physically linking grower and consumer, reaches into all phases of the marketing process. Consequently, any basic change in transportation will have far-reaching effects. The Government needs to know about such changes in order to carry out its regulatory functions. Shippers and buyers need such information, as a change in mode of transportation also requires adaptation in their operations. The carriers themselves are compelled to study trends in the division of traffic between rail and truck in order to compete effectively. Farmers, also, are directly concerned. For-hire transportation accounts for a significant part of the price spread between farmer and consumer. Where a shift in the mode of transport lowers marketing costs, the shift can help to keep up the farmer's share of the consumer's dollar.

Fresh fruits and vegetables are important sources of income to carriers and farmers alike. This produce furnishes American farmers with 9 percent of

their total cash income (23, table 664). 1/ About one-half of this crop moves to market in fresh form. At the same time, these commodities account for 4 percent of the revenue of Class I railways (35). Fresh produce movements are characterized by lower tonnage per carload, and consequently cause the railroads greater out-of-pocket expenses per ton-mile, than is typical of most other rail traffic, according to the present method of figuring costs employed by the Bureau of Accounts and Cost Finding of the Interstate Commerce Commission (31).

The importance of this traffic to motor carriers is less well known. Trucks owned by farmers dominate the movement from farm to initial market (16, p. 23). In traffic to terminal markets and warehouses, most produce trucking is thought to be by exempt for-hire haulers (those exempt by law from economic regulation by the Interstate Commerce Commission). In some areas these truckers, operating on a small scale, dominate both long- and short-haul for-hire motor traffic (1, p. 26). The extent to which regulated carriers haul fresh produce is unknown but the percentage may be substantial. For example, it is estimated that common and contract carriers having operating authority from the ICC hauled 44 percent of the 1952 Appalachian apple crop moving by truck (22, p. 14). Usually, such a carrier will haul farm commodities without any other types of freight in the same load. In that event, the trucker's ICC operating authority is irrelevant, and, for the duration of the trip, he, too, is an exempt for-hire hauler.

Increased use of motor carriers has generally tended to decentralize marketing institutions, during and before the period under study. In some ways, this has reduced the importance of central markets as points of concentration and redistribution. Shipping point sales, encouraged by improved grading and packing, have made the services these markets offer less essential. As a result of this and other factors, fresh produce moving in relatively small lots by truck often tends to flow more directly from producer to consumer, bypassing the auction and wholesale markets. In this way, the increasing percentage of movement by truck reflects not only changes in the mode of transportation used but changing marketing procedures as well.

## METHOD

This study is intended to measure trends in the relative use made of rail or truck for transporting fresh fruits and vegetables. For the period 1951-54, these trends were analyzed by comparing rail and truck shares of traffic for the 2 years 1951 and 1954.

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1/ Underscored figures in parentheses refer to the section of this report called "References." The notation "23, table 664" means table 664 in Item 23 of the References. Similarly, in the next paragraph of the text, the source mentioned as "16, p. 23" means p. 23 of Item 16 of the References.

## Selection of Commodities and Cities

A group of 8 fruits and vegetables was selected (a) to include varied ability to stand up under shipment and varied problems of loading, refrigeration or heating, etc., and (b) to comprise at the same time a significant percentage of all fresh-produce shipments. Apples, grapefruit, and oranges were the fruits chosen. The vegetables were celery, lettuce, potatoes, tomatoes, and watermelons. Of all fresh fruit and vegetable tonnage moving by Class I railways in 1953, 70 percent was included within this group (35). In fresh produce movements by truck, these commodities form a segment having approximately that same importance (23).

Analysis was made of unload data for these commodities at 13 major markets. These cities were selected to include a maximum volume of unloads throughout a wide geographic area. This group included Atlanta, Baltimore, Boston, Chicago, Cleveland, Denver, Los Angeles, New York, Oakland, Philadelphia, San Francisco, Seattle, and Washington, D. C. (fig. 1). Because of the proximity of San Francisco and Oakland, data for these cities were combined. Only shipments originating within the continental United States were considered.

Furthermore, with minor exceptions noted below, the figures in this study on fruit and vegetable movements are limited to produce which reached the selected markets by rail or truck. The sum of rail and truck unloads is treated as the total quantity of these fruits and vegetables reaching the markets involved. The quantity which arrived by other modes of transport were probably small enough that the omission does not distort the comparison between rail and truck shipment.

To sum up, the movement studied was shipments of 8 fruits and vegetables originating within the United States and terminating at 13 major markets. A comparison of this movement in 1951 and in 1954 points up the changes that have occurred during the 4-year period.

## Adjustment of Data

Carlot unload data published by the Market News Branch of the Fruit and Vegetable Division, in the Agricultural Marketing Service, formed the basis for the tables in this study. As reported by the railroads and hence as published by the Market News Branch, rail unload data are essentially complete. The Market News Branch's statistics on truck unloads are published in rail carlot equivalents. However, the truck unload statistics were subject to limited coverage, with estimates of completeness varying from city to city and from year to year. Because of the comparisons involved in this study, adjustments were necessary to render data for the two types of carriers as nearly comparable as possible. This necessitated adjustment of the figures for truck unloads to an estimated 100 percent completeness. For example, receivers reported the unloading of 1,120 carlots of potatoes from Virginia at New York City in 1951. The Market News Branch estimates that the data on 1951 unloads

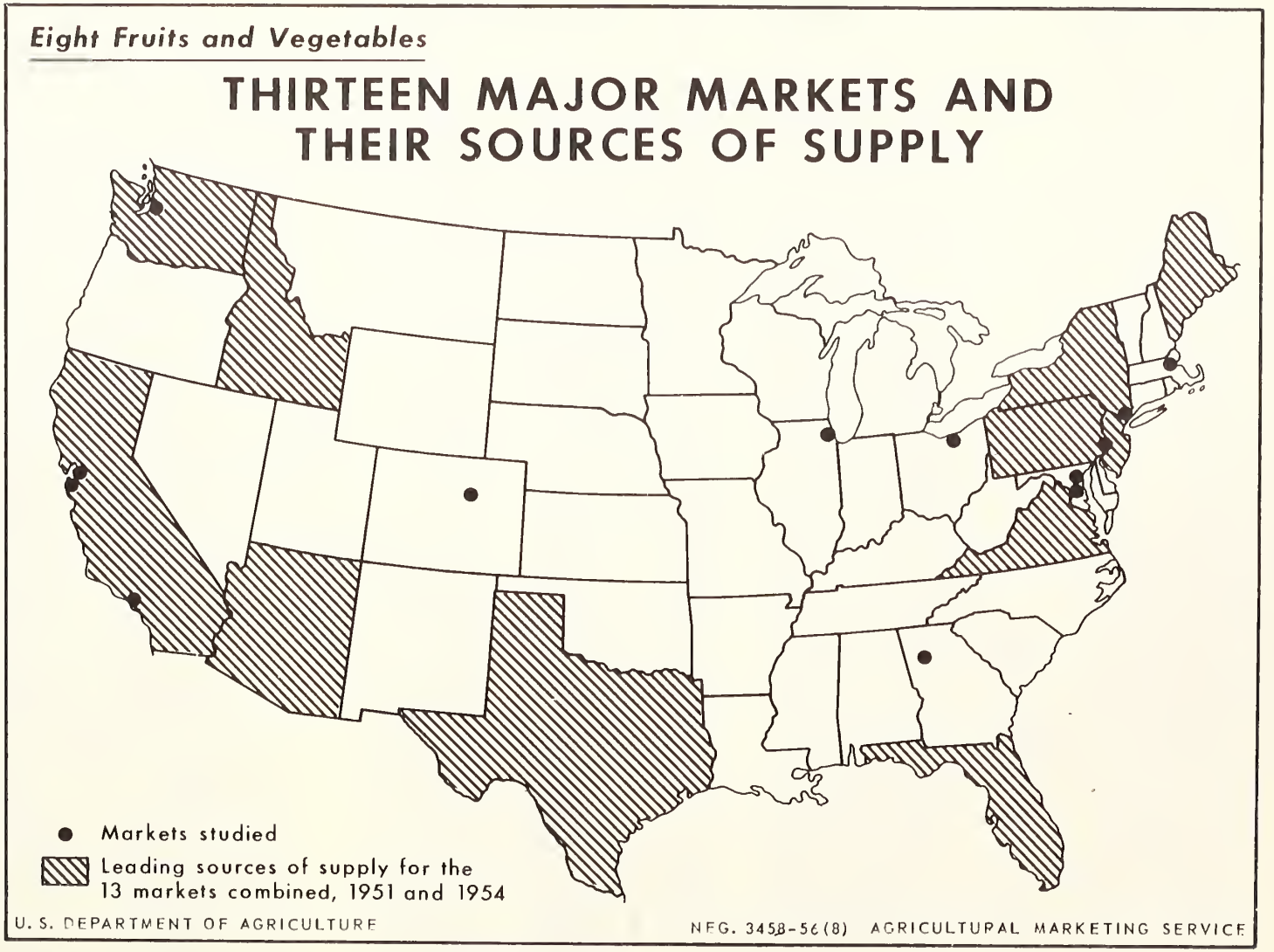


Figure 1.--For their 1951 and 1954 supply of the 8 fruits and vegetables studied in this report, the 13 major markets shown above relied chiefly on the 11 shaded States.

at New York were 75 percent complete. Had coverage there been complete, it is estimated that unloads would have been 1,493 carlots. The expanding of truck receipts serves to show more nearly correct truck-rail relationships. Without such expansion the proportion of total volume carried by truck would have been understated in both 1951 and 1954.

Between 1951 and 1954, there was some variation in the average tonnage per carload in rail shipment of several of the commodities. For example, rail carlots of tomatoes averaged 13 tons in 1951 and 12 tons in 1954. The 1954 rail carlot figures were adjusted for this difference, with the 1951 average tonnage used as a standard, so that tonnage as well as carlot comparisons would be valid.

This adjustment was unnecessary in the truck data because the rail carlot equivalents in the truck data, as published by the Fruit and Vegetable Division, are based on standardized conversion factors which do not change every year; and they had been revised as of January 1950 -- that is, shortly before the earlier year covered in this study. Thus, in both 1951 and 1954, whenever citrus in 2/5-bushel boxes arrived at New York City by motortruck, 1,800 such boxes were regarded by the Fruit and Vegetable Division as the equivalent of a rail carlot. For each of the 8 commodities, the truck data for 1951 and those for 1954 were thus already comparable to each other. The conversion factors were also close enough to the 1951 average load per rail car of what actually moved by rail, that comparisons could be made between the truck data and the rail data after the above-mentioned adjustments in the rail figures were accomplished.

## Procedure for Computing Relative Diversion

The computation of relative diversion of produce traffic is intended to measure the changes in the proportion of such traffic hauled by each mode of transport. This computation involves three basic steps: (1) The determining of truck and rail percentages of this traffic in 1951; (2) the computation of the 1954 volume of traffic which would have moved by each mode of transport, had there been no change from 1951 in the rail and truck proportions of total volume, but with those percentages applied to the total volume of traffic which actually did move in 1954; and (3) the comparison of these computed figures with the actual volume moving by rail and by truck in 1954, the differences observed being traffic diverted, in a relative sense, from one mode of transportation to the other. In this computation procedure, changes in the division of traffic between the two forms of transportation are first expressed in terms of carlots, and then in terms of the percentage relationship of the "diverted" carlots to the whole traffic volume (rail plus truck traffic) in the later year. 2/

2/ For further discussion of technique, see 3, p. 6, specifically the section entitled "Method for Measuring Diversion." The word "diversion" in that report means the same as "relative diversion" in the present report.

Thus, relative diversion is not necessarily an absolute gain or loss of traffic by a particular mode of transportation in comparison with previous traffic volume hauled by that mode. It is, instead, a gain or loss relative to that traffic volume which each mode of transport could anticipate, on the basis of its share of traffic in a prior year, expressed in carlot units. One mode of transport may haul a declining share of the traffic in a particular commodity, resulting in relative diversion to the other modes, while the tonnage of that commodity hauled by each continues to grow. That is what happened, in a recent period, to the trucks' share of the traffic in Florida frozen orange juice concentrate (18, p. 51). Other examples are given in the present study's analysis of the fruit and vegetable traffic.

The relative diversion analyzed in this study has no connection with diversion in the sense of changing the destination of a consignment after shipment has begun.

## CHANGES IN THE RAIL AND TRUCK SHARES OF TRAFFIC BEFORE 1951

By 1951, relative diversion was recognized as a trend of considerable proportions in the movement of a great number of commodities. Substantial increases took place in the truck percentages of fruit and vegetable unloads between 1939 and 1950 (13). A comparison of 1948 and 1951 unloads indicated that truck gains, in the sense of an increasing percentage of movement by highway, amounted to 5 percent of the 1951 total, arising most prominently in potato and tomato shipments. The possibility for further relative diversion to highway transportation was suggested in movements of potatoes, tomatoes, and cabbage (4). During 1950, fresh produce movements under 500 miles were almost entirely by truck, but those beyond this distance -- even hauls in the 500-999 mileage block -- continued to be chiefly by rail (17, pp. 5, 10).

Motortrucks made serious inroads, percentagewise, on short-haul rail movements of potatoes between 1946 and 1952, Maine-to-Boston shipments being noted as exceptionally vulnerable to relative diversion thereafter, should any increase in rail rates occur (21). In general, a steadily increasing proportion of fresh produce moved by highway during the years immediately prior to 1951, although this development was manifest in some commodity movements much more than in others.

## THE COMPETITIVE SITUATION, 1951

During 1951, trucks hauled 53 percent of overall traffic volume of the 8 fruits and vegetables going to the 13 markets covered by this study. For each of 5 commodities, more than half of the volume moved by truck, the truck percentage of apples and tomatoes being conspicuously high. On the other hand, table 1 shows the leading role played by rail carriers in the shipment

Table 1.--Unloads of 8 specified fresh fruits and vegetables at 13 major markets, by mode of transport, 1951 1/

| Commodity | Unloads | | | Unloads as percentage of total unloads | |
|---|---|---|---|---|---|
| | Rail | Truck 2/ | Total | Rail | Truck |
| | Carlots | Carlots | Carlots | Percent | Percent |
| Apples | 7,348 | 24,503 | 31,851 | 23 | 77 |
| Grapefruit | 9,303 | 7,491 | 16,794 | 55 | 45 |
| Oranges | 27,150 | 13,898 | 41,048 | 66 | 34 |
| Celery | 11,245 | 16,025 | 27,270 | 41 | 59 |
| Lettuce | 22,493 | 23,618 | 46,111 | 49 | 51 |
| Potatoes | 53,294 | 51,066 | 104,360 | 51 | 49 |
| Tomatoes | 10,874 | 24,056 | 34,930 | 31 | 69 |
| Watermelons | 8,801 | 11,207 | 20,008 | 44 | 56 |
| Total | 150,508 | 171,864 | 322,372 | 47 | 53 |

1/ Unloads at Atlanta, Baltimore, Boston, Chicago, Cleveland, Denver, Los Angeles, New York, Philadelphia, San Francisco-Oakland, Seattle, and Washington, D. C.

2/ Truck unloads adjusted to rail carlot equivalents and to an estimated 100 percent completeness.

of grapefruit, oranges, and potatoes. Much of the citrus involved in this study is consumed far from the areas in which it is grown, resulting in the longer hauls which favor rail movement. The cost of providing rail service tapers markedly with distance, but the cost of providing truck transportation does not. A substantial part of this citrus movement by rail represented gains in traffic out of Florida between the 1949-50 and 1950-51 seasons (7, pp. 36-37). On the other hand, the rail edge in potato shipments was not nearly so pronounced.

There was a wide disparity in rail and truck shares of unloads at different markets (table 2). Atlanta and the California cities were conspicuously "truck" markets, while Boston, Chicago, and Cleveland were predominantly "rail" markets. The distribution of traffic between rail and truck was roughly equal at the remaining cities.

This pattern of unloads reflected, in general, the distances to principal sources of supply. Truck unloads, as expected, were more important than rail where short hauls were involved, as at Atlanta or Los Angeles. Markets comparatively remote from primary growing areas, such as Boston, Chicago, or Cleveland, received most of their shipments by rail.

Table 2.--Unloads of 8 fresh fruits and vegetables at 13 specified major markets, by mode of transport, 1951 1/

| Market | Unloads | | | Percentage of total unloads | |
|---|---|---|---|---|---|
| | Rail | Truck 2/ | Total | Rail | Truck |
| | Carlots | Carlots | Carlots | Percent | Percent |
| Atlanta | 3,058 | 9,067 | 12,125 | 25 | 75 |
| Baltimore | 6,506 | 7,466 | 13,972 | 47 | 53 |
| Boston | 14,957 | 6,282 | 21,239 | 70 | 30 |
| Chicago | 35,432 | 9,044 | 44,476 | 80 | 20 |
| Cleveland | 9,238 | 3,017 | 12,255 | 75 | 25 |
| Denver | 3,577 | 4,084 | 7,661 | 47 | 53 |
| Los Angeles | 5,336 | 55,843 | 61,179 | 9 | 91 |
| New York | 43,378 | 36,213 | 79,591 | 55 | 45 |
| Philadelphia | 17,116 | 15,377 | 32,493 | 53 | 47 |
| San Francisco-Oakland | 4,361 | 15,345 | 19,706 | 22 | 78 |
| Seattle | 3,897 | 5,342 | 9,239 | 42 | 58 |
| Washington, D. C. | 3,652 | 4,784 | 8,436 | 43 | 57 |
| Total | 150,508 | 171,864 | 322,372 | 47 | 53 |

1/ The 8 fruits and vegetables included are: apples, grapefruit, oranges, celery, lettuce, potatoes, tomatoes, and watermelons.

2/ Truck unloads adjusted to rail carlot equivalents and to an estimated 100 percent completeness.

Two States, California and Florida, originated slightly more than half of the carlots terminating in 1951 at the 13 markets (table 3). The inclusion of 5 more States--New York, Washington, Maine, Idaho, and Arizona--accounts for 76 percent of all shipments. Volume-wise, movements initiated by these 7 States offer the most rewarding areas for analysis.

California, by far the largest supplier for these 13 markets, shipped more to them by truck (fig. 2) than by rail. But 95 percent of these truck shipments terminated at three of these markets in California--that is, San Francisco, Oakland, and Los Angeles. California shipments to midwestern and eastern markets move primarily by rail carriers. Four States--Maine, Idaho, Texas, and Florida--were, for the most part, rail shippers. Arizona and Washington also utilized rail carriers more than motortrucks but by a lesser margin. Shipments with origins in New Jersey, Pennsylvania, and New York were overwhelmingly truck movements, since most of these shipments went to nearby metropolitan markets. On the other hand, the high percentage of rail movements from Florida is explained by the length of haul to the same markets in the Northeast. It will be recalled that Florida's main product, citrus, was a "rail" commodity. In contrast, however, was the strong tendency of Maine

Table 3.--Unloads of 8 fresh fruits and vegetables at 13 major markets, by principal States of origin, 1951 1/

| State of origin | Unloads | | | Unloads as percentage of total unloads | |
|---|---|---|---|---|---|
| | Rail | Truck 2/ | Total | Rail | Truck |
| | Carlots | Carlots | Carlots | Percent | Percent |
| California | 50,269 | 64,359 | 114,628 | 44 | 56 |
| Florida | 35,432 | 14,975 | 50,407 | 70 | 30 |
| New York | 696 | 25,683 | 26,379 | 3 | 97 |
| Washington | 9,029 | 7,231 | 16,260 | 56 | 44 |
| Maine | 12,095 | 1,511 | 13,606 | 89 | 11 |
| Idaho | 11,755 | 1,384 | 13,139 | 90 | 10 |
| Arizona | 6,899 | 3,750 | 10,649 | 65 | 35 |
| New Jersey | 43 | 9,824 | 9,867 | 3/ | 4/ 100 |
| Pennsylvania | 34 | 8,607 | 8,641 | 3/ | 4/ 100 |
| Texas | 4,701 | 791 | 5,492 | 86 | 14 |
| Virginia | 434 | 5,008 | 5,442 | 8 | 92 |
| All others 5/ | 19,121 | 28,741 | 47,862 | 40 | 60 |
| Total | 150,508 | 171,864 | 322,372 | 47 | 53 |

1/ Based on unloads of apples, grapefruit, oranges, celery, lettuce, potatoes, tomatoes, and watermelons at the following 13 major markets: Atlanta, Baltimore, Boston, Chicago, Cleveland, Denver, Los Angeles, New York, Philadelphia, San Francisco-Oakland, Seattle, and Washington, D. C.

2/ Truck unloads adjusted to rail carlot equivalents and to an estimated 100 percent completeness.

3/ Less than 0.5 of 1 percent.

4/ More than 99.5 percent but less than 100.0 percent.

5/ These other States originated less than 5,000 carlots each.

growers to rail-ship their potatoes to northeastern markets, relatively nearby.

It must be remembered that the shipments analyzed are restricted to those terminating at 13 major markets. The resulting emphasis on large-scale shipping understates the overall position of the trucking industry in transportation of the 8 fresh fruits and vegetables, adapted as trucks are to the handling of small lots going to small cities and towns. Hence this study probably gives a conservative estimate of the importance of truck movements. For example, in the combined movement of Florida oranges, lettuce, and tomatoes to all out-of-State destinations in the 1950-51 season, the rail and truck shares were 49 percent and 51 percent respectively (7, pp. 13, 16). In 1951, the combined movement of these 3 commodities from Florida to the 13 major markets covered by this study showed a 70-30 sharing of traffic between the railroads and the trucks.

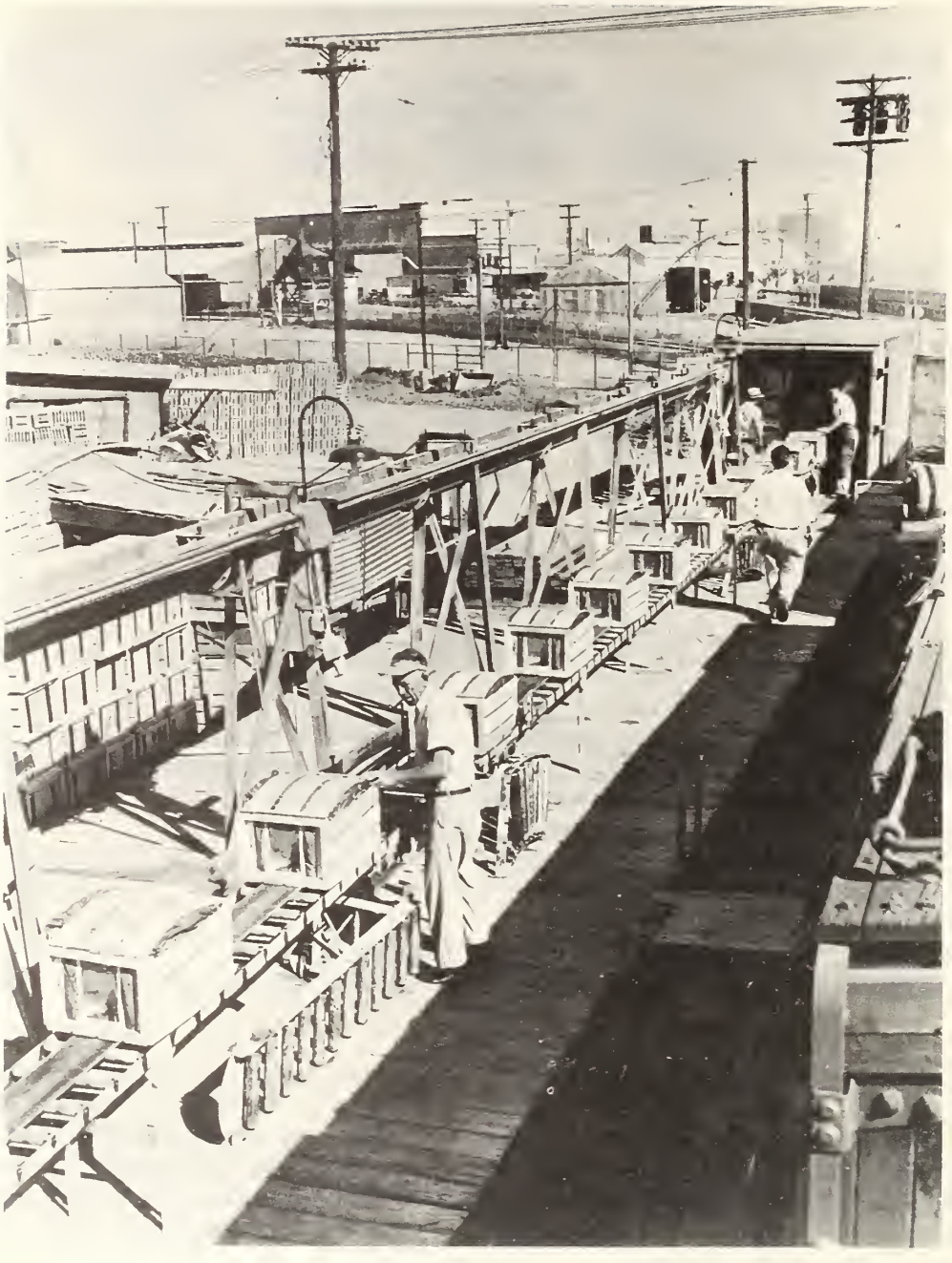

Figure 2.--Loading Imperial Valley vegetables into a motortruck. At right of platform is a rail car on a spur.

To sum up the 1951 situation, rail unloads at the 13 markets were greater than those by truck in the Northeast and Midwest but less than truck unloads on the West Coast and in the South. Citrus fruit and potatoes, for the greater part, were rail traffic. However, motor carriers accounted for over half of the overall movement involved. As noted above, the mode of transportation appeared to be related to length of haul, with rail haulage becoming proportionately more important as distance increased. At the same time, because of the large size of the markets studied, data on the motortruck percentage of movements to these 13 markets would probably be an understatement for all United States markets as a whole.

## THE PATTERN OF RELATIVE DIVERSION BETWEEN 1951 AND 1954

Both motor and rail carriers have important advantages to offer shippers of fresh fruits and vegetables. The ultimate comparison of rail and truck competitive strength, however, is the volume of traffic hauled by each type of carrier. Between 1951 and 1954, shippers of fresh produce showed an increased preference for motor transportation. In 1954, trucks hauled 56 percent of the fresh produce covered by this study which moved to the 13 markets, compared with 53 percent in 1951. The net effect of these changes in traffic patterns was that almost 14,000 carlots--about 4 percent of the 1954 unloads of the selected commodities at these markets--were hauled by truck in 1954 which would have gone by rail in that year had the truck and rail percentages of 1954 traffic been the same as in 1951. This trend was well-nigh universal throughout the movements studied. However, this relative diversion took place at widely varying rates, with the greater part occurring in a small group of movements encompassing a few commodities, origins, and markets.

Analysis of the overall volume involved in relative diversion indicates where this shift occurred and in what amount. In seeking the causes for this change, however, it is more realistic to consider each movement separately, as an individual response to a unique combination of influences exerted by geography, rate structure, and marketing practices. This analysis of overall relative diversion by commodity, market, State of origin, and mileage block will not attempt to interpret this combined pattern as the result of a combined set of causes. Instead, the individual movements most conspicuously affected will be examined in an attempt to suggest the influences operating in each case.

### Relative Diversion by Commodity

As noted above, the procedure used in estimating relative diversion of traffic between rail and truck is as follows: Computation is made of the shares, in carlots, of 1954 total volume which would have been hauled by each of the 2 modes of transport in 1954, had each mode retained the same percentage

Table 4.--Estimated and actual unloads, 1954, and relative diversion from rail to truck between 1951 and 1954: Specified fresh fruits and vegetables at 13 major markets 1/

| Commodity | 1954 unloads if rail and truck had each obtained 1951 percentages of total volume | | | Actual 1954 unloads | | | Relative diversion from rail to truck between 1951 and 1954 | |
|---|---|---|---|---|---|---|---|---|
| | Rail | Truck | Total | Rail | Truck | Total | Unloads | Percentage of 1954 total unloads |
| | Carlots | Carlots | Carlots | Carlots | Carlots | Carlots | Carlots | Percent |
| Apples | 6,934 | 20,928 | 27,862 | 6,634 | 21,228 | 27,862 | 300 | 1 |
| Grapefruit | 10,771 | 7,443 | 18,214 | 8,714 | 9,500 | 18,214 | 2,057 | 11 |
| Oranges | 24,769 | 11,138 | 35,907 | 21,692 | 14,215 | 35,907 | 3,077 | 9 |
| Celery | 12,228 | 16,618 | 28,846 | 11,644 | 17,202 | 28,846 | 584 | 2 |
| Lettuce | 22,166 | 24,620 | 46,786 | 21,702 | 25,084 | 46,786 | 464 | 1 |
| Potatoes | 60,076 | 46,354 | 106,430 | 55,231 | 51,199 | 106,430 | 4,157 | 4 |
| Tomatoes | 11,004 | 24,850 | 35,854 | 9,514 | 26,340 | 35,854 | 1,490 | 4 |
| Watermelons | 10,712 | 14,622 | 25,334 | 9,094 | 16,240 | 25,334 | 1,618 | 6 |
| Total | 158,660 | 166,573 | 325,233 | 144,225 | 181,008 | 325,233 | 13,747 | 4 |

1/ Based on unloads at Atlanta, Baltimore, Boston, Chicago, Cleveland, Denver, Los Angeles, New York, Philadelphia, San Francisco-Oakland, Seattle, and Washington, D. C. Truck unloads for each year were converted to rail carlot equivalents and were adjusted to an estimated 100 percent completeness. Moreover, the 1954 rail carlots and truck carlot equivalents were adjusted to reflect the average tonnage per carlot in rail shipments made in 1951, for commodities on which the 1954 average differed from that of 1951.

share of traffic in 1954 as in 1951. These computed shares are compared with actual 1954 unloads by rail and truck to reveal, in terms of carlots, the changes in shares of traffic hauled by the 2 types of carrier. This relative diversion of traffic, when expressed as a percentage of the total unloads involved in each movement, indicates, in each instance, the strength of the influences producing relative diversion.

In this relative sense, all 8 commodities were diverted from rail movement to some degree. The heaviest inroads by motor carriers were among citrus and potato shipments (table 4 and appendix tables). In 1954 the trucks moved an estimated 5,000 carlots of orange and grapefruit traffic (approximating one-tenth of the year's total) which the 1951 rail-truck division of traffic suggested would move by rail. Not only was the decline in railroad transportation of orange and grapefruit traffic heavy in a relative sense, but the

rails actually moved 6,047 carloads less of this traffic in 1954 than in 1951.

A similar shift in potato traffic took place, involving comparable tonnage. However, although the total volume hauled was greater, the rate of relative diversion was lower. In this case, relative diversion amounted to 4 percent of 1954 unloads. Watermelon and tomato shipments were affected to about this same extent, percentagewise. Although the other 3 commodities were subject to the same trend, the tonnage shifted and the rate of relative diversion were much lower.

It must be recognized that comparing the volume involved in these changes with total unloads understates the importance of the changes to the carriers themselves. Their concern is with their gain or loss of anticipated revenue-earning tonnage. Hence, each type of carrier is more likely to compare the tonnage involved in this relative shift of traffic with its own expected traffic volume than with the overall total hauled by all forms of transport. For example, grapefruit traffic involved in relative diversion from rail to truck amounted to 11 percent of the 1954 total by rail and truck, but this same traffic represented a 19-percent loss to rail carriers when compared with predicted rail traffic for 1954. On the other hand, from the trucking industry's viewpoint, this same volume constituted a gain of 28 percent (table 4).

## Relative Diversion by Market

The uneven incidence of relative diversion at different cities suggests that many of its causes are regional in nature. Obviously, very different influences were operating at Boston, where the railroad share declined by 9 percent of total unloads, and at Los Angeles, where the railroads recaptured 327 carlots which their highway competitors could have expected to get -- a relative diversion of 1 percent from truck to rail (table 5).

Of the nearly 14,000 carlots of produce which went by motortruck to the 13 markets but which the railroads could have expected to haul, 73 percent went to Boston, New York City, Philadelphia, and Baltimore. This area's tendency toward increased use of trucks was noted in an earlier study (4).

The details regarding Los Angeles' slight shift from truck to rail are shown in Appendix tables. In 1951, fresh produce receipts at this market were overwhelmingly by truck. This was still true in 1954. However, available reports (24, p. 15; 25, p. 27) on rail unloads of potatoes in Los Angeles--presenting origin merely by State--show that, for the combination of 8 fruits and vegetables, all of the carlots involved in this shift from truck to rail were more than fully accounted for by increased rail receipts of potatoes from California origins. The same source provides data on truck unloads of potatoes in Los Angeles from California origins, broken down by locality of origin. The decrease in truck unloads from the vicinity of Los Angeles between 1951 and 1954 was about the same size as the rail increase from all California origins combined (24, p. 15; 25, p. 27). This probably meant that some local potatoes at Los Angeles were replaced by other California potatoes, far enough

Table 5.--Relative diversion from rail to truck between 1951 and 1954: Unloads of specified fresh fruits and vegetables, by 13 major markets 1/

| Market | Relative Diversion | | | | | | | | | Total 1954 unloads | Total relative diversion as percentage of total 1954 unloads |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Apples | Grapefruit | Oranges | Celery | Lettuce | Potatoes | Tomatoes | Watermelons | Total | | |
| | Carlots | Carlots | Carlots | Carlots | Carlots | Carlots | Carlots | Carlots | Carlots | Carlots | Percent |
| Atlanta | 81 | 63 | 137 | -5 | 66 | 280 | 46 | 0 | 668 | 13,925 | 5 |
| Baltimore | 23 | 168 | 307 | 90 | 20 | 505 | -23 | 181 | 1,271 | 17,313 | 7 |
| Boston | 40 | 221 | 310 | 4 | 18 | 1,742 | 52 | -8 | 2,379 | 26,397 | 9 |
| Chicago | 41 | 151 | 309 | -71 | -16 | -244 | 245 | 26 | 441 | 38,652 | 1 |
| Cleveland | 23 | 44 | 140 | -3 | -3 | 246 | -31 | 417 | 833 | 13,476 | 6 |
| Denver | 36 | 152 | 255 | 49 | 42 | 198 | -13 | 10 | 729 | 8,044 | 9 |
| Los Angeles | -55 | 20 | 0 | 216 | 23 | -565 | - 1 | 35 | -327 | 58,619 | -1 |
| New York | 0 | 789 | 998 | 219 | 114 | 491 | 1,282 | 779 | 4,672 | 79,878 | 6 |
| Philadelphia | 27 | 176 | 294 | 49 | 24 | 1,023 | -88 | 144 | 1,649 | 33,475 | 5 |
| San Francisco-Oakland | 49 | 82 | 1 | 36 | 15 | 597 | -4 | 4 | 780 | 18,729 | 4 |
| Seattle | 28 | 27 | 67 | 30 | 158 | -160 | 64 | -83 | 131 | 8,652 | 2 |
| Washington, D.C. | 7 | 164 | 259 | -30 | 3 | 44 | -39 | 113 | 521 | 8,073 | 6 |
| Total | 300 | 2,057 | 3,077 | 584 | 464 | 4,157 | 1,490 | 1,618 | 13,747 | 325,233 | 4 |

1/ Truck unloads for each year were converted to rail carlot equivalents and were adjusted to an estimated 100 percent completeness. Moreover, the 1954 rail carlots and truck carlot equivalents were adjusted to reflect the average tonnage per carlot in rail shipments made in 1951, for commodities on which the 1954 average differed from that of 1951.

Negative figures indicate relative diversion from truck to rail.

away to warrant rail shipment. In turn, this increased movement of potatoes into Los Angeles by rail more than offset the increase in truck movement of other kinds of produce.

## Relative Diversion by State of Origin

In analyzing changes in shares of traffic hauled by truck and by rail by State of origin (table 6), the movements considered are, of course, restricted to those terminating at 13 markets. The distances separating each State of origin from these markets have an important influence on the choice of carrier.

Relative diversion offers marked contrasts among the various areas originating traffic. Two States, Florida and Maine, initiated 78 percent of the carlots involved in this shift. The situation in Florida was particularly noteworthy because of the State's comparative remoteness from many of its markets in the Northeast. These distances are not generally considered advantageous to motor carrier operation.

California is even more remote than Florida from Northeastern markets. In the movement of California produce to markets within the State, a substantial shift to trucking was unlikely for a different kind of reason. As noted above, in supplying to San Francisco, Oakland, and Los Angeles the 8 fruits and vegetables here studied, California was already relying in 1951 almost solely on motortrucks. It is scarcely surprising that, of California's total shipments to the 13 markets covered by this report, only 511 carlots destined for rail movement on the basis of 1951 experience moved by truck in 1954. This was true although the fresh fruit and vegetable movement originating in that State represented more than one-third of the nationwide total studied.

Of the 11 North Central States which provided some of the fruits and vegetables covered by this report, 5 States showed some relative diversion from truck to rail. This trend is due, in part, to the geographical distribution of the cities studied. Although the percentage share and the volume of rail traffic improved in this area, the volume involved was relatively small.

The net effect of relative diversion, in terms of markets and of States of origin, is summed up in tables--2, 3, 7, and 8.

## Relative Diversion by Mileage Block

The most distinctive feature of 1951-54 relative diversion was the ability of motor carriers to attract new long-haul traffic. Trips varying from 751 to 1,500 miles in length accounted for two-thirds of the volume which--on the basis of the rail and truck shares in 1951--the railroads could have expected to get in 1954 but failed to get (table 9). This is a radical change from conditions in 1950, when, on hauls of 1,000 miles or more, only 1 of every 10 carlots moved by truck (17).

Little change in the division of traffic between truck and rail occurred at either end of the mileage scale. Almost all of the relative diversion to motor

Table 6.--Relative diversion from rail to truck between 1951 and 1954: Unloads of specified fresh fruits and vegetables at 13 major markets, by States of origin 1/

| State of origin | Relative diversion | | | | | | | | | Total 1954 unloads | Total relative diversion as percentage of total 1954 unloads |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Apples | Grapefruit | Oranges | Celery | Lettuce | Potatoes | Tomatoes | Watermelons | Total | | |
| | Carlots | Carlots | Carlots | Carlots | Carlots | Carlots | Carlots | Carlots | Carlots | Carlots | Percent |
| Maine | 5 | 0 | 0 | 0 | 0 | 2,863 | 0 | 0 | 2,868 | 20,496 | 14 |
| New Hampshire | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 88 | 2 |
| Vermont | - 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | - 1 | 771 | 2/ |
| Massachusetts | 12 | 0 | 0 | 0 | 0 | 24 | 0 | 0 | 36 | 3,826 | 1 |
| Rhode Island | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 274 | 0 |
| Connecticut | 0 | 0 | 0 | 0 | 0 | 11 | 0 | 0 | 11 | 688 | 2 |
| New York | 56 | 0 | 0 | 173 | 11 | 170 | 22 | 0 | 432 | 25,102 | 2 |
| New Jersey | 1 | 0 | 0 | 0 | 0 | 37 | 0 | 0 | 38 | 9,384 | 2/ |
| Pennsylvania | 7 | 0 | 0 | 0 | 0 | 13 | 0 | 0 | 20 | 5,567 | 2/ |
| North Atlantic | 81 | 0 | 0 | 173 | 11 | 3,119 | 22 | 0 | 3,406 | 66,196 | 5 |
| Ohio | 8 | 0 | 0 | 0 | 1 | 3 | 9 | 0 | 21 | 1,339 | 2 |
| Indiana | 0 | 0 | 0 | 0 | 1 | 2 | 10 | - 3 | 10 | 492 | 2 |
| Illinois | 0 | 0 | 0 | 0 | 0 | 0 | 42 | 12 | 54 | 488 | 11 |
| Michigan | - 1 | 0 | 0 | 7 | 0 | 27 | 141 | 0 | 174 | 2,693 | 6 |
| Wisconsin | 0 | 0 | 0 | 0 | 0 | - 267 | 5 | 0 | - 262 | 1,745 | - 15 |
| E. North Central | 7 | 0 | 0 | 7 | 2 | - 235 | 207 | 9 | - 3 | 6,757 | 2/ |
| Minnesota | 0 | 0 | 0 | 0 | 0 | - 10 | 0 | 0 | - 10 | 1,407 | - 1 |
| Iowa | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - 11 | - 11 | 47 | - 23 |
| Missouri | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24 | 24 | 104 | 23 |
| North Dakota | 0 | 0 | 0 | 0 | 0 | - 50 | 0 | 0 | - 50 | 3,279 | - 2 |
| South Dakota | 0 | 0 | 0 | 0 | 0 | - 1 | 0 | 0 | - 1 | 25 | - 4 |
| Nebraska | 0 | 0 | 0 | 0 | 0 | 27 | 0 | 0 | 27 | 421 | 6 |
| Kansas | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 0 |
| W. North Central | 0 | 0 | 0 | 0 | 0 | - 34 | 0 | 13 | - 21 | 5,294 | 2/ |
| Delaware | 5 | 0 | 0 | 0 | 0 | 0 | 0 | - 7 | - 2 | 1,580 | 2/ |
| Maryland | 10 | 0 | 0 | 0 | 0 | 4 | 2 | 1 | 17 | 1,656 | 1 |
| Virginia | 118 | 0 | 0 | 0 | 0 | 26 | 20 | - 6 | 158 | 5,608 | 3 |
| West Virginia | 38 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 617 | 6 |
| North Carolina | 0 | 0 | 0 | 0 | 9 | 130 | 17 | 65 | 221 | 3,966 | 6 |
| South Carolina | 0 | 0 | 0 | 0 | 9 | 171 | - 47 | 277 | 410 | 4,194 | 10 |

See footnotes at end of table.

Continued

Table 6.--Relative diversion from rail to truck between 1951 and 1954: Unloads of specified fresh fruits and vegetables at 13 major markets, by States of origin 1/ --Continued

| State of origin | Relative diversion | | | | | | | | | Total 1954 unloads | Total relative diversion as percentage of total 1954 unloads |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Apples | Grapefruit | Oranges | Celery | Lettuce | Potatoes | Tomatoes | Watermelons | Total | | |
| | Carlots | Carlots | Carlots | Carlots | Carlots | Carlots | Carlots | Carlots | Carlots | Carlots | Percent |
| Georgia | 0 | 0 | 0 | 0 | 18 | 4 | - 27 | 211 | 206 | 4,805 | 4 |
| Florida | 0 | 1,929 | 2,794 | 82 | 90 | 809 | 1,185 | 980 | 7,869 | 60,904 | 13 |
| South Atlantic | 171 | 1,929 | 2,794 | 82 | 126 | 1,144 | 1,150 | 1,521 | 8,917 | 83,330 | 11 |
| Kentucky | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 100 |
| Tennessee | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 8 | 98 | 8 |
| Alabama | 0 | 0 | 0 | 0 | 0 | 55 | 0 | 49 | 104 | 1,402 | 7 |
| Mississippi | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 51 | 0 |
| Arkansas | - 1 | 0 | 0 | 0 | 0 | 1 | - 3 | 32 | 29 | 109 | 27 |
| Louisiana | 0 | 0 | - 2 | 0 | 0 | 8 | 1 | 0 | 7 | 31 | 23 |
| Oklahoma | 0 | 0 | 0 | 0 | - 2 | - 1 | 0 | - 3 | - 6 | 44 | - 14 |
| Texas | 0 | 38 | 13 | 0 | 53 | - 2 | - 77 | 42 | 67 | 5,141 | 1 |
| South Central | - 1 | 38 | 11 | 0 | 52 | 61 | - 71 | 120 | 210 | 6,877 | 3 |
| Montana | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 10 | 159 | 6 |
| Idaho | - 1 | 0 | 0 | 0 | - 1 | 96 | 0 | 0 | 94 | 11,371 | 1 |
| Wyoming | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24 | 0 |
| Colorado | 42 | 0 | 0 | 0 | - 57 | 183 | 0 | 0 | 168 | 4,087 | 4 |
| New Mexico | 0 | 0 | 0 | 0 | - 1 | 0 | 0 | 0 | - 1 | 50 | - 2 |
| Arizona | 0 | 89 | 0 | 0 | 83 | 31 | - 1 | 6 | 208 | 9,128 | 2 |
| Utah | 1 | 0 | 0 | - 1 | 0 | - 24 | - 2 | 0 | - 26 | 632 | - 4 |
| Nevada | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 0 | 38 | 130 | 29 |
| Washington | - 39 | 0 | 0 | 0 | 3 | - 285 | 0 | - 3 | - 324 | 16,577 | - 2 |
| Oregon | 30 | 0 | 0 | 0 | - 1 | 531 | 0 | 0 | 560 | 5,098 | 11 |
| California | 9 | 1 | 272 | 323 | 247 | - 478 | 185 | - 48 | 511 | 109,523 | 2/ |
| Western | 42 | 90 | 272 | 322 | 273 | 102 | 182 | - 45 | 1,238 | 156,779 | 1 |
| Total | 300 | 2,057 | 3,077 | 584 | 464 | 4,157 | 1,490 | 1,618 | 13,747 | 325,233 | 4 |

1/ Based on unloads at Atlanta, Baltimore, Boston, Chicago, Cleveland, Denver, Los Angeles, New York, Philadelphia, San Francisco-Oakland, Seattle, and Washington, D. C. Truck unloads for each year were converted to rail carlot equivalents and were adjusted to an estimated 100 percent completeness. Moreover, the 1954 rail carlots and truck carlot equivalents were adjusted to reflect the average tonnage per carlot in rail shipments made in 1951, for commodities on which the 1954 average differed from that of 1951.

Negative figures indicate relative diversion from truck to rail.

2/ Less than 0.5 percent.

Table 7.--Unloads of 8 fresh fruits and vegetables at 13 specified major markets, by mode of transport, 1954 1/

| Market | Unloads | | | Percentage of total unloads | |
|---|---|---|---|---|---|
| | Rail | Truck 2/ | Total | Rail | Truck |
| | Carlots | Carlots | Carlots | Percent | Percent |
| Atlanta | 2,803 | 11,122 | 13,925 | 20 | 80 |
| Baltimore | 6,816 | 10,497 | 17,313 | 39 | 61 |
| Boston | 16,187 | 10,210 | 26,397 | 61 | 39 |
| Chicago | 31,861 | 6,791 | 38,652 | 82 | 18 |
| Cleveland | 9,681 | 3,795 | 13,476 | 72 | 28 |
| Denver | 2,992 | 5,052 | 8,044 | 37 | 63 |
| Los Angeles | 5,362 | 53,257 | 58,619 | 9 | 91 |
| New York | 41,053 | 38,825 | 79,878 | 51 | 49 |
| Philadelphia | 17,281 | 16,194 | 33,475 | 52 | 48 |
| San Francisco-Oakland | 3,401 | 15,328 | 18,729 | 18 | 82 |
| Seattle | 3,576 | 5,076 | 8,652 | 41 | 59 |
| Washington, D. C. | 3,212 | 4,861 | 8,073 | 40 | 60 |
| Total | 144,225 | 181,008 | 325,233 | 44 | 56 |

1/ The 8 fruits and vegetables included are: Apples, grapefruit, oranges, celery, lettuce, potatoes, tomatoes, and watermelons.
2/ Truck unloads adjusted to rail carlot equivalents and to an estimated 100 percent completeness.

carriers consisted of traffic moving between 251 and 1,500 miles to market. For distances of less than 250 miles, there was a small relative shift from truck to rail, offset by an approximately equal amount of relative diversion from rail to truck in the distances above 1,500 miles.

There was a tendency for the increase in proportion of truck traffic in each mileage block to be dominated by 1 or 2 commodities. From 251 to 750 miles, most of this increase consisted of potatoes. From 751 to 1,000 miles, relative diversion consisted overwhelmingly of watermelons and potatoes, in that order. Between 1,001 and 1,250 miles, oranges and grapefruit accounted for three-fourths of the carlots involved in this trend. From 1,251 to 1,500 miles, tomatoes took the lead in this shift, in terms of number of carlots diverted.

For the 8 commodities considered together, every mileage block except two showed relative diversion to truck movement. The shift from truck to rail in shipments from 1 to 250 miles in length was principally accounted for by short haul potato unloads at Los Angeles and Seattle. An insignificant amount of

Table 8.--Unloads of 8 fresh fruits and vegetables at 13 major markets, by principal States of origin, 1954 1/

| State of origin | Unloads | | | Unloads as percentage of total unloads | |
|---|---|---|---|---|---|
| | Rail | Truck 2/ | Total | Rail | Truck |
| | Carlots | Carlots | Carlots | Percent | Percent |
| California | 47,148 | 62,375 | 109,523 | 43 | 57 |
| Florida | 34,643 | 26,261 | 60,904 | 57 | 43 |
| New York | 341 | 24,761 | 25,102 | 1 | 99 |
| Maine | 15,672 | 4,824 | 20,496 | 76 | 24 |
| Washington | 9,855 | 6,722 | 16,577 | 59 | 41 |
| Idaho | 10,187 | 1,184 | 11,371 | 90 | 10 |
| New Jersey | 0 | 9,384 | 9,384 | 0 | 100 |
| Arizona | 5,638 | 3,490 | 9,128 | 62 | 38 |
| Virginia | 193 | 5,415 | 5,608 | 3 | 97 |
| Pennsylvania | 1 | 5,566 | 5,567 | 3/ | 4/100 |
| Texas | 4,152 | 989 | 5,141 | 81 | 19 |
| Oregon | 3,617 | 1,481 | 5,098 | 71 | 29 |
| All others 5/ | 12,778 | 28,556 | 41,334 | 31 | 69 |
| Total | 144,225 | 181,008 | 325,233 | 44 | 56 |

1/ Based on unloads of apples, grapefruit, oranges, celery, lettuce, potatoes, tomatoes, and watermelons at the following 13 major markets: Atlanta, Baltimore, Boston, Chicago, Cleveland, Denver, Los Angeles, New York, Philadelphia, San Francisco-Oakland, Seattle, and Washington, D. C.

2/ Truck unloads adjusted to rail carlot equivalents and to an estimated 100 percent completeness.

3/ Less than 0.5 of 1 percent.

4/ More than 99.5 percent but less than 100 percent.

5/ These other States originated less than 5,000 carlots each.

traffic was retaken by rail carriers in the 2,001 to 2,250 mileage block.

Much of the relative diversion from rail to truck at the greatest distances represents an initial venture by trucks into a movement previously handled by rail alone. In such cases, of course, the amount of relative diversion and the volume of truck movement are exactly equal.

The strength of truck competition on hauls more than 750 miles in length was the most significant aspect of relative diversion between 1951 and 1954.

Table 9.--Relative diversion from rail to truck between 1951 and 1954: Unloads of specified fresh fruits and vegetables at 13 major markets, by length of haul 1/

| Commodity | 1-250 miles | 251-500 miles | 501-750 miles | 751-1,000 miles | 1,001-1,250 miles | 1,251-1,500 miles | 1,501-1,750 miles | 1,751-2,000 miles | 2,001-2,250 miles | 2,251-2,500 miles | 2,501-2,750 miles | 2,751-3,000 miles | 3,001-3,250 miles | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Carlots | Carlots | Carlots | Carlots | Carlots | Carlots | Carlots | Carlots | Carlots | Carlots | Carlots | Carlots | Carlots | Carlots |
| Apples | 91 | 85 | 142 | 58 | - 59 | 0 | 0 | 0 | - 7 | - 4 | - 2 | 0 | - 4 | 300 |
| Grapefruit | 2 | - 8 | 63 | 240 | 1,347 | 235 | 19 | 129 | - 2 | - 1 | 23 | 5 | 5 | 2,057 |
| Oranges | 0 | - 3 | 138 | 269 | 2,261 | 313 | 0 | 71 | - 2 | - 5 | 33 | 0 | 2 | 3,077 |
| Celery | 252 | 154 | 6 | 25 | 99 | 36 | 5 | 7 | 0 | - 2 | 0 | - 1 | 3 | 584 |
| Lettuce | - 21 | 67 | 4 | 11 | 133 | 148 | 80 | 2 | - 47 | 1 | - 1 | 62 | 25 | 464 |
| Potatoes | -1,043 | 2,231 | 1,096 | 978 | 658 | 175 | - 3 | 4 | - 8 | 2 | 9 | 58 | 0 | 4,157 |
| Tomatoes | 156 | 73 | - 3 | - 8 | - 132 | 1,250 | - 9 | - 7 | 45 | 48 | 10 | 44 | 23 | 1,490 |
| Watermelons | 21 | 9 | 100 | 999 | 503 | 7 | - 12 | - 4 | 0 | - 4 | 0 | 0 | - 1 | 1,618 |
| Total | - 542 | 2,608 | 1,546 | 2,572 | 4,810 | 2,164 | 80 | 202 | - 21 | 35 | 72 | 168 | 53 | 13,747 |
| | Percent | Percent | Percent | Percent | Percent | Percent | Percent | Percent | Percent | Percent | Percent | Percent | Percent | Percent |
| Percentage distribution of total relative diversion | - 4 | 19 | 11 | 19 | 35 | 16 | 1 | 1 | 2/ | 2/ | 2/ | 1 | 2/ | |

1/ Based on unloads at Atlanta, Baltimore, Boston, Chicago, Cleveland, Denver, Los Angeles, New York, Philadelphia, San Francisco-Oakland, Seattle, and Washington, D. C. Truck unloads for each year were converted to rail carlot equivalents and were adjusted to an estimated 100 percent completeness. Moreover, the 1954 rail carlots and truck carlot equivalents were adjusted to reflect the average tonnage per carlot in rail shipments made in 1951, for commodities on which the 1954 average differed from that of 1951.

Negative figures indicate relative diversion from truck to rail.

2/ Not zero, but between plus 0.4 and minus 0.4 of 1 percent, inclusive.

MOVEMENTS SUBJECT TO HEAVY CHANGES IN THE RAIL AND TRUCK SHARES

Trucks possess a number of advantages in competing for fresh-produce traffic. Their speed minimizes the need for refrigeration in transit and reduces the risk of sudden price drops. Even where rail rates are lower than truck rates, a preference for truck movement may stem from the reduced handling and decreased transit time frequently characteristic of highway transportation. These two advantages lead to generally better condition of the produce on arrival--aside from the fact that the reduced handling in door-to-door movement from the packinghouse to the warehouse spells a saving in costs. In addition, during the early and late months of the shipping season, trucks may be in special demand because of their ability to carry small lots with sufficient speed to benefit from high prices at the market. Shipping in small quantities is further enhanced by the facility with which trucks make split deliveries. With price levels low, the willingness of an exempt trucker to bargain over rates can sometimes determine whether a shipment will move at all. 3/

Truckers have built an industry of considerable proportions out of the exempt hauling of agricultural commodities. Produce growers have an irregular, highly seasonal demand for transportation. Freedom from governmental regulation of rates and routes has permitted the exempt hauler to adapt his operations to these growers' special needs. The ability to change routes at will has enabled these truckers to shift their carrying capacity rapidly from place to place, as demand for transportation develops.

The truck broker--intermediary between shipper and trucker--is much more prevalent in the movement of Florida fruits and vegetables than in many another segment of the Nation's trucking industry. He reduces or eliminates some of the disadvantages which trucking once had, in contrast with rail transportation. In part he puts trucking at a positive advantage. The broker makes it easier for the shipper to get trucking service and for the trucker to get loads. The best brokers insist that the trucker show financial responsibility, through load insurance or otherwise, and they lay down minimum equipment standards. Flexibility of truck movements is heightened where brokers arrange for long-distance telephone or telegraph service at truck centers, located at produce markets or service stations (filling stations), to enable shippers or receivers to give orders as to a change of destination, or other instructions, to drivers along the way. The broker's role is not always on this high level, but his function is important wherever it exists.

The advantages of the trucking industry can be applied generally to all fresh produce movements. At the same time, however, each movement is in a sense unique, combining geographic, price, and rate factors of varying

3/ See testimony of Texas shippers (27, p. 1988). The Interstate Commerce Commission has recognized that both rate and service factors have been conducive to relative diversion of various parts of the fresh fruit and vegetable traffic from rail to truck (26, p. 412).

importance. Rate levels, climate and road conditions, and traffic opportunities have all played important roles in determining the railroad and truck shares of the Maine-to-Boston potato shipments. Here is to be found the most significant example of short haul traffic caught up in the increasing proportion of movement by highway between 1951 and 1954.

## Maine-to-Boston Potato Shipments

The building of railroads brought large-scale potato growing to Maine's Aroostook County (figure 3). Here, in comparative isolation, lay a vast expanse of high-yield potato land, with ideal weather conditions. Its potential was not to be realized, however, until the means were provided to move this heavy, bulky produce to market. In Maine, geographic specialization has combined high-yield acreage and mass transportation so successfully that, today, this State leads the Nation in production of potatoes.

During normal seasons, Maine potatoes move to all States on the Atlantic Coast and as far west as Pittsburgh or Detroit. In a year of shortage such as 1951, shipments may move as far as San Francisco. Distribution patterns for these potatoes are complicated by uneven rail rate structures, extremely variable prices, and varying harvest seasons throughout the country (5).

A variety of post-harvest problems have beset the Maine potato grower. Decreasing per capita consumption in this country has turned bumper crops into surpluses, at the same time that competition from domestic and Canadian sources was increasing. In addition, transportation remains one of the area's most perplexing problems.

The railroads in northeastern Maine were essential to the development of the potato industry there. In turn, they now are unusually dependent on the potato shipper for traffic. In 1953, for example, one of the largest of these rail companies derived fully one-third of its revenue from the potato trade (34). Furthermore, the number of alternative sources of rail revenue in this area is unusually limited.

The railroads possess certain advantages in competing for this traffic in particular and for potato traffic in general. The railroads are helped by such potato shipping characteristics as relatively low value per unit of weight, a tendency to load heavily, production in large, concentrated growing areas, comparatively low perishability, and rail rate levels below those of more perishable produce (21).

As for the potato traffic from Maine, the rail rates on this have gone up less rapidly than on potatoes from other areas. For example, during the period from January 1, 1946 to January 1, 1951, while rail rates on Maine-to-Boston potato movements were increasing by 24 percent, the rail rates on potatoes to Boston from Idaho, Florida, and New York State were increasing by 37 percent, 56 percent, and 68 percent, respectively (21).

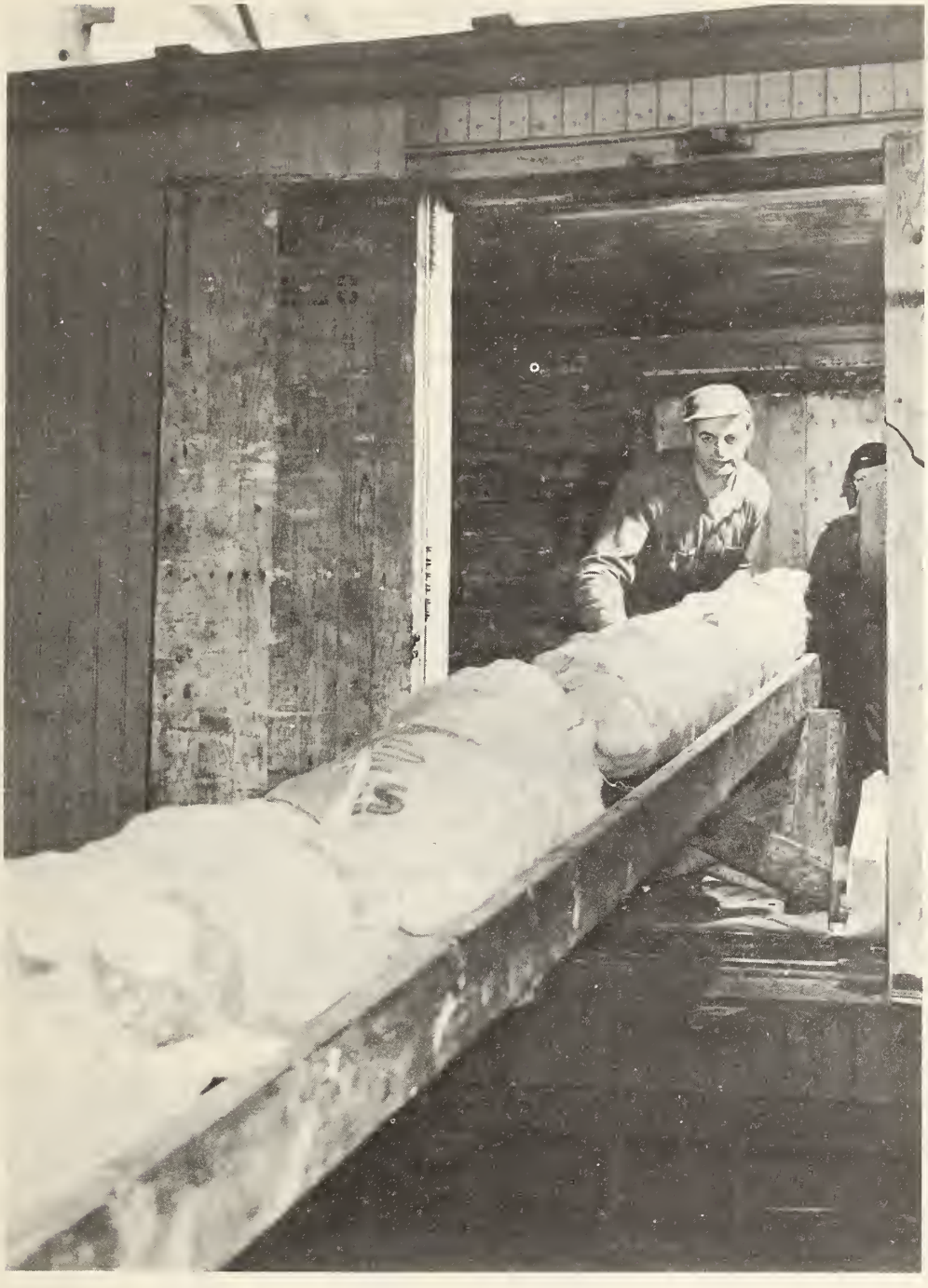

Figure 3.--Unloading Maine potatoes from a rail car.

The Maine potato traffic is so important to the railroads handling it that they have made special efforts in the past few years at holding it by bettering their service. These improvements have included the purchase of new cars specially adapted to potato movement, and reduced transit time with guaranteed schedules to Boston and New York City.

Maine potatoes are shipped chiefly during months when heavy snow in that State can be a very real obstacle to motor transport. In addition, the destructive effects of freezing had kept roads in the Maine potato country in generally poor condition until extensive resurfacing was completed around 1953. At the same time, there has been a scarcity of northbound traffic to balance the southbound potato crop. This last factor exists in railway operations also; but deadheading back (making a return trip without cargo) is less serious there because railroads have a lower percentage of out-of-pocket costs than trucklines do (31, p. 3; 32, p. 35 et seq.; 33, p. 39 et seq.). Moreover, the railroads have better-developed arrangements for interchange of northbound traffic with Canadian carriers than the truckers have. For these various reasons, the railroads have been able to maintain an outstandingly large--although declining--share of the potato traffic between Maine and Boston.

Set over against the factors which have sustained this large rail share is the fact that the haul is a short one--402 highway miles from Caribou to Boston (21). On short hauls, there are inherent advantages peculiar to truck movement. Most commonly, these advantages result in a high percentage of truck unloads of any given vegetable or fruit when it moves so short a distance. Table 10 shows how unusual the rail share of the Boston potato traffic from Maine was in 1951, when it is compared with hauls from other origins about equally near to Boston.

Between 1951 and 1954, the railroad tonnage of the potato traffic from Maine to Boston rose, but much less rapidly than the truck tonnage. This means that the percentage share of this traffic moving by rail fell off substantially (table 11). This relative diversion from rail to truck transportation amounted to 1,603 carlots, which was 26 percent of Maine potato unloads at Boston in 1954.

Maine potatoes moving to other markets were also caught up in this trend toward greater use of motor transport. Relative diversion from rail to truck was heavy at Philadelphia (704 carlots), Baltimore (254 carlots), and Cleveland (132 carlots). In 1954, trucks venturing into northern Maine were able to haul a total of 2,868 carlots of potato traffic which would have moved by rail to the 13 major markets covered by this report, had rail carriers maintained their 1951 share of this traffic in 1954.

The influence of rail rates on this situation cannot be estimated exactly. Freight rates on Maine potatoes to Boston rose twice during 1951 and once in 1952. It would be hard to doubt that these increases were to some extent responsible for the declining percentage of this movement by rail between 1951

Table 10.--Potato unloads at Boston: Percentage hauled by rail, and length of haul, by States of origin, 1951

| State of origin | Potato unloads at Boston | |
|---|---|---|
| | Percentage of unloads hauled by rail | Length of haul |
| | Percent | Miles |
| New York | 2 | 325 |
| Maine | 83 | 402 |
| Maryland | 9 | 465 |
| Virginia | 40 | 532 |

and 1952, especially in view of the fact that many of the advantages of rail movement not stemming from rate levels still existed. Maine potatoes are shipped chiefly in the period from October through April or May. Consequently, Maine potato shipments in 1952, entailing the greater part of the relative diversion already mentioned, came chiefly before a rail rate decrease in September 1952. This decrease did not stop the trend toward relative diversion in 1953. However, in 1954 this tendency leveled off (table 11). The rail rate on potatoes from Maine to Boston did not change from September 1952 until after 1954.

Maine potato shipments provided an unusual situation in 1951, that of a short haul dominated by rail carriers. This pattern has undergone drastic change since then, however, so that by 1954 the railroads' lead had been greatly reduced (table 11).

Table 11.--Rail and truck unloads of Maine potatoes at Boston by years, 1951-54

| Year | Unloads | | | Percentage of total unloads | |
|---|---|---|---|---|---|
| | Rail | Truck 1/ | Total | Rail | Truck |
| | Carlots | Carlots | Carlots | Percent | Percent |
| 1951 | 3,094 | 631 | 3,725 | 83 | 17 |
| 1952 | 3,092 | 1,240 | 4,332 | 71 | 29 |
| 1953 | 3,102 | 2,083 | 5,185 | 60 | 40 |
| 1954 | 3,582 | 2,658 | 6,240 | 57 | 43 |

1/ Truck unloads adjusted to rail carlot equivalents and to an estimated 100-percent completeness.

## Florida-to-New York Citrus Shipments

Florida citrus fruit figures prominently in the increasing share of fresh produce movement by truck for the longer hauls extending beyond 1,000 miles. A tremendous traffic potential is involved, with the Florida citrus crop representing 30 percent of the Nation's production of fruits of all kinds (20, p. 426). During the record 1953-54 season, for example, citrus production there approximated 6 million tons, 40 percent of which moved fresh to consumers in all 48 States--including citrus-rich California--and the District of Columbia.

During the postwar years, the distribution of this fruit has been profoundly affected by innovations in processing and marketing. The 11-year-old frozen concentrate industry has expanded rapidly, absorbing over half of the Florida orange crop in the 1954-55 season (6, p. 38). The consequent reduction in potential traffic became a matter of grave concern to carriers (18, pp. 5, 52-57). However, this has not turned out to be a matter of their losing fresh-orange traffic which they actually possessed. There are still almost as many fresh oranges leaving Florida as there were 10 years ago. The total crop has vastly increased, and the oranges used by the concentrate industry consist mainly of that increase.

Along with the expansion of this new method of citrus processing came changes in marketing practices and geographical distribution. The reduced volume handled through auction markets is undoubtedly associated closely with the declining share of traffic hauled by the railroads. Distribution patterns have also changed. More and more of the fresh fruit has gone to the north central and southern regions, while shipments to the Northeastern States have have decreased (12).

Domestic shipments of Florida citrus by boat were heavy during the 1930's --an average of about 20,000 carload equivalents per year in 1932-41. For example, in the 1935-36 season, the amount of citrus moving out of Florida in coastwise vessels was two-thirds as great as the amount moving out by rail; and each of these modes of transport far exceeded the trucks in importance. During World War II, when American vessels were shifted to other uses, this coastwise water movement of Florida citrus disappeared entirely. It has not made a comeback of any importance. In the first 10 years following World War II, the amount of Florida citrus shipped by this mode of transport added up to only about 14,000 carload equivalents. This total for the decade was merely two-thirds as much as the average volume moving in this manner per year in the 9 years preceding Pearl Harbor (10, p. 22).

The trucks' percentage of Florida citrus traffic has continued to expand rapidly since 1951. The figures on this movement cover all shipments by land, and all domestic destinations outside of Florida. During the 1950-51 season, 39 percent of the fresh oranges leaving Florida moved by highway. Three years later, this proportion had increased to 53 percent. Over the same period of time, grapefruit shipments by truck increased from 35 to 54 percent (7, pp. 25-26; 9, pp. 25-26).

Much of this new motor traffic was unloaded at New York City and Chicago. The movements to these 2 destinations, approximately 1,200 miles over the road, have until recently been typically by rail. In 1951, for example, 80 percent of Florida orange and grapefruit unloads in New York City were from rail cars, and in Chicago 58 percent. (Here, as in most of this report, the total considered is rail plus truck, with the small water movement omitted.) By 1954, rail shares of this traffic had decreased sharply to 65 percent at New York and 46 percent at Chicago. At the 2 markets, there were more than 2,200 carlots of Florida citrus traffic which arrived by truck but which, on the basis of the 1951 pattern, would have arrived by rail. Similar losses were reported by other markets, with a total of 4,700 carlots of Florida oranges and grapefruit which, in this relative sense of diversion, were shifted from rail to truck shipment at the 13 cities.

Relative transportation charges appear to be an extremely important consideration in the minds of Florida shippers when deciding on the mode of transportation to be used. Traffic from this area is apparently sensitive to rate changes. For example, a decrease in rail rates to a number of destinations during November 1950 was accompanied by an increase in the share of Florida citrus traffic hauled by rail (2). The relationship between the proportions of traffic handled by each type of carrier and differences in rates to various markets has also been indicated. Accordingly, an increase in the percentage of this traffic hauled by truck is not surprising in view of the rate advantage enjoyed by motor carriers on citrus shipments moving as far as Denver, more than 1,800 miles from Florida shipping points. 4/ Two increases in 1951 and one in 1952 raised the level of rail rates by a substantial margin. For example, the total effect of these increases was that the rail rate for a standard box of oranges moving from Lake Wales, Fla., to New York rose from $0.98 to $1.10. A like 12-cent increase applied on similar shipments to Chicago. The limited information available indicates that there was no comparable increase in truck rates for these hauls (15, p. 9). There are shipper interests which state the matter a good deal more emphatically than this.

In addition, the imposition of freight car unloading charges at New York and Philadelphia in 1948 stimulated diversion from rail to truck in these areas, according to findings of the Interstate Commerce Commission (28, pp. 125-126, 136-137). Fresh fruits and certain fresh vegetables arriving in Manhattan by rail are unloaded preponderantly at pier stations rather than from team tracks or spurs. The first procedure means that rail cars are brought across the Hudson River from New Jersey on car floats (vessels resembling barges) and, without leaving the car floats, are unloaded by the respective railroads--or by contractors chosen and paid by them--onto the pier platforms, where the produce is turned over to the consignees. Prior to 1948, the railroads made no separate charge for this unloading service, apart from the so-called line-haul rate--the basic transportation rate, designed mainly to cover intercity movement. Fresh fruits and vegetables arriving in Philadelphia,

4/ The comparison referred to includes refrigeration charges en route and cartage charges at the terminal market, where applicable (14).

other than those consigned to chain stores, are handled mainly at two produce terminals operated by railroads. Prior to 1948, unloading of fruits and vegetables at these terminals was performed by the railroads (or firms chosen and paid by them), with no separate charge for the service.

In that year, the railroads adopted a system of separate charges for the unloading of fruits and vegetables at pier stations in Manhattan and at the railroad produce terminals in Philadelphia--and required that the unloading continue to be done by the railroads or their contractors. No adjustment in the line-haul charges was made at either New York or Philadelphia as an offset to the newly imposed unloading charges which the shipper or receiver would have to pay.

From both receiver and shipper sources, there were strong objections to the unloading charges (28, pp. 119-120, 130-131, 135-136). The compulsory unloading service and the charges for it did not apply to unloading from team tracks; but the capacity of Manhattan's team tracks would be highly inadequate for handling the added burden of the fruits and vegetables hitherto received at pier stations. Expansion of the team tracks was not feasible, in view of the price of land on Manhattan Island. In Philadelphia, the team tracks were more adequate, and their capacity could have been increased. However, delivery on the terminal platforms there and on pier platforms in Manhattan is a feature of rail transportation which receivers had found convenient. It means unloading into a building, in contrast to the situation at team tracks, which include no such facility--and commonly not even any available space out in the open--where the produce may be deposited. Thus, at the New York pier stations and the Philadelphia produce terminals as well, the fruit and vegetable consignee can display his produce in a way which permits the buyer to examine it thoroughly before buying. In the opinion of some receivers, the unloading charges made this opportunity provided for them by the railroads too costly.

In October 1956, as a result of extensive litigation, these charges were canceled, by order of the Interstate Commerce Commission (29, 30, 36). But their tendency to divert traffic from the railroads had already shown its effects.

Many nonrate factors have also entered the picture. The door-to-door service of motor carriers--which means faster service and reduced handling of the cargo--has been mentioned frequently by shippers in explaining the trend toward highway movement. Such an advantage can be gotten through for-hire trucking or through private trucking. The Interstate Commerce Commission has stated that the railroads' declining share of the citrus traffic from Florida is explained by increased trucking to the South, the Southwest, and Western Trunkline Territory--roughly, the West North Central States (26, p. 412). Trucks offer a greater advantage not only in rates but also in speed of service on shipments from Florida to the South than on shipments to the Northeast. The reason is a familiar one in comparisons between rail and truck transportation: the shorter the haul, the likelier it is that the railroads will take more time to make the run than the trucks will, and that the railroads will

charge more per ton-mile than the trucks will (14, p. 8; 22, p. 21). This contrast is inherent in rail and truck operations because, for example, switching can easily cost the railroad, in both time and money, as much for a 100-mile run as for a 1,000-mile run. Expedited rail service is offered by railroads up the East Coast, but there are important markets farther west which lack such service. Inadequate refrigerator car supply during certain months has also encouraged shipping by truck.

Florida growers point out that rising transportation charges have caught the grove owner in a price squeeze. 5/ Without detracting from the validity of these arguments, it must be recognized that the costs of providing this transportation service have also spiraled upward. Nevertheless, when the railroads increase their rates, certain aspects of their truck competition which have been noted in this report cannot be ignored. One is the extreme mobility of the exempt for-hire trucker, who can quickly become available for hauling an increased share of the traffic, whenever an increase in rail charges means a widened spread between rail and truck charges. In addition, some movements can readily be served in part by an increase in private trucking.

Many shippers prefer rail movement for reasons that will continue to be of importance in the future. Large numbers of packing plants were designed for rail shipment. The size of railroad companies makes for greater stability in business dealings, and greater responsibility in transit. When prices are fluctuating, much benefit can be derived from guaranteed schedules, from the rail shipper's privilege of changing his mind about the destination of his shipment after it has left the place of origin, and from an information service which provides passing and arrival data and through which tracing of cars on the road is possible. Team track delivery does not force the receiver to unload immediately. The irresponsibility of certain "bargain-rate" truckers has driven some shippers to reject truck transportation, in favor of the greater financial stability and uniform rates of rail carriers. 6/

This study cannot judge the weight of any one of these considerations. It is the shipper who, in the final analysis, makes the evaluation that counts by deciding who will carry his product. Unload data indicate that the Florida citrus shipper has, between 1951 and 1954, found the use of trucks either increasingly profitable or more convenient, or both, especially for movements into the largest markets in the Northeast.

## Florida-to-New York Tomato Shipments

Tomatoes are Florida's most valuable vegetable crop in point of total gross returns. Florida tomatoes receive widespread distribution, moving by rail as far as the States of California and Washington. However, motor

5/ For a comparison of increasing transportation charges with other marketing costs, see (8) and (9).

6/ For a discussion of the comparative advantages of rail and truck shipment of fresh produce, see (19, pp. 139, 141).

carriers have transported the greater part of tomato shipments out of Florida beginning with the 1947-48 season (7, pp. 16-17). During the 1954-55 season, truck shipments of Florida tomatoes to destinations in 44 States and the District of Columbia were reported (10, pp. 92, 95).

Between 1948 and 1951, tomatoes exhibited a greater degree of relative diversion of traffic from rail to truck then any other commodity studied here. More than 7 percent of 1951 unloads were thus affected (4). Since that time, however, this shift has proceeded at a less rapid pace, between 1951 and 1954 totaling 4 percent of 1954 unloads.

The speed characteristic of truck service is extremely desirable in the shipment of vine-ripened tomatoes because of the commodity's extreme perishability. An increasing volume of more mature tomatoes being shipped from Florida in recent years probably accounts, in part, for an increasing preference for truck movement.

In September 1954, scheduled rail service on perishables from Florida to New York State and New England was reduced as much as 24 hours. It remains to be seen whether this improvement in service will eventually bring a substantial return of shipments of tomatoes and other perishables from the trucks to the railroads.

New York City has observed more of the relative diversion of Florida tomato traffic than any other market. Not only did the railroads in 1954 unload a rapidly decreasing proportion of tomato receipts from Florida reported there, but actual rail unloads also declined by 854 carlots since 1951. Table 12 makes clear the size of the rail losses suffered. By contrast, relative diversion was light at Chicago, amounting to 60 carlots, while actual rail carlots there in 1954 were only slightly below the level reported in 1951. This difference provides a good example of the influence of rate structure. A comparison of 1952 rail charges with truck rates revealed a substantial truck advantage on Florida tomato shipments to New York City, while on the slightly longer run to Chicago, the railroads were enjoying a slight edge (14).

How much of this shift from rail to truck in the movement of Florida tomatoes is due to nonrate factors and would have taken place had there been no increase in rail rates is difficult to judge. However, the percentage of tomato shipments by rail out of Florida has decreased following each substantial increase in rail rates. For example, rail rates were increased 6 cents per 100 pounds in January 1949, on hauls from various points in Florida to New York City and Chicago. The rail share of the tomato traffic out of Florida to those cities declined from 90 percent during 1948 to 70 percent in 1949. An increase of similar proportions in May 1952, was also followed by a reduction in the percentage of traffic hauled by rail, from 57 percent in 1952 to 48 percent during 1953.

Not all of the increasing percentage of highway movement of fresh produce out of Florida can be absolutely identified as traffic which would have moved

Table 12.--Florida tomatoes: Rail and truck unloads at New York City by years, 1951-54

| Year | Unloads | | | Percentage of total unloads | |
|---|---|---|---|---|---|
| | Rail | Truck 1/ | Total | Rail | Truck |
| | Carlots | Carlots | Carlots | Percent | Percent |
| 1951 | 2,041 | 1,183 | 3,224 | 63 | 37 |
| 1952 | 2,051 | 1,576 | 3,627 | 57 | 43 |
| 1953 | 1,639 | 1,795 | 3,434 | 48 | 52 |
| 1954 | 1,187 | 2,720 | 3,907 | 30 | 70 |

1/ Truck unloads for each year were converted to rail carlot equivalents and were adjusted to an estimated 100 percent completeness. Moreover, the 1954 rail carlots and truck carlot equivalents were adjusted to reflect the average tonnage per carlot in rail shipments made in 1951. This adjustment was not needed for the 1952 or 1953 data.

by rail had the truck tonnage not increased. The State's fresh fruit and vegetable production has expanded rapidly since 1946, and it is not known how much of this new production was stimulated by the availability of motor transportation and would never have gone by rail. Regardless of its impact on railroad traffic, however, the motortrucks' tonnage of Florida fruits and vegetables shows no signs of ceasing to rise. The truck share of fresh produce moving out of Florida by highway and rail increased from 55 percent during the 1953-54 season to 59 percent in 1954-55, and 62 percent in 1955-56 (11), pp. 14, 17). There is no obvious evidence that this trend will stop in the near future.

## CONCLUSIONS

Transportation is growing more important in the marketing of fresh fruits and vegetables because of increasing geographic specialization in the production of these commodities. The relative diversion of fresh produce from rail to truck has affected many phases of marketing, and by 1951 had become a tendency of major proportions, although still generally confined chiefly to hauls under 1,250 miles in length.

Between 1951 and 1954, for the markets and commodities studied, more than 4 percent of the fresh produce movement was estimated to have been shifted to the highways as a result of changes in the rail-truck shares of this traffic. Three-fourths of this relative diversion to trucks originated in Maine and Florida, and terminated, for the most part, at markets in the Northeast. Unload data

comparisons also indicate that the distance involved in motor operations is lengthening significantly.

Rail rate increases appear to have some influence on the increasing use of highway transport. Shorter transit time and door-to-door delivery also provide a convincing explanation of this trend, especially in the shipment of tomatoes. Most of this increasing preference for truck movement, however, is probably the result of an attempt on the part of shippers in specialized areas to hold down marketing costs. The adaptability of truck transportation to the hauling of these perishables is receiving widespread acceptance.

In 1954, the trend toward an increasing percentage of fresh produce movement by highway showed few signs of slackening. It occurred at a markedly different tempo for the various movements. Most of the relative diversion in the movements studied appeared among commodities, origins, and destinations where movement was predominantly by rail in 1951--those where the railroads had a lot to lose or to hold. On the other hand, some relative diversion of traffic from truck to rail appeared in areas dominated by truck movement.

The rails and the trucks each offer distinctive service advantages. These are in part the advantages peculiar to larger and smaller organizations, respectively. But there nevertheless is much for each mode of transport to learn from the other; and changes in the division of traffic between the two types of carrier that have already occurred are an incentive alike to the trucks and the railroads to go after business. Any outstanding responsiveness by one or the other mode of transport to fruit and vegetable shippers' needs in the near future may well give it a big enough boost in the competition for traffic that the next few years' changes in the rail and truck shares will be strikingly different from those of 1951-54.

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APPENDIX

UNLOADS AND RELATIVE DIVERSION, BY COMMODITY

Table 13.--Apples: Unloads and relative diversion from rail to truck between 1951 and 1954, classified by destination, between all origins and 13 major markets 1/

| Destination | State of origin 2/ | 1951 unloads: Rail | 1951 unloads: Truck | 1954 unloads: Rail | 1954 unloads: Truck | 1954 unloads: Total | Relative diversion 1951-54 | Relative diversion as percentage of total 1954 unloads |
|---|---|---|---|---|---|---|---|---|
| | | Carlots | Carlots | Carlots | Carlots | Carlots | Carlots | Percent |
| Atlanta, Ga. | Ga. | 0 | 65 | 0 | 103 | 103 | 0 | 0 |
| | N. C. | 0 | 145 | 0 | 146 | 146 | 0 | 0 |
| | Va. | 114 | 411 | 61 | 489 | 550 | 58 | 11 |
| | Wash. | 349 | 0 | 324 | 0 | 324 | 0 | 0 |
| | Other | 75 | 272 | 36 | 162 | 198 | 23 | 12 |
| Baltimore, Md. | Md. | 3 | 117 | 0 | 128 | 128 | 3 | 2 |
| | Pa. | 0 | 356 | 0 | 285 | 285 | 0 | 0 |
| | Va. | 1 | 67 | 0 | 103 | 103 | 2 | 2 |
| | Wash. | 358 | 6 | 237 | 17 | 254 | 13 | 5 |
| | W. Va. | 0 | 106 | 0 | 139 | 139 | 0 | 0 |
| | Other | 20 | 220 | 8 | 138 | 146 | 5 | 3 |
| Boston, Mass. | Mass. | 9 | 1,293 | 0 | 1,143 | 1,143 | 8 | 1 |
| | N. J. | 0 | 131 | 0 | 112 | 112 | 0 | 0 |
| | N. Y. | 1 | 11 | 1 | 222 | 223 | 18 | 8 |
| | Wash. | 226 | 0 | 301 | 0 | 301 | 0 | 0 |
| | Other | 51 | 57 | 22 | 124 | 146 | 14 | 10 |
| Chicago, Ill. | Mich. | 3 | 1,385 | 3 | 924 | 927 | -1 | 3/ |
| | Wash. | 1,940 | 12 | 1,770 | 4 | 1,774 | -7 | 3/ |
| | Other | 106 | 588 | 84 | 467 | 551 | 49 | 9 |
| Cleveland, Ohio | Mich. | 0 | 97 | 0 | 178 | 178 | 0 | 0 |
| | N. Y. | 9 | 204 | 0 | 216 | 216 | 9 | 4 |
| | Ohio | 15 | 277 | 0 | 164 | 164 | 8 | 5 |
| | Wash. | 303 | 1 | 306 | 0 | 306 | -1 | 3/ |
| | Other | 12 | 107 | 7 | 242 | 249 | 7 | 3 |
| Denver, Colo. | Colo. | 98 | 69 | 149 | 176 | 325 | 42 | 13 |
| | Wash. | 183 | 116 | 195 | 96 | 291 | -17 | -6 |
| | Other | 113 | 93 | 40 | 41 | 81 | 11 | 14 |
| Los Angeles, Calif. | Calif. | 5 | 1,400 | 11 | 1,066 | 1,077 | -7 | -1 |
| | Idaho | 55 | 204 | 43 | 185 | 228 | 5 | 2 |
| | Oreg. | 33 | 213 | 12 | 296 | 308 | 29 | 9 |
| | Wash. | 302 | 2,822 | 354 | 2,441 | 2,795 | -83 | -3 |
| | Other | 1 | 76 | 0 | 130 | 130 | 1 | 1 |

See footnotes at end of table, page Continued

Table 13.--Apples: Unloads and relative diversion from rail to truck between 1951 and 1954, classified by destination, between all origins and 13 major markets 1/--Continued

| Destination | State of origin 2/ | 1951 unloads: Rail | 1951 unloads: Truck | 1954 unloads: Rail | 1954 unloads: Truck | 1954 unloads: Total | Relative diversion 1951-54 | Relative diversion as percentage of total 1954 unloads |
|---|---|---|---|---|---|---|---|---|
| | | Carlots | Carlots | Carlots | Carlots | Carlots | Carlots | Percent |
| New York, N. Y. | Conn. | 0 | 228 | 0 | 121 | 121 | 0 | 0 |
| | Mass. | 0 | 343 | 0 | 341 | 341 | 0 | 0 |
| | N. J. | 0 | 969 | 0 | 808 | 808 | 0 | 0 |
| | N. Y. | 1 | 5,028 | 0 | 4,381 | 4,381 | 1 | 3/ |
| | Pa. | 0 | 323 | 0 | 217 | 217 | 0 | 0 |
| | Vt. | 0 | 809 | 0 | 717 | 717 | 0 | 0 |
| | Va. | 1 | 103 | 0 | 104 | 104 | 1 | 1 |
| | Wash. | 1,872 | 0 | 1,693 | 0 | 1,693 | 0 | 0 |
| | Other | 78 | 332 | 61 | 160 | 221 | -2 | -1 |
| Philadelphia, Pa. | N. J. | 0 | 1,004 | 0 | 618 | 618 | 0 | 0 |
| | N. Y. | 0 | 428 | 0 | 327 | 327 | 0 | 0 |
| | Pa. | 5 | 524 | 0 | 482 | 482 | 4 | 1 |
| | Va. | 14 | 196 | 0 | 163 | 163 | 11 | 7 |
| | Wash. | 643 | 22 | 712 | 9 | 721 | -15 | -2 |
| | W. Va. | 13 | 44 | 0 | 104 | 104 | 24 | 23 |
| | Other | 11 | 214 | 8 | 119 | 127 | 3 | 2 |
| San Francisco, Calif. | Calif. | 0 | 705 | 0 | 653 | 653 | 0 | 0 |
| | Oreg. | 4 | 144 | 0 | 103 | 103 | 3 | 3 |
| | Wash. | 80 | 827 | 21 | 707 | 728 | 43 | 6 |
| | Other | 14 | 31 | 2 | 15 | 17 | 3 | 18 |
| Seattle, Wash. | Wash. | 37 | 482 | 9 | 506 | 515 | 28 | 5 |
| | Other | 0 | 14 | 0 | 17 | 17 | 0 | 0 |
| Washington, D. C. | Pa. | 0 | 303 | 0 | 126 | 126 | 0 | 0 |
| | Va. | 0 | 265 | 0 | 194 | 194 | 0 | 0 |
| | Wash. | 180 | 0 | 164 | 0 | 164 | 0 | 0 |
| | W. Va. | 0 | 55 | 0 | 160 | 160 | 0 | 0 |
| | Other. | 10 | 189 | 0 | 139 | 139 | 7 | 5 |
| Total | | 7,348 | 24,503 | 6,634 | 21,228 | 27,862 | 300 | 1 |

1/ Based on unloads at Atlanta, Baltimore, Boston, Chicago, Cleveland, Denver, Los Angeles, New York, Philadelphia, San Francisco-Oakland, Seattle, and Washington, D. C. Truck unloads for each year were converted to rail carlot equivalents and were adjusted to an estimated 100 percent completeness. Moreover, the 1954 rail carlots and truck carlot equivalents were adjusted to reflect the average tonnage per carlot in rail shipments made in 1951, for commodities on which the 1954 average differed from that of 1951.

Negative figures indicate relative diversion from truck to rail.

2/ "Other" includes each State which, in 1954, accounted for 100 carlots or less, of the unloads of this commodity at the particular destination.

3/ Not zero, but between plus 0.4 and minus 0.4 of 1 percent, inclusive.

Table 14.--Grapefruit: Unloads and relative diversion from rail to truck between 1951 and 1954, classified by destination, between all origins and 13 major markets 1/

| Destination | State of origin 2/ | 1951 unloads | | 1954 unloads | | | Relative diversion 1951-54 | Relative diversion as percentage of total 1954 unloads |
|---|---|---|---|---|---|---|---|---|
| | | Rail | Truck | Rail | Truck | Total | | |
| | | Carlots | Carlots | Carlots | Carlots | Carlots | Carlots | Percent |
| Atlanta, Ga. | Fla. | 84 | 374 | 25 | 454 | 479 | 63 | 13 |
| | Other | 13 | 1 | 14 | 1 | 15 | 0 | 0 |
| Baltimore, Md. | Fla. | 438 | 171 | 421 | 398 | 819 | 168 | 21 |
| | Other | 5 | 0 | 1 | 1 | 2 | 0 | 0 |
| Boston, Mass. | Fla. | 766 | 174 | 954 | 489 | 1,443 | 222 | 15 |
| | Other | 81 | 1 | 44 | 0 | 44 | -1 | -2 |
| Chicago, Ill. | Fla. | 1,098 | 775 | 982 | 932 | 1,914 | 140 | 7 |
| | Other | 256 | 66 | 141 | 36 | 177 | 11 | 6 |
| Cleveland, Ohio | Fla. | 491 | 83 | 644 | 161 | 805 | 44 | 5 |
| | Other | 76 | 9 | 41 | 0 | 41 | 0 | 0 |
| Denver, Colo. | Fla. | 130 | 153 | 6 | 286 | 292 | 128 | 44 |
| | Other | 46 | 75 | 11 | 87 | 98 | 24 | 24 |
| Los Angeles, Calif. | Ariz. | 31 | 1,344 | 30 | 1,018 | 1,048 | -6 | -1 |
| | Calif. | 2 | 1,829 | 0 | 1,560 | 1,560 | 2 | 3/ |
| | Fla. | 13 | 59 | 3 | 144 | 147 | 24 | 16 |
| | Other | 0 | 20 | 0 | 63 | 63 | 0 | 0 |
| New York, N. Y. | Fla. | 3,712 | 933 | 3,626 | 1,900 | 5,526 | 789 | 14 |
| | Other | 221 | 0 | 97 | 0 | 97 | 0 | 0 |
| Philadelphia, Pa. | Fla. | 1,116 | 305 | 1,144 | 537 | 1,681 | 176 | 10 |
| | Other | 52 | 3 | 5 | 0 | 5 | 0 | 0 |
| San Francisco, Calif. | Ariz. | 111 | 299 | 15 | 331 | 346 | 79 | 23 |
| | Calif. | 16 | 446 | 19 | 474 | 493 | -2 | 3/ |
| | Other | 6 | 67 | 0 | 67 | 67 | 5 | 7 |
| Seattle, Wash. | Ariz. | 130 | 15 | 103 | 33 | 136 | 19 | 14 |
| | Fla. | 136 | 2 | 274 | 10 | 284 | 6 | 2 |
| | Other | 82 | 37 | 43 | 24 | 67 | 2 | 3 |
| Washington, D. C. | Fla. | 178 | 250 | 71 | 494 | 565 | 164 | 29 |
| | Other | 13 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | | 9,303 | 7,491 | 8,714 | 9,500 | 18,214 | 2,057 | 11 |

See table 13 for footnotes.

Table 15.--Oranges: Unloads and relative diversion from rail to truck between 1951 and 1954, classified by destination, between all origins and 13 major markets 1/

| Destination | State of origin 2/ | 1951 unloads: Rail | 1951 unloads: Truck | 1954 unloads: Rail | 1954 unloads: Truck | 1954 unloads: Total | Relative diversion 1951-54 | Relative diversion as percentage of total 1954 unloads |
|---|---|---|---|---|---|---|---|---|
| | | Carlots | Carlots | Carlots | Carlots | Carlots | Carlots | Percent |
| Atlanta, Ga. | Fla. | 180 | 929 | 57 | 1,147 | 1,204 | 138 | 11 |
| | Other | 68 | 0 | 40 | 0 | 40 | -1 | -2 |
| Baltimore, Md. | Calif. | 534 | 0 | 372 | 8 | 380 | 8 | 2 |
| | Fla. | 739 | 324 | 611 | 698 | 1,309 | 299 | 23 |
| | Other | 11 | 0 | 9 | 0 | 9 | 0 | 0 |
| Boston, Mass. | Calif. | 2,164 | 0 | 1,850 | 0 | 1,850 | 0 | 0 |
| | Fla. | 1,251 | 141 | 1,314 | 493 | 1,807 | 310 | 17 |
| | Other | 35 | 0 | 10 | 0 | 10 | 0 | 0 |
| Chicago, Ill. | Ariz. | 101 | 0 | 106 | 4 | 110 | 4 | 4 |
| | Calif. | 2,944 | 21 | 2,373 | 15 | 2,388 | -2 | 3/ |
| | Fla. | 1,192 | 913 | 834 | 1,178 | 2,012 | 305 | 15 |
| | Other | 9 | 28 | 2 | 15 | 17 | 2 | 12 |
| Cleveland, Ohio | Calif. | 1,144 | 0 | 936 | 2 | 938 | 2 | 3/ |
| | Fla. | 634 | 76 | 647 | 233 | 880 | 139 | 16 |
| | Other | 38 | 0 | 43 | 0 | 43 | -1 | -2 |
| Denver, Colo. | Calif. | 197 | 331 | 10 | 491 | 501 | 177 | 35 |
| | Fla. | 63 | 62 | 4 | 139 | 143 | 68 | 48 |
| | Other | 11 | 32 | 0 | 42 | 42 | 10 | 24 |
| Los Angeles, Calif. | Calif. | 0 | 5,986 | 0 | 3,680 | 3,680 | 0 | 0 |
| | Other | 1 | 24 | 1 | 42 | 43 | 0 | 0 |
| New York, N. Y. | Calif. | 5,726 | 0 | 4,146 | 0 | 4,146 | 0 | 0 |
| | Fla. | 4,977 | 1,249 | 4,362 | 2,347 | 6,709 | 998 | 15 |
| | Other | 6 | 0 | 3 | 0 | 3 | 0 | 0 |
| Philadelphia, Pa. | Calif. | 2,044 | 52 | 1,432 | 62 | 1,494 | 25 | 2 |
| | Fla. | 2,035 | 507 | 1,975 | 827 | 2,802 | 269 | 10 |
| | Other | 5 | 0 | 7 | 0 | 7 | 0 | 0 |
| San Francisco, Calif. | Calif. | 19 | 2,282 | 17 | 1,734 | 1,751 | -3 | 3/ |
| | Other | 5 | 14 | 0 | 6 | 6 | 4 | 67 |
| Seattle, Wash. | Calif. | 475 | 602 | 247 | 460 | 707 | 65 | 9 |
| | Other | 24 | 0 | 94 | 2 | 96 | 2 | 2 |
| Washington, D. C. | Calif. | 183 | 0 | 114 | 0 | 114 | 0 | 0 |
| | Fla. | 335 | 325 | 69 | 590 | 659 | 266 | 40 |
| | Other | 0 | 0 | 7 | 0 | 7 | -7 | -100 |
| Total | | 27,150 | 13,898 | 21,692 | 14,215 | 35,907 | 3,077 | 9 |

See table 13 for footnotes.

Table 16.--Celery: Unloads and relative diversion from rail to truck between 1951 and 1954, classified by destination, between all origins and 13 major markets 1/

| Destination | State of origin 2/ | 1951 unloads | | 1954 unloads | | | Relative diversion 1951-54 | Relative diversion as percentage of total 1954 unloads |
|---|---|---|---|---|---|---|---|---|
| | | Rail | Truck | Rail | Truck | Total | | |
| | | Carlots | Carlots | Carlots | Carlots | Carlots | Carlots | Percent |
| Atlanta, Ga. | Fla. | 18 | 162 | 34 | 183 | 217 | -12 | -6 |
| | Other | 33 | 135 | 55 | 96 | 151 | 7 | 5 |
| Baltimore, Md. | Calif. | 341 | 2 | 428 | 5 | 433 | 2 | 3/ |
| | Fla. | 380 | 43 | 364 | 69 | 433 | 25 | 6 |
| | N. Y. | 105 | 27 | 54 | 95 | 149 | 64 | 43 |
| | Other | 17 | 58 | 7 | 69 | 76 | -1 | -1 |
| Boston, Mass. | Calif. | 485 | 0 | 630 | 1 | 631 | 1 | 3/ |
| | Fla. | 602 | 19 | 683 | 13 | 696 | -9 | -1 |
| | Mass. | 0 | 367 | 0 | 508 | 508 | 0 | 0 |
| | N. Y. | 15 | 75 | 16 | 111 | 127 | 5 | 4 |
| | Other | 20 | 11 | 10 | 14 | 24 | 7 | 29 |
| Chicago, Ill. | Calif. | 1,288 | 3 | 1,507 | 2 | 1,509 | -1 | 3/ |
| | Fla. | 921 | 236 | 688 | 89 | 777 | -70 | -9 |
| | Mich. | 0 | 1,263 | 0 | 818 | 818 | 0 | 0 |
| | Other | 112 | 28 | 54 | 6 | 60 | 0 | 0 |
| Cleveland, Ohio | Calif. | 396 | 0 | 588 | 0 | 588 | 0 | 0 |
| | Fla. | 451 | 5 | 407 | 2 | 409 | -2 | 3/ |
| | Ohio | 0 | 267 | 0 | 154 | 154 | 0 | 0 |
| | Other | 32 | 1 | 13 | 19 | 32 | -1 | -3 |
| Denver, Colo. | Calif. | 53 | 27 | 51 | 94 | 145 | 45 | 31 |
| | Other | 85 | 61 | 28 | 73 | 101 | 4 | 4 |
| Los Angeles, Calif. | Calif. | 20 | 8,286 | 18 | 9,746 | 9,764 | 216 | 2 |
| | Other | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| New York, N. Y. | Calif. | 1,310 | 4 | 1,606 | 7 | 1,613 | 2 | 3/ |
| | Fla. | 1,686 | 439 | 1,656 | 591 | 2,247 | 126 | 6 |
| | N. J. | 0 | 387 | 0 | 431 | 431 | 0 | 0 |
| | N. Y. | 168 | 1,257 | 65 | 1,251 | 1,316 | 90 | 7 |
| | Other | 90 | 10 | 11 | 2 | 13 | 1 | 8 |

Continued

Table 16.--Celery: Unloads and relative diversion from rail to truck between 1951 and 1954, classified by destination, between all origins and 13 major markets 1/--Continued

| Destination | State of origin 2/ | 1951 unloads | | 1954 unloads | | | Relative diversion, 1951-54 | Relative diversion as percentage of total 1954 unloads |
|---|---|---|---|---|---|---|---|---|
| | | Rail | Truck | Rail | Truck | Total | | |
| | | Carlots | Carlots | Carlots | Carlots | Carlots | Carlots | Percent |
| Philadelphia, Pa. | Calif. | 1,204 | 2 | 1,502 | 0 | 1,502 | -3 | 3/ |
| | Fla. | 702 | 202 | 564 | 220 | 784 | 45 | 6 |
| | N. J. | 0 | 172 | 0 | 151 | 151 | 0 | 0 |
| | N. Y. | 53 | 240 | 30 | 182 | 212 | 8 | 4 |
| | Other | 55 | 44 | 27 | 11 | 38 | -1 | -3 |
| San Francisco, Calif. | Calif. | 54 | 1,478 | 15 | 1,431 | 1,446 | 36 | 2 |
| | Other | 0 | 2 | 0 | 2 | 2 | 0 | 0 |
| Seattle, Wash. | Calif. | 183 | 249 | 167 | 286 | 453 | 25 | 6 |
| | Wash. | 0 | 245 | 0 | 291 | 291 | 0 | 0 |
| | Other | 20 | 3 | 8 | 13 | 21 | 5 | 24 |
| Washington, D. C. | Calif. | 136 | 0 | 149 | 0 | 149 | 0 | 0 |
| | Fla. | 126 | 141 | 161 | 119 | 280 | -29 | -10 |
| | Other | 84 | 72 | 48 | 47 | 95 | -1 | -1 |
| Total | | 11,245 | 16,025 | 11,644 | 17,202 | 28,846 | 584 | 2 |

See table 13 for footnotes.

Table 17.--Lettuce: Unloads and relative diversion from rail to truck between 1951 and 1954, classified by destination, between all origins and 13 major markets 1/

| Destination | State of origin 2/ | 1951 unloads | | 1954 unloads | | | Relative diversion 1951-54 | Relative diversion as percentage of total 1954 unloads |
|---|---|---|---|---|---|---|---|---|
| | | Rail | Truck | Rail | Truck | Total | | |
| | | Carlots | Carlots | Carlots | Carlots | Carlots | Carlots | Percent |
| Atlanta, Ga. | Ariz. | 138 | 5 | 116 | 0 | 116 | -4 | -3 |
| | Calif. | 685 | 2 | 768 | 3 | 771 | 1 | 3/ |
| | Tex. | 26 | 0 | 87 | 49 | 136 | 49 | 36 |
| | Other | 46 | 103 | 10 | 92 | 102 | 20 | 20 |
| Baltimore, Md. | Ariz. | 333 | 0 | 361 | 3 | 364 | 3 | 1 |
| | Calif. | 907 | 2 | 953 | 18 | 971 | 16 | 2 |
| | N. J. | 0 | 173 | 0 | 258 | 258 | 0 | 0 |
| | Other | 22 | 159 | 88 | 174 | 262 | 1 | 3/ |
| Boston, Mass. | Ariz. | 573 | 0 | 508 | 1 | 509 | 1 | 3/ |
| | Calif. | 1,426 | 0 | 1,626 | 25 | 1,651 | 25 | 2 |
| | Mass. | 0 | 338 | 0 | 598 | 598 | 0 | 0 |
| | N. J. | 0 | 74 | 0 | 141 | 141 | 0 | 0 |
| | Other | 40 | 286 | 68 | 243 | 311 | -8 | -3 |
| Chicago, Ill. | Ariz. | 1,264 | 1 | 887 | 19 | 906 | 18 | 2 |
| | Calif. | 3,884 | 39 | 3,728 | 0 | 3,728 | -37 | -1 |
| | Tex. | 120 | 0 | 168 | 0 | 168 | 0 | 0 |
| | Other | 97 | 430 | 21 | 266 | 287 | 3 | 1 |
| Cleveland, Ohio | Ariz. | 454 | 0 | 445 | 0 | 445 | 0 | 0 |
| | Calif. | 1,228 | 1 | 1,457 | 0 | 1,457 | -1 | 3/ |
| | Other | 17 | 217 | 25 | 134 | 159 | -2 | -1 |
| Denver, Colo. | Ariz. | 83 | 207 | 91 | 210 | 301 | -5 | -2 |
| | Calif. | 299 | 329 | 280 | 468 | 748 | 76 | 10 |
| | Colo. | 116 | 438 | 116 | 268 | 384 | -36 | -9 |
| | Other | 29 | 8 | 24 | 55 | 79 | 7 | 9 |
| Los Angeles, Calif. | Ariz. | 11 | 665 | 24 | 544 | 568 | -15 | -3 |
| | Calif. | 80 | 8,415 | 40 | 8,675 | 8,715 | 38 | 3/ |
| | Other | 0 | 3 | 0 | 0 | 0 | 0 | 0 |

Continued

Table 17.--Lettuce: Unloads and relative diversion from rail to truck between 1951 and 1954, classified by destination, between all origins and 13 major markets 1/--Continued

| Destination | State of origin 2/ | 1951 unloads | | 1954 unloads | | | Relative diversion 1951-54 | Relative diversion as percentage of total 1954 unloads |
|---|---|---|---|---|---|---|---|---|
| | | Rail | Truck | Rail | Truck | Total | | |
| | | Carlots | Carlots | Carlots | Carlots | Carlots | Carlots | Percent |
| New York, N. Y. | Ariz. | 1,784 | 1 | 1,370 | 1 | 1,371 | 0 | 0 |
| | Calif. | 4,399 | 7 | 4,034 | 53 | 4,087 | 45 | 1 |
| | Fla. | 114 | 189 | 56 | 249 | 305 | 59 | 19 |
| | N. J. | 0 | 1,435 | 0 | 2,024 | 2,024 | 0 | 0 |
| | N. Y. | 10 | 2,424 | 0 | 2,703 | 2,703 | 11 | 3/ |
| | N. C. | 0 | 344 | 0 | 231 | 231 | 0 | 0 |
| | Tex. | 49 | 0 | 134 | 0 | 134 | 0 | 0 |
| | Other | 24 | 240 | 19 | 182 | 201 | -1 | 3/ |
| Philadelphia, Pa. | Ariz. | 755 | 2 | 604 | 0 | 604 | -2 | 3/ |
| | Calif. | 2,138 | 6 | 2,311 | 9 | 2,320 | 2 | 3/ |
| | N. J. | 0 | 902 | 0 | 837 | 837 | 0 | 0 |
| | N. Y. | 0 | 441 | 0 | 480 | 480 | 0 | 0 |
| | Tex. | 35 | 1 | 114 | 0 | 114 | -3 | -3 |
| | Other | 36 | 198 | 6 | 176 | 182 | 27 | 15 |
| San Francisco, Calif. | Ariz. | 9 | 389 | 4 | 381 | 385 | 4 | 1 |
| | Calif. | 24 | 3,397 | 14 | 3,601 | 3,615 | 11 | 3/ |
| | Other | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| Seattle, Wash. | Ariz. | 78 | 42 | 13 | 134 | 147 | 83 | 56 |
| | Calif. | 130 | 572 | 75 | 722 | 797 | 72 | 9 |
| | Wash. | 2 | 743 | 0 | 905 | 905 | 3 | 3/ |
| | Other | 5 | 35 | 0 | 1 | 1 | 0 | 0 |
| Washington, D. C. | Ariz. | 223 | 0 | 217 | 0 | 217 | 0 | 0 |
| | Calif. | 784 | 1 | 831 | 0 | 831 | -1 | 3/ |
| | Other | 16 | 353 | 9 | 151 | 160 | 4 | 2 |
| Total | | 22,493 | 23,618 | 21,702 | 25,084 | 46,786 | 464 | 1 |

See table 13 for footnotes.

Table 18.--Potatoes: Unloads and relative diversion from rail to truck between 1951 and 1954, classified by destination, between all origins and 13 major markets 1/

| Destination | State of origin 2/ | 1951 unloads | | 1954 unloads | | | Relative diversion 1951-54 | Relative diversion as percentage of total 1954 unloads |
|---|---|---|---|---|---|---|---|---|
| | | Rail | Truck | Rail | Truck | Total | | |
| | | Carlots | Carlots | Carlots | Carlots | Carlots | Carlots | Percent |
| Atlanta, Ga. | Ala. | 3 | 241 | 1 | 297 | 298 | 3 | 1 |
| | Calif. | 122 | 0 | 146 | 0 | 146 | 0 | 0 |
| | Conn. | 0 | 6 | 0 | 126 | 126 | 0 | 0 |
| | Fla. | 10 | 421 | 15 | 661 | 676 | 1 | 3/ |
| | Idaho | 515 | 2 | 496 | 8 | 504 | 6 | 1 |
| | Maine | 75 | 55 | 66 | 180 | 246 | 76 | 31 |
| | N.J. | 42 | 564 | 0 | 542 | 542 | 37 | 7 |
| | N.Y. | 74 | 505 | 0 | 615 | 615 | 79 | 13 |
| | N.C. | 14 | 123 | 0 | 163 | 163 | 17 | 10 |
| | Pa. | 20 | 249 | 0 | 116 | 116 | 9 | 8 |
| | Wash. | 74 | 0 | 101 | 0 | 101 | 0 | 0 |
| | Other | 174 | 480 | 239 | 377 | 616 | 52 | 8 |
| Baltimore, Md. | Calif. | 96 | 0 | 119 | 8 | 127 | 8 | 6 |
| | Del. | 0 | 142 | 0 | 226 | 226 | 0 | 0 |
| | Idaho | 294 | 2 | 355 | 14 | 369 | 11 | 3 |
| | Fla. | 182 | 184 | 176 | 471 | 647 | 146 | 23 |
| | Maine | 747 | 23 | 1,189 | 299 | 1,488 | 254 | 17 |
| | Md. | 0 | 200 | 0 | 104 | 104 | 0 | 0 |
| | N.J. | 0 | 163 | 0 | 373 | 373 | 0 | 0 |
| | N.Y. | 21 | 364 | 0 | 979 | 979 | 54 | 6 |
| | N.C. | 1 | 298 | 2 | 539 | 541 | 0 | 0 |
| | Pa. | 0 | 1,618 | 0 | 898 | 898 | 0 | 0 |
| | S.C. | 49 | 124 | 4 | 178 | 182 | 48 | 26 |
| | Va. | 0 | 480 | 0 | 494 | 494 | 0 | 0 |
| | Other | 101 | 2 | 189 | 9 | 198 | -16 | -8 |
| Boston, Mass. | Calif. | 441 | 0 | 498 | 0 | 498 | 0 | 0 |
| | Fla. | 237 | 4 | 240 | 75 | 315 | 70 | 22 |
| | Idaho | 116 | 0 | 246 | 0 | 246 | 0 | 0 |
| | Maine | 3,094 | 631 | 3,582 | 2,658 | 6,240 | 1,603 | 26 |
| | Mass. | 32 | 368 | 0 | 260 | 260 | 21 | 8 |
| | N.Y. | 19 | 964 | 25 | 1,115 | 1,140 | -3 | 3/ |
| | N.C. | 65 | 78 | 55 | 107 | 162 | 19 | 12 |
| | R.I. | 0 | 81 | 0 | 274 | 274 | 0 | 0 |
| | S.C. | 66 | 9 | 93 | 24 | 117 | 10 | 9 |
| | Va. | 121 | 182 | 45 | 122 | 167 | 22 | 13 |
| | Wash. | 78 | 0 | 124 | 0 | 124 | 0 | 0 |
| | Other | 28 | 113 | 42 | 114 | 156 | 0 | 0 |

(continued)

Table 18.--Potatoes: Unloads and relative diversion from rail to truck between 1951 and 1954, classified by destination, between all origins and 13 major markets 1/--Continued

| Destination | State of origin 2/ | 1951 unloads: Rail | 1951 unloads: Truck | 1954 unloads: Rail | 1954 unloads: Truck | 1954 unloads: Total | Relative diversion 1951-54 | Relative diversion as percentage of total 1954 unloads |
|---|---|---|---|---|---|---|---|---|
| | | Carlots | Carlots | Carlots | Carlots | Carlots | Carlots | Percent |
| Chicago, Ill. | Ala. | 505 | 41 | 572 | 87 | 659 | 38 | 6 |
| | Ariz. | 162 | 0 | 137 | 0 | 137 | 0 | 0 |
| | Calif. | 2,393 | 0 | 1,926 | 0 | 1,926 | 0 | 0 |
| | Colo. | 820 | 1 | 665 | 18 | 683 | 17 | 2 |
| | Fla. | 348 | 25 | 629 | 14 | 643 | -26 | -4 |
| | Idaho | 3,799 | 5 | 2,939 | 0 | 2,939 | -3 | 3/ |
| | Minn. | 1,714 | 15 | 1,198 | 16 | 1,214 | 5 | 3/ |
| | Nebr. | 272 | 1 | 121 | 0 | 121 | 0 | 0 |
| | N. Dak. | 2,255 | 20 | 3,060 | 6 | 3,066 | -22 | -1 |
| | Oreg. | 345 | 0 | 412 | 0 | 412 | 0 | 0 |
| | Tex. | 329 | 0 | 184 | 5 | 189 | 5 | 3 |
| | Wash. | 917 | 0 | 1,185 | 0 | 1,185 | 0 | 0 |
| | Wis. | 1,569 | 608 | 1,420 | 149 | 1,569 | -289 | -18 |
| | Other | 708 | 366 | 287 | 123 | 410 | 31 | 8 |
| Cleveland, Ohio | Calif. | 730 | 0 | 668 | 0 | 668 | 0 | 0 |
| | Fla. | 242 | 7 | 375 | 46 | 421 | 34 | 8 |
| | Idaho | 665 | 0 | 765 | 0 | 765 | 0 | 0 |
| | Maine | 742 | 5 | 748 | 138 | 886 | 132 | 15 |
| | Nebr. | 130 | 0 | 118 | 0 | 118 | 0 | 0 |
| | N.Y. | 9 | 463 | 0 | 444 | 444 | 8 | 2 |
| | Ohio | 0 | 325 | 0 | 267 | 267 | 0 | 0 |
| | Pa. | 0 | 108 | 0 | 178 | 178 | 0 | 0 |
| | Wash. | 150 | 0 | 179 | 0 | 179 | 0 | 0 |
| | Other | 493 | 204 | 499 | 230 | 729 | 72 | 10 |
| Denver, Colo. | Ariz. | 61 | 49 | 61 | 104 | 165 | 31 | 19 |
| | Calif. | 343 | 9 | 289 | 44 | 333 | 35 | 11 |
| | Colo. | 976 | 1,120 | 950 | 1,394 | 2,344 | 142 | 6 |
| | Idaho | 192 | 9 | 147 | 9 | 156 | 2 | 1 |
| | Tex. | 3 | 74 | 9 | 112 | 121 | -4 | -3 |
| | Other | 73 | 69 | 117 | 16 | 133 | -8 | -6 |
| Los Angeles, Calif. | Calif. | 1,312 | 10,314 | 1,926 | 8,928 | 10,854 | -699 | -6 |
| | Idaho | 2,332 | 859 | 1,938 | 631 | 2,569 | -60 | -2 |
| | Nevada | 24 | 18 | 41 | 68 | 109 | 21 | 19 |
| | Oreg. | 702 | 115 | 575 | 338 | 913 | 209 | 23 |
| | Utah | 282 | 628 | 182 | 316 | 498 | -28 | -6 |
| | Wash. | 10 | 66 | 77 | 274 | 351 | -31 | -9 |
| | Other | 19 | 16 | 20 | 98 | 118 | 23 | 19 |

(continued)

Table 18.--Potatoes: Unloads and relative diversion from rail to truck between 1951 and 1954, classified by destination, between all origins and 13 major markets 1/--Continued

| Destination | State of origin 2/ | 1951 unloads: Rail | 1951 unloads: Truck | 1954 unloads: Rail | 1954 unloads: Truck | 1954 unloads: Total | Relative diversion 1951-54 | Relative diversion as percentage of total 1954 unloads |
|---|---|---|---|---|---|---|---|---|
| | | Carlots | Carlots | Carlots | Carlots | Carlots | Carlots | Percent |
| New York, N.Y. | Calif. | 1,063 | 0 | 1,061 | 1 | 1,062 | 1 | 3/ |
| | Fla. | 525 | 289 | 431 | 797 | 1,228 | 361 | 29 |
| | Idaho | 1,927 | 0 | 1,832 | 7 | 1,829 | 7 | 3/ |
| | Maine | 5,693 | 76 | 8,263 | 200 | 8,463 | 90 | 1 |
| | N.J. | 0 | 151 | 0 | 111 | 111 | 0 | 0 |
| | N.Y. | 39 | 10,383 | 101 | 7,991 | 8,092 | -69 | -1 |
| | N.C. | 48 | 525 | 9 | 568 | 577 | 39 | 7 |
| | Oreg. | 147 | 0 | 123 | 0 | 123 | 0 | 0 |
| | Pa. | 0 | 297 | 0 | 189 | 189 | 0 | 0 |
| | S.C. | 184 | 127 | 50 | 175 | 225 | 83 | 37 |
| | Wash. | 266 | 0 | 545 | 0 | 545 | 0 | 0 |
| | Va. | 1 | 1,493 | 3 | 1,232 | 1,235 | -2 | 3/ |
| | Other | 233 | 253 | 173 | 110 | 283 | -19 | -7 |
| Philadelphia, Pa. | Calif. | 341 | 28 | 412 | 60 | 472 | 24 | 5 |
| | Del. | 0 | 115 | 0 | 453 | 453 | 0 | 0 |
| | Fla. | 579 | 329 | 559 | 570 | 1,129 | 161 | 14 |
| | Idaho | 1,015 | 131 | 944 | 116 | 1,060 | -5 | 3/ |
| | Maine | 1,070 | 224 | 1,179 | 1,098 | 2,277 | 704 | 31 |
| | N.J. | 0 | 1,071 | 0 | 822 | 822 | 0 | 0 |
| | N.Y. | 38 | 812 | 1 | 1,824 | 1,825 | 81 | 4 |
| | N.C. | 12 | 452 | 5 | 316 | 321 | 3 | 1 |
| | Oreg. | 92 | 0 | 105 | 0 | 105 | 0 | 0 |
| | Pa. | 8 | 3,465 | 0 | 2,040 | 2,040 | 4 | 3/ |
| | S.C. | 124 | 160 | 77 | 187 | 264 | 38 | 14 |
| | Va. | 4 | 804 | 3 | 683 | 686 | 0 | 0 |
| | Wash. | 56 | 0 | 358 | 20 | 378 | 20 | 5 |
| | Other | 145 | 164 | 163 | 37 | 200 | -7 | -4 |
| San Francisco, Calif. | Calif. | 1,594 | 1,711 | 1,234 | 1,673 | 2,907 | 167 | 6 |
| | Idaho | 92 | 63 | 25 | 100 | 125 | 49 | 39 |
| | Oreg. | 2,113 | 392 | 1,872 | 726 | 2,598 | 321 | 12 |
| | Wash. | 8 | 114 | 35 | 264 | 299 | -15 | -5 |
| | Other | 100 | 12 | 30 | 83 | 113 | 75 | 66 |

(continued)

Table 18.--Potatoes: Unloads and relative diversion from rail to truck between 1951 and 1954, classified by destination, between all origins and 13 major markets 1/--Continued

| Destination | State of origin 2/ | 1951 unloads | | 1954 unloads | | | Relative diversion 1951-54 | Relative diversion as percentage of total 1954 unloads |
|---|---|---|---|---|---|---|---|---|
| | | Rail | Truck | Rail | Truck | Total | | |
| | | Carlots | Carlots | Carlots | Carlots | Carlots | Carlots | Percent |
| Seattle, Wash. | Calif. | 677 | 86 | 691 | 72 | 763 | -14 | -2 |
| | Idaho | 287 | 7 | 133 | 94 | 227 | 89 | 39 |
| | Oreg. | 142 | 8 | 136 | 9 | 145 | 1 | 1 |
| | Wash. | 908 | 1,389 | 1,007 | 927 | 1,934 | -243 | -13 |
| | Other | 123 | 4 | 136 | 23 | 159 | 7 | 4 |
| Washington, D.C. | Fla. | 46 | 87 | 31 | 167 | 198 | 38 | 19 |
| | Idaho | 328 | 0 | 256 | 0 | 256 | 0 | 0 |
| | Maine | 615 | 59 | 639 | 66 | 705 | 4 | 1 |
| | N.J. | 0 | 83 | 0 | 109 | 109 | 0 | 0 |
| | N.Y. | 1 | 554 | 0 | 378 | 378 | 1 | 3/ |
| | N.C. | 1 | 148 | 0 | 174 | 174 | 1 | 1 |
| | Other | 112 | 784 | 142 | 248 | 390 | 0 | 0 |
| Total | | 53,294 | 51,066 | 55,231 | 51,199 | 106,430 | 4,157 | 4 |

See table 13 for footnotes.

Table 19.--Tomatoes: Unloads and relative diversion from rail to truck between 1951 and 1954, classified by destination, between all origins and 13 major markets 1/

| Destination | State of origin 2/ | 1951 unloads | | 1954 unloads | | | Relative diversion 1951-54 | Relative diversion as percentage of total 1954 unloads |
|---|---|---|---|---|---|---|---|---|
| | | Rail | Truck | Rail | Truck | Total | | |
| | | Carlots | Carlots | Carlots | Carlots | Carlots | Carlots | Percent |
| Atlanta, Ga. | Calif. | 60 | 86 | 40 | 164 | 204 | 44 | 22 |
| | Fla. | 7 | 804 | 17 | 988 | 1,005 | -8 | -1 |
| | Ga. | 0 | 299 | 1 | 331 | 332 | -1 | 3/ |
| | N. Y. | 6 | 64 | 5 | 124 | 129 | 6 | 5 |
| | Other | 13 | 314 | 3 | 332 | 335 | 5 | 1 |
| Baltimore, Md. | Calif. | 175 | 3 | 122 | 22 | 144 | 20 | 14 |
| | Fla. | 201 | 198 | 346 | 226 | 572 | -58 | -10 |
| | Md. | 0 | 250 | 0 | 335 | 335 | 0 | 0 |
| | Tex. | 142 | 3 | 100 | 0 | 100 | -2 | -2 |
| | Other | 11 | 146 | 8 | 276 | 284 | 17 | 6 |
| Boston, Mass. | Calif. | 443 | 0 | 588 | 12 | 600 | 12 | 2 |
| | Fla. | 1,071 | 129 | 1,150 | 155 | 1,305 | 15 | 1 |
| | Mass. | 0 | 575 | 0 | 601 | 601 | 0 | 0 |
| | Tex. | 309 | 0 | 342 | 0 | 342 | 0 | 0 |
| | Va. | 8 | 52 | 2 | 139 | 141 | 17 | 12 |
| | Other | 16 | 82 | 37 | 153 | 190 | 8 | 4 |
| Chicago, Ill. | Calif. | 550 | 4 | 592 | 49 | 641 | 45 | 7 |
| | Fla. | 575 | 232 | 562 | 311 | 873 | 60 | 7 |
| | Ill. | 152 | 633 | 0 | 215 | 215 | 42 | 20 |
| | Mich. | 255 | 343 | 0 | 321 | 321 | 137 | 43 |
| | Ohio | 22 | 356 | 0 | 131 | 131 | 8 | 6 |
| | Tex. | 458 | 145 | 424 | 46 | 470 | -67 | -14 |
| | Other | 182 | 301 | 8 | 120 | 128 | 20 | 16 |
| Cleveland, Ohio | Fla. | 33 | 24 | 97 | 15 | 112 | -32 | -29 |
| | Ohio | 0 | 361 | 0 | 326 | 326 | 0 | 0 |
| | Other | 33 | 33 | 17 | 26 | 43 | 1 | 2 |
| Denver, Colo. | Calif. | 126 | 88 | 159 | 92 | 251 | -11 | -4 |
| | Tex. | 95 | 28 | 107 | 30 | 137 | -1 | -1 |
| | Other | 73 | 83 | 23 | 65 | 88 | -1 | -1 |
| Los Angeles, Calif. | Calif. | 7 | 9,049 | 10 | 9,699 | 9,709 | -2 | 3/ |
| | Other | 5 | 12 | 8 | 85 | 93 | 1 | 1 |

(continued)

Table 19.--Tomatoes: Unloads and relative diversion from rail to truck between 1951 and 1954, classified by destination, between all origins and 13 major markets 1/--Continued

| Destination | State of origin 2/ | 1951 unloads | | 1954 unloads | | | Relative diversion 1951-54 | Relative diversion as percentage of total 1954 unloads |
|---|---|---|---|---|---|---|---|---|
| | | Rail | Truck | Rail | Truck | Total | | |
| | | Carlots | Carlots | Carlots | Carlots | Carlots | Carlots | Percent |
| New York, N. Y. | Calif. | 1,139 | 1 | 1,016 | 24 | 1,040 | 23 | 2 |
| | Conn. | 0 | 164 | 0 | 188 | 188 | 0 | 0 |
| | Fla. | 2,041 | 1,183 | 1,187 | 2,720 | 3,907 | 1,286 | 33 |
| | Ga. | 1 | 12 | 28 | 84 | 112 | -19 | -17 |
| | Md. | 3 | 157 | 0 | 165 | 165 | 3 | 2 |
| | N.J. | 0 | 1,169 | 0 | 833 | 833 | 0 | 0 |
| | N.Y. | 20 | 959 | 2 | 873 | 875 | 16 | 2 |
| | Pa. | 0 | 292 | 0 | 379 | 379 | 0 | 0 |
| | S.C. | 21 | 275 | 67 | 467 | 534 | -29 | -5 |
| | Tex. | 806 | 0 | 526 | 0 | 526 | 0 | 0 |
| | Va. | 2 | 296 | 0 | 483 | 483 | 3 | 1 |
| | Other | 27 | 194 | 4 | 251 | 255 | -1 | 3/ |
| Philadelphia, Pa. | Calif. | 379 | 0 | 333 | 2 | 335 | 2 | 1 |
| | Fla. | 613 | 319 | 767 | 301 | 1,068 | -64 | -6 |
| | N.J. | 0 | 755 | 0 | 670 | 670 | 0 | 0 |
| | Pa. | 0 | 348 | 0 | 277 | 277 | 0 | 0 |
| | Tex. | 459 | 0 | 472 | 0 | 472 | 0 | 0 |
| | Va. | 0 | 132 | 0 | 272 | 272 | 0 | 0 |
| | Other | 5 | 42 | 28 | 110 | 138 | -26 | -19 |
| San Francisco, Calif. | Calif. | 2 | 2,223 | 3 | 2,224 | 2,227 | -1 | 3/ |
| | Other | 1 | 0 | 9 | 23 | 32 | -3 | -9 |
| Seattle, Wash. | Calif. | 124 | 169 | 53 | 197 | 250 | 53 | 21 |
| | Wash. | 0 | 287 | 0 | 223 | 223 | 0 | 0 |
| | Other | 32 | 2 | 49 | 13 | 62 | 11 | 18 |
| Washington, D.C. | Calif. | 80 | 1 | 103 | 0 | 103 | -1 | -1 |
| | Fla. | 27 | 148 | 54 | 76 | 130 | -34 | -26 |
| | Other | 64 | 231 | 45 | 96 | 141 | -4 | -3 |
| Total | | 10,874 | 24,056 | 9,514 | 26,340 | 35,854 | 1,490 | 4 |

See table 13 for footnotes.

Table 20.--Watermelons: Unloads and relative diversion from rail to truck between 1951 and 1954, classified by destination, between all origins and 13 major markets 1/

| Destination | State of origin 2/ | 1951 unloads | | 1954 unloads | | | Relative diversion 1951-54 | Relative diversion as percentage of total 1954 unloads |
|---|---|---|---|---|---|---|---|---|
| | | Rail | Truck | Rail | Truck | Total | | |
| | | Carlots | Carlots | Carlots | Carlots | Carlots | Carlots | Percent |
| Atlanta, Ga. | Fla. | 17 | 439 | 28 | 1,115 | 1,143 | 14 | 1 |
| | Ga. | 3 | 1,751 | 13 | 1,933 | 1,946 | -9 | 3/ |
| | Other | 0 | 60 | 5 | 125 | 130 | -5 | -4 |
| Baltimore, Md. | Fla. | 190 | 350 | 200 | 903 | 1,103 | 188 | 17 |
| | Ga. | 54 | 189 | 42 | 230 | 272 | 18 | 7 |
| | Md. | 0 | 166 | 0 | 239 | 239 | 0 | 0 |
| | N. C. | 0 | 269 | 0 | 611 | 611 | 0 | 0 |
| | S. C. | 28 | 388 | 49 | 317 | 366 | -24 | -7 |
| | Va. | 0 | 72 | 0 | 123 | 123 | 0 | 0 |
| | Other | 0 | 1 | 1 | 17 | 18 | -1 | -6 |
| Boston, Mass. | Fla. | 530 | 0 | 649 | 5 | 654 | 5 | 1 |
| | Ga. | 219 | 0 | 101 | 0 | 101 | 0 | 0 |
| | S. C. | 283 | 5 | 250 | 5 | 255 | 2 | 1 |
| | Other | 36 | 31 | 81 | 153 | 234 | -15 | -6 |
| Chicago, Ill. | Fla. | 566 | 31 | 1,011 | 48 | 1,059 | -7 | -1 |
| | Ga. | 81 | 8 | 327 | 31 | 358 | -1 | 3/ |
| | Ill. | 11 | 44 | 9 | 94 | 103 | 12 | 12 |
| | Ind. | 2 | 59 | 8 | 138 | 146 | -3 | -2 |
| | Tex. | 942 | 5 | 666 | 28 | 694 | 25 | 4 |
| | Other | 165 | 13 | 171 | 66 | 237 | 0 | 0 |
| Cleveland, Ohio | Fla. | 311 | 1 | 422 | 149 | 571 | 147 | 26 |
| | Ga. | 165 | 3 | 103 | 80 | 183 | 77 | 42 |
| | Ind. | 0 | 127 | 0 | 153 | 153 | 0 | 0 |
| | S. C. | 23 | 8 | 33 | 120 | 153 | 81 | 53 |
| | Tex. | 171 | 3 | 87 | 17 | 104 | 15 | 14 |
| | Other | 41 | 0 | 11 | 101 | 112 | 97 | 87 |
| Denver, Colo. | Ariz. | 62 | 135 | 54 | 183 | 237 | 21 | 9 |
| | Calif. | 61 | 142 | 67 | 112 | 179 | -13 | -7 |
| | Tex. | 4 | 246 | 2 | 312 | 314 | 3 | 1 |
| | Other | 2 | 31 | 2 | 53 | 55 | -1 | -2 |

Continued

Table 20.--Watermelons: Unloads and relative diversion from rail to truck between 1951 and 1954, classified by destination, between all origins and 13 major markets 1/--Continued

| Destination | State of origin 2/ | 1951 unloads | | 1954 unloads | | | Relative diversion 1951-54 | Relative diversion as percentage of total 1954 unloads |
|---|---|---|---|---|---|---|---|---|
| | | Rail | Truck | Rail | Truck | Total | | |
| | | Carlots | Carlots | Carlots | Carlots | Carlots | Carlots | Percent |
| Los Angeles, Calif. | Ariz. | 2 | 538 | 6 | 459 | 465 | -4 | -1 |
| | Calif. | 87 | 2,880 | 43 | 2,771 | 2,814 | 39 | 1 |
| | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| New York, N. Y. | Del. | 0 | 31 | 2 | 164 | 166 | -2 | -1 |
| | Fla. | 1,567 | 92 | 1,898 | 527 | 2,425 | 394 | 16 |
| | Ga. | 587 | 37 | 358 | 64 | 422 | 39 | 9 |
| | Md. | 0 | 133 | 0 | 201 | 201 | 0 | 0 |
| | N. C. | 15 | 41 | 8 | 235 | 243 | 57 | 23 |
| | S. C. | 651 | 513 | 259 | 725 | 984 | 291 | 30 |
| | Tex. | 122 | 0 | 162 | 0 | 162 | 0 | 0 |
| | Va. | 0 | 16 | 0 | 220 | 220 | 0 | 0 |
| | Other | 22 | 0 | 6 | 20 | 26 | 0 | 0 |
| Philadelphia, Pa. | Del. | 0 | 38 | 0 | 192 | 192 | 0 | 0 |
| | Fla. | 533 | 31 | 804 | 176 | 980 | 122 | 12 |
| | Ga. | 365 | 35 | 265 | 89 | 354 | 58 | 16 |
| | Md. | 0 | 121 | 0 | 234 | 234 | 0 | 0 |
| | N. C. | 3 | 98 | 6 | 197 | 203 | 0 | 0 |
| | S. C. | 198 | 182 | 153 | 82 | 235 | -31 | -13 |
| | Tex. | 119 | 0 | 180 | 0 | 180 | 0 | 0 |
| | Other | 42 | 12 | 26 | 52 | 78 | -5 | -6 |
| San Francisco, Calif. | Calif. | 64 | 736 | 53 | 728 | 781 | 9 | 1 |
| | Other | 45 | 12 | 33 | 2 | 35 | -5 | -14 |
| Seattle, Wash. | Ariz. | 50 | 0 | 115 | 2 | 117 | 2 | 2 |
| | Calif. | 250 | 282 | 220 | 74 | 294 | -82 | -28 |
| | Other | 2 | 67 | 3 | 38 | 41 | -3 | -7 |
| Washington, D. C. | Fla. | 89 | 188 | 56 | 481 | 537 | 116 | 22 |
| | Ga. | 14 | 130 | 8 | 374 | 382 | 29 | 8 |
| | N. C. | 0 | 40 | 0 | 239 | 239 | 0 | 0 |
| | S. C. | 7 | 316 | 34 | 261 | 295 | -28 | -9 |
| | Va. | 0 | 43 | 0 | 146 | 146 | 0 | 0 |
| | Other | 0 | 18 | 4 | 26 | 30 | -4 | -13 |
| Total | | 8,801 | 11,207 | 9,094 | 16,240 | 25,334 | 1,618 | 6 |

See table 13 for footnotes.

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