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#### WHOLESALE PRODUCE MARKETS\*

Marketing is one of the oldest urban functions. The heart of many early cities was the marketplace: the Greek agora, the Roman forum, and more recently the commons of England and New England and the courthouse square of American towns and cities have been the places where goods and other products grown in surrounding agricultural lands are exchanged. Even today, in many rural areas, the county seat is the scene of great activity on Saturdays when the farmers come to town to sell their produce.

Produce markets, as we know them today, are a result of improved transportation systems and methods of storing and preserving foods developed in the nineteenth and twentieth centuries. Previously most of the food consumed in the city had been grown in truck gardening areas only a few miles from the markets. Farmers brought their own fruits and vegetables to town where they were purchased by shop owners and consumers. Only a few less perishable goods could be shipped any great distance.

Railroads and artificial refrigeration brought an end to the era of direct selling and made possible the development of the wholesale produce trade. Farmers found themselves unable to retail their produce and still devote enough time to the cultivation of crops to supply the needs of the newly-opened distant markets. Wholesale dealers established contacts in other areas and were able to supply fruits and vegetables never before seen in their cities. Fresh foods could be purchased in the market over longer periods of time because produce supplies were not limited to the duration of the local growing season. When the wholesale markets were operated efficiently, the public could enjoy a wider variety and higher quality of produce than ever before, and often at a lower price than it had previously paid.

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Many changes have taken place since existing wholesale markets were first built: cities have grown, farm production has increased, transportation methods have been improved, newer methods of packaging, storing, and preserving food have continued to make a wider range of higher qualitity produce available. Often, however, food reaching the public is of no higher quality today than it was years ago. At least some of the responsibility for this situation lies with city wholesale produce markets which, with few exceptions, have failed to provide facilities to insure that produce reaches the public in a fresh and sanitary condition. Inefficient operations in markets have been at least partially responsible for increased retail prices.

Despite an increasing per capita consumption of fruits and vegetables in this country, the amount of produce unloads in city markets is about 2.4 per cent lower than in 1931. The increases have been in the consumption of frozen and canned goods which reach the public through channels other than the wholesale produce market. In addition, large chain stores, recognizing the inefficiency and high cost of dealing through established channels, have developed their own systems of purchasing and distribution. Private retailers have often resorted to direct-purchase methods which by-pass the wholesale market. While the total volume of produce handled in many wholesale markets is at or near an all-time peak, the percentage of fruits and vegetables handled by dealers is decreasing.

Wholesale produce markets are still the chief supplier for independent grocers who still sell most of the retail food in this country. (Chain stores, which in 1939 sold 24 per cent of all food at retail, now handle only 22.8 per cent.) An efficient, modern wholesale market results in benefits to all users of the market and to the general public through the elimination of unnecessary waste and lowered market costs. In addition, the consumer would receive a higher quality of produce in better condition, and probably at a lower price.

The purpose of this report is to present a picture of conditions in markets throughout the country and to point out ways in which the planning agency can plan improvements in the local market. Although the Agricultural Marketing Service of the United States Department of Agriculture has conducted studies of more than 40 city wholesale markets and prepared plans for new markets, a local planning commission is an appropriate agency to gather the basic data needed for such studies and to see that the plans conform with long-range plans for city development. The information contained in this study has been obtained from the printed reports of the Department of Agriculture and from newspaper articles and planning reports on produce markets.

#### ELEMENTS OF THE PRODUCE MARKET

Wholesale markets in most cities have developed in a similar manner. Often near the center of the city is a market district consisting of the stores of dealers in fruits and vegetables, poultry and eggs, meats, and dairy products, as well as warehouses used by dealers in dry groceries. There may be other scattered produce markets developed by railroads or other wholesalers who have not been able to secure stores in the primary market area. The stores of dealers in related fields may be found near the market.

This report deals with city terminal wholesale produce markets which serve primarily as points for final distribution of goods to retailers in the city and surrounding areas.\* In order to maintain its business within the metropolitan area and to develop a trade with distant cities, a produce market must have a solid core of established wholesale dealers able to fifl any need for fruits and vegetables. Not only must there be a large variety of fruits and vegetables available at all times, but the market should have a wide range of qualities of produce at different prices to fill the needs of all income groups. Much of the trading in any market is among the dealers who at times supply other dealers with foods they need immediately. In most markets sales among the dealers are an important factor in market operations. (See Figure 1.)

#### Sellers

The chief sellers in a wholesale produce market are the established produce dealer: food brokers, farmers, and merchant truckers. Each of these types provides a special service and each is a necessary part of a successful market.

Wholesale Produce Dealers. Established fruit and vegetable dealers are the backbone of the market. These businesses operate throughout the year and supply fresh produce at all times. In the past wholesalers accepted produce on consignment from farmers, but the farmers' dissatisfaction at the manner in which the sales were conducted resulted in shifting the buying point for food from the city market to shipping point markets and farmers' cooperatives nearer the source of production. The wholesaler, therefore, has had to become a purchaser as well as a seller. No many wholesalers have buyers in the field who make direct purchases from farmers and cooperatives or purchase through brokers.

<sup>\*</sup>In many producing areas, "shipping point markets" have been built to provide the farmer with an outlet for his produce. The markets are primarily points at which produce is accumulated, sold, and shipped to distant cities. Shipping point market have little in common with city wholesale markets and are not dealt with in this report.

1/A "carlot" is one rail car load. A "carlot equivalent" is a conversion unit used to express truck shipments in terms of rail carloads. A "carlot equivalent" of produce equals 24,000 lbs.

Figure 1. Estimated Flow of Fresh Fruits and Vegetables Through the Savannah Market, 1947

Source: The Wholesele Market for Fruits, Vegetables, Poultry, and Eggs at Savannah, Georgia, by the U.S. Department of Agriculture.

Produce wholesalers are frequently small businessmen who specialize in a limited number of products. One wholesaler may deal only in tomatoes, another in bananas, another in citrus fruits. Other dealers will try to maintain a complete stock of vegetables to fill all of his customers' needs. Some wholesalers package food and sell under brand names in the city and act as distributors to other areas.

Formerly, most grocers bought their produce at the market and then carried it back to their stores in their own trucks. Today, however, many wholesalers have been forced into the delivery business, and often they have salesmen who call on stores and take orders from grocers.

Brokers. Produce brokers act primarily as selling agents for farmers and producer cooperatives. A broker will maintain contacts with several sellers and through these connections can generally fill the needs of wholesalers or retailers in a short time. Because his sales are made from rail cars and trucks, the broker may not need warehouse space and will require only an office to conduct his business. Brokers usually desire locations in or near the wholesale market because much of their business is conducted with local dealers.

Farmers. During the local growing season, farmers are active wholesalers in the market. Open-air areas and covered sheds are usually provided for farmers to display their produce. Most farmers' markets are used intensively for a few weeks or months and then lie idle for the rest of the year. The farmer is an important element in food wholesaling because at certain times of the year he can offer an abundant supply of particular kinds of produce at low prices. But in most sections the farmer cannot fill all of the city's needs for fresh produce because particular areas tend to produce a limited variety and quality of food. In addition, where growing seasons are short, the local farmer cannot provide the year-round supply demanded by the public.

Merchant Truckers. The most speculative of food wholesaling enterprises is the merchant trucker. A merchant (or "itinerant") trucker is an independent truck owner who purchases a load of produce and carries it to market. Often he has no particular base of operation and may visit several different markets before he finds one in which he can sell his load at a reasonable profit. It at one market there is a surplus of the food he is peddling, he may go on to another city.

Merchant truckers contribute little to market stability, and in some cities they are prohibited from operating in the wholesale market. In cities which permit merchant truckers to occupy stalls in the farmers' markets, the rates charged merchant truckers are often higher than those charged farmers. These restrictive practices have had the desired effect: the number of merchant truckers is decreasing, with the result that more wholesale business is now conducted through established dealers

#### Buyers

In a sense many sellers in the market are also buyers: wholesalers buy from farmers, truckers, or other wholesalers; brokers may buy from farmers or wholesalers and sell this produce in other cities; even farmers and truckers may buy from other sellers. But most produce is sold to independent grocers, distant buyers, restaurants, hotels, and institutions in the metropolitan area. Chain stores seldom are major purchasers, but at times they do buy at the local market.

Independent Grocers. In most cities the largest part of the wholesale produce business consists of purchases by local independent grocers who make regular trips to the market to fill their daily needs for fresh produce. An independent grocer will often maintain a regular trade with two or three dealers who supply him with the merchandise he needs. Sometimes several small grocers will form a voluntary cooperative buying arrangement to purchase in larger quantities at lower prices.

Distant Buyers. A large market in a producing area may be a natural location for buyers from distant cities to purchase produce for the wholesalers or brokers they represent. Many wholesalers in large city markets will purchase from wholesalers or brokers in another market. The number of sales to distant areas will depend upon the market's ability to supply large quantities of goods at short notice, to offer low prices, and to guarantee fast reshipment. Produce markets in port cities may handle an exceptionally large amount of fruits and vegetables from other countries, and markets in Florida or California sell citrus fruits to dealers in eastern cities.

Chain Stores. Chain groceries are not generally large purchasers at local wholesale markets. Larger chains supply their stores through warehouses located in large cities, and, because they have developed independent systems of purchasing and handling produce, they seldom buy from wholesalers. Occasionally a large chain will purchase certain products from wholesalers if it cannot obtain a more direct source of supply. Smaller chains may make more of their purchases from local wholesalers, especially if local produce prices are favorable. Some small chains have found it expedient to purchase produce at a local market but to shipless perishable items such as canned goods and dry groceries from their own warehouses.

## Transportation Agencies

The ability of the market to supply fresh foods depends primarily upon the transportation agencies serving the market. Today nearly all produce is shipped by truck or rail, but in the past large quantities were shipped by river boat or barge. Air carriers are not important agencies in produce shipping because rates for air shipment are much higher than truck or rail rates. Even the leading exponents of air transportation do not see air carriers as a major shipper for produce within the near future.

Motor Carriers. In most markets every package of produce is carried by truck at one time or another. Large trailer trucks bring food from surrounding or distant producing areas; farmers truck their own produce to market; and even rail shipments must be carried from team tracks\* to the dealers' stores, unless the stores have direct access to a rail spur. Trucks dominate short-haul produce shipping, and often compete with railroads even on long hauls. (See Table 1.)

Trucking needs are served by all types of carriers: common, contract, and private, but contract and private carriers handle the bulk of the business. Large wholesalers maintain their own fleets of insulated or cooled trailers which may be hauled by individual tractor owners under contract or by the wholesaler's own equipment. Trucking lines have established offices or terminals in or near the produce area so that they will be able to make the contacts necessary to hold and develop business. Usually local trucking companies handle the job of moving produce short distances from team tracks to wholesalers' stores.

Railroads. The railroads are still a major carrier of produce, but they could handle even larger quantities of produce at lower costs than trucks if their terminal costs were lower and if the bills for hauling from team tracks to stores could be eliminated or reduced. The cost of hauling, cartage, and demurrage resulting from inefficient loading and unloading practices adds a considerable expense to rail shipments and often wipes out the savings which might have been realized through lower over-the-road rates.

In many cities, the railroads themselves have attempted to overcome this handicap by constructing modern produce markets specifically designed to handle rail shipments. But, with few exceptions, these markets have not been an answer to all of the problems of wholesale produce marketing because they handle only goods shipped by rail. In addition, the railroad markets have further dispersed the market area and, therefore, have increased the costs of intramarket sales. Railroads have also attempted to promote rail shipments of produce by offering special service and rates on large shipments. The agricultural agents of the railroads are often active in markets trying to get additional business for their roads.

# Auxiliary Services

Many auxiliary services and related industries have developed near the produce market areas of most cities. Freezing and packing plants depend upon the wholesalers of produce and other products for a large part of their business. Even though they do not buy or sell on the market, they offer services which are indispensable

<sup>\*</sup>A "team track" is a track, usually owned by the railroad, on which cars are spotted for loading or unloading by shipper or consignee.

TABLE I

ESTIMATED RECFIPTS OF FRUITS AND VEGSTABLES IN SELECTED CITIES\*

	Receipts					
City and Date of Estimate	Population 1950 Census	Rail (carlots)	Truck (carlot equiv From Distant Areas		Total direct (carlot equivalents)	
Asheville, North Carolina - 1949	52,208	1,350	2,115	615	4,080	
Boston, Massachusetts 1947	790,863	42,300	8,400	11,000	61,700	
Columbia, South Carolina - 1947	85,949	2,987	4,121	4 <b>,</b> 580	11,688	
Greenville, South Carolina - 1947	57,932	2,100	2,148	54.8	4,790	
Huntington, West Virginia - 1949	86,160	1,700	6,000	650	8,350	
Indianapolis, Indiana - 1947	424,683	8,500	9,850	1,850	20,200	
Nashville, Tennessee	173,359	4,530	6,330	2,140	13,000	
Releigh, North Ceroline - 1948	65,123	1,662	1,935	1,232	4 <b>,</b> 379	
Richmond, Virginia	229,906	4,163	3,236	1,203	8,612	
Saint Louis, Missouri - 1946	852,623	23,120	9,400	6,900	39,420	
Savannah, Georgia 1947	119,689	600	1,570	430	2,600	
Tulsa, Oklahoma 1948	180,586	2,860	3,580	660	7,100	
Winston-Salem, North Carolina - 1950	\$6,316	585	2,6 total truc	70 k receipts	3,255	

\*Sources: Reports on local wholesale produce markets prepared by the U. S. Department of Agriculture and local agencies. See Bibliography for references.

to efficient market operations. Manufacturers of cold storage equipment and of boxes and cartons have located warehouses or showrooms in the vicinity because they depend upon wholesale dealers and retail grocers for much of their business. Food and sanitation inspectors may also have offices nearby. In addition to businesses directly dependent upon users of the market, restaurants, service stations, and occasionally banks, barber shops and other services have found that the market attracts large numbers of potential customers.

Any program for improving the existing market or for building a new market must include provisions for auxiliary services necessary for the continued success of the market.

#### Present Problems

Many of the present problems of city markets are the result of unplanned development. The problems, common to most of the older wholesale markets, are primarily: inefficient use of land; overcrowding of buildings and streets; obsolete structures which were not designed as food stores; concentration of land and building ownership in a few hands, creating, in effect, a monopoly; inadequate transportation facilities for handling both rail and truck shipments; lack of adequate sanitation facilities and cold storage equipment; and blight conditions in and around the area. These are not new problems, but they had seldom been solved until the United States Department of Agriculture began its campaign to improve produce marketing.

Land Use. The early wholesaling districts developed near the center of the city. While such a location was appropriate in the small town, it may no longer be economically justified in the large city. Market areas today are often located on or near choice properties in the city, often only two or three blocks from high-renta retail and business properties, yet they return very little to the city in taxes. In many cities the central business district is in desperate need of lands in which to expand and develop new retailing and business uses, while only a few blocks away an inefficient produce market occupies decaying buildings and draws large numbers of trucks and other vehicles through the already-congested heart of the city.

The assessed valuations of property in the produce market and in the central business district point out the extreme differences between land use in the two areas In San Francisco, for example, assessed valuations in the produce market are \$4.0 per square foot for land and buildings, while only three or four blocks away, prime business properties are assessed for as much as \$40.00 per square foot. The need for additional retail areas in this city have resulted in plans for the eventual elimination of the present wholesale market and its replacement with a future "Rockefeller Center" type development.

Property now used for the wholesale market may or may not be suitable for retail developments. In some cities there is ample space within the existing central business district to satisfy future retail and business requirements. Studies of present and future land requirements for central business district expansion will show whether or not lands now used for produce wholesaling will be needed for other business uses.

The blighting effect of the market may extend beyond the actual boundaries of the wholesale district itself. Often the high volume of truck traffic in wholesale areas has made movement so hazardous and has created so much congestion that businesses, rather than fight this competition, have chosen other less intrinsically suitable locations, either in the central business district or in outlying areas when they might otherwise have selected sites near the produce market. Even though there may be room for central business district expansion toward the market area, market conditions may continue to discourage new developments in the vicinity.

Overcrowding. The physical facilities of the market have not expanded to meet the new demands of an increasing population and a greater per capita consumption of fresh fruits and vegetables. Overcrowding is evident in the structures, the streets, and throughout the entire district. The district is closed in by other uses and cannot be expanded, while the store buildings are often crowded together to such an extent that expansion of warehousing and display space is impossible. The produce areas were developed without provision for expansion, and streets serving the area are too narrow to accommodate the movement and loading of heavy trucks. The lack of adequate space for storage and display has resulted in the use of sidewalks as display areas for produce, while foods which cannot be stored inside dealers' warehouses are often piled up in alleys or streets until space can be found for them.

Overcrowded conditions in the market affect other areas of the city as well as the market itself. Streets designed to carry traffic to and from the central areas of the city are useless as traffic arteries because they are clogged with produce trucks trying to find a parking space. Vehicles which might ordinarily use the street running through the produce district are forced to use other streets, and the entire movement pattern of these areas is adversely affected. The market is also a barrier to the development and expansion of surrounding uses.

Obsolete structures. Few of the buildings used as wholesale stores were designed for that purpose. They often are inadequately equipped to handle foods according to the best modern methods of storage and preservation. Cold storage lockers and ripening rooms are at a premium. Many of the stores are two, three, or four story structures in which modern loading and unloading methods cannot be used. In many cases the top stories are vacant, or at least not used for food storage. If the building has an elevator, it may be so poorly located that the elevator shaft makes a considerable amount of storage space unusuable. Few stores have truck-bed height loading platforms and often they lack rear entrances which would facilitate loading and unloading. Not all of the buildings in the market area are old or poorly designed. Occasionally buildings have been designed and built specifically for handling produce and other foods, but these are the exception.

Ownership. Although some wholesale dealers have been in business for many years they do not generally own their own buildings. Often one or two land owners control large portions of the market area. Because of the desire of the dealers to remain together in the wholesale area, the owners are able to charge exorbitant rents for inadequate structures. A 1943 report on the San Francisco produce market conducte by the United States Department of Agriculture revealed that the annual rentals in the market averaged about \$1.00 for each \$3.00 of assessed valuation. On the main street of the market, Washington Street, rentals averaged 40% of the assessed valuations. The independent wholesaler paid the rent because he was afraid of the consequences of moving. Here are a few examples of rentals paid in the San Francisco market area:

One dealer pays \$23,700 a year for a run-down one-story 60 by 90 foot building.

Four tenants of a Washington Street (the chief market street) building pay annual rentals estimated to be between \$18,000 and \$27,000 on a building whose assessed valuation is \$32,240 (including land).

Another dealer, on a side street, pays \$14,000 a year on property valued at \$31,270.

A small wholesaler with 18 feet of frontage pays an annual rental of \$5,100 for a building which is assessed at \$3,780 (including land). And the owner was prepared to raise the rent.\*

Similar examples may be found in other cities which have antiquated markets.

Inadequate Transportation Facilities. One of the most serious of all market problems is a lack of adequate transportation facilities. Central market areas were developed near rail lines and team tracks before the truck became an important means of transporting produce. As the market grew the stores tended to move to other buildings near, but not adjacent to rail facilities. Today few wholesale stores have rail loading platforms. Goods must be delivered to team tracks and then haule to the dealers' stores.

Facilities for truck transportation are scarcely better than those for rail. Even though the central location of the market would appear to allow efficient distribution to all areas of the city, the inadequacy of streets serving the area usually offsets the theoretical advantage of a central location. Also, few stores have loading platforms which allow for level loading from the truck bed to the warehouse floor. Street congestion lowers the efficiency of the operation and raises costs. In many markets it is not uncommon for a truck driver to circle the block, or even the entire district, several times before he finds a parking space where he can load or unload his truck.

<sup>\*</sup>Figures quoted from the San Francisco Chronicle, September 1, 1954.

The lack of adequate team tracks and direct loading platforms for both rail and truck shipments can greatly damage a market's ability to sell to distant buyers. Those markets which have adequate facilities for rapidly reshipping produce to distant areas by rail or truck can increase their sales because they can offer better service at lower prices than can the older markets with which they are in competition.

Sanitation. Produce dealers who would like to conform with city, state, and federal sanitation and health laws often find that they are unable to. Health officials, on the other hand, are unable to require strict compliance with the regulations, because many of the wholesalers would be forced to close their businesses. And the city cannot afford to be without its supply of produce.

Some of the chief sanitation problems are the storage of food on the ground or sidewalks, streets, or gutters where it can be rained on, stepped on, or otherwise contaminated; the difficulty of rat-proofing old structures - in one city nearly all of the spoilage in the produce market was caused by rodent damage; the lack of public toilets; inadequacy of cold storage equipment resulting in a high rate of spoilage, specially during hot summer months; the lack of adequate drainage and sewage lines to carry off wastes efficiently. Many of these conditions could not be corrected in the existing market without closing the entire market. Building owners are unwilling to spend money for improvements when there is a chance that the market will shortly be replaced by newer facilities in another part of the city.

Blighting effect on other areas. The physical state of the market alone would be a great enough force to depress the value of properties in the vicinity, but the heavy traffic generated by the market and the fact that the market has become a gathering place for vagrants, and sometimes criminals, have also added to blighting effect of the market upon adjacent areas.

At present a produce market - can be not only an unpleasant, but even dangerous place to work, and it may be difficult to maintain a steady working force within the district. Sickness and disease, pilferage and petty crimes are commonplace in many markets.

All of the shortcomings of the present markets are reflected in higher prices and lower quality of produce for the consumer, and often nothing short of a complete rebuilding of the wholesale produce market can eliminate these problems.

#### PLANNING A NEW MARKET

In the past abortive efforts have been made in many cities to improve the produce market. Groups of wholesale dealers or farmers' associations have sponsored studies and plans for improving conditions or for building a new market. Railroads have built produce terminals to handle rail produce shipments. Local committees have been named by business groups or city governments to study the existing market and make recommendations for its improvement or relocation. Too often these plans have been unrealistic and have proposed new facilities which would be far too expensive to construct and maintain, and which, in addition, would not be able to perform efficiently all of the functions of a modern market. Sometimes the recommendations have been that a program of minor cleaning up and face lifting be instituted even though the present location did not provide adequate space or facilities for market operations.

The Agricultural Marketing Service has prepared plans for unified markets in many American cities and it is willing to study markets in any city in which there is a good chance that these studies will lead to actual improvements. In preparing a plan for a new market, the service prefers to work with a local agency. The planning commission would appear to be an appropriate agency in most cities becaus it should have or be able to obtain much of the information needed to prepare plans for a new market. In short, the planning agency can undertake the preliminary studies to determine present marketing problems, assist in conducting further detailed studies, and see that the plans for a new market conform with long-range city plans.

## Preliminary Studies

Basic studies required to establish the need for market improvements include a survey of existing facilities within the produce market; an analysis of the wholesaling function, the amount of produce passing through the market, other channels through which food is distributed, the number of dealers, size of their business, and the products they handle; and a survey of the desire of dealers for market improvements and the possibility of their using a new market. From this material the planning agency should be able to determine the urgency of market improvement and the possibility of providing necessary changes in the city's marketing pattern.

Existing Physical Facilities. The survey of existing facilities should include the location of buildings used by wholesale dealers, sheds and open areas used by farmers in wholesale trading, the number of parking and loading spaces, the size and use of store buildings, the condition of all structures, the location and capacity of team tracks, and the location of uses related to food wholesaling. In addition, the type and condition of surrounding uses should be noted as well as any vacant or unused space in the vicinity which might be used for market expansion. Heavily congested spots and areas in which sidewalks are used for storing or displaying produce should also be listed. In cities which have accurate land-use maps, much

of this information will already be recorded. In some cities similar studies must be conducted for smaller markets which have developed apart from the chief market area.

Analysis of the Wholesaling Function. The next step is an analysis of the movement of produce through the market. This should include a study of the different types of produce handled in the market, the number and size of individual dealers in the market, the use of different forms of transportation, and the number and size of intramarket sales. In addition to studying the fruit and vegetable market, the planning agency should study the distribution systems for other products, such as meat, poultry and eggs, dairy products, fish, and dry groceries; the distribution channels used by chain stores should also be analyzed.

Wholesalers' Opinion of Existing Market. Wholesale dealers are in a position to point out many of the problems of the present market. They are acutely aware of inefficient market practices, the inadequacy of storage and display space, high transportation and loading costs. There will, of course, be differences of opinion. A large dealer who owns his own store and has adequate storage and refrigeration equipment will have a different opinion from the small wholesaler who rents an old, inefficient building. This survey should point out these differences and attempt to find those problems which are common to all users of the market. The dealers themselves can point out many of the requirements for a new market, and they may indicate the conditions under which they would be willing to use space in a new market.

Determination of Market Deficiencies. The survey of physical conditions in the market, the analysis of its functions, and the opinion survey should show the extent to which the present market is able to meet the city's present and future food require ments. If the existing market needs only minor improvements, there is obviously no need to prepare plans for a major overhaul or relocation. But if the preliminary studies show that the present market is inadequate and cannot be improved in its present location, steps should be taken to develop a new market.

The public is usually unaware of the conditions under which food is handled in the markets. And public indifference, based on ignorance of these conditions, is one of the reasons that few improvements have been made in wholesale markets. The information gathered in the preliminary studies may be used to arouse public opinion to the need for a new market or for stricter enforcement of health laws in the present market. The combination of aroused public sentiment and strict enforcement of laws may soon lead to the preparation of detailed plans for market improvements.

# Plan Preparation

If the preliminary studies have shown that a new market is needed and that there is a good chance that it will be built, the Department of Agriculture will probably

be willing to conduct a detailed study and prepare plans for the market. Although the market experts in the department will conduct most of the studies and prepare the plans, there are several of the studies in which the planning commission can facilitate plan preparation by preparing preliminary studies or assisting the department in its work.

Location. No single site will be most convenient to all users of the market and to the city itself. The Department of Agriculture has evolved six criteria for selecting possible sites for a future market and for measuring the comparative merits of the sites selected:

- 1. Convenience for Local Buyers The ideal market location for local buyers is a site at the shortest average distance from their establishments. This site can be determined by spotting the locations of buyers on a map and measuring the distance they must travel to reach the market.
- 2. Convenience for Out-Of-Town Buyers Large portions of the sales of most markets are made to buyers outside the metropolitan area. A knowledge of the location of out-of-town buyers is necessary to determine the location which would best serve their interests. The total distance buyers must travel within the city is usually a negligible factor, but the location should be one which may be reached by routes that avoid congested areas in the city.
- 3. Convenience for Rail Receipts It is not always possible to find a market location convenient to all the railroads, but the site selected should be convenient to those roads which handle the largest part of the produce entering the market. If the city has a belt line used by all the railroads, the site should be easily reached by spurs from that line. Because of the perishable nature of fresh fruits and vegetables, it is desirable to have a location which may be reached conveniently from railroad classification yards.
- 4. Convenience for Motortruck Receipts At smaller markets, trucks handle most of the produce received. Facilities must be located where these receipts can be handled at a minimum cost in a short time. The site should provide convenient access to major streets and highways.
- 5. A Location That Will Avoid Non-Market Traffic The movement of normal volumes of trucks even in a well-planned market can be a serious problem. But when vehicles other than those required in marketing functions must pass through the area the congestion may be impossible to handle.

6. Availability of Land at Reasonable Cost - Because the market will require large areas of level land, the site selected should not be too expensive. In addition to the costs of raw land, the costs of land assembly, grading, and supplying utilities must also be considered.

In addition to these considerations, the proposed site must conform to long-range plans for city development. Not only must the location meet the requirements of market operations, but it must also be located where it can have no undesirable effects upon other uses in the city. In addition to the requirements listed by the Department of Agriculture as essential in market operations, the following should be considered:

Relation to Residential Areas - Heavy volumes of truck and rail traffic attracted by the market will make it an undesirable neighbor to residential areas. If access roads are provided only to expressways or major truck routes who do not pass through residential areas, the blighting effects can be avoided.

Relation to Future Street and Land Use Plans - The effects of the proposed site upon traffic movement should be studied to determine whether the streets serving the site are adequate to handle present and future traffic. Also, because a large market will present a barrier to street extensions, the site should not lie in the path of proposed streets or highways. The proposed site should be in an area indicated for wholesaling in the land-use plan. If the market site conforms with the land-use plan, the zoning ordinance should permit such a use. If it does not, the ordinance may be properly amended.

Other Considerations - The proximity of transit lines is not so important today as in the past because many dealers and their employees will use their own automobiles to reach the market. Also, it is relatively simple to extend bus lines to serve the area if public transportation is needed. Any part of the development which will require public expenditures should be studied to determine which sites may best be served with water, sewers, gas and electric lines. If larger mains must be extended to the site, the additional costs must be considered as part of the total cost of the development. If the new market is to be financed by public funds, the work should be programmed and the costs considered in the preparation of the capital budget.

Physical Facilities. New markets usually require the construction of several units designed to meet the requirements of present and potential market uses. (Figure 2 is an example of a market laid out to meet the functional requirements of a modern food distribution center.) A modern market will supply the needs common to all dealers and will allow enough flexibility in the design of structures so that specialized equipment can be installed by those dealers who need it. The following summarizes the physical facilities designed by the Department of Agriculture to meet the needs of each market user:

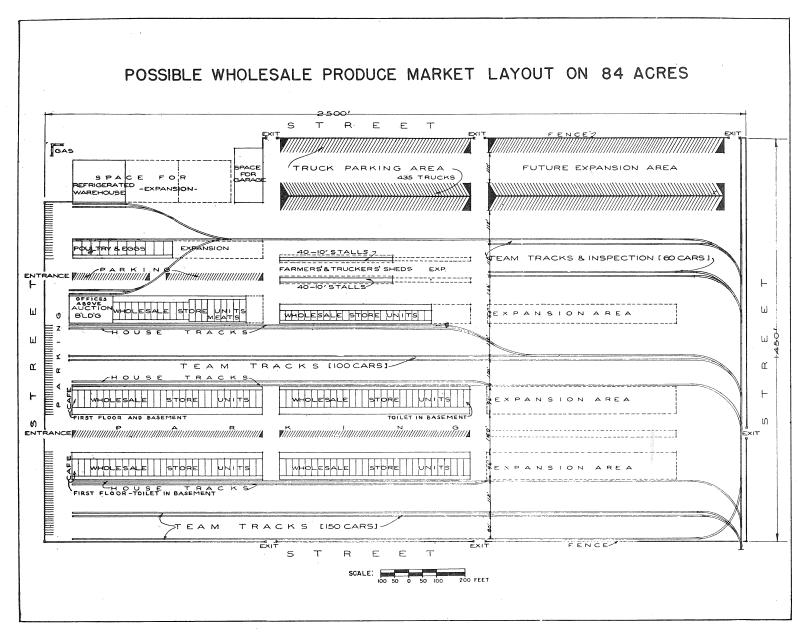
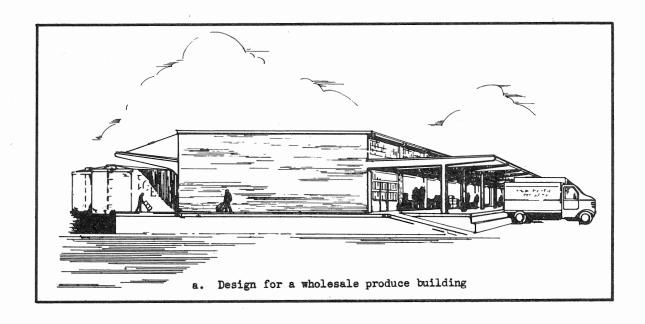


Figure 2

Source: Report on Wholesale Market Facilities for Greater Baltimore, Maryland State Planning Commission, 1948.



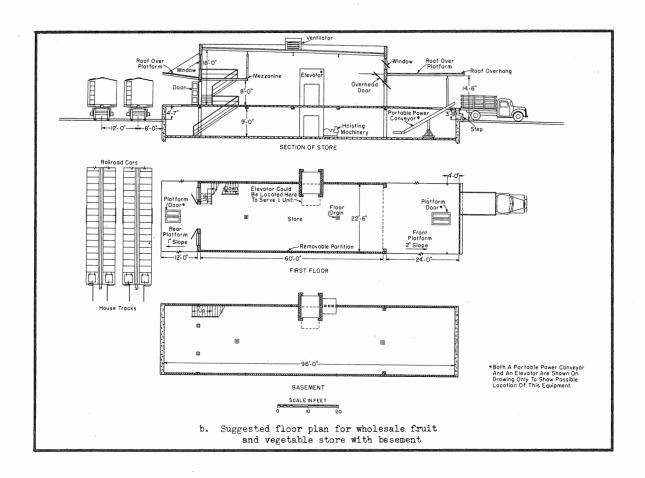
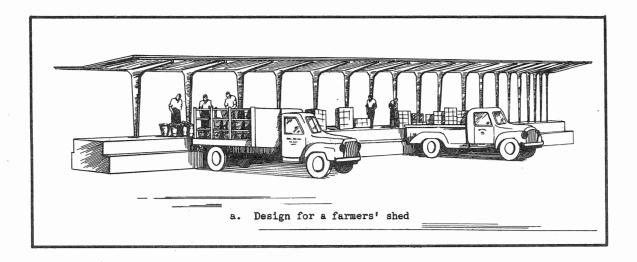
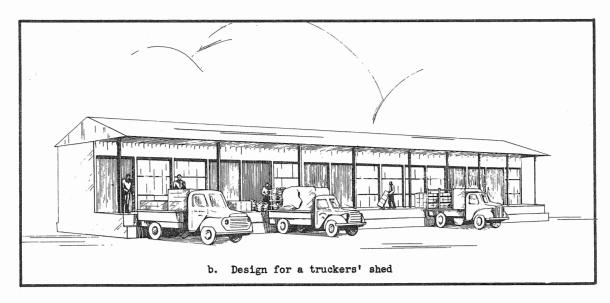


Figure 3. Typical Designs for Wholesale Produce Buildings
Prepared by the U. S. Department of Agriculture





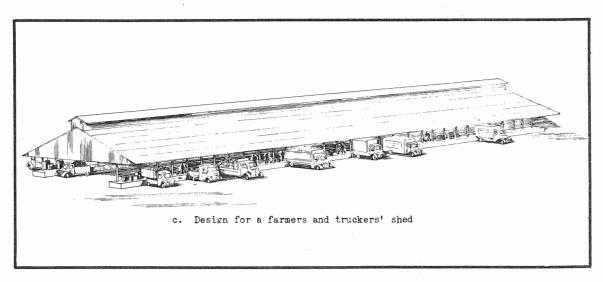


Figure 4. Typical Farmers and Truckers' Sheds
Designed by the U. S. Department of Agriculture

Wholesale Produce Dealers - The requirements for produce stores are adequate space for display, storage, and ripening of fruits and vegetables; space for cold-storage lockers; office space; platforms for handling rail and truck shipments; and adequate area for maneuvering trucks into loading spaces. Some stores will require basements to handle particular products. The basic structure developed by the Department of Agriculture is a long building, with or without a basement, divided into units 22 1/2 feet wide and 45 to 72 feet deep. (See Figure 3.)

Stores for Meat, Dairy Products, Poultry and Other Foods - While dealers in other products are not essential to the success of a produce market, they may find that there are advantages to a location in which the grocers and other buyers purchase a large part of their food needs. If the number of dealers in these products is high, special buildings for each of these uses are desirable and economically feasible. The basic structure for dealers in meat, poultry, and dairy products is similar to the structure provided for fruit and vegetable dealers. The 72-foot structure is commonly used and there may be provisions for a second story.

Wholesale Grocers - The two-story unit may be most economical for dealers in dry groceries who must store large quantities of different commodities because a second story can be built at a lower cost than additional first floor space. Power conveyors and elevators should be provided to allow the application of modern loading and storage methods.

Farmers and Truckers Sheds - Several types of sheds have been developed for farmers and truckers (See Figure 4). The sheds, which may be several hundred feet in length, are divided into 12-foot wide stalls providing space to park a truck and room for maneuvering hand trucks. The standard shed used in market plans provides a loading platform 24 feet in width; lanes for farmers and buyers trucks; a roof at least 14 feet above pavement level. In some cases savings can be made by moving existing sheds from farmers' markets to the new wholesale market.

Rail Connections - To provide adequate rail connections within the new market, each wholesale building must have direct access to spur tracks. Two tracks behind each building should provide adequate room for spotting the cars. Cars on outside tracks may be unloaded through the cars spotted beside the loading platform. Platforms should be wide enough for the use of pallets or semi-mobile skids used to carry large loads into the store.

Team tracks should be located in an area where they can be easily reached by all users. A new market will probably require a smaller number of spaces on team tracks than were provided for the old market because many cars which formerly used team tracks may be spotted on

spurs behind individual stores. Team tracks should be laid in pairs with an 80-foot paved street between each pair to allow of unloading on either side. Additional space is required in the market for inspection tracks and for maneuvering cars from one track to another.

Streets - Principal streets in a new market should have a pavement width of not less than 140 feet. This width will allow enough space for maneuvering trucks into loading spaces and provide additional selling space for farmers and truckers during the peak production seasons. Minor streets should be 100 feet wide if parallel parking is to be permitted while 60 feet will suffice if parking is not permitted.

Parking - Parking space requirements in a new market depend primarily upon the number of people using the market, and upon seasonal variations in the use of the market. Parking space should be provided for the dealers, their employees, and the management of the market. Parking spaces should be provided for the trucks of wholesale dealers located in the market and areas should be reserved to accommodate the overflow of farmers and truckers using the market during peak production seasons. Adequate parking spaces may be provided in the centers of wide streets and in areas removed from the central activities of the market where they will not interfere with the normal movement of vehicles in the market area.

Fencing - The entire market area should be fenced to facilitate the enforcement of market regulations.

Office Space - A central building is provided in large markets for the market management. In addition to handling the administrative needs of the market itself, the building may also be used for brokers' offices, branch banks, barber shops, offices for railroad and motor carrier agencies, and others who desire space. In small markets, the management can use office space in the mezzanine of the existing produce building until the construction of a special administration building can be justified.

Buildings for Common Facilities - Where existing facilities are inadequate, or operators indicate a desire for space in the market, buildings may be provided for cold storage lockers, packaging, inspection and grading facilities, and other uses which serve all of the dealers in the market. A service station near a market exit will provide services needed by all truck operators, and in large markets, a motel for distant buyers may prove an economic venture, as well as an added convenience.

Space for Related Businesses - As the market grows there will be demands for space in or near the market from operators of businesses which depend entirely or in a large part upon grocers and wholesalers for their trade. In planning a market it is not possible to construct buildings for all potential users, but in acquiring a market site, the future demands of these businessess should be studied to determine the amount of land which might reasonably be reserved for future occupancy by these uses.

Finance and Operation. An important step in programming improvements for the produce market is the determination of the best method of financing and operating any new market. Wholesale produce markets have been financed and operated by several different types of organizations: private for profit corporations; the state, city or other governmental agency; farmers' cooperative associations; public nonprofit corporations or authorities; or private nonprofit corporations. Each of the methods has its advantages and disadvantages and no one method is "best" in every city.

Private-for-Profit Corporation - Some wholesale markets have been constructed and financed by private corporations. The chief concern in a private-for-profit operation is that there may be an attempt to extract exorbitant profits from rentals without regard for the effect these profits may have upon the price of food. Because the market is a virtual monopoly, the owner is in a position to enforce excessive demands on the wholesale dealers and farmers using the market, unless there is adequate governmental control to prevent such abuse.

Governmental Agencies - Governmental agencies in several states have built and operated markets. There are several limitations on public ownership: the construction and ownership of a produce market requires special legislation not available in many states. Many cities find that they cannot afford to construct a market within public debt limitations.

Farmers' Cooperative Associations - A farmers' cooperative may find that its interests are best served by constructing and operating the market. If the cooperative can obtain adequate financial backing, it should be an acceptable operator of a unified produce market. The new produce market under construction in Birmingham, Alabama, is financed and sponsored by the Jefferson County Food Growers' Association.

Market Authorities - A public authority offers advantages which cannot be matched by other forms of management. It permits all interested groups to participate in the management and operation of the market; it is non-profit and receives only enough money to cover the actual expenses of operation and to provide for contingencies; governmental agencies interested in market operations may be represented on the board of directors; it is financed without imposing an additional burden upon taxpayers. The market authority requires enabling legislation before it can be formed. At present, Richmond, Virginia has a public market authority which is planning and will construct a new produce market for that city.

Private Non-Profit Organizations - This type of organization presents several of the advantages of the public market authority. It is a non-profit, or limited dividend corporation; ownership and management are retained by those using the market; public officials may be represented in the management or on the board of directors to see that the public interests are protected.

An additional advantage is that the property owners will pay real estate taxes (or payments in lieu of taxes), and, therefore, the city will not lose the revenue it now receives from privately-owned produce stores. In effect, a private non-profit corporation may be a cooperative of the wholesale dealers selling in the market, each dealer owning stock in the corporation and having the power to vote on officers and policies. If the market is non-profit making, these dealers, instead of receiving a return on their investment through dividends, will receive equal benefits in lower rents and lower operating costs.

Management - Regardless of the type of ownership, the market should retain competent and experienced people to run the market. Dealers or farmers who own the market will not be able to devote their time to the details of market operation. Even though they will establish the general policies governing construction, operation, and maintenance, the complexities of market operations require that the management be able to devote its full time to the day-to-day problems and long range planning of market development.

The form of management and ownership should, if possible, be determined before plans are made for the actual construction of the market. If the planning agency can find a group willing to sponsor a new market, it should work with this group in an attempt to find solutions to present market problems. In many cities there are already associations which have been formed to study market problems. These may be the groups, or may form a basis for an organization, which will eventually finance and construct a new market. Every possible means of working with these groups should be tried, because they may lead to the eventual development of a new, efficient, sanitary wholesale produce market.

# New Market Construction

A letter recently received from Mr. William C. Crow, Chief, Transportation and Facilities Branch, Agricultural Marketing Service, U. S. Department of Agricultur listed the following cities in which studies have been made by the Department with assistance of state and local agencies: Boston, Hartford, New Haven, Bridgeport, New York City, Rochester, Philadelphia, Richmond, Norfolk, Roanoke, Raleigh, Winston-Salem, Columbia, Greenville, South Carolina, Atlanta, Augusta, Georgia Savannah, Tampa, Miami, Birmingham, Nashville, Louisville, Indianapolis, Benton Harbor, Michigan, Columbus, Minneapolis-Saint Paul, Saint Louis, Kansas City, Little Rock, Dallas, Waco, San Antonio, San Juan, Houston, Baton Rouge, Jackson, Mississippi, San Diego, and a number of other places in producing areas. Mr. Crow also lists the following cities in which new wholesale produce markets have been built, are under construction or are being prepared for construction: Boston, Hartford, Rochester, Buffalo, Cleveland, Indianapolis, Louisville, Nashville, Raleigh, Columbia, Greenville, Atlanta, Augusta, Savannah, Jacksonville,

Miami, Saint Louis, Kansas City, Denver, Dallas, San Antonio, Houston, and San Juan. (Table 2 shows some of the facilities called for in these plans, and, where available, the facilities actually built in some of these markets.) The new markets in Houston and Indianapolis are typical of new market developments.

Indianapolis. Indianapolis' new \$2,500,000 wholesale produce market, opened September 20, 1954, is the result of nearly seven years of study. In 1947, a group of fruit and vegetable dealers, seeing that the present market could not handle the increasing volumes of produce handled in the city, began to look for a suitable site for a new market. In 1948, a site was purchased and plans prepared for a new market. But a market expert from the Department of Agriculture pointed out that the three-story building proposed to house the new market would not be functional. The Department conducted a study of the wholesaling needs of the city and prepared a plan for a market designed to handle the 25,000 carloads of produce distributed from the city and provide room for future growth. In 1950, a report, the Wholesale Produce Market at Indianapolis, Indiana, was issued.

The recently opened market follows the recommendations outlined in that report. The 23-acre site includes a 532-foot fruit and vegetable building consisting of twenty-two 23 by 97-foot units of the type recommended by the Department (See Figure 3.) There is also a 337-foot specially insulated building for tomato and banana processors, and two 508-foot farmers' sheds. The administration building contains the offices of the market management, thirteen other offices used primarily by food brokers, two restaurants (in addition to another which occupies a unit in the fruit and vegetable building), and a branch bank offering complete banking services to market users. A three-bay service station is equipped to handle both trucks and automobiles. All of the stores have direct access to rail spurs and, in addition, three pairs of team tracks of the Indianapolis Union Railway.

The market, cooperatively owned by produce dealers and operated as the Indianapolis Produce Terminal, Inc., is expected to save nearly \$1,000,000 annually in the distribution of food through reducing waste in market operations.

Houston. The story of Houston's new \$3,500,000 produce terminal, dedicated in November, 1954, is similar to that of Indianapolis. The Houston market is also the result of many years of study and planning. It was built by the Houston Produce Terminal, Inc., owned by local produce dealers, following the recommendations of the Department of Agriculture.

The 37.5-acre site of this terminal is expected to provide ample room for present and future food wholesaling in the city. There are 170,000 square feet of storage space in the 108 units provided for wholesale dealers. At present 80 of these units are occupied by 25 different wholesalers, some of whom require as many as five store units. Among the present tenants are three banana dealers, one dealer in tropical fruits and vegetables, a milk company, a meat packing company, one supermarket warehouse, two tomato dealers, and 16 fruit and vegetable dealers, one of whom also handles eggs. Three sheds are provided for farmers. A large dry groceries distributor has built a large building on a five-acre tract immediately adjacent to the market. In the future, other dealers in related businesses will probably locate near the produce terminal.

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An administration building houses the offices of the terminal management, two restaurants and a smaller dining room for the "Terminal Produce Club," the offices of eight of the nine produce brokers in Houston, the headquarters of the Houston Retail Grocers' Association, offices of a life insurance company and a steamship line, and a barber shop.

In the old market area, none of the wholesale stores had direct access to rail lines. In the new terminal, all of the stores are served by spurs from the Houston Belt and Terminal Railway. The market site, immediately adjacent to the railroad's yards, also includes team tracks which have a capacity of 125 cars.

Projects under construction and in preparation. Here are some of the other cities in which projects which are now being built or reaching the final stages of preconstruction planning.

Birmingham - The Jefferson County Truck Growers' Association is financing a new \$654,000 produce market to be completed in June of this year. The proposed market, which includes space for wholesale dealers, farmers, brokers, related industries, facilities for auction sales, will not only improve the market's physical conditions of wholesale marketing, but it should also develop Birmingham's trade in surrounding areas, which are now being serviced from other cities.

Philadelphia - At a recent dinner of the Greater Philadelphia Movement, plans for a new \$100,000,000 food distribution center to occupy a 420-acre site were revealed The market, proposed as a redevelopment project, would include 51 new buildings to accommodate about 340 wholesalers now operating in the city. Additional structures would be an office building, two motels, a truck service center, a container supply house. A railroad produce terminal, now in existence, would be retained. An estimated \$3,500,000 a year would be saved in the cost of cartage, porterage, spoilage, deterioration, breakage, and internal handling if the proposed market is built. The plan, developed by the Department of Agriculture and Pennsylvania State University, has been submitted to the City Council, the planning commission, and the redevelopment authority for further study.

Richmond - The Richmond Produce Market Authority has been formed to build and operate a \$1,200,000 wholesale produce terminal. The current proposal is that the city will buy the 50-acre site proposed and lease it to the market authority.

San Francisco - In San Francisco, the City Planning Commission has proposed that the entire wholesale market area be moved from its present site near the central business district to a 39-acre tract now occupied by temporary housing which is to be removed by 1956. The proposal has been controversial. A series of newspaper articles describing present market conditions also describes the details of the battle between some of the owners of property in the present area and the planning commission, health authorities, and even some of the wholesale produce dealers. At present studies are in progress to determine whether or not the two areas involve (the present and the proposed sites) qualify as redevelopment areas under the laws of California.

Other cities have built or are building markets. These have been selected as examples of cities in which action is being taken to provide new wholesale markets.

TABLE 2
STATISTICS ON EXISTING AND PLANNED PRODUCE MARKETS IN SELECTED CITIES\*

City - Date of Study	Boston, Massachusetts 1947	Huntington, West Virginia 1950	Indianapolis, Indiana, 1948 (and as built	Nashville Tennessee 1949
,			1954)	SSELLO AL JAMES SURESUEL SURESUEL SURESUELA
CONDITIONS IN EXISTING MARKET				
Feceipts: (in carlot equivalents)				
Fruits and Vegetables Poultry - Eggs Meats Dairy Products	61,700 5,450 25,000 2,600	8,350	20,200 1,730	13,000 1,552
No. of Wholesale Dealers Fruits and Vegetables Poultry - Eggs Meats Dairy Products	176 52 136 52	30 5	30 15 42	24 10
FACILITIES IN PROPOSED MARKET				
Approximate Cost Size (Acres):	\$13,954,000	\$614,628	\$2,500,000 1	\$658,719
Original Development Area for Expansion	125 45	10	23 1/	<b>{16</b>
Parking Spaces Team Tracks (no. of cars)	2,250	150	250 100	70 0
Wholesele Units: (in original development) Total	157	34	86 36 <u>1</u> /	10
Fruits and Vegetables	457 22.4	23 1	71 331/	8
Poultry – Eggs Mests Other Deslers	192	4 1/2 Dry grocery - 6	11 Dry grocery -	2
Farmers and Truckers' Stalls	100	70	180 841/	125

<sup>1/</sup>Actual construction in new market.

<sup>\*</sup>Sources: Reports on local wholesale produce markets prepared by the U. S. Department of Agriculture and local agencies. See Bibliography for references.

TABLE 2 (continued)
STATISTICS ON FXISTING AND PLANNED PRODUCE MARKETS IN SELECTED CITIES

City - Date of Study	Raleigh North Carolina 1950	Saint Louis, Missouri 1946	San Antonio, Texas 1947 Built - 1951	Savannah, Georgia 1948
CONDITIONS IN EXISTING MARKET				
Receipts: (in carlot equivalents) Fruits and Vegetables Poultry - Eggs Meats Dairy Products	4,879 365	39,420 4,351	22 <b>,</b> 500 <b>7</b> 20	2,600 480
No. of Wholesale Dealers Fruits and Vegetables Foultry - Eggs Meats Dairy Products	17 6 3	8'7 35	59	12 13 4
FACILITIES IN PROPOSED MARKET				
Approximate Cost Size (acres): Original Development Area for Expansion Parking spaces Team Tracks (no. of cars)	\$280,000 230	\$4,988,288 to \$7,495,050 75 35 520	\$1,930,000 40 25 450	180,000 { 9 214 10
Wholesale Units: Total Fruits and Vegetables Poultry - Eggs Meats Other Dealers	8 7 1	184 140 44	60 35 <u>1</u> / 59 1	12 10 1 1
Farmers and Truckers' Stalls	40	150	300 150 <u>1</u> /	30

<sup>1/</sup>Actual construction in new market.

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