AN ECONOMIC STUDY OF THE PORTLAND WHOLESALE FRESH FRUIT AND VEGETABLE MARKET

by

RICHARD FRANK GUSTAFSON

A THESIS
submitted to
OREGON STATE COLLEGE

in partial fulfillment of
the requirements for the
degree of
MASTER OF SCIENCE

June 1952
APPROVED:

Redacted for Privacy

Professor of Agricultural Economics
In Charge of Major
Redacted for Privacy

Head of Department of Agricultural Economics
Redacted for Privacy

Chairman of School Graduate Committee
Redacted for Privacy

Dean of Graduate School

Date thesis is presented June 4, 1951

Typed by Margaret Lieber
ACKNOWLEDGMENT

Thanks are due Dr. G. E. Korzan for his guidance in the preparation of this thesis. The U. S. Market News Office at Portland, the Produce Credit Association, and the Produce Merchants' Traffic Bureau deserve appreciation for the assistance which they gave in providing information for this study.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>THE WHOLESALE FRESH FRUIT AND VEGETABLE MARKET</td>
<td>3</td>
</tr>
<tr>
<td>Introduction</td>
<td>3</td>
</tr>
<tr>
<td>Its Setting and Services</td>
<td>4</td>
</tr>
<tr>
<td>Its Location</td>
<td>5</td>
</tr>
<tr>
<td>Its Operators</td>
<td>6</td>
</tr>
<tr>
<td>STUDIES OF WHOLESALE FRESH FRUIT AND VEGETABLE MARKETS</td>
<td>8</td>
</tr>
<tr>
<td>THE PERFECT MARKET</td>
<td>10</td>
</tr>
<tr>
<td>THE DEVELOPMENT OF THE WHOLESALE FRESH FRUIT AND VEGETABLE MARKET</td>
<td>12</td>
</tr>
<tr>
<td>PORTLAND AS A WHOLESALE FRESH FRUIT AND VEGETABLE MARKET TODAY</td>
<td>15</td>
</tr>
<tr>
<td>Volume and Sources of Supply</td>
<td>18</td>
</tr>
<tr>
<td>THE PRESENT MARKET, FACILITIES, ORGANIZATION, AND OPERATION</td>
<td>23</td>
</tr>
<tr>
<td>Transportation by Rail</td>
<td>23</td>
</tr>
<tr>
<td>Transportation by Trucks</td>
<td>28</td>
</tr>
<tr>
<td>Topic</td>
<td>Page</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>The Wholesale Markets</td>
<td>33</td>
</tr>
<tr>
<td>The Oregon Gardeners' and Ranchers' Association Market</td>
<td>33</td>
</tr>
<tr>
<td>Areas for Improvements in the Farmers' Market</td>
<td>36</td>
</tr>
<tr>
<td>The Wholesale Dealers' Markets</td>
<td>41</td>
</tr>
<tr>
<td>Areas for Improvements in the Dealers' Markets</td>
<td>46</td>
</tr>
<tr>
<td>The Large-Volume Dealers and the Chains</td>
<td>56</td>
</tr>
<tr>
<td>Advantages in Integration and Large Volume Operations</td>
<td>58</td>
</tr>
<tr>
<td>Market Facilitation and Regulation</td>
<td>66</td>
</tr>
<tr>
<td>The Produce Credit Association</td>
<td>66</td>
</tr>
<tr>
<td>The Produce Merchants' Traffic Bureau</td>
<td>66</td>
</tr>
<tr>
<td>The Market News Service</td>
<td>67</td>
</tr>
<tr>
<td>The Perishable Agricultural Commodities Act</td>
<td>70</td>
</tr>
<tr>
<td>The Oregon Produce Dealers and Peddlers Act</td>
<td>72</td>
</tr>
<tr>
<td>Standardization and Inspection</td>
<td>73</td>
</tr>
<tr>
<td>Conclusions</td>
<td>75</td>
</tr>
<tr>
<td>Bibliography</td>
<td>79</td>
</tr>
<tr>
<td>Appendix</td>
<td>81</td>
</tr>
<tr>
<td>The Effect of Changes in Marketing Costs</td>
<td>82</td>
</tr>
</tbody>
</table>
LIST OF TABLES

I. Population Statistics for Portland and Surrounding Area ........ 17

II. Carlot Unloads from the Important States Supplying Portland, Oregon for the Last Decade ........ 19

III. Total Carlot Unloads of Fruits and Vegetables at Portland in 1950 by States or Origin ........ 21

IV. Total Truck Unloads of Fruits and Vegetables at Portland by States of Origin ........ 22

V. Portland’s Carlot Unloads by Months with Comparisons with Recent Years .. 25

VI. Supply and Demand Schedules for a Vegetable, Elasticities Equal ........ 84
## LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Location of the Wholesale Fruit and Vegetable Market, Railroads, and Main Thoroughfares at Portland, Oregon</td>
<td>40</td>
</tr>
<tr>
<td>2.</td>
<td>An Improvised Unloading Arrangement for an Illegally Parked Produce Trailer</td>
<td>44</td>
</tr>
<tr>
<td>3.</td>
<td>Produce Houses without Loading Docks and Off-street Parking on Narrow, One-way S. E. Alder Street</td>
<td>44</td>
</tr>
<tr>
<td>4.</td>
<td>A Modern Produce House with Off-street Parking and a Loading Dock</td>
<td>45</td>
</tr>
<tr>
<td>5.</td>
<td>Rear Entrance of a Produce House with Off-street Parking, Loading Dock, and House Tracks</td>
<td>45</td>
</tr>
<tr>
<td>6.</td>
<td>One of the Empty Lots where the &quot;Road Rigs&quot; are Unloaded into Smaller Trucks</td>
<td>50</td>
</tr>
<tr>
<td>7.</td>
<td>The Team Tracks along S. E. Third Avenue</td>
<td>50</td>
</tr>
<tr>
<td>8.</td>
<td>Loading Produce from One Truck to Another at an Empty Lot on S. E. Alder Street</td>
<td>51</td>
</tr>
<tr>
<td>9.</td>
<td>Produce Houses on S. E. Tenth Avenue across from the Oregon Gardeners' and Ranchers' Market</td>
<td>51</td>
</tr>
<tr>
<td>10.</td>
<td>Demand and Supply Curves for Production Area and City</td>
<td>87</td>
</tr>
<tr>
<td>11.</td>
<td>A Typical Track Report from the Produce Merchants' Traffic Bureau</td>
<td>88</td>
</tr>
</tbody>
</table>
AN ECONOMIC STUDY OF THE PORTLAND WHOLESALE FRESH FRUIT AND VEGETABLE MARKET

INTRODUCTION

The commercial distribution of fruits and vegetables has become an important industry which has grown with the increased concentration of population in large cities. This industry is not important only for its magnitude but, also, for the fact that it has contributed to an improvement in the level of living of most urban residents. Nutritious fresh horticultural products have been brought within the range of the average consumer's purchasing power for every month in the year.

In the last quarter century, certain important parts of the fresh fruit and vegetable distribution industry have not kept pace with the growth of many large cities. The concentrating and dispersing of fresh produce in these cities is presently done in antiquated, inefficient facilities. These conditions and the poor arrangement of these market facilities do not permit accurate price-making or efficient use of labor and capital. Produce handlers, growers, and consumers must pay the costs arising from poor performance of the city wholesale market functions.

This study is concerned with the organization, facilities, and practices of the wholesale fresh fruits and vegetables market in Portland, Oregon. This market will be described and analyzed.
Prior to considering the Portland market itself, a review of the theoretical wholesale fresh fruit and vegetable market, the studies of wholesale fresh produce markets, and the concept of the perfect market are presented as background material. Five sections cover the wholesale fresh produce market at Portland. The first of these is concerned with the history of the market. The following section tells of the market's importance with reference to the population depending upon it and what volume it handles. The market facilities, organization, and operation is dealt with next. Rail and truck transportation, the farmers' market, the wholesale dealers' facilities, the mass distributors, and areas for improvements are covered in this section. Prior to the section on conclusions is a section on facilitating and regulating the Portland market.

In recent years, the number of persons dependent upon the wholesale produce market at Portland for the fresh fruits and vegetables essential to their well-being has increased tremendously. This study will attempt to indicate the nature of the organization and facilities which are being operated to meet the fresh produce needs of the growing population in the Portland area. The areas requiring improvements essential to the proper performance of urban wholesale produce distribution in Portland will not be neglected.
Introduction

Since the population of growing cities has become increasingly dependent upon specialized producing areas for supplies of fruits and vegetables, the operations of wholesale markets have grown in importance. How well these markets perform their functions is of public interest.

Consumers are interested in procuring fresh fruits and vegetables in adequate variety and volume for health's sake at reasonable prices. Fresh fruits and vegetables are the primary sources of many vitamins and minerals required for soundness of bodies and vigor of minds. In order to derive the most benefit obtainable from fresh produce, the consumers must receive it promptly, regularly, and in top condition at prices which reflect the best balance between demand and supply.

Another group directly interested in wholesale markets consists of the producers. Producers must receive a fair share of the fresh produce sales-dollar in order that they will be remunerated properly for their productive efforts, and encouraged to produce the required quantity and quality of fruits and vegetables.

Operators in the markets are certainly directly interested. It is to the progressive operators' interest to handle large volumes of produce efficiently and to the
satisfaction of the growers, the retailers, and the consumers.

Its Setting and Services

The wholesale marketing of fresh fruits and vegetables involves the expression and satisfaction of large requirements of fresh horticultural produce. It is in the urban areas where we find vast numbers of consumers who have many wants and the purchasing power for making their wants known in the market.

The people congregated in large cities are not content to limit consumption to a small selection of local produce. Even if they were to limit their diets to local produce, it is very doubtful that producing areas adjacent to the large urban centers could accomplish the task of satisfying the enormous demand.

Most horticultural production is small scale, seasonal, specialized\(^1\), and scattered. Since horticultural production has these attributes, the need for concentration at the urbanly located consumption centers arises.

Improvements in transportation and refrigeration which began in the 1870's make possible the movement of

---

\(^1\)"Like the specialization in production of other foods, the commercial production of fruits and vegetables is a direct result of the Industrial Revolution as it manifested itself in the growth of cities in the United States". (6, p.1)
perishable produce to large consumption centers from distant growing areas which possess soil and climatic advantages.

Since retail markets which serve the ultimate consumers of the horticultural produce are characterized by wide-variety, small-unit demand, more operations are required of the wholesale market. (5, p.371)

The operations are the breaking down of large shipments of produce into smaller units, assembling of these units for retail trade, and dispersion of these units among the retail outlets.

While these physical functions are being performed, the important function of determination of market prices proceeds. During the process of determination of market prices, the various buyers attempt to learn what the current and near-future supply is of the many items on the market, while the sellers are attempting to learn what the current and near-future demand is for the same items. It is the various price relationships between buyers and sellers that integrates the market. Besides making transactions possible, the function of price determination also provides information as to what the market requires and what it does not require.

Its Location

Physically speaking, a wholesale fresh fruit and
vegetable market is usually located in a small section of a large city near transportation facilities. From an economic standpoint, the same market may extend hundreds of miles in several directions with the location of its perimeter often changing as different areas of supply come into and go out of production with the seasons.

**Its Operators**

Within a wholesale horticultural produce market there are several types of operators. The commission dealer, acting as an intermediary between shippers and urban buyers, sells produce entrusted to him at the best possible prices. Later, he remits the proceeds to the shipper less his commission and other charges. The broker acts as an intermediary in making sales to carlot wholesalers and jobbers for country shippers. Brokers may buy, as well as sell, carlot quantities.

The wholesale carlot receiver usually buys at country shipping points through his own buyer or through a broker. The carlot receiver may act as a distributor for a particular packer or shipper. He sells to other wholesalers and jobbers out of the market and to jobbers in the market. The person who buys less than carlots from a wholesale receiver and sells in smaller lots to the retailer, peddler, and institution is the jobber. The trucker-merchant is the person who produces or purchases produce in the producing
area and hauls it to the market for sale at retail or wholesale outlets.

A truck jobber buys in jobbing lots and sells to retailers along a route in the city or its surrounding area. The operations of the various marketing people often overlap to the extent that it becomes difficult to classify them by function.
Over the years, many surveys have been made of markets, especially the larger ones. These surveys have been made for the purpose of determining how the markets might be improved for serving the consumers, producers, and marketing people more efficiently. In 1913 a comprehensive study was made of the complex New York City markets. The results of this study appeared in the publication, "The Report to the Mayor's Market Commission". In 1940 the Bureau of Agricultural Economics made another market study in New York City.

In 1937 the Bureau of Agricultural Economics carried out surveys in 40 cities and published the results in the publication, "Wholesale Markets for Fruits and Vegetables in 40 Cities". (4, p.1)

Since passage of the Research and Marketing Act of 1946, the Marketing and Facilities Research Branch of the Production and Marketing Administration has been making individual studies of wholesale produce markets. Most of the reports published have been on markets in Eastern and Southern cities. These market studies include such information as volume handled, distribution area served, importance of transportation services, description of market facilities, and cost of doing business in the market. Defects in the markets, including such subjects as split
market, lack of proper wholesale stores, lack of rail and truck facilities, and lack of market regulations, are indicated in the studies. Most of the study reports provide detailed suggestions and plans for improvement of each market.

No actual study has been made of the Portland market. In 1936 a survey of unloads, area of distribution, location of facilities, and hours of operation was made. This information is included in the U. S. D. A. publication, "Wholesale Markets for Fruits and Vegetables in 40 Cities". (4, p.106)
THE PERFECT MARKET

Although the perfect market may never be existent in the real world, it serves well as an ideal in evaluating real markets. (1, p.553)

A market is a group of buyers and sellers with facilities for trading with each other. All of the buyers and sellers in the perfect market have complete knowledge of supply, demand, and prices, and act rationally with that information. These buyers and sellers are willing to negotiate in the market and are free to enter or leave the market.

Prevalence of a uniform price for a certain form of a particular commodity where the buyers and sellers are negotiating at a single instant of time at a single point in space presents the least complex model of the perfect market. (18, p.400-402).

Deviations from the uniform price for a particular commodity due to extension or contraction of the market in time through storage, or in space through transportation, or in form through grading, processing, etc., are legitimate in the perfect market concept, if the costs of these extensions or contractions are reasonable and uniform.

In this study, the writer is interested in describing, analyzing, and evaluating a real market. The principal function of the particular market is the collection of
fresh fruit and vegetables from country producing areas at a convenient point for dispersion in an urban area. In the process of describing, analyzing, and evaluating this real market, the concept of the perfect market will be retained as an ideal. The retention of the perfect market concept as an ideal is made on the premise that the efficiency of actual markets depends upon how close they approximate the ideal. This stand is justified by the fact that nearly all improvements in markets move them closer to the point of taking on the attributes of the perfect market, even though perfection may never be attained.

An economically operating market mechanism is vital to proper performance of the functions of concentrating, equalizing, and dispersing of fresh produce.

1By equalizing is meant the adjusting of supply to demand on the basis of time, quantity, form, and quality. (3, p.5)
Asa L. Lovejoy and William Overton located and established a claim on the townsite of Portland in 1844, while returning to Oregon City from a trip by Indian canoe to Fort Vancouver. Overton later sold his interest in the claim to Francis Pettygrove for $50.00. Pettygrove and Lovejoy hired a man to build a cabin at the foot of what is now Washington Street. Although it was a small and crude affair, it became the nucleus of the future metropolis. (16, p.1)

What fresh produce Portland received in its infancy came from nearby gardens. In 1851 a road was built into the fertile Tualatin Plains, thereby connecting the town with a new source of produce. As the town took on the appearance of a real city, it obtained its fruit and vegetables from nearby producing areas in Multnomah, Clackamas, and Washington Counties. Produce from more distant areas came by way of the Columbia and Willamette Rivers. (16, p.1)

In 1884 Portland was linked to the East by rail. Three years later Portland was linked with California by rail. These developments eventually made new sources of supply available to the growing city. (16, p.1)

For a number of years, wholesale-retail produce business was transacted along the Park blocks. Farmers tied
their wagons along the blocks and sold fruits and vegetables from displays in the wagons.

Later, four blocks on both sides of Yamhill Street were the farmers' market. One side of the street was privately operated, while the other side was public. Originally, the sidewalk stalls which projected a few feet into the street were covered with awnings for protection against the weather. As traffic in downtown Portland increased, the farmer-merchants had to move out of the street and off of the sidewalk. Today "farmers' markets" are still on Yamhill Street, but they sell produce from wholesale channels. Sale ultimately took place through wholesaler and retailer as the city grew in size and the producers moved farther into the country.

Considerable quantities of produce arrived in Portland by water transportation from California. It was not until a few years ago that this trade virtually disappeared.

For many years the wholesale produce houses were mainly located on Front Avenue. About 1915, the first wholesaler moved across the river to S. E. Alder Street in the area where many of the dealers are found today.

In 1905, three hundred local producer-stockholders formed the Oregon Gardeners' and Ranchers' Association Market. This organization's market was originally located between S. E. Madison and Main Streets on Union and Third Avenues. The market building was rebuilt once in order to
provide more space. By 1930, the association was forced to
move to its present location at S. E. 10th and Belmont
Streets in order to handle the increased volume of produce
from nearby Northwest farms.

In about this same period, Union Pacific and Southern
Pacific Railroads built the perishable produce warehouses
occupied today by Pacific Fruit and Produce Co., Fred
Meyers Co., and Safeway Corp.

Today we find the wholesale fruit and vegetable market
scattered in the city of Portland. The market is scattered
because it has developed without any coordinated plan. The
facilities that have been established were built for cer-
tain elements of the trade or individual railroads, rather
than for acquiring over-all efficiency in wholesale func-
tions under any definite plan. Specialization in market
functions and relations along with further dispersion of
facilities is revealed in a view of present and near-future
growth of the market.
The city of Portland is well situated as a wholesale market. Fruit and vegetable producing areas in the Northwest are not distant. Areas of production of warm climate and "off-season" products are no more than thirty-six hours away by modern motor truck.

Modern highways lead to Portland from all important producing areas. The major highways serving this city are U. S. 99 from the North and South, and U. S. 30 from the East and West. Several state highways in Oregon and Washington increase the accessibility of Portland.

The important rail connections with distant shipping points are provided by the Southern Pacific, Union Pacific, Northern Pacific, and Spokane, Portland, and Seattle railroad companies.

On this market there are nine brokers, twenty jobbers, four full-line jobbers, and about twenty trucker-jobbers\(^1\). The distributor-representatives of the usual citrus and specialty products are present on this market. There are two perishables warehouses belonging to chain store systems, one voluntary and one non-voluntary. In Portland there are approximately 700 independent retail stores, most of which

---

\(^1\)According to information obtained from Mr. C. J. Hansen of the U. S. Market News Office, Portland.
sell fresh fruit and vegetables. There is one large chain and five smaller ones retailing fresh produce in the city. There is one large wholesale farmers' market and many small retail "farmers'" markets.

The farmers, various dealers, and chains supply the city's wholesale demand for fresh horticultural products. Grocery stores, retail produce markets, restaurants, and institutions purchase their fruit and vegetable requirements from these wholesalers. Many cities and towns in the surrounding area are supplied completely or partially by the market. Some important distributive groups in this market serve retail outlets scattered throughout the state of Oregon and part of the state of Washington.

This market furnishes the daily fresh fruit and vegetable requirements of approximately 371,000 consumers in the city and a total of 701,000 in the Portland Metropolitan Area. How many persons this market serves outside of the Portland Metropolitan Area would be difficult to determine. The nearest large wholesale market is located over 200 miles away.

Over sixty different kinds of fresh fruits and vegetables are often delivered on the market from over thirty states and four or five foreign countries. Horticultural produce has arrived in Portland from as far away as Australia and Iran. (7, p.2-3)

Since 1940 the population of Portland has increased
by 21.5 per cent. The State of Oregon has increased in population 39.6 per cent, and the Pacific Northwest has grown 34 per cent. This growth is continuing and, with it, the importance of the Portland wholesale market. (17, p.1)

**TABLE I**

POPULATION STATISTICS FOR PORTLAND AND SURROUNDING AREA*

<table>
<thead>
<tr>
<th>Area</th>
<th>1950</th>
<th>1940</th>
<th>Per Cent Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portland, city:</td>
<td>371,011</td>
<td>305,394</td>
<td>21.5</td>
</tr>
<tr>
<td>Multnomah County</td>
<td>468,571</td>
<td>355,099</td>
<td>32.0</td>
</tr>
<tr>
<td>25-mile area **</td>
<td>606,919</td>
<td>439,517</td>
<td>33.0</td>
</tr>
<tr>
<td>Metropolitan area</td>
<td>701,202</td>
<td>501,275</td>
<td>39.9</td>
</tr>
<tr>
<td>50-mile area **</td>
<td>882,540</td>
<td>639,151</td>
<td>33.0</td>
</tr>
<tr>
<td>Same areas, less Portland:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multnomah County</td>
<td>97,560</td>
<td>49,705</td>
<td>96.3</td>
</tr>
<tr>
<td>25-mile area **</td>
<td>235,903</td>
<td>154,123</td>
<td>75.9</td>
</tr>
<tr>
<td>Metropolitan area</td>
<td>330,191</td>
<td>195,881</td>
<td>68.6</td>
</tr>
<tr>
<td>50-mile area **</td>
<td>511,529</td>
<td>333,757</td>
<td>53.0</td>
</tr>
</tbody>
</table>

From the above table it will be noted that the greatest population growth in the Portland area during the past decade occurred in the region immediately adjacent to the city itself. For example, Multnomah County, outside the city limits, nearly doubled in population. It will also be noted that the rate of growth in population decreased as the distance from Portland increased, although the increase might still be termed "spectacular".

The above table also demonstrates that the population of the Portland area is rapidly increasing, and the area is becoming an important market for goods distributed or produced locally.

---

*Joseph R. McLaughlin, Department of Research and Statistics, Chamber of Commerce, Portland, Oregon.

**Estimated, and subject to revision.
Volume and Sources of Supply

During the calendar year 1950 the amount of fresh fruit and vegetables arriving in Portland by truck and rail was estimated at 15,000 carlot equivalents. This figure represents actual unloads in this market. Less-than-carload freight and less-than-carload express unloads are not included. This volume does not include any produce sold direct to retail outlets, or at retail, by farmers and merchant truckers. (7, p.1)

It is believed that approximately 80 per cent of the unloads in Portland is consumed within the metropolitan area, while approximately 20 per cent is distributed to outlying areas.

Unloads of fresh fruits and vegetables delivered via rail to Portland totaled 5,778 carloads during 1950. The unloads of fresh fruits and vegetables delivered by truck was estimated to be approximately 9,222 carlot equivalents. (7, p.1)

During 1950, carlot arrivals in Portland totaled 5,778. Approximately 47 per cent of this rail transported produce originated in California, 20 per cent originated in Central America and was loaded from ship to railroad car at Seattle, and 10 per cent originated in Oregon. The remainder of the rail receipts came from Arizona, Colorado, and

TABLE II

CARLOT UNLOADS FROM THE IMPORTANT STATES SUPPLYING PORTLAND, OREGON* FOR THE LAST DECADE

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>California</td>
<td>2730</td>
<td>2480</td>
<td>3568</td>
<td>3654</td>
<td>3622</td>
<td>4099</td>
<td>4098</td>
<td>4004</td>
<td>3721</td>
<td>3177</td>
</tr>
<tr>
<td>Oregon</td>
<td>586</td>
<td>665</td>
<td>686</td>
<td>728</td>
<td>714</td>
<td>564</td>
<td>741</td>
<td>544</td>
<td>437</td>
<td>587</td>
</tr>
<tr>
<td>Washington</td>
<td>160</td>
<td>347</td>
<td>385</td>
<td>497</td>
<td>398</td>
<td>459</td>
<td>454</td>
<td>472</td>
<td>374</td>
<td>364</td>
</tr>
<tr>
<td>Texas</td>
<td>160</td>
<td>199</td>
<td>331</td>
<td>314</td>
<td>395</td>
<td>504</td>
<td>297</td>
<td>260</td>
<td>133</td>
<td>69</td>
</tr>
<tr>
<td>Arizona</td>
<td>301</td>
<td>265</td>
<td>316</td>
<td>301</td>
<td>255</td>
<td>278</td>
<td>253</td>
<td>220</td>
<td>253</td>
<td>208</td>
</tr>
<tr>
<td>From All States</td>
<td>5778</td>
<td>5847</td>
<td>6955</td>
<td>6826</td>
<td>6440</td>
<td>6974</td>
<td>6643</td>
<td>6301</td>
<td>5778</td>
<td>5189</td>
</tr>
</tbody>
</table>

*U. S. Department of Agriculture, Production and Marketing Administration, Portland, Oregon
Florida, Illinois, Idaho, Louisiana, Massachusetts, Mexico, Montana, Minnesota, Nevada, New York, Texas, Washington, and Wisconsin. (Table III)

For the last decade the important states providing fruits and vegetables by rail for the Portland market have been California, Oregon, Washington, Texas, Arizona, and Idaho. (Table II)

Approximately 44 per cent of the motor truck unloads during the period May 1 - December 31, 1950, originated in Oregon. From California came approximately 30 per cent of the motor transported receipts at Portland. Washington contributed nearly 24 per cent. The remainder originated in Arizona, Florida, Idaho, Louisiana, and Texas. (Table IV)
TABLE III

TOTAL CARLOT UNLOADS OF FRUITS AND VEGETABLES
AT PORTLAND IN 1950 BY STATES OF ORIGIN*

<table>
<thead>
<tr>
<th>State</th>
<th>Carlots</th>
<th>Produce</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imports via</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Washington</td>
<td>1168</td>
<td>Bananas.</td>
</tr>
<tr>
<td>Oregon</td>
<td>586</td>
<td>Apples, Sweet Corn, Lettuce, Potatoes, Tomatoes, Onions, Peaches.</td>
</tr>
<tr>
<td>Arizona</td>
<td>301</td>
<td>Citrus, Lettuce, Melons, Carrots, Celery, Cabbage.</td>
</tr>
<tr>
<td>Florida</td>
<td>227</td>
<td>Avocados, Citrus, Potatoes, Cabbage, Peppers.</td>
</tr>
<tr>
<td>Mexico</td>
<td>184</td>
<td>Tomatoes, Peppers.</td>
</tr>
<tr>
<td>Idaho</td>
<td>171</td>
<td>Sweet Corn, Lettuce, Onions, Potatoes.</td>
</tr>
<tr>
<td>Washington</td>
<td>160</td>
<td>Apples, Potatoes, Rutabagas, Onions.</td>
</tr>
<tr>
<td>Texas</td>
<td>160</td>
<td>Onions, Cabbage, Citrus, Lettuce, Peppers, Sweet Potatoes, Tomatoes.</td>
</tr>
<tr>
<td>Louisiana</td>
<td>57</td>
<td>Cabbage, Sweet Potatoes.</td>
</tr>
<tr>
<td>Colorado</td>
<td>10</td>
<td>Cabbage, Green Peas.</td>
</tr>
<tr>
<td>Illinois</td>
<td>5</td>
<td>Onion Sets.</td>
</tr>
<tr>
<td>Montana</td>
<td>2</td>
<td>Potatoes.</td>
</tr>
<tr>
<td>Minnesota</td>
<td>1</td>
<td>Potatoes.</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>1</td>
<td>Cranberries.</td>
</tr>
<tr>
<td>Nevada</td>
<td>1</td>
<td>Cantaloupes.</td>
</tr>
<tr>
<td>Imports via</td>
<td></td>
<td></td>
</tr>
<tr>
<td>California</td>
<td>1</td>
<td>Bananas.</td>
</tr>
<tr>
<td>Imports via</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New York</td>
<td>1</td>
<td>Dates.</td>
</tr>
</tbody>
</table>

Total 5778

*U. S. Department of Agriculture, Production and Marketing Administration, Portland, Oregon.
<table>
<thead>
<tr>
<th>State</th>
<th>Carlot Equivalents</th>
<th>Produce</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arizona</td>
<td>62</td>
<td>Lettuce.</td>
</tr>
<tr>
<td>Texas</td>
<td>17</td>
<td>Grapefruit and Sweet Potatoes.</td>
</tr>
<tr>
<td>Idaho</td>
<td>8</td>
<td>Onions, Potatoes.</td>
</tr>
<tr>
<td>Florida</td>
<td>3</td>
<td>Avocados, Limes.</td>
</tr>
<tr>
<td>Louisiana</td>
<td>1</td>
<td>Sweet Potatoes.</td>
</tr>
<tr>
<td>Puerto Rico</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Transhaul)</td>
<td>1</td>
<td>Coconuts.</td>
</tr>
<tr>
<td>Central America</td>
<td>1</td>
<td>Coconuts.</td>
</tr>
<tr>
<td>Total</td>
<td>6228</td>
<td></td>
</tr>
</tbody>
</table>

*U.S. Department of Agriculture, Production and Marketing Administration, Portland, Oregon.*
Transportation by Rail

Portland is well linked to its produce sources by rail. Areas of production in eastern Oregon, southern Idaho, and most of Washington are connected to Portland by the Union Pacific Railway, Northern Pacific Railway, and the Spokane, Portland, and Seattle Railway. Fruit and vegetable producing sections of Texas, Arizona, California, and southern Oregon have access to the Portland market via the Southern Pacific Railroad.

Refrigerated cars of the Pacific Fruit Express Company carry produce under protection on the Union Pacific and Southern Pacific lines, while Western Fruit Express refrigerated cars move over the Northern Pacific line. Fruits and vegetables en route to Portland may be transported with such different services as pre-cooling, initial icing, standard refrigeration, standard ventilation, heater service, requested special services, and combinations of services. These services are provided for under the different tariffs filed with the I.C.C. Produce destined for consumption in Portland is kept in merchantable condition in-transit by these services.

Approximately ten produce houses are equipped with house tracks for the receiving of carlots of fruits and
vegetables. Cars destined to houses without such facilities are switched to the team tracks along S. E. Third Avenue, south of the Burnside Bridge. These team tracks are located from one-quarter mile to about one and one-half mile distance from the various houses without house tracks. Asphalt paved streets between two parallel sets of tracks are used when car contents are being unloaded into trucks. In part of 1948, the Brooklyn Yards in southeast Portland were used for unloading all rail receipts due to flood conditions in the wholesale district.

In 1941 a total of 5,189 carlots of produce arrived in Portland by rail. The number of total carlots unloaded in Portland per year from 1941 to 1944 increased roughly by 610 carlots in 1942, 522 carlots in 1943, and by 342 carlots in 1944, with a total of 6,974 for the year 1944. The peak of unloads of rail transported produce at Portland was in the busy war year of 1944. Except for the high year of 1948, when 6,955 carlots were unloaded, the number of yearly carlot arrivals has steadily declined to the total of 5,778 for 1950. (Table V)

It is impossible to indicate accurately the trend of the loss in importance of railroads in transporting produce to Portland, since it was not until May 1950 that figures on all arrivals of produce at this city were first collected. The increase in the amount of produce on the market, the increasing presence of many trucks, and the fairly
TABLE V
PORTLAND'S CARLOT UNLOADS BY MONTHS* WITH COMPARISONS WITH RECENT YEARS

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1950</td>
<td>387</td>
<td>455</td>
<td>546</td>
<td>472</td>
<td>671</td>
<td>822</td>
<td>621</td>
<td>408</td>
<td>310</td>
<td>352</td>
<td>379</td>
<td>355</td>
<td>5778</td>
</tr>
<tr>
<td>1949</td>
<td>432</td>
<td>402</td>
<td>532</td>
<td>614</td>
<td>507</td>
<td>762</td>
<td>555</td>
<td>470</td>
<td>339</td>
<td>454</td>
<td>380</td>
<td>400</td>
<td>5847</td>
</tr>
<tr>
<td>1948</td>
<td>574</td>
<td>564</td>
<td>685</td>
<td>617</td>
<td>696</td>
<td>640</td>
<td>815</td>
<td>517</td>
<td>394</td>
<td>381</td>
<td>455</td>
<td>513</td>
<td>6955</td>
</tr>
<tr>
<td>1947</td>
<td>675</td>
<td>518</td>
<td>642</td>
<td>623</td>
<td>604</td>
<td>755</td>
<td>685</td>
<td>427</td>
<td>412</td>
<td>444</td>
<td>480</td>
<td>563</td>
<td>6826</td>
</tr>
<tr>
<td>1946</td>
<td>507</td>
<td>546</td>
<td>611</td>
<td>582</td>
<td>609</td>
<td>663</td>
<td>693</td>
<td>572</td>
<td>370</td>
<td>434</td>
<td>408</td>
<td>545</td>
<td>6440</td>
</tr>
<tr>
<td>1945</td>
<td>594</td>
<td>595</td>
<td>651</td>
<td>582</td>
<td>717</td>
<td>780</td>
<td>778</td>
<td>539</td>
<td>386</td>
<td>402</td>
<td>450</td>
<td>451</td>
<td>6974</td>
</tr>
<tr>
<td>1944</td>
<td>510</td>
<td>460</td>
<td>578</td>
<td>553</td>
<td>681</td>
<td>632</td>
<td>724</td>
<td>601</td>
<td>457</td>
<td>476</td>
<td>426</td>
<td>545</td>
<td>6643</td>
</tr>
<tr>
<td>1943</td>
<td>475</td>
<td>546</td>
<td>632</td>
<td>552</td>
<td>636</td>
<td>794</td>
<td>661</td>
<td>465</td>
<td>343</td>
<td>286</td>
<td>438</td>
<td>473</td>
<td>6301</td>
</tr>
<tr>
<td>1942</td>
<td>432</td>
<td>457</td>
<td>460</td>
<td>536</td>
<td>612</td>
<td>634</td>
<td>596</td>
<td>408</td>
<td>423</td>
<td>420</td>
<td>355</td>
<td>440</td>
<td>5778</td>
</tr>
<tr>
<td>1941</td>
<td>358</td>
<td>376</td>
<td>444</td>
<td>479</td>
<td>485</td>
<td>443</td>
<td>620</td>
<td>420</td>
<td>465</td>
<td>424</td>
<td>293</td>
<td>382</td>
<td>5189</td>
</tr>
</tbody>
</table>

*U. S. Department of Agriculture, Production and Marketing Administration, Portland, Oregon.
steady totals of rail receipts for the last few years indicates that trucks have been rapidly increasing in importance in produce transportation to Portland.

The railroads have lost their position in the transporting of produce to Portland for several reasons. One of the more important reasons is time in-transit for perishables from distant producing areas to the wholesale market. While modern motor-trucks haul produce from areas of production located a thousand miles away to the market in thirty to thirty-six hours, railroad cars take three or four days, sometimes spending one day in Portland waiting to be spotted on house tracks or team tracks.

In many cases rail transported produce is handled several times more than truck transported produce. First, it is loaded onto trucks which take it to the railroad cars where the produce is packed into the cars and braced. When it arrives at the city team track, it is loaded out of the cars into trucks, hauled to the produce houses, and unloaded again. Produce houses with their own tracks reduce this handling. Produce, also, gets a rougher ride to market in railroad cars than in trucks. Tender perishables often ride over rough roadbeds in cars with no built-in shock absorbing protection, as is found in trucks. Switching operations jolt the produce numerous times between the time the car is sealed at origin and opened at destination. Produce must be carefully and securely loaded and braced in
railroad cars in order to keep in-transit losses low, while some items such as oranges and apples are often hauled unpacked with no extra protection in motor-trucks between central Washington and southern California, with practically no loss in-transit. The Produce Merchants Traffic Bureau gave a rough estimate of the total 1930 claims for damage at Portland at thirty thousand dollars. This is another important item in the marketing spread.

Although truck rates may be equal or over rail rates for hauling certain commodities between producing areas and the Portland market, the over-all transportation cost by truck is cheaper in most cases. The over-all cost of transportation by rail is higher due to the inflexibility of rail transport, more time consumed in-transit, higher damage and spoilage losses, and more physical handling involved.

The rail produce carriers have attempted to curtail the growing volume of truck transportation of produce by continuing the partial unloading privilege which came into being during World War II as an effort to conserve cars. They, also, are beginning to put more modern fan-type, refrigerator cars into service, but there still remains vast areas for improvement in rail transportation of fresh produce.
Transportation by Trucks

Trucks probably have handled a large portion of the fresh fruits and vegetables consumed by the Portland area for many years due to the proximity of many growing areas. In about 1925, improvement in truck transportation, brought about by improved highway construction and truck manufacturing, enabled truck-operators to expand into long distance hauling. (10, p.284) The opportunity of utilizing two-way hauling was important in the development of long distance truck transportation along the Pacific Coast.

Prior to May 1, 1950, no tabulation of unloads of truck arrivals had been made in Portland. Tabulation of this information was started on an experimental basis through a cooperative arrangement between the Research and Marketing Administration, United States Department of Agriculture, and the Oregon State Extension Service. Each morning, truck unloads are obtained from growers at the Oregon Gardeners' and Ranchers' Association Market and from the wholesale produce jobbers, brokers, chain store operators, and pre-packaging firms. During the eight-month period of operation, 6,228 carlot equivalents were unloaded in Portland from motortrucks. For the same period, 3,982 carloads arrived on the same market by rail. If the same proportionate arrivals were continuous during the eight-month period, it would indicate that 61 per cent of all
produce unloaded at Portland arrived by motortruck. Direct hauls to roadside markets, deliveries to retail stores or large consumer institutions are not included. (7, p.1)

The bulk of the local produce is transported to the market by one and one-half ton trucks. Fruits and vegetables from the distant growing areas usually arrive in large refrigerated tractor-trailer equipment.

Both I.C.C. regulated motor carriers and exempt motor carriers haul produce to the Portland market. All motor carriers must comply with the I.C.C. safety regulations and the State of Oregon motor transportation laws. Under Section 203(a) (19) of the Motor Carrier Act, carriers of agricultural commodities, exclusively, are exempt from the requirement of obtaining from the I.C.C. certificates of public convenience as common carriers, and filing with the commission tariffs containing rates. The definition of agricultural commodities includes "fruits, berries, and vegetables in their natural state, including those packaged in bags or other containers but excluding those placed in hermetically sealed containers and those frozen or quick frozen, those shelled, sliced, shredded, or chopped".

Fresh fruits and vegetables grown in southern California, some sections over one thousand miles from Portland, arrive daily in thirty to thirty-six hours in good marketable condition. Much of this produce cannot be directly unloaded at many of the wholesale houses because of
inadequate off-street parking space and narrow streets. This problem will be dealt with in a following section.

Twenty trucker-jobbers operate from the Portland market. Most of these twenty trucker-jobbers supply retail outlets in the small towns of the market tributary area. Some have routes down the coast, down the Willamette River Valley, and through southern Washington. Trucker-jobbers from Portland meet competition from northern California trucker-jobbers in the Roseburg, Grants Pass, and Coos Bay districts.

The development of long distance truck transportation brought about disruptive effects in the fresh produce marketing system. Extensive use of motor-trucks initiated a trend away from local assembling of fresh produce for large shipments to the central markets. This trend has been somewhat reversed by chain systems in that the chains purchase large quantities of fresh fruits and vegetables at country points rather than in the city wholesale markets.

The increased use of trucks added uncertainty and inaccuracy in price-making at most city wholesale markets not excluding Portland. Any knowledge of the total supply of fresh produce available for the market day was not to be had prior to the sizable reduction in the number of merchant-truckers.

An example of how merchant-truckers operate is seen in the case of a trucker who might buy a load of packed or
unpacked citrus fruit at a grove in southern California or Arizona, securing, usually, a favorable price for paying cash. Next he might travel over a thousand miles on modern highways to Portland, and dispose of his load to retail stores, maybe to jobbers, and possibly even to consumers. At someplace in the Hood River Valley, he might buy a load of apples and haul them to southern California for similar disposal. (10, p.285)

The merchant-truckers make no use of brokers or carlot receivers. They usually prefer to sell to jobbers because in that way they can dispose of their loads quickly. This is necessary because they rarely have refrigerated equipment and, also, they wish to keep this equipment moving as much as possible. Besides shutting out the brokers and large receivers, the merchant-truckers tend to disrupt prices on the market by their quick sales regardless of the ability of the market to absorb irregular quantities. As indicated previously, they worsen the poor market supply information situation. They can bring about a depressing effect on prices as a result of the added uncertainty of quantities to be available for the market day. Buyers are slow to consummate transactions, when large shipments might appear during the market period. (10, p.286) Despite the bad features of the presence of merchant-truckers, they do constitute an additional competitive element.

The number of merchant-truckers operating in the
Portland area has been greatly reduced. The necessity of paying high license fees to the city, state, and federal governments for the right to deal in fruits and vegetables has been the main obstacle in preventing many truckers from continuing as merchant-truckers.

Brokers and carlot receivers at Portland handle fresh produce hauled by regular I.C.C. licensed motor-carriers and regular exempt carriers in addition to rail transported produce.
The Oregon Gardeners’ and Ranchers’ Association Market

This market is often called the "Eastside Farmers' Market" or the "Early Morning Market". It is located on two blocks at S. E. 10th Avenue and Belmont Street. It also faces S. E. 11th Avenue and Taylor Street. In 1931, this market was opened with the intention of providing a local producers' wholesale distributive center for fruits and vegetables.

The market covers 94,000 square feet, which is on one floor and under one roof. There are sufficient doorways of adequate dimensions for the size of trucks using this market, however, these doorways are not designated as entrances or as exits. The floor of this concrete and brick market is 460 feet long by 200 feet wide, and is surfaced fairly smoothly with asphalt. This floor slopes considerably from the east side of the building to the west side. Two restaurants, four retail stores, and two apartments are located on the north end of the building. Four wholesale dealers occupy "California Row" on the south end of the building.

Stalls are rented at daily, monthly, and annual rates. The rates are 75¢ per truck daily, $15 per truck monthly, and $10 per truck per month for twelve months. The market
is open to all farmers and buyers for cash sales. In the summer season the market opens at 4:30 a.m., while in the winter opening time is 5:30 a.m. Buyers' trucks are not allowed in the market before 6 a.m. during the winter. During the summer, buyers must park their trucks outside of the market.

This market is exclusively for truck-transported produce. Most of the produce arriving at this market is from the Columbia Gorge, Willamette Valley, Tualatin Valley, and Southern Washington growing areas. Perishables from most of Oregon, Washington, and Idaho are received here during the heavy-volume summer season. Throughout the year, California produce is handled by the dealers on the Taylor Street end of the building.

Buyers from all wholesale houses, peddlers, and buyers for retail stores attend the market regularly. Most of the farmers participating in the "Early Morning Market" are regular suppliers. Except for bananas, tomatoes, and a few specialty products, buyers can usually get a wide variety at this market. Most buyers, who are regularly at this market, can obtain the volume they require in most lines during the summer season. During other seasons they must go elsewhere to satisfy their needs for such items as lettuce, carrots, celery, and other products not locally produced in the cooler months.
The dealers who are located in this market have ripening rooms, cooler rooms, and loading docks. There are no such facilities for use by the farmers who sell here. Farmers make cash sales of produce on display in their trucks. Very little local produce is held over.

During the summer season, trucks begin lining up for entry into the market as early as 1:30 a.m. The doors are opened at 4:30 a.m., and the first trucks in line get first choice of stalls not already rented. Due to lack of space and congestion, much selling takes place on the streets near the market in the summer. Selling may begin very early outside of the market by farmers and truckers who wish to leave early. Most of the business in the market is over by 9 a.m.

In the winter, twenty-five to forty farmers' trucks may come to the market in one day. When local production is high in the late spring, summer, and early fall, two hundred to two hundred and fifty farmers' trucks may come to the market in a single day.

Near the market are four restaurants where growers and the traders frequently meet for discussion and arrangement of future transactions.

There are no truck-bed level platforms provided at the

---

1The term dealer shall mean a produce merchant who sells wholesale quantities and/or jobbing lot quantities to retailers, restaurants, institutions, or to other wholesale merchants.
stalls. Although government studies recommended them, farmers generally do not believe such platforms necessary. Their reasons are that most of them do small amounts of loading and unloading in the stalls, many of them have trucks with low beds, and time is not always an essential factor with them.

Areas for Improvements in the Farmers' Market

With the description of the "Early Morning Market" in mind, a discussion of how well the market performs its functions is in order. Evidence indicating that the twenty-one year old growers' market does not adequately serve the current needs of all parties interested is found in the following observations.

Growers' trucks must maneuver for position very early in the morning on the streets outside of the market, in order that they might obtain choice stalls within the market. This situation does not develop every market day throughout the year, but it does occur every day during the local harvest seasons when the producers need good market facilities the most.

It has been pointed out that, during the periods of high local production, a considerable amount of selling transpires in the streets outside of the market due to lack of space and congestion in the market. Sales outside of
the market, especially those before market hours, prevent both buyers and sellers from having full knowledge of supplies of products available for the market day, or of the demand for those products. As previously mentioned, the more complete the information buyers and sellers possess regarding supply and demand, the more accurate will price reflect actual conditions. Wide variations and fluctuations in price are derived from lack of complete and accurate information. When an accurate price is established, the interests of both producers and consumers are protected.

Considerable time and labor is expended by buyers and sellers when the buyers are restricted from entering the market building with their vehicles. Grower-sellers must carry the produce sold out of the building to the waiting buyers' trucks. This practice somewhat alleviates congestion within the market but it also consumes the buyers' limited time and lengthens the selling period for the grower. Frequently, undesirable price fluctuations arise during lengthy market periods. Time consuming practices, which develop from situations caused by inadequate space and facilities, raise the costs of marketing and, consequently, the cost of produce to consumers. This increase in the costs of marketing mainly reflects uneconomical utilization of highly paid labor in outmoded buildings which lack proper facilities.
Lengthening of the market day, also, has a detrimental effect on horticultural commodities due to their perishable nature. Losses from visible deterioration and shrinkage contribute to marketing costs. Invisible deterioration may also begin in produce while setting unprotected in a buyer's truck for a considerable length of time. This deterioration may not be discovered until the products are in the consumers' kitchens. If this occurs several times with many consumers, the consumers will find other sources of fresh produce, or lose confidence in "fresh" produce altogether, and increase their consumption of processed fruits and vegetables.

A well-designed farmers' market, planned to meet the requirements of a growing consumer-population and increased local production, should bring about several economies. These economies emerge in the forms of reduction of time spent at the market by buyers and sellers, and reduction of losses from deterioration. Reductions such as these are, in fact, partial reductions of the inflexible margins found in food prices. These economies should arise when the length of the market session is shortened and full knowledge of market supply and demand is readily available. In order to achieve a shorter market session, with adequate knowledge of price-making factors available, facilities must be designed so as to provide an optimum amount of space for all buyers and sellers to assemble at a specified
These people must have freedom of movement within the market in order to eliminate delay and, also, to handle produce quickly and carefully. As mentioned before, short market sessions with perfect knowledge of information eliminate controversy and demoralization which grow out of price variations and fluctuations. (4, p.21)

The correction of uneconomic situations found at the Eastside Farmers' Market or any other farmers' market can be accomplished with the introduction of well-designed and well-operated facilities. Before any plans for improvements are made, certain important preliminary action should be taken. First, a careful study by competent personnel should be made of marketing costs and practices. This study should obtain such information as time consumed in traffic congestion by both buyers and growers, time spent by growers in disposing of their produce, time spent by buyers in fulfilling their needs, and current rates per hour for labor and trucks. After current costs and possible savings in new facilities have been determined, they should be presented to the interested parties for examination. A consensus of opinion on the new facilities should be determined. A study of facilities and plans recommended by the Marketing and Facilities Research Branch of the Production and Marketing Administration should not be neglected. Modifications or adaptations to available sites and local conditions would probably be necessary.
Figure 1: LOCATION OF THE WHOLESALE FRUIT AND VEGETABLE MARKET, RAILROADS, AND MAJOR THOROUGHFARES AT PORTLAND, OREGON
Consideration of how a new farmers' market might be consolidated with all other produce market facilities within a centralized market is of great importance to over-all produce market efficiency.

The Wholesale Dealers' Markets

There is no central wholesale market or single produce district in Portland. On S. E. Alder Street, between Second and Union Avenues, there is a small nucleation of wholesale houses. A few dealers are located near the Oregon Gardeners' and Ranchers' Market (Figure 1). The chain and other large volume distributors are established in the area from S. E. Washington Street to just north of the Burnside Street Bridge and east of S. E. Third Avenue. The remainder of the wholesale dealers, except two, are dispersed over the east side of the city.

Most of the dealers' buildings are twenty to thirty years old. Only one structure is less than five years old. The buildings on S. E. Alder Street are the oldest. Several of the houses on S. E. Alder Street were originally located on S. W. Front Street. Today, only one produce house remains on S. W. Front Street. Most of the market buildings are rented, and about three are leased from the Southern Pacific and Union Pacific Railroad Companies.

Except for two or three, the produce houses are one story structures. Those with two stories use the upper
story for office space. These buildings range in size from one full block to about 30 feet wide by 60 feet deep. Two houses cover a wholesale district block each, about four houses cover from one-quarter to one-half of a block each, and the median house is approximately 40 feet wide by 100 feet deep.

Nearly all of the fruit and vegetable dealers have basements in their buildings. Elevators are used in loading "hardware" items, i.e., potatoes and onions, into and out of the basements. Ripening rooms and cooler storage space are found in practically all houses.

About ten organizations have house tracks\(^1\). The remainder must obtain their rail transported produce at the S. E. Second Avenue team tracks\(^2\). Only seven houses have adequate space for unloading large refrigerated trucks and trailers. Produce destined for those houses not having adequate parking space must be loaded from the large "road rigs" parked in empty lots to smaller trucks. The smaller trucks carry the produce from the lots to the various recipients.

\(^1\) House tracks are privately owned railroad tracks which are laid parallel to the owner's warehouse for convenience in loading or unloading operations.

\(^2\) Team tracks are railroad tracks available for public use, where receivers who have no spur track or house tracks may unload their shipments.
Several houses have old wooden floors which are in need of repair and are potential vermin breeding places. Lack of space, old construction, and poor floors restrict the use of labor-saving materials-handling equipment in several buildings. Clamp-type, two-wheel hand trucks, stevedore-type hand trucks, four-wheel platform trucks, gangways, and some gravity conveyors are used in the smaller produce houses. In the larger buildings, and where the floors and arrangement of pillars permit, fork-lift trucks are used to haul palletized loads of produce containers. Other types of materials-handling equipment used in the more modern and spacious houses are overhead rails for banana stems, semi-live skids, horizontal endless belts, and power conveyors.

Only three produce stores have more than one entrance for trucks. Four buildings have ample loading dock space at one entrance for trucks both loading and unloading. Six or seven stores, which have only one entrance, are on curb level. At these stores, there are no platforms for loading operations (Figures 2 and 3). Three or four houses do not have roof protection for unloading operations. Sidewalks are utilized for holding purposes and some displaying by those stores which lack loading platforms and sufficient space. Nearly all dealers have small cashiers' cages or small offices in their stores.

There are no market regulations for limiting hours of
Figure 2: An improvised unloading arrangement for an illegally parked produce trailer.

Figure 3: Produce houses without loading docks and off-street parking on narrow, one-way S. E. Alder Street.
Figure 4: A modern produce house with off-street parking and a loading dock.

Figure 5: Rear entrance of a produce house with off-street parking, loading dock, and house tracks.
selling, products that may be sold, types of persons or organizations that may sell, who may haul into or out of the market, or units of sale.

The dealers are open from 6 a.m. to 5 p.m. Usually the day's business terminates around 3 p.m. Several retailers come to the wholesale houses to obtain their produce, however, most retailers buy from the peddlers. Buyers are not always steady customers for certain dealers. Usually, they buy where they can get the best buys regardless of the identity of the seller. Five or six dealers deliver produce to the retail outlets. Some institutions, restaurants, and retail stores purchase a considerable amount of produce by telephone orders, although most buyers prefer to inspect the produce they purchase and to "shop around" somewhat. The use of credit reduces the inconvenience of handling large quantities of cash.

**Areas for Improvements in the Dealers' Markets**

Numerous areas for improvements, which are necessary to reduce inefficiencies that contribute to high marketing costs, are readily seen in the preceding description of the wholesale dealers' markets.

One of the most prominent places for improvement is in the lack of centralization of the produce houses. We find two clusters of houses, one near the Oregon Gardeners' and
Ranchers' Market and the other on S. E. Alder Street between Second and Union Avenues (Figure 1). Most of the remainder of the produce houses are scattered over the east side of the city.

Before selling begins, supplies of fruits and vegetables available for a particular day's business should be definitely known by both produce dealers and buyers. This knowledge is essential for the price-making forces to operate properly, and justly for producers and consumers. Although some information on supplies and market prices is available through market news reports and telephone conversations, complete and timely information is available only when supply and demand is centralized. The concentration of supply and the focusing of demand for accurate price-making is not possible where produce markets are dispersed. (4, p.22) The following quotation illustrates what may occur due to lack of information on supplies.

"Without this knowledge of available supplies some receivers begin selling at too high a price and later in the selling period must lower it. Buyers, being in the same position, do not know what the price should be. As a result there are many different prices in the market for the same commodity at the same time, and considerable fluctuations in these prices throughout the selling period. This leads to a demand for price readjustments and to other demoralizing situations". (4, p.21-22)

Dispersed dealers' stores frequently means that buyers must waste a great deal of time in buying. They must travel across busy streets from one produce dealer to
another, while attempting to procure all of the volume and
variety of produce required for fulfilling their needs at
prices and quality acceptable to them. As each buyer
arrives at each market, he contributes to the traffic con-
gestion there and loses time in that traffic congestion.
Frequently he will not be able to park close enough to the
produce building so that labor cost and handling of per-
ishables cannot be held at a minimum. The amount of time
lost in traffic congestion is especially great when the
scattered produce houses are on narrow streets and are
without off-street parking space (Figure 3). Houses with a
single entrance for both loading buyers' trucks and unloading incoming produce increase the traffic problem.

Marketing costs, also, may increase by the loss in
value of perishables, which may easily deteriorate while
being hauled from one produce store or market to another.
This deterioration may continue in the buyer's truck, while
the buyer spends time at each source trying to satisfy his
needs.

In a wholesale produce market where segments are de-
centralized and there is little common organization, market
regulations, which could be beneficial to dealers, buyers,
producers, and consumers, are practically impossible to en-
force. Regulations such as covering hours of business,
traffic in the market area, and other factors pertaining to
operations cannot be helpful without enforcement.
In the case of farmers’ markets, it was indicated that lack of established selling hours means longer work days and greater price fluctuations during the selling period. Fluctuations in prices lead to demands on dealers by the buyers for readjustments. If the buyers do not get the price readjustments and they know that their competitors bought the same produce at a lower price at another time in the day, they may "clip" bills (pay less than the agreed upon price by remitting less than the amount on the invoice). Time is wasted in readjustments, producers and shippers are forced to wait for their returns, buyers may demand future price concessions, dealers do not know what price they will get for produce sold, and perishables will not move quickly to the consumers. (4, p.20) When a market has no definite hours, buyers do not know when to arrive on the market in order to find the highest quality and largest variety of fruits and vegetables; also, dealers cannot plan their trade so as to reduce the amount of time of operation.

The lack of off-street parking space for the large trucks at several produce houses located on narrow streets has been mentioned. This situation necessitates extra handling of perishable produce which has been carefully grown, harvested, packed, and then transported under protection to within two or three blocks of some of the
Figure 6: One of the empty lots where the "Road Rigs" are unloaded into smaller trucks.

Figure 7: The team tracks along S. E. Third Avenue.
Figure 8: Loading produce from one truck to another at an empty lot on S. E. Alder Street.

Figure 9: Produce houses on S. E. Tenth Avenue across from the Oregon Gardeners' and Ranchers' Market.
dealers' stores. These perishables must be unloaded from the large trucks and trailers, loaded into small trucks, and hauled from two blocks to about a mile, and then unloaded at stores which have no loading docks (Figures 6 and 8). Marketing costs are increased in this case by extra labor costs in handling, by extra cartage costs, and possibly by some deterioration and spoilage due to excessive and rough handling and exposure.

The lack of rail connections or house tracks brings about a situation similar to that of the lack of facilities for large trucks and trailers. Produce destined for those wholesale houses without rail connections must be unloaded at the public team tracks and hauled by truck to the houses (Figure 7). This extra handling increases cartage costs, loss in time, and deterioration of the produce. This situation is found in most wholesale produce markets in the country. Even the better organized and planned markets with modern facilities, such as the Niagara Frontier Food Terminal at Buffalo, New York, and the Northern Ohio Food Terminal at Cleveland, Ohio, fall short of real efficiency because of lack of rail connections. The extra costs of cartage, lost time, and deterioration could be eliminated in a well-planned and organized market where rail receipts could be unloaded direct to all stores. Such an improvement would not only be beneficial to producers, dealers, and consumers, but also to the railroads in that
the over-all rail transportation cost would be lower and, consequently, more traffic would be attracted.

Handling costs in the movement of fresh fruits and vegetables from grower to consumer are of increasing significance in the total marketing bill. The improvement of necessary physical handling is an important way to reduce marketing costs. It has been indicated that the use of labor-saving materials-handling equipment is limited in several of the wholesale houses in Portland. Antiquated layouts of buildings, poor floors, and small-scale operations are important factors limiting the utilization of improved methods and equipment. Use of improved methods and equipment at the team tracks would also result in considerable savings. Except for the operations of a few fruit and vegetable dealers, team track unloading operations do not generally include advanced materials-handling equipment and methods.

Increased application of four materials-handling principles would provide substantial reductions in handling costs. These four principles are:

"Balanced Handling, the arrangement and assignment of members of work crews and equipment in accordance with the minimum number of men required and the arrangement of their work in the operation so that delay time and total man-hour requirements are kept to a minimum for the job.

"Unit Load, a load made up of several packages grouped together so that they may be handled as a unit for unloading, transporting, stacking, or loading operations, or through any
combination of these operations, rather than as individual packages.

"Mechanical-Equipment Principle, for each wholesaler there is a volume of work above which produce can probably be handled more economically with the aid of mechanical equipment than by manual means alone.

"Materials Flow, the speed of materials handling is increased and costs are reduced when produce is moved as directly as, and through the shortest distance, possible from the unloading point to the storage point and from storage point to loading out point." (8, p.4-14)

These benefits derived from application of these principles will vary from dealer to dealer, depending upon his warehousing facilities, labor efficiency, wage rate, and general operating conditions. Large savings in physical handling can only be expected when these principles are utilized in a well-arranged wholesale house with modern facilities and handling equipment operated by properly instructed personnel.

High costs of wholesaling fruits and vegetables have been indicated to be due to inefficient practices, poor organization, and unsuitable facilities. The solution of the high cost of wholesaling is, as mentioned before, of vital interest to producers and shippers in order that their income may be raised, to consumers in order that their food dollar may buy more, and to dealers operating in this market so that their costs of operation and hours of labor may be reduced.

There are additional reasons why the produce dealers
should be concerned with the solution of the various segments of the problem. Failure to solve this marketing problem will tend to not only prevent the reduction of the cost of marketing through the wholesaler-jobber-retail channel, but it will encourage additional expansion of produce distribution from producers through large-scale retailers to consumers, with the produce not moving through the regular market channels. Other reasons are that produce will tend to move in increasing amounts from growers and shippers to small towns without going through the city wholesale market, and, also, the construction of any new market facilities may not be integrated economically with the existing market.

It is interesting to note at this point that the number of produce houses in Portland is approximately the same as it was twenty years ago. In those twenty years, the population of the metropolitan area of Portland has increased from 378,728 to 701,202. Lack of increase in the number of produce houses apparently is due to a combination of several reasons. One of the more prominent reasons is the expansion of distribution through involuntary and voluntary chain store organizations and a few large-volume companies. Another important reason is that the volume of produce handled by each regular produce dealer has increased considerably. During this twenty-year period, consumption of processed fruits and vegetables has gradually
gained on consumption of fresh fruits and vegetables. Restaurants and institutions have decreased their consumption of fresh produce in favor of processed, due to high rate of compensation to labor and the time involved in preparation of fresh vegetables.

The Large-Volume Dealers and the Chains

There are three large-volume fruit and vegetable dealers that serve retail outlets within an approximate radius of 150 miles from Portland. These dealers have modern ripening and cooler facilities besides being well equipped for produce handling and transportation. Dry lines of food are also handled by these people. One of these firms is interested in a processing business and another is a member of a national fresh fruit and vegetable distribution organization.

Since the railroads have set up tariffs for partial unloading, two of these large firms have been making partial unloads of produce at their branch warehouses in the market tributary area from cars destined for Portland. This practice has reduced the firms' back-hauling by truck to their branches and, possibly, has reduced price fluctuations somewhat in Portland.

Two national involuntary chains, two national voluntary chains, and about three local chains sell fresh produce in Portland. One of the national involuntary chains
has a large warehouse, which is a railroad-owned building. The building has rail and truck loading docks. This particular building also has ripening rooms, cooler storage space, and upstairs offices. Modern equipment is utilized in handling produce, but the warehouse space is inadequate for the volume of produce handled. Without the use of fork-lift trucks and power conveyors in stacking containers, the need to move to more spacious quarters would have arisen much earlier. This chain's warehouse obtains its produce, mainly, from a related company which specializes in supplying the warehouses for perishables of this particular national chain. For about a year, the pre-packaged fresh produce handled by this warehouse has been supplied by another related company, which specializes in pre-packaging. This warehouse furnishes the fresh produce for all of the chain's one hundred stores in Oregon and southern Washington. Trucks deliver fresh produce daily to the chain's forty retail stores in Portland. The stores quite distant from Portland obtain their produce at least every other day. All stores have their fruits and vegetables from the Portland warehouse by 9 a.m.

A national voluntary chain has a warehouse for perishables in Portland. This warehouse is owned and operated cooperatively by 125 grocer-members. The warehouse is a modern concrete structure. House tracks, off-street parking, loading docks, and materials-handling equipment
facilitate operations in this building. One local chain procures most of its produce from this warehouse.

One large-volume fruits and vegetables dealer furnishes most of the produce retailed by another national voluntary chain in the city. The stores of this chain are not committed to buy their fruits and vegetables exclusively from this source.

Twelve retail grocery stores of an old national involuntary chain obtain their produce mainly from one large fruits, vegetables, and dry lines distributor.

A local non-voluntary chain of supermarkets operates its own warehouse for horticultural perishables. This warehouse has both truck and rail loading accommodations, besides ripening, cooler storing, and pre-packaging facilities.

Advantages in Integration and Large Volume Operations

All of these voluntary and non-voluntary chains, national or local, which operate warehouses for produce, have integrated the jobbing function and, in part, that of wholesale receiving as well. To an increasing extent, the chains are procuring their fresh fruits and vegetables from growers and shippers in producing areas rather than from handlers in the city market. The fact that most of the regular wholesale fruit and vegetable markets in the
country are antiquated and inefficient has already been mentioned. These markets, including the Portland markets, are ill-suited to the requirements of large buyers. Organizations engaged in mass merchandising require enormous quantities of uniform produce from dependable sources of supply. Improvement in the organization and facilities of regular produce markets might retard the tendency of chains to avoid them. Now that some chains have their own warehouses for perishables, it is doubtful that they could be induced to return to the regular wholesale markets by any likely improvements in the regular markets in the immediate future. (9, p.2)

Chain stores procure most of their produce through their buying agencies in direct purchases on a basis where the produce is consigned to the chain. The produce is consigned without any specific price having been agreed upon, but with the stipulation that it will be based on prevailing prices in the regular wholesale market for the same time period. (9, p.3) It is difficult to establish a comparison of actual prices paid by chains and by regular wholesale handlers to growers.

Chains require large amounts of uniform produce in uniform containers in order to smoothly carry on mass distribution. This is the reason why their procuring agencies deal with large growers. Growers of small scale or with only occasional quantities of fruits or vegetables are
usually not dealt with by the larger chains.

Much of the duplication of facilities for marketing and many of the marketing costs arising from numerous bargaining transactions at different stages in the regular channels are reduced or eliminated within a mass distribution organization. (9, p.4)

The handling costs of chains are not reduced by the amounts of the margins taken by the handlers whom they displace through the integration of the jobbing function and, in part, the wholesaling function. It should also be realized that vertical integration is not merely the taking over of certain functions, and that those functions are not performed in basically the same way under any type of marketing system. (9, p.35) Integrated mass distribution distinctly involves a change in physical handling and distribution.

Chains which make purchases in producing areas obtain the advantage of having their produce arrive at their warehouse quicker and fresher than if it had come via regular wholesale channels. Another advantage in country purchasing is that dealers in producing areas usually operate on lower brokerage or commission rates than those charged in city markets. (9, p.38) The local assembly and transportation functions are such that they cannot be eliminated whether assumed by chain organizations or not, when producing areas are distant and dispersed. Chains appear to
be at a disadvantage where their produce is hauled from producing areas to the chain warehouses and broken down into smaller quantities, then back-hauled part of the way to country chain retail outlets. However, it must not be forgotten that they operate regular supply delivery service from their warehouses to their country outlets in any case.

All cartage costs except those from the warehouses to retail stores are eliminated when chains receive their produce directly at their warehouses from production areas. The chains possessing warehouses have trucks, each one delivering produce and other food items to several stores. The usual independent retail store sends a man and a truck to the wholesale market, spending several hours each day procuring produce for that one store. High cartage costs due to traffic congestion and delays at the regular wholesale markets are mainly by-passed by most chains.

The actual operations performed by chain-store warehouses in furnishing their retail outlets with produce are different than those performed by wholesalers and jobbers in regular markets, even though the functions roughly correspond. The chain organizations operate their warehouses for perishables on a much larger scale than individual wholesalers and jobbers do. Regular produce handlers do not have the opportunity to standardize their operations because they cater to a varying type of trade. (9, p.41)

Purchasing and warehousing operations on a vast scale allows
specialization of tasks and highest efficiency in utilization of personnel, equipment, and plant.

Mass merchandising systems have separated the operation of procurement for the retail unit from that of selling to the consumer, with the result that chain-store managers concentrate on retailing except for filling out a daily order for supplies. The non-chain retailer expends considerable effort and time daily in obtaining his fruits and vegetables. A great number of the independent grocers do not permit a special jobber or other agent to select and deliver their produce because they prefer to inspect it themselves prior to buying. (9, p.41)

Chain organizations obtain efficient retailing of produce by stressing skill in merchandising methods and selling practices, in economical use of labor and capital in the retail unit, and in suppression of waste and spoilage.

It should be evident that the chains appear to be using less labor and capital in produce distribution, thereby reducing marketing spreads. Monopoly in food distribution is contrary to growers' and consumers' interests when it produces larger marketing spreads than would otherwise exist. Charges made against chains are that they have reduced prices and margins to the detriment of other distributors, rather than raised prices and widened margins. Handlers in the regular channels must buy and sell at approximately the same prices and take the same margins as
chains in order to meet the competition. Some handlers can
do this because they are as efficient as chain organiza-
tions, and some others manage because their rate of compen-
sation to labor or capital is lower. (9, p.5)

Two national wholesale fruit and vegetable dealer or-
ganizations are promoting retailer education programs in
order to meet chain merchandising competition and to expand
consumer demand for fresh produce. The United Merchandis-
ing Institute, financed by wholesalers, shippers, and the
Research and Marketing Branch of the P.E.A., has whole-
salers instructing their customers in better handling,
retailing, and promotion methods in several cities. Under
the National League of Wholesale Fresh Fruit and Vegetable
Dealers' plan, teachers of up-to-date fresh produce re-
tailing are being trained in several schools. Most of
these retailer education classes taught wholesalers are in
the East. Such programs would no doubt aid both retailers
and wholesalers in Portland.

It has been pointed out that a cooperative of indepen-
dent grocers operates a large perishables warehouse in
Portland. The member-grocers of this voluntary chain ob-
tain many of the advantages found in large-scale, inte-
grated distribution. The individual retail units are
supplied produce and groceries from the central warehouse.
Geoffrey S. Shepherd indicates that the organization of
independent merchants into voluntary and cooperative groups
has done much to increase the effectiveness of their competition with growing involuntary chains. (18, p.394) In order to insure the public against monopoly in merchandising food, competition must be maintained among the large distributors.

Large chain systems provide certain advantages for growers. Mass distributors provide vast retail outlets for produce and they are able to handle large quantities at lower costs. Chains are in a position to dispose of heavy supplies without precipitating gluts because of their dispersed outlets and extensive merchandising techniques. (10, p.175)

Two chain organizations operate pre-packaging plants in Portland. One of these plants was put into operation within the last two years. A local chain has a new pre-packaging plant under construction.

The pre-packaging plants operate on an assembly line basis as does the plant of an independent firm, which specializes in pre-packaging. Salad mix, spinach, tomatoes, onions, oranges, and potatoes are among the items which are pre-packaged. Although there are still many problems to be solved in the pre-packaging of various commodities, this method of marketing has been gaining in importance in the last few years. Some consumer packaging is being done by a few of the independent large-volume distributors. Banded consumer units of bananas and grapes are new items in the
pre-packaging field. There are indications that pre-packaging of fresh fruits and vegetables reduces losses somewhat, reduces some labor, and increases sales of some items.
The Produce Credit Association

For about twenty years, the Portland wholesale dealers have used the Produce Credit Association and the Produce Merchants' Traffic Bureau in facilitating their business. Only two of the large-volume operators and the chains do not belong to the association.

The main function of the association is the periodic distribution of credit delinquents lists and other information of credit interest to the members. The labor contracts with the three different unions, salesmen's, warehousemen's, and teamsters' are handled by the association.

The Produce Merchants' Traffic Bureau

Every morning the market is in operation, a report on the latest track holdings and truck receipts is delivered to association members. This report, which is prepared and delivered during the same morning, indicates the number of cars received, the car numbers, the car contents, the date of car arrival, and who received the cars. The truck receipts information in the report is obtained from the Oregon State Extension Service and U. S. D. A. Market News Service. Type of produce, number of containers of each type of produce, and their sources is reported. Total number of carlots on hand, the number of new car arrivals, and
a brief weather report are also contained in the daily traffic bureau report.

The Produce Merchants' Traffic Bureau audits freight bills, files claims, represents the produce merchants in transportation matters, and maintains tariff files.

The traffic bureau and credit association are located in the same office on S. E. Morrison near the S. E. Alder Street produce houses.

The Market News Service

Information on the volume of unloads of fresh fruits and vegetables and their prices is gathered, tabulated, and disseminated daily in Portland. The Federal Market News Service also provides comments as to market trend, and in some cases as to the supply and demand situation.

In Portland, the wholesale price reported represents the first sales by the original carlot or trucklot receiver, i.e., to jobbers, chain store buyers, and other large buyers. Price ranges, in general, accompanied with qualifying statements, are used in the market reports.

"Market phases" in the reports indicate comparisons with conditions which prevailed on the previous day, or conditions expected on the day following, or both. The daily reports indicate "market tone" through comparisons of the present price level with past and future levels.

The publishing of the reports is made possible by the
cooperation of the various railroads, steamship companies, railway express agencies, and air transport services. Numerous growers, wholesale jobbers, brokers, and other agencies also cooperate in making fruit and vegetable information available. The Portland office of the Market News Service of the United States Department of Agriculture is connected with all major markets and shipping centers in the nation by constant teletype communication service. This office is operated for the benefit of consumers, growers, handlers, carriers, and other interested parties.

Although members of the Produce Merchants' Traffic Bureau obtain their own market report on unloads every morning, they find the Federal Market News report useful. The receiver, who is consigned produce, can support his stand on prices to the produce grower by using the market report. The reports are used by the railroads and claimants to establish claims value. The growers and shippers are able to schedule their shipments better with the aid of price and grade information. Also, the trade and growers have a ready reference to future price movement through the information provided by the market news office. The produce dealers feel that the truck unloads information, contained in the market news report from the Portland office, would have more value if the name of the receiver organization was included, as it is with rail receipts in the Produce Merchants' Traffic Bureau track report.
In the chapter on the perfect market, the requirement of accurate and timely information, available to all, was indicated as extremely necessary for a properly functioning market. This vital requirement for honest, intelligent, and quickly responsive trading has also been emphasized in the wholesale markets chapter, in conjunction with the benefit of full information found in a more centralized market.

Good market news reduces marketing costs in several ways. Costs arising from risk assumption in buying and selling due to market uncertainties are reduced by adequate, up-to-date information. Some time and physical handling in produce distribution often is saved through the use of market news. Trade between buyers and sellers at distant points is facilitated by market news so that the trade takes place more directly, thereby avoiding costly, circuitous movement. It is said that,

"Perhaps the greatest of all opportunities for market news to reduce marketing costs is through the maintenance of a constant pressure of enlightened competition on all the individuals involved in marketing". (11, p.960)

Improvements in food distribution will be realized when production area market news, truck shipments information, and retail produce market news become available in adequate volume to all interested.
The Perishable Agricultural Commodities Act

As in all produce markets in the United States, the brokers, commission merchants, and dealers at Portland are under the regulations set forth in the Perishable Agricultural Commodities Act. The purpose of this act is to suppress unfair and fraudulent practices in the marketing of perishable agricultural commodities of interstate or foreign commerce. (18, p.429)

Under this act, dealers are prohibited from rejecting or failing to deliver any produce bought or sold in interstate or foreign commerce by the dealers without reasonable cause. Commission merchants, dealers, or brokers are prohibited from making, for fraudulent purposes, any false or misleading statement concerning the condition, quality, quantity, or disposition of, or condition of the market for, any perishable agricultural commodities in interstate or foreign commerce bought or sold by them. Without reasonable cause, commission merchants may not discard, dump, or destroy any fruits or vegetables received by them in interstate or foreign commerce. Misrepresentation as to where a commodity was produced is another provision within the act which is prohibited. If produce containers or railroad cars loaded with produce in interstate or foreign commerce hold certificates issued under the authority of any state or federal inspector as to grade or quality of
the produce, it is unlawful for any commission merchant, broker, or dealer to remove, alter, or tamper with any cards, tags, or notices on the containers or car.

Persons in the produce business, such as commission merchants, brokers, and dealers, must possess a license from the Regulatory Division of the Fruit and Vegetable Branch of the Production and Marketing Administration. Under the act, injunctions may be ordered for stopping persons operating in the produce business without licenses. These licenses may be revoked or suspended for violations of the provisions of the act. Commission merchants, brokers, and dealers must keep accounts, records and memoranda under the direction of this act. Failure or refusal to account promptly and correctly to the person with whom the transaction is made is also a violation.

The act provides the requirement of liability to persons damaged, along with procedure for complaints of violation, and for investigation. Reparations may be ordered under the act by the Regulatory Division. The act is quite similar to the Produce Agency Act, except that, under the Produce Agency Act, there is a provision for inspection and issuance of a certificate on perishables to be discarded by commission merchants.

It is quite apparent that growers, shippers, wholesale people, retail buyers, and consumers all benefit from this type of protection from unfair practices and fraudulent
methods in the marketing of perishables. These marketing regulations are administered with a policy developed on the premise of service, to prevent violations by explanation, information, and warning, and to invoke penalties only upon the obstinate offenders. (13, p.435)

The Oregon Produce Dealers and Peddlers Act

In the State of Oregon, all wholesale and retail peddlers, commission merchants, brokers, dealers, and all credit and cash buyers and their agents dealing in fruits, vegetables, dressed meats, and poultry must be licensed as required by the Oregon Produce Dealers and Peddlers Act. This act is designed to provide requirements and regulations similar to those of the Produce Agency Act and Perishable Agricultural Commodities Act for the intrastate commerce of Oregon perishable farm products. The Division of Market Enforcement of the State of Oregon Department of Agriculture is charged with enforcing the regulations of this act. The elimination of such unfair tactics as "rubber-check" passing, short-weight sales, fraudulent and deceptive packing, produce misbranding, making of fraudulent returns, failure to make payment, etc. are among the duties of the Division of Market Enforcement. The division also handles licensing, investigations of complaints, hearings, and judgments.

The effects of this act are the promotion of fair
dealing between growers and buyers, and the reduction of disorderly market conditions brought about by unlicensed itinerant vendors dealing in subgrade commodities.

**Standardization and Inspection**

An important phase of orderly and efficient buying and selling is the packing of fruits and vegetables in accordance with official standards. These standards provide a measurement of quality variation, and their use puts long distance dealing on a satisfactory basis. (13, p.423)

Prior to the establishment of U. S. standards and State of Oregon standards, the buyers and sellers on the Portland market had no suitable basis upon which future contracts could be made, no basis of settlement if disputes arose between buyer and seller, and no good basis on which prices of produce could be compared. Abuses on the part of both buyers and sellers and their agents were many when standards did not exist. There was little control for the buyer over the quality of produce delivered to him from distant producing areas, just as there was little control for the grower-shipper over the sale of his produce in a distant market. Before the development of grading and market news, growers were at a great disadvantage in their marketing activities.

Many had little contact with the market except through the buyers of their produce. They had a very meager
knowledge of what prices were being paid on the market, and
how the prices which they received compared with those
prices being generally offered for produce of comparable
quality.

At Portland, receivers and other financially inter-
ested parties, as well as shippers, may obtain inspection
service for quality and condition of shipments of fruits
and vegetables. A fee is charged to defray expenses of the
service. At shipping points, growers or shippers may ob-
tain inspection service on their produce before shipment.
The inspection certificate provides the growers or shippers
with cheap insurance against possible unjust rejections at
the city market, while the inspection certificate which the
receiver obtains from inspection at the market provides him
with prima facie evidence of the condition and quality of
produce delivered to him.

The grading and inspection programs have benefited the
consumers as well as the growers, shippers, and dealers on
the market. The general quality of fresh fruits and vege-
tables offered for sale to consumers is superior to the
quality offered before products were packed in accordance
with the requirements of U. S. and Oregon standards. Since
the development of standardization and inspection, the
prices which consumers pay for fruits and vegetables re-
fect quality and condition of the produce more closely.
CONCLUSIONS

The direct and fundamental goals of a wholesale fresh fruit and vegetable market in a large population concentration is to provide efficient and economical services and ownership transfers in the movement of products from the growers to the retailers, and to provide an effective price-making mechanism. A market approaches these goals when it is arranged so that labor and capital are utilized economically and all information on market supply and demand is readily available. The necessity of centralization of the market and of efficient layout of modern facilities, so as to use labor and capital economically while holding produce losses at a minimum, has already been mentioned.

The wholesale fresh fruit and vegetable market at Portland falls short of possessing an efficient arrangement of proper facilities necessary for a market to begin to approach the point of taking on the attributes of a perfect market. Except for two clusters, the wholesale produce buildings are scattered, many lack rail connections, most lack off-street parking and truck-bed level loading docks, and the use of labor-saving equipment is restricted in several buildings. The farmers' market does not have the space or design required for serving the farmers' needs adequately when local produce is in abundance. The chains and the other large-volume operators, however, are
established in buildings which are relatively efficient in arrangement.

Market news on the Portland market has been improved by the availability of tabulated daily truck unloads. The value of this new information to operators on the market would be enhanced by the inclusion of the names of the receivers of the truck shipments, as is done with rail shipments information by the Produce Merchants' Traffic Bureau. With this added information, persons on the market would know better who has what items in supply.

The volume of pre-packaged fresh fruits and vegetables moving through the Portland market is on the increase. Spinach in bulk is almost unavailable, over sixty per cent of the tomatoes sold outside of the local growing season are pre-packaged, and pre-packaging of such items as potatoes, oranges, grapefruit, apples, salad mix, and onions is increasing.

The importance of the truck in providing transportation of perishable horticultural products destined for the Portland market is seen in the fact that an estimated sixty-one per cent of the total 1950 unloads were brought in by truck. There are indications that the over-all cost of transporting produce by truck is cheaper than by rail. The importance of trucks in transporting fruits and vegetables to the market at Portland will probably continue to increase.
The chain organizations, already very important in the distribution of fruits and vegetables, will most likely continue to grow more important. In order to meet the competition of the chains, more retailers may join voluntary cooperatives operating efficient produce warehouses. In this way, they will gain some of the advantages of wholesaler-jobber integration, and large volume operations. Those operators in the regular wholesale market must make improvements which will correct inefficient practices, improper organization, and unsuitable facilities in order to at least maintain their position. These improvements need be of a labor and time-saving character, since much of the margin taken for distributing produce is labor cost. These improvements may be brought about with better market facilities, more organization of the components of the markets, and possibly with more vertical integration of the regular market functions by operators in the regular market. Failure to make improvements in the regular market may result in increased flow of fruits and vegetables from producers to consumers, around the regular channels, and in additional gains by processed fruits and vegetables at the expense of fresh fruits and vegetables.

A centralized wholesale market for fruits and vegetables, such as exists for livestock, can do a great deal in reducing city marketing costs and in focusing market demand and supply more sharply. Before a new market is
planned, careful study of possible locations, layout, size required, current costs of marketing, possible savings in a new market, and plans of financing and operation must be made.

The population of the Portland area has grown tremendously in the last decade and will probably continue to grow. In order to serve the fresh fruit and vegetable requirements of the increasing population, the market must undergo modifications so as to handle a larger volume efficiently and at a cost which will not turn consumers away from fresh produce or stimulate unchecked increases in the movement of produce around the regular market.


APPENDIX
THE EFFECT OF CHANGES IN MARKETING COSTS

Although changes in marketing costs are slow, relatively small, and not easy to make, it is interesting to see who they effect when they are brought about. A hypothetical case will be used to illustrate the effect of a change in the cost of marketing a vegetable.

At the point of production there are demand and supply schedules for fruits and vegetables just as there are at the city market. The market at the growing place is related to but distinct from the market for the same produce in the city.

Prior to a change, the cost of marketing was $1.00 per crate. The cost of marketing increased to $2.00 per crate. At this point two simplifying assumptions are introduced in this hypothetical case. One assumption is that none of the product is consumed in the producing area and the other is that there exists only one producing area and one city market for this certain commodity. The market at the producing area has its own demand and supply schedules, as does the city market. The series of quantities are the same at both markets and the pairs of demand and supply schedules

---

1This section is adapted from Appendix C of the text, Marketing Farm Products. (18, p.414)

2In this case, cost of marketing includes all costs involved in moving the product from growing area to the consumers.
are similar. Prior to the $1.00 per crate increase in marketing cost, the difference between the producing area price and city market price was $1.00. This difference was the original cost of marketing.

At the market in the producing area, the supply schedule is the basic schedule since it is based directly upon the costs of growing different quantities of the vegetable in that area, and is not affected by changes in the cost of marketing the product at the city. Changes in the cost of marketing the vegetable will affect the demand curve for the vegetable in the producing area, and the new demand curve will cut the producing area supply curve at a lower point (Figure 10). The quantity of the vegetable demanded will change. The demand schedule at the producing area changes because it is derived from the demand schedule at the city market by deducting the costs of moving the vegetable through the market channels to the consumers. This demand schedule is directly affected by changes in the cost of marketing.

At the city market, the demand schedule is basic, since it is based directly upon the desires and spendable income of the urban consumers of the vegetable. The city market demand schedule is not affected by the cost of moving the product through the market channels from production area to the consumers. The city market supply schedule is directly affected by changes in the cost of marketing.
because it is derived from the producing area supply schedule by adding the costs of moving the product through marketing channels to the consumers in the city.

**TABLE VI**

**SUPPLY AND DEMAND SCHEDULES**
**FOR A VEGETABLE, ELASTICITIES EQUAL**
(Hypothetical Data)

<table>
<thead>
<tr>
<th>Production Area</th>
<th>Original Prices</th>
<th>Original Quantities</th>
<th>New Prices</th>
<th>Supply Schedule</th>
<th>Prices</th>
<th>Quantities</th>
</tr>
</thead>
<tbody>
<tr>
<td>$9</td>
<td>50</td>
<td>$8</td>
<td>$5</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$8</td>
<td>60</td>
<td>$7</td>
<td>$6</td>
<td>60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$7</td>
<td>70</td>
<td>$6</td>
<td>$7</td>
<td>70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$6</td>
<td>80</td>
<td>$5</td>
<td>$8</td>
<td>80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$5</td>
<td>90</td>
<td>$4</td>
<td>$9</td>
<td>90</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**City Market**

<table>
<thead>
<tr>
<th>Demand Schedule</th>
<th>Original Prices</th>
<th>Original Quantities</th>
<th>Supply Schedule</th>
<th>New Prices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prices</td>
<td>Quantities</td>
<td>Prices</td>
<td>Quantities</td>
<td>New Prices</td>
</tr>
<tr>
<td>$10</td>
<td>50</td>
<td>$6</td>
<td>50</td>
<td>$7</td>
</tr>
<tr>
<td>$9</td>
<td>60</td>
<td>$7</td>
<td>60</td>
<td>$8</td>
</tr>
<tr>
<td>$8</td>
<td>70</td>
<td>$8</td>
<td>70</td>
<td>$9</td>
</tr>
<tr>
<td>$7</td>
<td>80</td>
<td>$9</td>
<td>80</td>
<td>$10</td>
</tr>
<tr>
<td>$6</td>
<td>90</td>
<td>$10</td>
<td>90</td>
<td>$11</td>
</tr>
</tbody>
</table>

*Prices in dollars per crate.
**Quantities in thousands of crates.*
The hypothetical data in Table VI indicate that equilibrium prior to a change in marketing cost was at a quantity of 70,000 crates and a price of $7.00 per crate in the producing area and $8.00 in the city market. With the change, the marketing cost increased from $1.00 per crate to $2.00. This change has no affect on the supply schedule in the producing area or on the demand schedule in the city market.

The demand schedule at the producing area and the supply schedule at the city market, both derived schedules, are affected (Table VI). The supply prices for the vegetable at the city market have increased by the full amount of the increased marketing cost, while the demand prices at the producing area have decreased by the full amount of the increased marketing cost. Consumers would previously pay $8.00 per crate in the city market when 70,000 crates were produced. This meant that they would pay $7.00 per crate -- that is, $8.00 minus $1.00 marketing cost -- in the producing area. Since the cost of marketing has gone up to $2.00 per crate, so $2.00 instead of $1.00 is taken from the city market price. The consumers in the city now can pay only $6.00 per crate in the producing area for the same quantity for which they previously paid $7.00 (Table VI).

The new demand and supply schedules for the producing area, and for the city, indicate that an equilibrium point
in both markets is obtained at a quantity of 65,000 crates, with a price for that quantity of $6.50 per crate in the producing area and $8.50 per crate in the city (Figure 10). The burden of the increased cost of marketing has been divided equally between the producers and the consumers, and the production and consumption of the vegetable have decreased from 70,000 to 65,000 crates. The burden was divided equally between the producer and consumer because, in this case, the demand and supply curves both have the same elasticity. If elasticities of demand and supply were unequal, the burden would have been unequally divided between the producers and consumers. The group with the more elastic curve would receive less of the burden if marketing costs increased, and they would receive relatively more gain if marketing costs decreased. It should also be mentioned that, were the elasticity different than in this case, the point of equilibrium would be different.

In Figure 10, the original demand curve is indicated by the letter "D", the new demand curve by "D"; while the original supply curve is indicated by "S", and the new supply curve by "S".
Figure X: DEMAND AND SUPPLY CURVES FOR PRODUCTION AREA AND CITY
Figure 11. A Typical Track Report from the Produce Merchants' Traffic Bureau.

**TRACK REPORT**

PORTLAND, ORE.

Monday, April 16, 1951

Produce Merchants' Traffic Bureau

---

**CABBAGE**

P72 68126 4/14 Pac

**CARROTS**

P72 66161 4/9 Pac

**CELERY**

RD 21817 4/10 Un. Brok

**Lettuce**

PFE 95026 4/13 Spada

**Potatoes**

RD 21817 4/10 Un. Brok

**PEPPERS**

W7E 65632 4/14 Un Brok

---

**GRAPES FRUIT**

P7E 61392 4/13 Campbell

**ORANGES**

P7E 46262 4/13 Martin

**AVOCADOS**

RD 3763 4/10 Calavo

---

**TOMATOES (Max.)**

P7E 5543 4/14 Pioneer

**ONIONS (Ore.)**

ART 15045 4/14 Pioneer

---

**Grapes Fruit Receipts at Portland**

Compiled by OEC Ex Serv & EDA

(Saturday & Monday)

Asparagus, cts 250 10 346
Artichokes, bx 1.5
Broccoli, cts 250 0 250
Beets, cts 5
Cabbage, cts 5.7
Cauliflower, cts 2342 135
Carrots, cts 140 (300 Aris)
Celery, cts 665
Cucumbers, M.H., lugs 959
Greens, cts 54 57
Garlic, cts 10 6
Lettuce, cts 2664
Onions, Green, cts 40 46 367
Parsnips, lugs 50 111
Parsley, cts 33
Green Peas, lugs 75
Peppers, Bell, cts 20
Potatoes, bx 1756 1677
Radishes, cts 12 125
Rhubarb, lugs 20 529 120
Romaine, cts 37
Savoy, cts 15
Spinach, cts 65 191 299
Squash, Zuc, lugs 155
Hubbard, Tons 1.2
Banana, cts 75
Tomatoes, lugs 75
Turnips, cts 201

---

27 new arrivals, total 46 carlots.
Weather: Fair, 68°, 9 AM

---

27 new arrivals, total 46 carlots.
Weather: Fair, 68°, 9 AM

---

27 new arrivals, total 46 carlots.
Weather: Fair, 68°, 9 AM

---

27 new arrivals, total 46 carlots.
Weather: Fair, 68°, 9 AM

---

27 new arrivals, total 46 carlots.
Weather: Fair, 68°, 9 AM

---

27 new arrivals, total 46 carlots.
Weather: Fair, 68°, 9 AM

---

27 new arrivals, total 46 carlots.
Weather: Fair, 68°, 9 AM