MASTER PLAN 1964 CITY OF NEWARK N.J.

PREPARED BY [redacted]ION OF CITY PLANNING AND CANDUEB, FLEISSIG, ADLEY & ASSOCIATES FOR THE NEWARK CENTRAL PLANNING BOARD

MASTER PLAN 1964 CITY OF NEWARK N.J.

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Hon. Hugh J. Addonizio, Mayor
Members of City Council and
Citizens of Newark, New Jersey

March 1, 1965

It is our pleasure to transmit herewith the Master Plan for the City of Newark, completed during 1964 by the Division of City Planning and our planning consultants Candeub, Fleissig and Associates and adopted by the Central Planning Board on February 25, 1965.

The Plan represents the best collective thinking of many agencies and groups as to the City's most appropriate course of development for the next 15-20 years. The proposals contained herein give recognition to Newark's dynamic character and potential for change implicit in the new highways, the Urban Renewal Program and Meadowlands development.

We wish to express our thanks to the many individuals and agencies which participated in the formulation of this plan. Particular thanks is extended to the Departments of Fire, Police, Public Works, Health and Welfare and the Office of the Superintendent of Schools for their assistance in reviewing specific proposals within their respective areas of concern.

This document replaces the 1947 Master Plan which until now has been the official development guide for the City. With the adoption of the 1964 Plan, the Central Planning Board sets forth proposals which reflect basic needs of the City and establishes objectives and programs for the sound growth of Newark.

While the plan will be modified from time to time, as change will require, it is hoped that it will serve as the basis for the City's overall development policy and will be effectuated by the day to day administration of such matters as zoning, urban renewal, street improvements, and construction of public facilities. Furthermore this plan should be of considerable assistance to private and semi-public groups and individuals in building a finer and greater City in which the physical, social, cultural and esthetic needs of our community are balanced parts of a harmonious whole.

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INTRODUCTION

For many years, the City of Newark has had an extensive program of planning, redevelopment and public improvements. While the 1947 Master Plan for the City of Newark has served as a useful guide to these programs, the impact of new highway construction, regional economic changes and population movements have created the necessity for a major revision of the 1947 plan.

Since the publication of the 1947 plan the Central Planning Board of Newark has prepared numerous studies on various aspects of Newark's future development. Because of the availability of these various studies the Consultant's role was primarily limited to coordination and consolidation of available data into a unified document—the Master Plan for Newark, 1964.

Thus, the 1964 Master Plan presented in this report is essentially an up-dating of the earlier plan. In preparing the 1964 Master Plan due recognition was given to the many new programs of urban renewal, Meadowland development and industrial and commercial improvement initiated by the city in the intervening years. In addition, the plan tried to reflect opportunities for new construction made possible by recent highway changes in the city and regional highway development anticipated in the next ten years. Particular emphasis was given to changing neighborhood patterns and their needs for certain community facilities.

In a city of the size and complexity of Newark, which is undergoing large-scale reconstruction and revitalization, no master plan can possibly be "complete." The planning for this city is and must be a continuing process in which the details are constantly being made more specific or are being modified in accord with regional market factors, industrial changes, and potential opportunities arising out of the interest of private capital or public institutions. The principal function of this 1964 Master Plan is to assist both public officials and private interests in the sound development of the city by establishing guidelines for change and setting overall objectives for the city and its various neighborhoods.

Aerial view of Newark Core looking east to Passaic River.

Broad Street, Trinity Church
and Peddie Memorial.
C. Durand Chapman.
Jan. 16th. 1890.

Broad Street, Trinity Church and Peddie Memorial, 1890, by C. D. Chapman

HISTORY, PHYSICAL CHARACTERISTICS AND REGIONAL SETTING

Location

The City of Newark extends for six miles north and south along a high hill which begins its rise a little west of the Passaic River and Newark Bay. The city covers the hill and flows down into a lower plateau on the west and out upon the low-lying plain to the bay and the river on the east. The summit of the hill looks eastward across the Hudson River to Manhattan, nine miles away and westward four miles to the Orange Mountains.

Newark has a land area of 23.6 square miles. The greatest portion of the city is developed and only parts of the Meadows near the bay are open and undeveloped.

Development History

An analysis of Newark's past development shows that there have been four rather distinct phases which have affected the city's structure as we know it today. These are: the founding, the industrial era, the annexation period and the development of the Meadows.

The Founding

At the time of Newark's founding, in 1666, the physical characteristics of the area were somewhat different from those of today. A high bluff ran from what is now Mt. Pleasant Cemetery along the Passaic River to the Meadows. The Passaic River was much wider, Market Street was an Indian trail and the lowest spot in Newark was an area known as the swamp, east of what is now Washington Street and south of Market Street. The original settlement, known as Milford, was divided into large ownership tracts, west and south of the bend in the Passaic River.

Industrial Era Begins

Prior to the 19th Century, industrial activity in Newark included tanning, weaving, sawmilling, brickmaking, stone quarrying, iron forging and smelting, and the distilling of applejack. Most of these industries were small and some were carried on at home. Notable exceptions were the quarries and saw-mills north of the settlement along Mill Brook, and the grist and saw-mills which had been established south of Newark early in the 1700's.

A map of Newark in 1806 shows the importance of the port facilities which totalled five docks. At that time, commutation to New York from Newark was provided by the old ferry which ran from the foot of Ferry Street. Later it was supplemented by the first bridge over the Passaic River at Bridge Street, east of Washington Park. The principal industrial activities in Newark during the industrial era were leather goods manufacturing and iron works.

As the railroads were opened, industry did not have to depend as much on the port facilities as it had in the past. The result was that numerous brewing and leather industries scattered about the city, and many industries located along the New Jersey Railroad, the Morris Canal and the Morris and Essex Railroad. Nevertheless, the riverfront remained an area of intense industrial activity. Commercial uses sprang-up along Market and Broad Streets. Schools and churches moved outward from "four corners" (the intersection of Market and Broad Streets) and residential development spread beyond Norfolk Street on the west, to Van Buren Street on the east, Astor Street on the south, and Fourth Street on the north.

Annexation

The next big change in the city's development came around the turn of the 20th Century. In 1871 North Newark became a permanent part of the City of Newark. North Newark at that time was still a predominantly agricultural area, with the exception of two mills and a factory located at the Belleville line. The area north of Mount Pleasant Cemetery was developed with stately residences.

Two years before the annexation of North Newark, the city also annexed additional property on the west side as development moved in that direction and by 1902 Weequahic and the area east of Dayton Street was made part of Newark.

Although Newark had annexed a considerable area, by 1902 most of the annexed land remained agricultural.

Only in the north were there development of any consequence outside of the original city boundaries. The area surrounding Branch Brook Park was very sparsely developed. Large homes were built north of Mt. Pleasant Cemetery and east of Mt. Prospect Avenue and north of the Heller Parkway. Residential development in 1902 extended westward to Fairmont Cemetery, southwest to Woodland Cemetery, south to Bigelow Street and east to the Pennsylvania Railroad.

The Meadows

While urbanization was filling in Newark's boundaries to the north, south and west, the city developed two major transportation facilities that insured the city's continued growth. In 1915 a twenty-foot channel was dredged, creating Port Newark, and in 1929 Newark Airport was constructed in the Meadows. With the creation of the Airport came a better highway through the Meadows—the Pulaski Skyway—or U.S. Routes 1 and 9.

These two more recent developments, Port Newark and Newark Airport, have not only had an impact on the city's past growth, but hold a promise for the rejuvenation of the city in the years to come.

PHYSICAL FEATURES

The physical features of Newark directly affect the city's development in the future. Therefore, it is necessary that Newark's topography, soil characteristics, drainage and other physical features are reviewed to the extent they may limit or affect future growth.

Topography

The topography of Newark begins near sea level in the Meadows and rises to an elevation of more than 230 feet at the western edge of the city. The entire Meadows area has a ground elevation of from 5 to 20 feet.

Two ridges run southerly through Newark paralleling the Passaic River. These two ridges are more pronounced in the mid-northern and mid-southern sections of the city. Moving westerly from the Passaic River, the first ridge is formed by an increase in elevation from 20 to 50 feet. The terrain then rises moderately to 80 feet where the second ridge rises to 120 feet. A high point of more than 160 feet is reached in the west Newark section and then slopes gently away to the city boundary on the north and west and to an elevation of 120 feet to the south near the center of Newark.

In the southern section of the city, a ridge rises west of the meadows from an elevation of 30 feet to an elevation of 80 feet.

An elevation of approximately 230 feet is reached near the western edge of the main body of the city. From this high point the topography slopes gently downward to the north, south and west, rising again to 220 feet in the extreme western portion of the Vailsburg neighborhood.

Soils

There are two types of soils in the Newark area—organic and mineral. Organic soils are the accumulation of the partially decayed remains of plants that grow in shallow water which have gradually built up thick deposits of peat and muck. Mineral soils are formed by the erosion of many types of rock material.

The soils in central and west Newark are composed of moranic till (Wisconsin glacier) made up of clay, silt and sand with gravel, cobbles and boulders. Portions of the central Newark area are underlain at shallow depths by red sandstone and in west Newark by red shale.

In south Newark, west of the Meadows, and in the extreme northern part of Newark, the soils are made up of silty sands, gravels and gravelly sands. Sandstone particles are most prevalent.

The remainder of the area, excluding the Meadows, is composed of non-residual materials deposited by the Wisconsin glacier. The soils are relatively homogeneous with silty sands, sandy gravels and gravelly sands.

The Meadows (tidal marsh) soils are made of decomposed organic matter from two to five feet deep composed of silt and clay. The record left by the clays beneath the Meadows shows that thousands of years ago a glacial Lake Hackensack existed as a fresh water lake over the Meadows. Since that time, the area has been covered by

a great marsh, then a forest which was destroyed by the rising sea level only a few hundred years ago.

Drainage

The internal drainage characteristics of the soils throughout the Newark area are generally "imperfect." This type of internal drainage is characterized by slow or sluggish water absorption. Only in the Weequahic Park area is internal drainage rated as good to excellent. Drainage near the Passaic River is rated imperfect to good.

Surface drainage throughout the Newark area is generally dependent on surface slope. Because of the "imperfect" absorption qualities of Newark's soil, the amount of surface run off is considerable, resulting in the rather imperfect overall drainage in the city.

THE REGION

The City of Newark is a part of the larger New York Metropolitan Region which extends approximately 75 miles outward from Times Square. The Region's land area totals about 7,000 square miles. This area embraces 551 municipalities in 22 counties covering portions of three states with a total population in excess of 16 million people.

For the purpose of a regional analysis, the New York Metropolitan Region has been divided into four concentric rings:

Core: (Radius 10 to 15 miles) Bronx, Brooklyn, Manhattan, Queens, Hudson County and the City of Newark;

Inner Ring: (Radius 15 to 25 miles) Richmond Borough and the counties of Bergen, Essex, West Nassau, South Passaic, Union, and South Westchester.

Intermediate Ring: (Radius 25 to 50 miles) Fairfield, Middlesex, Monmouth, Morris, North Passaic, Putnam, Rockland, Somerset, West Suffolk, and North Westchester counties;

Outer Ring: (Radius 50 to 75 miles) Dutchess, Orange, East Suffolk, Hunterdon, Sussex, and Warren counties.

In the past, development of the Region has been oriented toward the Core, and more particularly the Borough of Manhattan in New York City. Because of the complex interaction of finance, insurance, corporation headquarters, communications, international trade, wholesaling and others, jobs have tended to centralize in the Core. It is expected that in the future, these businesses will continue to seek locations as close to the center of activity as possible.

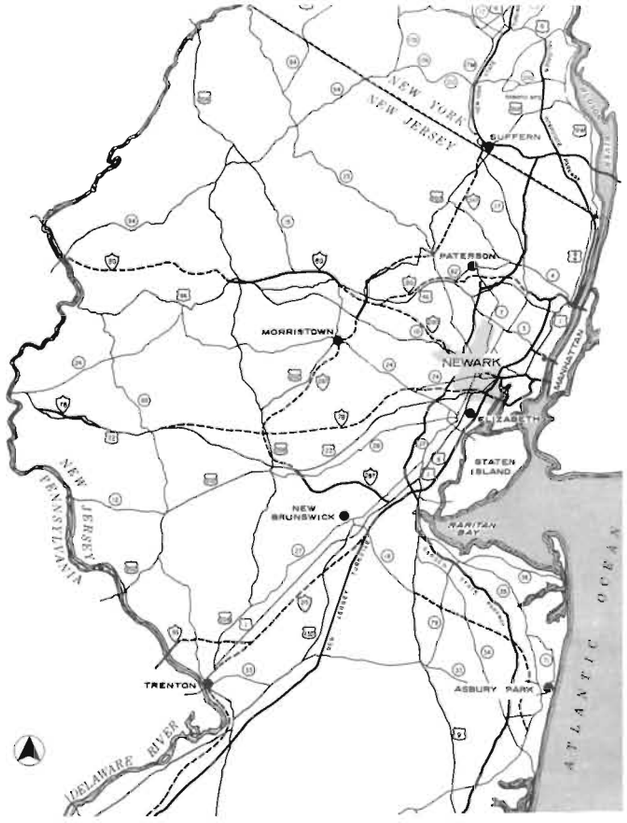
Central and administrative offices in New York City are expected to decrease relative to the rest of the Region and nonmanufacturing activities, such as office employment, will grow in all counties, particularly those bordering the Core on the east and north.

While the City of Newark lies within the core of the New York Metropolitan Region, it has long been the center of its own metropolitan area.

Today, the City of Newark serves as its region's principal shopping center, office and professional services center, seat of Essex County, a major industrial complex, and headquarters for several major national companies, including Mutual Benefit and Prudential Life Insurance Companies.

Aerial view of Newark's Core looking east to Manhattan Skyline.

Regional Location



ANALYSIS OF POTENTIAL FOR ECONOMIC AND POPULATION GROWTH

The Newark Standard Metropolitan Statistical Area (SMSA), as defined by the United States Bureau of the Census includes Essex, Morris and Union counties. At the beginning of 1964, the SMSA had a total population of close to 1.8 million people whose disposable personal income exceeded $3.0 billion. As of September, 1963, its industrial firms provided 237,000 manufacturing jobs and the region's total employment was in excess of 675,000. As the region's central city, Newark's industries —as of mid-1963—provided approximately 30 per cent of all SMSA manufacturing jobs. It is likely that 55-60 per cent of in-city manufacturing jobs are held by persons who are not residents of the City of Newark. This holds true outside of manufacturing as well. In 1960, there were about 136,000 nonmanufacturing jobs located within Newark—of these, about 75,000, 55 per cent of the total, were held by other than the city's residents.

Of the 209,000 persons employed in the city in 1960, approximately 170,000 were residents of one of the SMSA's three metropolitan counties. The remaining 40,000, representing approximately 19 per cent of total in-city employment, came principally, from Bergen, Hudson, Monmouth and Passaic counties. Thus, the overall pattern that emerges is that Newark is a core city which, in turn, is part of a highly interdependent metropolitan region.

POPULATION

Expansion and Slowdown

As of 1960, Newark had a population of 405,220 persons. In the present century, the most rapid period of population increase within the city occurred between 1900 and 1920. From 1900 to 1920—the city's population rose by 68 per cent for an absolute increase of over 168,000 persons; a high proportion of course, having been drawn to the city by its fast-expanding industry. However, after 1920, the city's population growth curve leveled off. During the decades of the 1930's and 1950's, Newark experienced absolute population declines of 12,000 and 34,000 persons, respectively. By 1960, the city's population had falled 8 per cent below that of its 1930 high point.

REASONS FOR POPULATION SLOWDOWN

Part of this three decade-long population decline can be attributed to the fact that, as in other mature industrial areas, the rate of increase in job opportunities has slowed down. However, Newark still represents a major concentration of industrial and non-industrial opportunities; one substantially in excess of the job needs of its residents alone. As of 1960, 162,000 of the city's residents were employed, but the city's factories, stores and offices provided 209,000 jobs.

Among the principal reasons for the population loss of the past decade and the preceding slowdown in population growth is the phenomenom of suburbanization. In the postwar period, increases in population, incomes and expectations have created a demand for residential land which, for a number of reasons, could not be satisfied in existing urban environments. This was particularly the case in such a city as Newark where there was very little suitable land still available for further residential development, particularly if it were to be of the single-family detached dwelling variety.

The fact that there was a great deal of developable land beyond the city's limits greatly facilitated this population transfer. The 1960 population of the rest of the SMSA was 1.3 million, 26 per cent above its 1950 level. Thus, while the population of the core city fell, that of its suburbs rose. Moreover, the flow of population from central city to suburb was heavily weighted with middle and upper income households.

Migration Patterns

From the standpoint of long-range planning, recent changes in the size and composition of the city's population are significant because of their possible impact upon resident purchasing power, resident labor force composition and long-range utilization of community facilities. Past trends in population size and composition give an indication of the city's ability to satisfy the demands of people seeking residential accommodations near sources of employment and supported by public services and facilities. Investigation of underlying migration patterns, among other factors, yields some basis for the long-range determination of residential areas including housing types located therein and supporting services and facilities to be provided therefor.

During the 1950's, Newark experienced a net population outmigration of approximately 92,000 persons. If this had not been the case, the city, given the rate of natural increase of its population, would have had a 1960 population of 531,000, instead of its actual 405,000 at that date. By contrast, the rest of the Newark SMSA during this period saw its population rise by 264,000 of which 128,000, or 48 per cent, represented net in-migration from other areas, including, in large part, from the City of Newark.

The City of Newark experienced net out-migration in each age category with the exception of the 20-29 age group where there was a small amount of in-migration, largely among young women drawn to the city's expanding office industries. The population outflow was particularly heavy in the 30-44 year age group, the period of the family cycle in which family size is increasing and in which home buying decisions are generally made. The rest of the SMSA experienced, on the other hand, net in-migration in each age group, with the exception of a minor amount of net out-migration among the 20-24 year old age group. Again, in reverse of the situation prevailing for the city, the extent of net in-migration into the surrounding areas was heaviest in the case of the home-buying and family-building age groups, the 30 to 44 year olds.

TABLE 1
POPULATION GROWTH AND CHANGE
NEWARK, NEW JERSEY
1830-1960

Year	Population	Change Over Preceding Decade Number	Percent
1830	10,953*	—	—
1840	17,290	6,337	57.9
1850	38,894	21,604	125.0
1860	71,941	33,047	85.0
1870	105,059	33,118	46.0
1880	136,508	31,449	29.9
1890	181,830	45,322	33.2
1900	246,070	64,240	35.3
1910	347,469	101,399	41.2
1920	414,524	67,055	19.3
1930	442,337	27,813	6.7
1940	429,760	—12,577	—2.8
1950	438,776	9,016	2.1
1960	405,220	—33,556	—7.6

*Population before incorporation.

Source: U.S. Census of Population.

Future Population -1980

By 1980, the population of the Newark SMSA is expected to reach 2,320,000, compared to 1960's 1,690,000. However, in the course of these two decades, the currently less developed parts of the region are expected to grow at the expense of its already developed portions.

By 1980, Essex County's expected population, of roughly 1,000,000 persons is expected to represent only 43 per cent of the total SMSA population, compared to 55 per cent in 1960. This downward trend in the county's share of projected SMSA population represents, in effect, a continuation of postwar trends in this respect. But, while the county has been losing as a share of the total, it has continued to increase its population in absolute terms.

The City of Newark, on the other hand, has sustained an absolute population decline in the postwar period, as have many other mature urban areas within the 22-county New York Metropolitan Region.

For 1980, the city's population potential has been estimated in the following manner: (1) that renewal will take effect in two principal forms—it will (a) dampen the extent of out-migration, and (b) bring in new population through increasing the supply of sound housing units.

The population of the city, outside of its presently designated renewal areas, amounted to about 325,000 persons in 1960. Between 1950 and 1960, the city's total population fell by 8 per cent. Between 1960 and 1980, a further decline is estimated in the population of areas lying outside of renewal projects of about 9 per cent or slightly more than half as steep as its average rate of decline during the 1950-1960 period. This would reduce the population in the nonrenewal areas to about 296,000 by 1980. It is further estimated that the population increase in the renewal areas will be between 35,000 and 45,000 above their 80,000 level in 1960. Thus, both areas combined, those undergoing renewal treatment and those which are not, are expected to have a 1980 population potential of between 406,000 and 416,000, or one which is fractionally higher that the city's 1960 population.

Employment

TRENDS BETWEEN 1950 AND 1960

The city's civilian labor force, defined as the number employed plus those currently unemployed and actively seeking work, fell by 11.9 per cent between 1950 and 1960. As employment among its residents fell by a somewhat lower amount, 11.7 per cent, the city's unemployment rate declined fractionally during this period. The decline in the absolute level of unemployment was wholly among males in the labor force. The absolute level of unemployment among women increased. The unemployment rate for women rose from 6.7 per cent in 1950 to 10.4 per cent by 1960. For men, the unemployment rate dropped from 9.2 per cent to 7.0 per cent between 1950 and 1960.

In terms of sector of employment, the city's residents experienced a 17.6 per cent drop in manufacturing employment and an 8.0 per cent decline in nonmanufacturing employment. There was: (1) a relatively greater decrease in manufacturing jobs held by female residents of the city than for males; and (2) an absolute increase in the number of nonmanufacturing jobs held by women in contrast to a drop in those held by men.

The shifts in the occupational composition of the city's residents which took place between 1950 and 1960 reflect a number of factors. White collar employment fell by 23.8 per cent, sales employment by 26.5 and blue-collar employment by only 4.6 per cent. It is readily apparent that this trend towards an increased relative importance of blue-collar workers, one which was directly opposite to national and regional trends during this period, reflected in large part, the suburbanization of Newark's more prosperous income groups who continue, as before, to work in the city but who have chosen to live elsewhere.

In the rest of the SMSA, the 1950-1960 trends in employment were much more encouraging. There, the size of the civilian labor force and related employment opportunities rose at approximately the same rates and the rate of unemployment fell from 3.7 per cent in 1950 to 3.3 per cent in 1960. The fall in the unemployment rate was

particularly steep in the case of men—from 3.9 per cent to 2.8 per cent. This was, in part, offset by a rise in unemployment among women, which was partially a function of their greatly increased labor force participation rate.

Both manufacturing and nonmanufacturing jobs increased, rising more substantially, in relative terms, for women than for men. And, unlike the situation within the City of Newark, the occupational composition of the employed residents in the Newark SMSA outside of the City of Newark reflected a substantial shift towards an increasing proportion of white collar and sales employees and a reduced proportion of blue-collar workers.

This data, relating to employment, is on a residential basis; that is, it refers to the location of the residence of the worker rather than to the location of his job. The next section deals with the location and structure of employment within the SMSA and the City of Newark.

THE EXISTING STRUCTURE OF EMPLOYMENT IN THE CITY AND THE SMSA

The City of Newark serves physically as the location for approximately 33 per cent of all jobs in the SMSA, although the city contains only 24 per cent of the SMSA's population. The only nonagricultural major industry divisions for which the city's share of SMSA jobs falls below its share of SMSA population is personal services, and the only major occupational category in which this is true is that of private household workers. The industry divisions in which the city's share exceeds its average share for all industries combined is transportation, communications and utilities, trade, finance, insurance and real estate and public administration. Occupationally, this is true of managers, officials and proprietors, sales workers, clerical and kindred workers, operatives and kindred workers, service workers, and laborers.

The above data deals with the situation as of a given moment of time—1960. What of the trends before and since? In the succeeding sections we shall examine each major sector to gain some idea of the shape of past and future trends in employment.

Services

Between 1948 and 1954, service-connected employment increased by 8 per cent in the City of Newark, considerably below the 64 per cent increase in the rest of the SMSA. In the succeeding four-year period, 1954-1958, while such employment in the city increased at a lesser rate than elsewhere in the SMSA, the growth gap narrowed considerably—25 per cent in the city, compared to 62 per cent elsewhere in the SMSA.

Wholesale Trade

Between 1948 and 1958, the city's share of the SMSA's total employment in wholesaling fell from 73 per cent to 51 per cent. In absolute terms, however, in-city wholesaling employment fell only by 11 per cent during this period, with the major share (84 per cent) of this overall decrease occurring between 1948 and 1954. Employment decline in this area has been only fractional since 1954.

Retail Trade

Between 1948 and 1958, total employment in Newark's retail outlets declined by about 6 per cent. This decline in employment was essentially a reflection of the drop in the physical volume of retail sales transacted during this period by the city's merchants.

A critical part of the city's retail sector—that which is located in its Central Business District—has also been subject to a declining sales trend in the postwar period. Between 1948 and 1958, the CBD's current dollar sales declined fractionally. However, expressed in dollars of constant purchasing power, it fell by about 5 per cent. Detailed information on post-1958 trends for retail trade sector in the downtown is not available. Such indicators as are available, such as the Federal Reserve Bank's index of department store sales, indicate an essentially static condition in this are since 1958.

Manufacturing

The City of Newark is part of a heavily industrialized area. The SMSA's industrial base is a highly diversified one. Approximately 53 per cent of total manufacturing employment is in durable goods lines and 47 per cent in nondurable goods production. In terms of employment, the principal industries are chemicals and electrical machinery with 12.5 per cent and 17.3 per cent respectively of the region's manufacturing employment. In addition to these, industries employing over 10,000 workers include

food and kindred products, apparel and related products, fabricated metal products, non-electrical machinery, transportation equipment and miscellaneous manufacturing.

Despite its intensively developed industrial character, the city's manufacturing economy, particularly since the end of World War II, has been adversely affected by two major long-term trends: 1) the redistribution of manufacturing employment from the northern and eastern portions of the U.S. to the south and west; and 2) the suburbanization of manufacturing industries within metropolitan regions (whether east, west, north or south).

Manufacturing employment in the SMSA after rising by 9 per cent between 1947 and 1954, fell by 6 per cent in the succeeding four-year period. By 1961, however, it had increased 9 per cent over 1958. The latest available data, as of September 1963, indicates SMSA manufacturing employment of 236,600 persons. While this is 4 per cent below its 1961 level it nevertheless represents a 6 per cent increase above 1947.

Total manufacturing employment in the City of Newark, however, has moved consistently downward throughout the entire postwar period. From 92,291 in 1947, it fell to 90,157 in 1954, and to 78,604 in 1958. While comparable figures are not available to indicate the details of the trend since 1958, the data that is available indicates that it has continued to be downward since then.

The future growth of manufacturing activity, employment and investment in the Newark SMSA and in the City of Newark will depend importantly upon: (1) favorable national and regional trends, (2) the ability of Newark's industries to remain competitive, and (3) an intensive program to provide additional cleared land for industrial expansion. The last two points are, of course, highly interrelated.

On the national level, the National Planning Association[1] forecasts a 29 per cent expansion in manufacturing employment between 1956 and 1976, with manufacturing employment in the Middle Atlantic states increasing by 24 per cent and that of New Jersey by 34 per cent.

The Regional Plan Association of New York[2] has recently estimated that between 1960 and 1985 there will be a 676,000 increase in combined manufacturing and wholesaling employment in the 22-county New York Metropolitan Region. Of this amount, 18 per cent—or 122,000 jobs—are expected to be located in Newark SMSA. By 1980, the State of New Jersey's Department of Conservation and Economic Development[3] expects the SMSA's manufacturing employment to increase to approximately 328,000, or about 80,000 above its present levels.

Assuming these expectations are realistic ones for the metropolitan area as a whole, the city has a first-rate opportunity to add to its manufacturing base. The essential problem is to develop a set of policies which will enable the city to capture a portion of the expected regional growth.

The problem of replacing obsolescent or near-obsolescent space, in order for the city's manufacturing firms to retain their competitive positions, is a pressing one. The city's ability to provide adequate sites, with suitable provision for possible future expansion, however, is hampered by the intensively developed character of Newark's existing industrial areas.

Modern factory operations, to be efficient, typically require large sites which are suitable for one story flow or process operations, and in addition, provide ample space for parking needs. If Newark is to remain in a competitive position to attract additional industrial development, the city must be in the position of having a sufficient amount of well located industrially-zoned land to accommodate new plant construction. At the same time, both private and public interested groups in the city must explore the possibilities of rehabilitating and modernizing existing space with a view to making it more suitable for the functional requirements of contemporary factory operations.

The thirteen proposed urban renewal projects within the city contemplate adding 191.0 acres to the city's net supply of zoned industrial land. In addition, the Industrial River Urban Renewal Project is likely to provide several

1) The National Planning Association, Regional Economic Projections Series, 1962.

2) The Regional Plan Association of New York, "Spread City" September, 1962.

3) State of New Jersey, Department of Conservation and Economic Development, Supply and Demand Factors of Industrial Land Use, 1963.

hundred acres of improved industrial land, in the strategically located Meadowlands area.

There are approximately 230,000-240,000 manufacturing jobs in the Newark SMSA at the present time. Recent projections to 1980 made by various groups indicate a range of from 330,000-355,000 manufacturing jobs in the SMSA by that time. If the city's share of the SMSA's total manufacturing drops to 20 per cent by then (it fell from 41 per cent to 30 per cent between 1947 and 1960) that would mean in-city manufacturing employment of between 66,000 and 71,000. If, on the other hand, it maintains its present share, in-city manufacturing employment could conceivably rise to between 100,000 and 110,000 by 1980, compared to its present 75,000-80,000 range.

Office Activities

White collar or office-oriented employment is expanding rapidly on all levels—nationally, regionally and locally. Between 1950 and 1960, white collar employment as a share of total employment in the New York-Northeastern New Jersey Standard Consolidated Area rose from 40.6 per cent to 41.2, for the Newark SMSA the comparable figures were from 39.0 to 39.8 per cent. The U.S. Department of Labor[4] has recently estimated that for the country as a whole, white collar employment will expand from 24.4 million to 36.0 million between 1960 and 1975, and, as a share of total employment, it will rise from 36.5 per cent to 41.1 per cent.

The City of Newark, particularly its downtown area, is a major center for office employment. Of the approximately 210,000 jobs in Newark in 1960, 87,400, or 42 per cent of this total, were office type jobs (professional and technical personnel, managers and officials, and clerical workers). In contrast, only 26 per cent of the city's employed residents (numbering 41,400) are employed in office-type occupations, and, of these, only 28,200 work within the city. In other words, 68 per cent of the city's office type jobs are filled by nonresidents of the city. As of March 1960, in-city office type jobs accounted for 34 per cent of SMSA-wide office type jobs.

In recent years, Newark has been experiencing a boom in office building construction, sparked by the construction of new offices by Mutual Benefit Life Insurance Company and the Prudential Insurance Company. It is estimated that between 1958 and 1962 new gross office floor space in multiple tenant office buildings authorized for construction in Newark amounted to close to 1.2 million square feet of space, most of it in the downtown. One source estimated that this increase of office space succeeded in bringing an additional 10,000 office workers into the Central Business District daily. Downtown office space rose from 4.8 million square feet of space in 1950 to approximately 6 million in 1963.

During the 1950's, in-city office employment within Newark and the associated demand for office space apparently did increase as indicated, among other things, by the sharp expansion in the amount of downtown office space and the continued prevalence of a relatively low vacancy rate.

It is probably, the case, however, that office employment has increased faster outside of the central city and its downtown than inside of it; that is, to a certain extent, suburbanization of office activities has taken place. This outward drift has been primarily among office activities which were consumer-oriented; e.g., realtors, branch offices of insurance companies, etc.

As a result of the continuation of the redistribution of population in favor of the suburbs, this shift will probably continue. But office work is growing very rapidly and even continued suburbanization could still produce, given the proper environmental conditions, a substantial expansion in the private sector of the city and downtown's office force.

The reasons for an in-city office location are still many and compelling:

- ☐ to maintain maximum accessibility to the CBD and the airport and indirectly to the entire metropolitan area;
- ☐ to take advantage of an ample and highly diversified reservoir of office space which is available at all price ranges in the downtown;

4) U.S. Department of Labor, Employment Projections by Industry and Occupation, 1960-1975, Special Labor Force Report No. 28, 1963.

Broad Street: New Prudential Insurance Company and Fidelity Union Trust Company Buildings.

1 Newark Colleges Expansion Project
2 Essex Heights Project
3 Hill Street Project
4 South Broad Street Project
5 Old Third Ward Project
6 Central Ward Project
7 Lower Clinton Hill Project
8 Educational Center Project
9 Newark Plaza Project
10 Fairmount Project
11 Saint Benedict's Project
12 Industrial River Project

Neighborhood Boundary

Neighborhood Boundaries & Urban Renewal Areas (as of October 1963)

CITY OF NEWARK, N. J. / MASTER PLAN, 1964
PLANNING CONSULTANT: CANDEUB, FLEISSIG, ADLEY & ASSOCIATES

☐ to stay within easy reach of the main office worker labor market;

☐ to have ready access to service facilities such as office suppliers, printers, advertising agencies, etc.;

☐ to maintain a prestige-type location; and

☐ to be most accessible to the out-of-town visitor.

Between 1960 and 1980, office-type employment in the SMSA can be expected to increase from 255,000 in 1960 to between 400,000 and 410,000, for a rise of approximately 60 per cent over the two decade period. If the City of Newark maintains its proportionate share of that increase (proportionate to its share as of 1960) its office-type employment will increase by 50,000 in this period, indicating the need for another 3 to 4 million square feet of office space between now and 1980, which does not take into account the replacement demand for office space which might materialize during this period as older structures depreciate or become obsolete. In concrete terms, this indicates a need for ten additional office buildings of a size comparable to the recently constructed Mutual Benefit Life building on Broad Street.

Summary of Employment Projections

Total regionwide employment, that is, the number of jobs in the SMSA, is expected to rise from 627,000 (as of 1960) to 838,000 by 1980. The manufacturing component of the total employment mix is expected to rise from 240,000 in 1960 to 345,000 in 1980. Nonmanufacturing employment can be expected to increase from 387,000 in 1960 to 493,000 by 1980.

The city's potential employment total for 1980 is estimated to be between 250,000-275,000 as compared to 209,000 persons in 1960. This will consist of 80,000-100,000 factory jobs and 170,000-175,000 nonmanufacturing jobs.

Income and Purchasing Power

In 1949, the median income of families in the City of Newark was 83 per cent of that for the SMSA as a whole. By 1959, the comparable figure was only 76 per cent. What had happened in the intervening period was, of course, the out-migration to the suburbs of higher income households. As of 1960, 44 per cent of the city's households had annual incomes of below $5,000 and only 12 per cent had annual incomes of above $10,000. For the SMSA as a whole, the comparable figures were 26 per cent for the below $5,000 group and 27 per cent for the above $10,000 group. However, despite this adverse trend in its relative income status, the city's residents still, as of 1960, represented a market of close to $750,000,000 in purchasing power. And, assuming no change in their relative status in the future, their purchasing power, at present population levels, could amount to close to $1.4 billion in dollars of constant purchasing power by 1980.

HOUSING

Housing and the City's Revitalization

One means of promoting Newark's revitalization would be to improve its housing supply. For, among other things, the availability of suitably priced housing in adequate quantities is a factor of considerable importance in the location of business and industry.

In addition, it is undoubtedly true that the departure of former in-city households for the suburbs over the past decade and a half has been aggravated to some extent by the lack of suitable housing in satisfactory central city residential environments.

In 1960, substandard housing units represented 12.2 per cent of the city's total housing stock. In census tract areas with above average shares of standard housing, the 1950-60 population decline was only 4.5 per cent. However, in areas with below average shares of standard housing, the 1950-60 population decline was close to triple that, at 12.6 per cent.

PRESENT STOCK OF RENTAL HOUSING

Renting as a form of tenure dominates Newark's housing market. Of its 127,772 occupied housing units in 1960, 77 per cent were renter-occupied compared to 36 per cent for the remainder of the SMSA. As of 1960, the city contained over 40 per cent of the SMSA's rental stock. However, between 1950 and 1960, the city was responsible for only 33 per cent of the SMSA's new rental construction and between 1960 and 1962 this share fell to 22 per cent.

Much of the existing rental housing in the city is not especially well suited to the new demands which are being raised for such units. For example, a significant portion of the new demand will be for relatively small-sized units —efficiency or one-bedroom apartments.

In 1960, there were 35,868 rental apartments in the city with one to three rooms. However, only 7 per cent of these were vacant and available for rent. From the point of view of the quality of the rental housing supply, Newark had, in 1960, 9,264 apartments whose gross monthly rental was in excess of $100 which was only 20 per cent of the SMSA's supply of such units.

Judging from these figures, the City of Newark seems to be relatively under-supplied in terms of quality rental housing in relation to its metropolitan region. However, in 1960, the vacancy rate on $100 a month and over apartments in the city was 14.1 per cent, which compared quite unfavorably to the 3.9 per cent rate for such units in the rest of the SMSA. A recent report on postwar apartment house developments in Essex County by the Essex County Department of Planning indicates that through mid-1963 there had been no significant change in Newark's relatively high vacancy rate. A contributing factor has undoubtedly been the difficulty of attracting tenants to high rent apartments located in declining neighborhoods.

FUTURE HOUSING PROSPECTS

Assuming, however, that deterioration in Newark's residential neighborhoods can be stopped, and, that through such techniques as urban renewal and planning, the revitalization of the city's urban plant can be continued and broadened, what role can Newark be expected to play in satisfying the prospective demand for housing in its metropolitan region?

The City of Newark's ability to attract any sizeable volume of new single-family construction is strictly limited. Land in the city is expensive and tract development, the most economical form for such construction activity to take, is hardly feasible. Between 1950 and 1960, about 55 such units on an average were built in the city each year. And since 1960, the average rate has declined to about 20 new single-family homes a year. Thus, it is likely that the city's share in this form of construction during the next two decades could be even more limited than it has been thus far in the postwar period.

In the case of apartment house construction, however, despite prevailing high vacancy rates, the city's potentialities are clearly much stronger.

According to Regional Plan Association, as of 1960, 86 per cent of the zoned vacant land in the SMSA was zoned for single-family residential use and less than 1 per cent was zoned for multi-family units. The estimated dwelling unit capacity in the SMSA of vacant land zoned for multi-family residence in 1960 amounted to less than 8,000 dwelling units. The figures just quoted reflected the effect of prevailing (1960) local planning policies on the region's future land development. Between 1960 and 1962 building permits were issued authorizing over 17,000 rental units in the SMSA. Thus it is clear that existing zoning regulations are subject to change given the state of demand in the market for housing.

The city's ability to capitalize on the growing demand expected to materialize for rental housing in the SMSA of course, depends on its renewal efforts. For, given the success of renewal, Newark has certain definite assets which it can capitalize on in competing for new rental construction—its urban character, the fact that it has a substantial concentration of employment opportunities in its downtown and its accessibility to downtown Manhattan.

As of February 1963, the city had 12 renewal projects underway. These renewal areas contained a population of slightly over 80,000 or approximately 20 per cent of the city's total population. Of the 24,546 existing dwelling units in the renewal areas, the project plans propose to demolish 11,134 and leave 13,412 standing. It is further proposed that the remaining units in the project area be supplemented by 22,488 new units, of which

19,415 are private and 3,073 public for a net increase of 11,144 units. Assuming a vacancy rate of from 5-10 per cent in the project area's existing structures and an existing average size of household of 3.4 - 3.6 persons, this indicates a net expansion in occupied units of between 11,000 and 12,000 and a population increase in the area of between 35,000 and 45,000 persons. The 22,488 new high-rise units contemplated amount to only about 28 per cent of the estimated 1962 - 1980 demand for rental units in the SMSA.

Mt. Prospect Towers, Mt. Prospect Avenue.

Generalized Existing Land Use

CITY OF NEWARK, N. J. / MASTER PLAN, 1964

PLANNING CONSULTANT: CANDEUB, FLEISSIG, ADLEY & ASSOCIATES

EXISTING LAND USE ANALYSIS

Newark's pattern of existing use of land reflects a gradual change in urban development since the city's founding several centuries ago.

In order to develop a plan for future change it is important to examine the existing development pattern in the city and evaluate the location and extent of the various land uses such as residential, commercial, industrial and public and semipublic. This is particularly true for a city as extensively developed as Newark.

Present Development Structure of Newark

At the present time the structure of the City of Newark can be described as consisting first of an elongated Core Area or downtown which is located on the west bank of the Passaic River and geographically centered in relation to the rest of the city. Second, this strong commercial area is surrounded by a ring of marginal businesses, some industry and obsolete residential areas. Further out and to the east from the center is located the Ironbound section which consists of a residential neighborhood encircled by industrial uses and a large undeveloped area —the Meadows. To the west and north of the Core area are located the newer residential sections of the city: Vailsburg, Weequahic, West Side, North Newark and Roseville.

Superimposed over the land use pattern is the city's traffic and transportation system. It consists of seven major radial streets converging on the downtown and the Pennsylvania Railroad which bisects the city in a north-south direction and separates the Ironbound section from the rest of the city. The other major railroad—the Erie-Lackawanna Railroad traverses the city in an east-west direction. Extensive strip commercial development is found mostly in the Meadows. As in other cities, there are numerous small vacant parcels located in other parts of Newark.

The residential development in Newark is characterized by two-family and multi-family dwellings. In the older, more central parts of the city, apartments predominate, interspersed with commercial and industrial uses. In the more outlying areas, two and four family dwellings are common with some intermixture of apartment houses and commercial uses.

Industrial development in Newark is substantial. While most of the large industrial plants are located either near the railroad lines, or along the Passaic river and adjacent to Newark Bay, many factories and plants are scattered throughout the city.

Notwithstanding the fact that Newark is one of the most densely populated cities of the nation, it contained over 2,200 acres of vacant land in 1958. The vacant land is found mostly in the Meadows. As in other cities there are numerous small vacant parcels located in other parts of Newark.

Table 4 presents a summary of existng land uses, showing the amount of land devoted to various land use categories. Examination of this table indicates the importance of public lands (schools, parks, government buildings, etc.) which comprises 26.6 per cent of the total land area. It should be noted, however, that a large portion of this category is land leased to the New York Port Authority for Port Newark and the Newark Airport. Other major categories include residential, 20.2 per cent; industrial, 13.4 per cent, and vacant land, 10.0 per cent.

TABLE 2

SUMMARY OF EXISTING LAND USES

NEWARK, NEW JERSEY — 1963

Land Use	Area (in acres)		Per cent of Developed Area		Per cent of Total Area	
Residential		3,054		31.9		20.2
Commercial		250		2.6		1.6
Mixed Residential-Commercial		287		3.0		1.9
Industrial		2,017		21.1		13.4
Streets	2,390		25.0		15.8	
Cemeteries	319		3.3		2.1	
County Parks	749		7.8		5.0	
City Parks & Parkways	43		0.5		0.3	
Improved Open Space	1,111		11.6		7.4	
Schools & Playgrounds	272		2.8		1.8	
Churches & Private Schools	118		1.2		0.8	
Other	74		0.8		0.5	
Public & Semi Public Improved Land	464		4.8		3.1	
Public and Semi Public		3,965		41.4		26.3
Sub-Total — Improved Land		9,573		100.0		53.4
Private vacant Land		1,505				10.0
City, County, State & Fed. Properties	912				6.0	
Navy Property (Industrial Open Use)	192				1.3	
Municipal Parking Lots	9				0.1	
City Land Leased to Port Authority	2,894				19.2	
Public, Predominantly Vacant Land or Open Use		4,007				26.6
Sub-Total — Unimproved Land		5,512				36.6
Total		15,085				100.0

Source: Newark Division of City Planning

Residential Land Use

With the exception of the Ironbound Neighborhood, Newark's residential districts are all located to the west of the Main Line of the Pennsylvania Railroad. The earliest residential neighborhoods clustered around the Central Business District, while in outlying neighborhoods such as North Newark, Roseville, Vailsburg, Weequahic and Dayton, residential development occurred at a later date. The Ironbound neighborhood, separated from the Core Area by the Pennsylvania Railroad is one of Newark's oldest residential districts.

Newark's residential development is characterized by the multi-family dwelling structure. Over half of the residential land in the city is devoted to two to six-family buildings. Included in this group are many row houses and four and six-family buildings which are very common in Newark. Nearly one-third of the residential land is occupied by single family houses. Single family houses are found predominantly in those areas farthest from the Core Area of the city.

Near the Core Area are some of Newark's more deteriorated residential buildings. This can be accounted for in large part by the age of the structures, and the extent of inadequate conversions, to increase the number of families per building. A recent Demonstration Grant Study evaluated the neighborhoods in Newark and the result of this study indicated a need for substantial amount of clearance and rehabilitation of residential buildings in Newark.

Commercial Land Use

Newark is the commercial center for a metropolitan area of over a million people. Therefore, its commercial land uses reflect the needs of various levels of retail and service demand. The range of this demand includes the day to day needs of neighborhoods, the needs of a group of neighborhoods, as well as the major shopping, business and financial needs of several million people. This broad range of types of commercial development include strips of commercial uses along major arteries, clusters of retail shops within neighborhoods and the massive concentration of retail, business and public uses in the downtown area.

For the purpose of this Master Plan these various levels of demand have been classified as follows:

1. Core Area, including its Central Business District
2. Community Shopping Areas
3. Neighborhood and Local Commercial Concentrations
4. Highway Oriented and General Business Commercial Concentrations.

THE CORE AREA AND THE CENTRAL BUSINESS DISTRICT

Many factors have contributed to the existing conditions of Newark's Core Area. Among these are two basic geographical factors which have shaped its spatial development. On the one hand, the Passaic River forms a natural northeastern boundary. On the other, a distinct rise in elevation occurs between Washington and High Street, forming its western boundary. Other boundaries of Newark's Core Area are the Pennsylvania Railroad to the east, and the Lackawanna Railroad and the elevated highway structure to the north. Astor Street is considered the southern boundary of the Core Area.

Major Groups of Establishments

Of the estimated 9,019 nonresidential establishments located in the downtown portion of the City of Newark, almost 50 per cent of the establishments are business services, including finance, insurance and real estate, wholesaling, etc. About 27 per cent are establishments in retail trade and consumer services and approximately 21 per cent are manufacturing and other production industries.

The primary space users and employers in the downtown area are private office uses, retail trade and governmental offices.

Employment in the downtown area is approximately 122,000 workers including self-employed persons. As such, it represents by far the largest complex of economic activity within the city.

Primary Core and Secondary Core Within the Central Business District

Based upon a 1961 study of the downtown area,[5] the following geographic areas are established for purposes of analysis:

The Central Business District—The area of intensive business activity,

The Primary Core—Within the Central Business District, the area of the most intensive business activity,

The Secondary Core—Within the Central Business District, the area of less intensive activity.

The present Central Business District contains an area of 189.6 acres, and is occupied by predominantly nonresidential establishments with a high land coverage, intense building development and large employee concentration.

The Primary Core consists of three components: The first of these is an area of Intensive Business Services covering 10 acres and consisting of a group of high productive uses, including many business services and financial institutions.

The second component is an area of Other Intensive Office and Hotels covering 26.5 acres. These uses, include the major corporate headquarters and prominent hotels.

The third component is an area of Intensive Retailing covering 12.8 acres most of which is solely retail shops.

The Secondary Core is made up of an area of Government Buildings covering approximately 8.5 acres.

The remainder of the Central Business District contains a mixture of office, wholesale, retail, industrial and other establishments at a considerably lower intensity and productivity. Many of the establishments in this area are suppliers to the more intensive users.

5) Stonorov, Gruen et al., "Newark, N. J.—A Study of the Downtown Area", 1959.

COMMERCIAL LAND USES OUTSIDE THE CBD

A principal development characteristic of Newark, as in many older cities, is the many strip-commercial areas that can be found throughout the city. Many of these commercial areas are located on major streets and originally served the adjacent residential area as well as through traffic on these streets. Many vacancies are found along Newark's major streets which might indicate that more space has been allocated for commercial use than is required. Supporting evidence for this also is the excessive amount of street frontage which has been zoned commercial—nearly 854,000 lineal feet have been zoned for commercial, while only about 365,000 feet are actually used for commercial purposes.

To remedy this situation, any long-range land use policy and plan should provide a better balance between the demand for commercial land use and land zoned for commercial uses.

The following is an analysis of commercial development outside the Core Area. For purposes of analysis, the more outlying commercial areas are divided into three functional categories:

Community Shopping Areas—Those areas offering goods and services which require several neighborhoods for an adequate market area. Many of these goods and services are found in the Central Business District at a much larger scale.

General Commercial Areas—Those uses which are oriented toward drive-in uses such as service stations, drive-in restaurants, drive-in banks and supermarkets as well as clusters of uses which are partially commercial and industrial in nature.

Local or Neighborhood Shopping Areas—Retail and service clusters serving a small residential area or neighborhood with such uses as grocery stores, laundries and drug stores.

Community Shopping Areas

Only a few shopping areas in Newark are large enough to

Aerial view looking north on Broad Street.

be considered community shopping areas serving several surrounding neighborhoods. Community shopping areas are usually located along important thoroughfares within the city, particularly at points of major intersections. The following is a listing of the major shopping areas in this classification.

- ☐ Broadway, at its intersection with Bloomfield Avenue,
- ☐ Ferry Street, between Pennsylvania Railroad and Wilson Avenue,
- ☐ South Orange Avenue, mainly between Norwood Street and Sanford Avenue,
- ☐ Orange Street, particularly around Roseville Avenue,
- ☐ Bloomfield Avenue, particularly around North Sixth Street,
- ☐ Springfield Avenue, particularly around South Sixth Street,
- ☐ Clinton Avenue, at its intersection with Bergen Street,
- ☐ Bergen Street, particularly the two blocks north of Lyons Avenue.

General Commercial Areas

These uses include new and used car dealers, service stations and garages, drive-in restaurants and other commercial outlets which require drive-in facilities. Relatively new operations of this nature are the drive-in bank and drive-in cleaners.

A typical example of this type of commercial development can be found on Elizabeth Avenue north of Weequahic Park. Just north of the Meeker Avenue intersection there are automotive sales and gasoline service station uses. A strong concentration of automobile-oriented commerce occurs at Hayes Circle, where Elizabeth Avenue intersects Clinton Avenue and nearby Avon Avenue. Traffic is very heavy and off-street parking is provided by establishments drawing large customer volumes. The Hayes Circle development spills over into Clinton Avenue and extends to the Lincoln Park area.

Other significant highway-commercial areas include Central Avenue, as it approaches the Core Area; Bloomfield Avenue near Tenth Street and several blocks west of Lakefield Street; Sanford Avenue near Ivy Street; South Broad Street near Poinier Street and McCarter Highway viaduct; and Blemont Avenue between Avon Avenue and Spruce Street.

These automobile-oriented commercial areas have created certain problems which have inhibited traffic circulation as well as the physical appearance in the area. This is particularly true where lack of off-street parking and loading facilities result in double parking and on-street loading.

Also included in this category are warehouses, wholesale outlets, auto body shops, and garages, and other operations which both have commercial and industrial characteristics. In many instances they are related to the automobile-oriented uses discussed above. These uses are found in various locations throughout the city, including a few residential areas. Most of the wholesale and service commercial uses are concentrated on the fringes of the Central Business District and in sections which are adjacent to the Passaic River, Port Newark, the rail lines, the Turnpike and the city's major arterials.

Many of the wholesaling and service areas overlap or adjoin highway and Central Business District oriented commercial and light industrial uses. Some of these locations include: East and southeast of the Bloomfield Avenue-Broadway intersection and around the Erie-Lackawanna Railroad; Bloomfield Avenue, several blocks west of Lakefield Street; Central Avenue near the Central Business District fringe; Market Street-Ferry Street intersection and in the general area of P. Ballantine & Sons; Springfield Avenue, west of Tenth Street; Elizabeth Avenue, around Hawthorne Avenue and again around the Hayes Circle area; the South Broad Street around Poinier Street and the McCarter Highway viaduct.

Neighborhood and Local Shopping Areas

An examination of the distribution of local commercial development reveals that the average Newark resident is adequately served at the neighborhood or local level. Very few residential areas are without some form of local shopping concentration within a few minutes walk. The development characteristics of Newark's local shopping area are similar to other commercial concentrations. Typically, retail uses occupy mixed commercial-residential

buildings which crowd their sites and provide customer and delivery access from the street only. Some of the local commercial concentrations form a part of a strip commercial development along major arterial streets. Other neighborhood commercial uses are located within the interior of the neighborhoods they serve. No attempt has been made to group retail uses or provide everyday goods and services in compact, one-stop group of shops and stores.

Industrial Land Use

Industrial uses are located throughout Newark with the major concentrations in the eastern portions of the city convenient to rail, air, highway and water transportation.

The general characteristics of the city's industrial areas are described under the following locations:

- ☐ Port Newark
- ☐ Meadowlands
- ☐ Ironbound
- ☐ Frelinghuysen Avenue
- ☐ Central Ward
- ☐ North Newark
- ☐ Passaic River—McCarter Highway
- ☐ Scattered Areas

PORT NEWARK

Port Newark is located on Newark Bay and is generally bounded by the New Jersey Turnpike on the north and west and by Port Elizabeth on the south.

The port is a modern sea cargo facility handling various import and export goods including: foreign automobiles, wine, lumber, steel, petroleum, containerized cargoes, food stuffs and scrap iron. The port is a well planned unit with excellent internal circulation facilities, dock facilities and upland goods handling and storage facilities. It is well served by major highways, railroads and Newark Airport providing ready access to the entire eastern seaboard.

MEADOWLANDS

The Meadowlands industrial area is generally bounded as follows: on the north and east by the Passaic River, on the south by Port Newark and Newark Airport, on the west by U.S. Route 1-9.

The area varies in character from unimproved meadowland to industrially developed portions including heavy industries such as beer brewing and paint manufacturing to less intensive industrial uses, such as auto wrecking and scrap dealers. Because the area has developed in a sporadic fashion, without the benefit of an overall plan, street layout, access, circulation and parking and loading facilities are not able to serve the area efficiently.

IRONBOUND

The Ironbound industrial area is generally located within the Ironbound neighborhood which is bounded as follows—on the north by the Passaic River and Raymond Boulevard—on the west by McCarter Highway and the Pennsylvania Railroad—on the south and east by the Pennsylvania Railroad and U.S. Route 1-9.

This industrial area has two distinct concentrations of industrial use. The first area is located in the southwest corner of the Ironbound neighborhood generally south of Chestnut Street and east of McWhorter Street and extending northward to Raymond Boulevard alongside the elevated Pennsylvania Railroad structure. Intensive industrial uses are found in this area interspersed with residential uses.

FRELINGHUYSEN AVENUE

The Frelinghuysen Avenue industrial area is generally bounded as follows—on the south by the City of Elizabeth—on the east by Route 1 and McCarter Highway—on the north by Poinier Street, and—on the west by Frelinghuysen, Meeker, Elizabeth and Sherman Avenues.

The industrial strip along Frelinghuysen Avenue is continuous and consists of intensive industrial uses such as metal processing, lumber, chemicals, dairy products, electronics, meat packing, trucking and various other manufacturing and warehousing activities.

CENTRAL WARD

The Central Ward industrial area is located in the Hayes Circle South neighborhood along the West Newark

Branch of the Pennsylvania Railroad. This area extends from East Peddie Street to 17th Avenue and is bounded by Peshine Avenue on the west and Badger Avenue on the east. Industrial uses include various light manufacturing firms, warehousing, junk yards, coal and fuel supplies and metal processing plants.

NEWARK NORTH

The Newark North Industrial Area is situated on both sides of the Erie-Lackawanna Railroad just south of the Belleville city line. It extends from the Bloomfield city line on the west to the Passaic River on the east. The area contains such uses as metal processing, lumber, food products, warehousing, coal storage and manufacturing concerns.

PASSAIC RIVER—McCARTER HIGHWAY

This is a strip of industrial development along the Passaic River bounded generally as follows—on the north by the Belleville city line—on the south by Newark's Central Business District—on the east by the Passaic River—on the west by McCarter Highway, Mt. Pleasant Avenue and Oraton Street.

Industrial development is contiguous with most intense development found between the Passaic River and McCarter Highway. In the portion extending west of McCarter Highway, industrial uses are intermixed with residential buildings. Principal industrial uses include warehousing, storage of petroleum products, chemicals, scrap metal, construction materials, trucking facilities, lumber, metal processing, and glass manufacturing.

SCATTERED INDUSTRIAL AREAS

In addition to these industrial areas, there are industrial uses in scattered locations throughout the city. In most cases, several small industrial establishments are found clustered together, frequently adjacent to a major traffic artery. Several are located adjacent to the City Subway. The chief characteristic of these small industrial clusters is their lack of off-street parking and loading facilities. This lack frequently causes double parking and congestion on the local streets.

The existing conditions in Newark have resulted from many physical, social, economic, and historic development forces. These forces go back for 300 years and as the analysis has indicated, the changes in the city's development pattern have not kept pace with the needs of today.

Some of the limiting conditions inherited from the past include:

☐ A vital and distinguished Central Business District which is presently hampered in realizing its potential because of:

1) excessive through traffic congesting the streets and preventing easy circulation and access.

2) deteriorated housing, business and industrial sections which encircle the Central Business District and in turn, affect many neighborhoods further away from the Core Area.

☐ A number of old and obsolete industrial structures are clustered in areas lacking the facilities considered essential for modern industry.

☐ Mixed land uses (such as scattered industrial firms in residential and retail districts) have created a built-in problem for both industry and adjacent residential uses.

☐ Too many obsolete businesses are located along the major arterial streets creating traffic congestion and inefficient use of land.

☐ A large proportion of the housing stock in the city is in need of repair and improvement.

Since the city is constantly undergoing change, the Land Use Plan is designed to provide a more functional development pattern in the future.

Atlantic Refining Company and Paragon Terminal on Passaic River.

LAND USE PLAN

The pattern of the future land use in Newark is designed to serve as a guide to both private developers and city officials.

By knowing what the general plans are for the city and its various areas private developers can act accordingly and dovetail their programs with those of the area as a whole.

On the other hand a land use plan is an even more essential guide for public officials, particularly here in Newark where renewal decisions must be made almost daily. New street improvements, schools, parks and other public facilities are too costly to be placed haphazardly. To indicate how the various sections of the city should relate to each other and to the street system and community facilities is the principal purpose of the Land Use Plan.

The land use recommendations which follow are necessarily generalized and show the primary permitted uses. Other supporting uses normally incident to the primary use are not detailed but should be allowed.

More specifically, the major objectives of the Land Use Plan are:

1) To strengthen and revitalize the Central Business District through the elimination of excessive through traffic, creation of improved parking facilities, provision of improved pedestrian circulation, expansion of prime office space, and clearance and redevelopment of adjacent blighted areas;

2) to improve residential neighborhoods through renewal of areas in poor condition, rehabilitation of existing housing where feasible, varying housing types with neighborhoods where needed, elimination of conflicting uses, and provision of reasonable community and neighborhood services such as schools, parks and playgrounds.

3) to stimulate industrial growth through the clearance and redevelopment of obsolete areas, the rehabilitation of marginal industrial areas including provision of loading and parking space, and the elimination of nonindustrial uses from industrial areas where possible, and the provision of industrial land for new industries or for the expansion of existing industries;

4) to consolidate existing strip commercial uses into compact groups with sufficient depth so that parking and loading can be removed from the street.

Table 3 shows the general distribution of land uses as proposed in Newark's Land Use Plan.

TABLE 3
PROPOSED DISTRIBUTION OF LAND USE
NEWARK, NEW JERSEY

Land Use Category	Area (in acres)*
Residential	
Low Density	370
Medium Low Density	1,170
Medium Density	1,240
High Density	420
	3,200
Commercial	
Core	260
Community	90
Neighborhood	200
General	110
	660
Industrial	
Light	450
Heavy	1910
General	4,340
	6,700
Public and Semi-Public	540
Parks, Cemeteries, and Open Space	1,230
Streets	2,750
Total	15,080

*Rounded to the nearest 10 Acres.

Source: Division of City Planning, Newark, N. J. and Candeub, Fleissig, Adley & Associates.

At the time of this scanning on Feb 20, 2009,
page 35 is missing from this Master Plan.

At the time of this scanning on Feb 20, 2009,
page 36 is missing from this Master Plan.

Residential Land Use Plan

The Residential Land Use Plan is based on the location and distribution of existing population, social and economic factors and the anticipated residential needs of the city. One of the major purposes of the plan is the coordination of the Master Plan proposals with the city's long-range urban renewal program.

The objectives of the Residential Land Use Plan are:

- ☐ **to stabilize and improve sound residential neighborhoods.**
- ☐ **to utilize urban renewal for creating high rise residential development near the Core Area.**
- ☐ **to rehabilitate those sections where existing housing stock is basically sound.**
- ☐ **to create a workable basis for more active private development and redevelopment of residential areas.**

It is recommended that in the presently sound residential areas delineated in the Existing Land Use section, no significant changes should take place in regard to residential densities and location patterns. In some areas where decline is beginning because of obsolete buildings, density changes are recommended in order to encourage private investment to replace older structures. Significant changes are proposed in areas with incompatible mixed land uses. In sections with poor housing, where nonresidential uses prevail, portions of present residential areas are recommended to be utilized for industry, commerce or related services rather than rebuilding for residential development.

The most significant changes in residential development will occur in areas designated for urban renewal treatment. High-rise structures in the central areas and around nodal points on major arteries and mass transit lines, will provide landscaped open space, sites for needed community facilities and a greatly improved living environment.

RESIDENTIAL DENSITIES

An essential element of the Residential Land Use Plan is the range of recommended residential densities, determining the number of dwelling units which should be permitted per acre of residential land. A variety of housing types is desirable as long as the overall density of the district is retained.

While Newark's population has decreased during the past decade by almost 36,000 persons, residential densities did not decrease during the same time period. On the contrary, multi-family housing has been gaining in importance in the city, especially in units of 10 or more families, while the single-family sector has been declining in importance as a place of residence in Newark. Excessive conversion of tenement houses has tended to increase residential densities in sections with poor housing.

The distribution of proposed densities for the residential districts is based on the assumption that by 1980 the size of Newark's population will not differ significantly from its current total, and that it will range between 400,000-420,000 persons. The following is a description of the residential density distribution.

Low Density

A density of less than 20 units per acre is proposed as the lowest density of residential development in Newark. Areas proposed for low density residential use include mostly one and two family detached houses and duplexes. In the future the low density areas could also be developed with spacious row or town houses. Low density residential development is proposed for portions of Vailsburg, Weequahic, Newark North and Clinton Hill where such development would be in harmony with existing housing patterns in the area.

Medium-Low Density

A medium-low density of 20-39 dwelling units per acre includes single-family row or town houses, two-story garden type apartments, 3-6 family houses, and apartments with limited land coverage. The above density is recommended in areas of Roseville, Newark North, Weequahic, Clinton Hill and Vailsburg. A contiguous but relatively small area in the Ironbound section is also proposed to be maintained at these densities.

Medium Density

A range of 40-79 dwelling units per acre is proposed for areas of medium density development. The above density includes three-story walk-ups and small tenements, duplex row houses and three-story garden type apartments and apartments with higher land coverage (about 30 to 35 percent). Medium density areas are recommended in the majority of Newark's residential communities as indicated on the Land Use Plan map. Certain small areas within the lower density areas of Vailsburg, Weequahic, Dayton and Clinton Hill are also proposed for medium density uses.

High Density

The highest residential density proposed is 80 and more dwelling units per acre. This category includes multi-family walk-ups, 4 to 6 story apartments with land coverage of about 40 per cent and high-rise apartments. Because of their significance, the major high density locations are discussed in greater detail.

High density residential development is proposed for the Core Area and some of its adjacent sections including:

In Newark North a ribbon along Mt. Prospect Avenue bounded by Elwood and Third Avenue; in the general area of Archbishop T. J. Walsh Homes around the Grafton Avenue-McCarter Highway intersection; in the area around the Colonnade Park Apartments and Columbus Homes.

In Roseville around the intersection of West Market Street and Gould Avenue; further north near the Roseville Avenue railroad station and Sixth Avenue; and in the strip bounded by Fifth Street and Branch Brook Park.

In West Market for a number of blocks on Central Avenue, east of the Central Avenue-West Market Street intersection; and on the south side of West Market Street.

In the West Side extending through West Market and Belmont: about eleven blocks around the Springfield Avenue-Bergen Street intersection.

In Hayes Circle South a smaller area around Hayes Circle itself.

In Weequahic along Elizabeth Avenue.

In the Ironbound between Lafayette and Ferry Streets.

Several smaller high density areas have been designated in various parts of the city as indicated on the proposed Land Use Plan map.

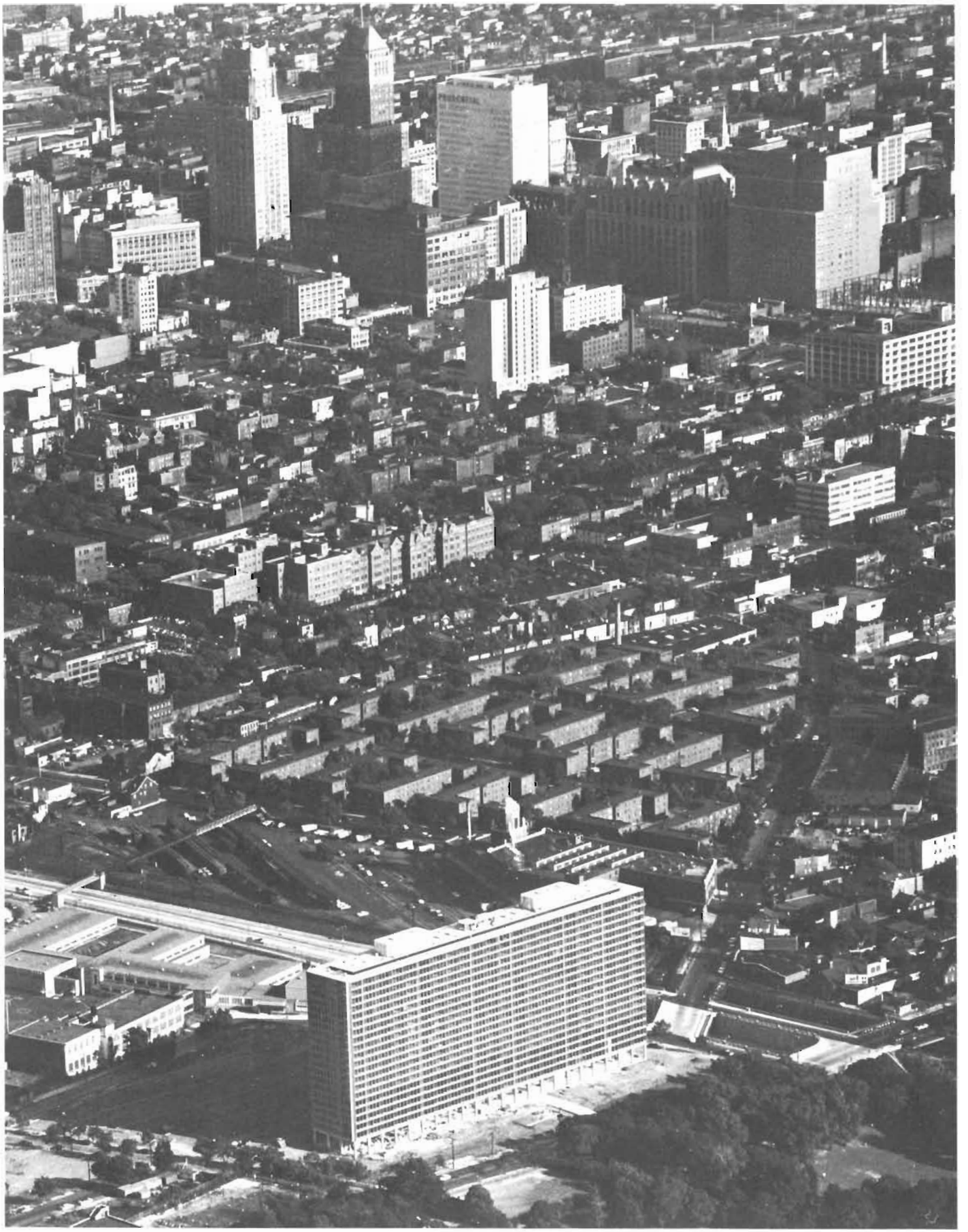
The major factors influencing the proposals for high densities in various locations are land values, accessibility to mass transportation, major concentrations of employment, shopping facilities, schools and other community activities, proximity to parks and other open space, and the present condition and type of housing stock in these areas.

Commercial Land Use Plan

The objectives of the Commercial Land Use Plan are:

- ☐ **to develop the Core Area of sufficient size and containing facilities to serve the regional market area.**
- ☐ **to create community shopping areas to provide convenient and varied shopping and services for a group of neighborhoods, located on major thoroughfares and including adequate off-street parking.**
- ☐ **to establish neighborhood shopping areas designed to fulfill everyday shopping needs with adequate off-street parking.**
- ☐ **to consolidate general commercial areas so as to provide business services for the establishments in the Central Business District and other commercial and industrial establishments, as well as to provide space for wholesaling, automotive sales and services, and certain other goods and services.**

The Commercial Land Use Plan for Newark was developed in recognition of the fact that there are certain distinct types of commercial areas in the city each serving a specific function. These are: the Core Area, community shopping areas, neighborhood shopping areas and general commercial areas.



Aeiral view of Newark Core looking south showing Colonnade Park Apartments in foreground.

Bamberger's Department Store on Market Street.

CORE AREA

The Newark Core Area is bounded by the Erie-Lackawanna Railroad on the north, the Passaic River and the Pennsylvania Railroad tracks on the east, the proposed Midtown Expressway on the west, and a line generally following Avon Avenue and Murray Street on the south. This area includes the major retail outlets, offices, hotels, restaurants, service establishments, and public buildings in Newark. A more detailed plan for this district is presented in a subsequent section of this report.

COMMUNITY SHOPPING AREAS

Seven areas are proposed for community shopping. These are distributed throughout the city, and are designed to serve the shopping needs of several neighborhoods.

Vailsburg shopping area is located on South Orange Avenue between Sanford Avenue and Brookdale Avenue. It is proposed that provision be made for off-street parking, possibly through spot clearance of substandard or non-commercial structures on South Orange Avenue or on the side streets.

Roseville shopping area is located at the western end of West Market Street, extending east to North Sixth Street and west to the city boundary. It has been proposed that a commercial urban renewal project be undertaken in conjunction with construction of the East-West Freeway. The goal of the project would be to strengthen the Roseville shopping area by removal of blighted structures, removal of non-commercial uses, provision of off-street parking and provision where possible, of small open spaces to enhance the appearance of the shopping area.

Bloomfield Avenue-Broadway shopping area is proposed to extend along Bloomfield Avenue from Summer Avenue on the west to Broad Street and Colonnade Park in the east. This stretch of Bloomfield Avenue is presently a strong commercial area. The intersection of Bloomfield Avenue and Broadway is proposed to be redesigned as part of an urban renewal project, providing a new off-street shopping area. The preliminary plans call for realignment of Bloomfield Avenue to connect directly with Broad Street. This proposal would divert through traffic around the shopping area and permit maximum utilization of land for shops, parking, and perhaps a pedestrian mall.

West Side shopping area is proposed to be located around the intersection of Springfield Avenue, South Tenth Street and 18th Avenue. The area should be strengthened through the clearance of substandard structures and rehabilitation of other structures. Spot clearance could provide off-street parking; zoning controls could direct commercial development away from adjacent east-west streets and concentrate such activity in a more unified area.

Weequahic shopping area is located on Bergen Street between Lyons Avenue and Custer Avenue. The major problem in this area is lack of space for expansion and off-street parking. It has been proposed that this shopping area receive commercial renewal and rehabilitation treatment to remedy these problems.

Ferry Street shopping area is located in the Ironbound community starting at Prospect Street on the west and extending along Ferry Street to Merchant Street and the intersection with Wilson Avenue. It is proposed that this area be strengthened as a community shopping area by provision of off-street parking. The completion of the proposed widening of Raymond Boulevard will be a major improvement for this shopping area, as Ferry Street will be relieved of much through traffic between the Core Area and the New Jersey Turnpike and U.S. Routes 1 and 9.

Hayes Circle shopping area is located generally along Clinton Avenue between Lincoln Park and the intersection of Clinton Avenue with Elizabeth Avenue. This area is proposed as a community shopping area to serve the high density residential areas to the north and west.

GENERAL COMMERCIAL

Eight areas are designated for general commercial use. These are located on major streets leading into the city, adjacent to industrial areas, and near the Core Area.

Broadway, at the northern end of Newark, is proposed for general commercial use. This area should be established for business and industrial services, oriented toward the light industrial area to the north.

Franklin Avenue-North Sixth Street just west of Branch Brook Park at the northern end of Newark is proposed as a general commercial area. This area will serve through traffic as well as the Newark North light industrial area and the industry nearby in adjacent Bloomfield.

Central Avenue area, immediately east of the proposed Mid-town Expressway and south of the Raymond Boulevard connector to the East-West Freeway is proposed as a general commercial area. This is an area close to the downtown and adjacent to the two proposed major traffic arteries. Business services, as well as highway commercial uses serving transient traffic, should be located in this area.

Lincoln Park area, on Broad Street south of Kinney Street for several blocks, is proposed for general commercial use. This area, close to the Central Business District and the proposed Civic Center, would be a good location for business service functions as well as industrial services for the adjacent industrial areas to the east.

Market Street east of Penn Station, is the location of a proposed general commercial area, extending from Raymond Plaza to Van Buren Street. This area contains a mixture of light industrial and commercial uses with some residences at the eastern end. The Market Street area could provide commercial services such as diners, drive-in services, and gas stations for the traffic entering and leaving the Core Area.

Washington Street south of Branford Place. This area is stated for redevelopment and is in an ideal location to serve the Central Business District and automobile trade. Improvement of both Washington and Plane Streets will improve access and circulation.

Elizabeth Avenue north of the proposed Interstate 78 extending to Alpine Street, is proposed for general commercial use. The existing uses are mixed including automotive sales and service, eating places, light industrial uses, neighborhood services, and Sears and Roebuck Department Store. This area will serve both the transient traffic using Elizabeth Avenue as a through route to the city, and also will provide business and industrial services for the adjacent industrial areas to the south and east.

NEIGHBORHOOD SHOPPING AREAS

As in most older cities, the frontage on Newark's major streets is, in large part, zoned for commercial use while elsewhere there may be only one or two stores surrounded by residential uses.

The Commercial Land Use Plan shows a number of areas for neighborhood shopping uses. These areas do not represent all the existing local stores. The plan has attempted to consolidate commercial uses into more compact neighborhood shopping centers, thereby strengthening them and protecting adjacent residential areas. Among the larger neighborhood shopping areas are:

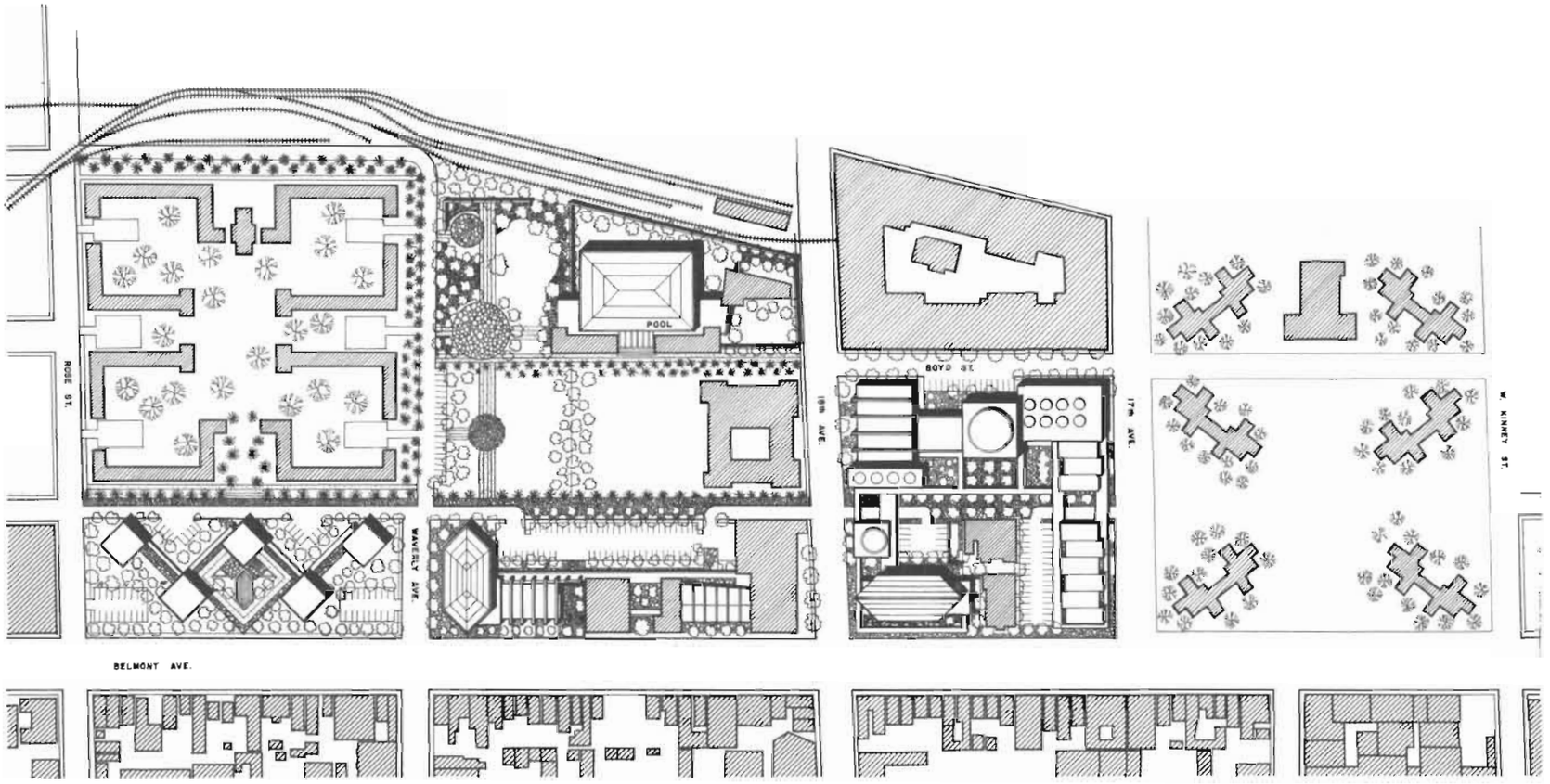
- ☐ Bloomfield Avenue, west of Branch Brook Park;
- ☐ Twelfth Avenue around South Sixth Street and First Street;
- ☐ Avon Avenue, around South 12th Street;
- ☐ Clinton Avenue at Bergen Street;
- ☐ Central Avenue and West Market Street;
- ☐ Sanford Avenue, around Mt. Vernon Place;
- ☐ Pacific Street, around Nichols Street;
- ☐ Lyons Avenue, around Aldine Street;
- ☐ Clinton Avenue around South 18th Street; and
- ☐ Chancellor Avenue from Leslie Street west to the city boundary.

Proposed Halsey Street Pedestrian Mall

The plan for the Central Business District envisions the closing of Halsey Street from Washington Park to Market Street and creating a safe and attractive pedestrian mall with new street furniture, sitting areas, specially designed newsstands and landscaping thereby attracting new life to downtown area.

Proposed Site Plan for Relating Two Housing Projects– Hayes Homes with the Felix Fuld Court.

The Plan envisions new housing and neighborhood shopping facilities with adequate parking as well as an enlarged park and playground to replace a worn-out housing and industrial area.



Industrial Land Use Plan

The Industrial Land Use Plan is designed to provide for expansion of industrial uses both in existing industrial areas, through clearance and redevelopment, and in new locations. The objectives of the Industrial Land Use Plan are:

- **to create new job opportunities for local residents**
- **to strengthen the city's economic base**
- **to capitalize on the unique availability of highway, rail, port and air transportation facilities.**

Studies of industrial trends have indicated that modern industrial plants require more land to accommodate their operations. Factors influencing this trend include:

- the shift to one-story plants necessitating a larger ground area for the factory structure;
- the continuing mechanization of industrial processes necessitating additional floor area for each worker; and
- the new standards for parking, loading and landscaping, resulting in an increase of total land area required for industrial enterprises.

Newark is in a favorable position to expand its industrial base for two reasons:

1) Newark has a large amount of presently vacant land adjacent to outstanding transportation facilities.

2) Projected demand for industrial land in Essex County will greatly exceed the amount of land available for this purpose by 1985.[6]

Modern industry is more and more attracted to well-planned industrial parks and properly designated industrial districts which are protected by modern zoning from residential or commercial encroachment and are provided with adequate access to highways and railways. The provision of sound industrial areas in Newark, combined with the city's natural advantages of an excellent port and metropolitan area markets, will serve as a positive asset in attracting new industry and retaining existing industry.

LIGHT INDUSTRIAL AREAS

Light industry is defined as industry which generally does not create noxious fumes, glare, excessive noise, smoke or dust and which could be adjacent to nonindustrial development. Five areas in the city are proposed for light industrial use: the Central Ward Industrial Area, the North Newark Industrial Area, the Orange Street Industrial Area, the Central Avenue Industrial Area and the Newark Core Industrial Area.

The Central Ward Industrial Area includes the city's first Federally-assisted industrial renewal project. The proposed industrial area is bounded by 17th Street on the north, Watson Avenue on the south, Bergen Street on the west, and Belmont Avenue on the east. It is recommended that this area be restricted to light industry with strong zoning and building safeguards against any industrial nuisances which would affect residential areas in nearby neighborhoods.

Newark North Industrial Area is located at the northernmost part of the city, between Verona Avenue and the northern city limit. Truck and rail access is provided by McCarter Highway and the Erie-Lackawanna Railroad.

Rerouting of industrial truck traffic to avoid use of local streets such as Summer Avenue, Grafton Avenue and Montclair Avenues, will protect the residential area to the south.

The Orange Street Industrial Area is located north of Orange Street, adjacent to the Lackawanna Railroad tracks generally between Clifton Avenue and Broad Street. Good rail access is available, as well as access to major highways. It is proposed that this area be retained for light industrial uses.

The Central Avenue Industrial Area is located between Central Avenue and the proposed East-West Freeway, east of Bergen Street. It is proposed that the area be cleared of residential uses to provide additional industrial land. It is also recommended that a program should be started to rehabilitate substandard industrial structures. With the completion of the East-West Freeway and the Mid-town Freeway this area will have excellent highway access.

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6) State of New Jersey, Department of Conservation and Economic Development, **Supply and Demand Factors of Industrial Land Use,** October, 1963.

The Newark Core Industrial Area is located adjacent to McCarter Highway between Edison Place and Murray Street. This area is proposed for light industrial uses to complement other Core Area functions.

Ironbound Industrial Area the Ironbound area is presently predominantly industrial in use and has such establishments as the Ballantine Brewery Company and the Celanese Corporation. It is proopsed that this area be retained as an Industrial Area, but that further incursion of heavy industry be discouraged.

HEAVY INDUSTRIAL AREAS

Heavy industry is defined as industry which would affect nonindustrial uses because of smoke, glare, excessive noise, vibration and the like. Those industries classified as "heavy" would include refineries, paint and chemical manufacturers, large baking plants and manufacturers of fabricated metals.

Meadowlands Industrial Area. The Meadowlands represents a potential for industrial development with regional impact. The 1,700 acres in the Industrial River Urban Renewal Project are largely vacant, with access to all major types of transportation facilities. In the past a major impediment to development of the Meadowlands has been stabilization of the land, but engineering experience in nearby areas has indicated that this problem can be solved. It is recommended that a comprehensive and detailed long-range plan be developed for the Meadowlands, treating the area by developmental stages in order to coordinate access routes, transportation facilities, industrial services and soil stabilization work.

GENERAL INDUSTRIAL AREAS

General Industrial Areas are areas which would include both light and heavy industry particularly in locations where a mixed pattern already exists. Three areas are designated for general industrial use: Frelinghuysen Industrial Area, Passaic River Industrial Area, and the Southwest Ironbound Industrial Area.

Frelinghuysen Industrial Area is located on the southern end of the city, bounded generally on the west by Frelinghuysen and Elizabeth Avenues, on the East by U.S. Routes 1 and 9, on the south by the city limits, and on the north by Miller Street. The area is well served by highways and the Pennsylvania Railroad, and is well located to Newark Airport and Port Newark. The area has undergone an extensive amount of new industrial construction since World War II, with almost half of the city's new-factory construction located there.

The Passaic River Industrial Area is a strip along the Passaic River, from the Ironbound section of the city to north Newark, generally east of McCarter Highway, except for a section between Orange Street and Third Avenue east, where it extends west to Broad Street. It is proposed that this area be strengthened by concentrating the light industrial and warehousing uses west of McCarter Highway and the heavy industrial uses east of McCarter Highway. It is recommended that a detailed study, possibly within the framework of the Area Redevelopment Administration's Program or the Urban Renewal Administration's Program, be made to determine the feasibility of consolidating this area for more intensive industrial development.

PORT NEWARK AND NEWARK AIRPORT

An essential part of the Industrial Land Use Plan is the continued development of Port Newark. The advantages of having access to a modern port facility with warehousing and loading facilities are of prime importance for Newark's future industrial development. Decisions regarding plant location will certainly be influenced by the fact that Newark can provide such facilities, particularly since the port area has excellent linkage to other industrial areas in the city by U.S. Routes 1 and 9, the New Jersey Turnpike and the various railroads. Aside from locations in the port area itself, industries requiring good port access may also be attracted to the southern portion of the Meadowlands Industrial Area.

Newark Airport is the key element assuring future industrial growth for this part of the city. In addition to passenger traffic, the ease of access to air transport for

receiving and shipping goods is a positive attraction to certain types of manufacturing establishments. A definite program should be developed to attract air-transport oriented industries such as precision parts manufacturers to the Meadowlands and Frelinghuysen Avenue industrial areas. The area has an excellent potential as a transfer point among shipping, air, highway, and rail transportation facilities. In order to capitalize on these advantages, the Industrial Land Use Plan recommends that the Port Newark and Newark Airport areas should be set aside for general industrial development.

It is recognized that there are existing industrial uses scattered in many locations throughout the city. In many cases these uses will remain. However, an effort has been made to consolidate industrial uses wherever possible, to protect both the industrial and nonindustrial uses in the city.

Core Area Plan

The proposed Land Use Plan for the Core Area of the city is designed to create a more efficient pattern of land use in this strategic section of Newark. The plan proposes to separate incompatible uses and provide a framework for

Artist's drawing showing design concept of $125,000,000 redevelopment of Newark Airport now under way for completion in 1971. The program includes 340-acre passenger terminal area with four terminal buildings, parking areas for 12,000 automobiles, and new vehicular entrance to the airport (center foreground) from Route 1 and planned new highway I-78. This project is stated to be constructed by the Port of New York Authority.

more intensive development and use of the high value land. The various sections of the Core Area are designed to be served by the proposed street and highway network. **A principal objective of the Core Area plan is to provide space for additional retail and office uses, and to concentrate this intensive commercial use in the central portion of the Core Area.**

NEW NEIGHBORHOODS

The scale of the contemplated downtown residential redevelopment presents an opportunity to create a more imaginative urban design than in the past. In the past, residential construction occurred on a lot-by-lot or subdivision basis. Today, the scale of the renewal project is large enough to create entire new neighborhoods.

The development of complete neighborhoods in the Core Area should be designed to contain not only dwelling units and the usual accessory uses (parkings) but also the entire range of supporting public facilities (schools, churches, play areas, etc.) and private supporting facilities such as retail stores, professional services, and others. These supporting facilities should be considered part of the residential reuse pattern and could be designed to form a part of the high-rise buildings. The resulting group of these high-rise buildings would be equivalent to a small neighborhood.

CIRCULATION PATTERN

An improved circulation pattern is recommended for the downtown which is designed to provide a through traffic by-pass as well as to provide easy access to the Core Area destinations. The street network should be improved by providing a new inner loop street system combined with the improvement of existing streets. One of the key elements of the Core Area traffic plan is the proposed reduction in the land area devoted to streets. Wherever possible, superblocks should be created in order to keep large areas free from traffic interference.

CORE AREA LAND USE PLAN

The land uses proposed for Newark's Core Area are designed to insure that Newark continues to expand its strong position as a regional center for business activity.

Intensive Commercial

There are many advantages in further concentration of the intensive commercial development around the Broad Street axis from Central Avenue to Branford Place. Transportation facilities have made this area accessible from all directions of the region; the distances are short, permitting face to face contacts which are important to the business community; and the retail uses benefit from the combined pulling power of a large variety of stores.

In order to strengthen the dominance of downtown Newark, the area designated for intensive commercial use should include retail stores, businesses offices, financial institutions, offices for the conduct of research, theaters, hotels, restaurants, and parking garages as well as government offices, public facilities and some types of residences.

General Commercial

A general commercial center exists at the lower end of Broad Street. It differs from the intensive commercial area in that it lacks a concentration of major retail stores and many of its office uses are located in converted residential buildings which provide ease of access and parking. Since it would not be desirable to dilute the existing retail concentration, it is proposed that personal service office uses, rather than retail uses, be encouraged to develop here.

Residential Uses in Core Area

The two major objectives of Newark's housing programs are the replacement of blighted housing and the provision of new attractive middle income housing in order to hold existing residents and encouraging the return of families who have left for the suburbs. In order to accommodate new dwelling units in the Central Areas and supply sufficient open space and parking it will be necessary to rely mainly on high-rise structures. This type of residential development has a number of advantages. People who work in downtown can walk to work. Commuters to other areas will be close to the heart of the mass transportation network. In addition, high-rise structures can create open space and will effect economies in municipal servicing.

In the residential areas near the downtown a variety of housing types is recommended. Maximum density of 145 dwelling units per acre for structures containing 75 per cent efficiency units and approximately 110 dwelling units per acre in structures which contain both small and large apartments. Adequate off-street parking and open space should be required for each residential structure. Together with the residential buildings, some neighborhood shopping facilities and a limited number of professional offices would form a more complete development unit.

Industrial Uses

The city has recognized that industry makes up a substantial portion of its economic base, and that future growth is dependent on new job opportunities. Only industries which can meet high performance standards with respect to noise, odors and vibration should be permitted in the Core Area. The following industrial uses which support the primary activities of the Central Business District are recommended:

- non-obnoxious industries such as printing, electronics and apparel, which will not result in noise, smoke, odors, glare or other nuisances and will minimize the amount of traffic congestion.
- storage and wholesale activities provided with adequate off-street loading and parking facilities.
- uses accessory to industry such as offices for the management and operation of industry, branch banks, and eating establishments.

Public and Institutional Uses

A number of sites in the Core Area are designated institutional, and will provide for the expansion of several institutions of higher learning and a variety of other public and semipublic uses. The following uses are recommended for the institutional use areas:

- public and semipublic institutional uses such as universities and colleges, institutions, museums, libraries and hospitals.
- dormitories and other residential accommodations related to such institutional uses.

Public Open Land

Only one new public park is proposed in the southwestern section of the Core Area. In addition, there may be some expansion of existing parks as a result of street improvements and street closings. Most of the open space needs will be met through requirements established within specific renewal areas and will be private rather than public open space.

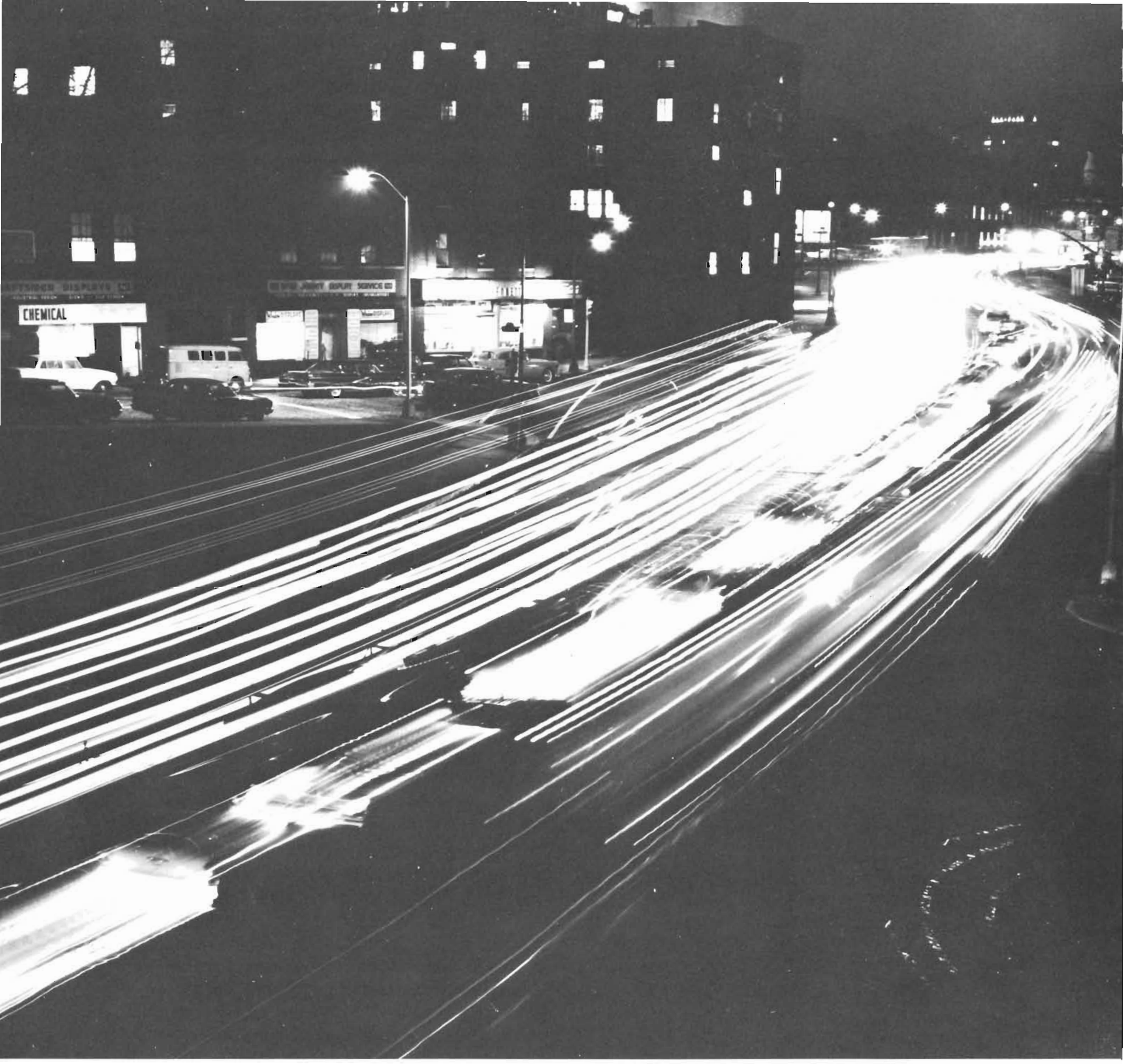
Summary of Proposed Future Land Uses in the Core Area

Table 4 summarizes the proposed land use distribution for the Core Area. The outstanding difference between the existing and proposed land use pattern is that the latter represents a much more efficient use of land as a result of street elimination. The area devoted to streets will be almost cut in half. This will permit a substantial expansion of both the residential and industrial areas, and a slight increase in the commercial areas.

TABLE 4
PROPOSED LAND USE FOR THE CORE AREA
NEWARK, NEW JERSEY

Use		Proposed Acres (approximate)
Streets and Highways		**565**
Residential		**890***
Commercial		**260**
Intensive Business	**240**	
Secondary Commercial	**20**	
Industrial		**450**
Industrial Service	**260**	
Planned District	**190**	
Public and Semi-Public		**95***
Institutional	**95**	
	Gross Area	**2,260**

*Park areas and accessory commercial uses are included in the residential total.



Traffic movement along McCarter Highway.

TRAFFIC AND TRANSPORTATION ANALYSIS

Because of its position near the center of the New York Metropolitan Region, the City of Newark is an extensive highway and transportation facilities hub. In recent years the increased use of automobiles has resulted in greater volumes of traffic passing through the city.

The city's street system consists of a functional hierarchy of streets and highways. Today, four major regional highways enter or transverse the city. These are:

- ☐ U.S. Route 22
- ☐ U.S. Routes 1 and 9 (combined)
- ☐ The New Jersey Turnpike
- ☐ The Garden State Parkway

The remaining portion of Newark's street system basically forms a rectangular grid on which are superimposed a number of diagonal streets radiating from Newark's Central Business District. Most of the city's internal traffic circulation and much of the through traffic or traffic destined to points far outside of the city must rely on this network of city streets. Because the major street system has remained basically unaltered for many years, the ever increasing automobile traffic has created a number of traffic problems: many intersections are congested, street capacities are limited, circulation within the city is limited and traffic on regional routes often becomes congested.

The Existing Street System

Within Newark's existing street system, the streets serve two basic functions: On one hand, streets provide a channel for automobiles passing through the area, while on the other hand they provide access to properties facing a given street. Some streets give preference to traffic movement, others to access; and some are capable of doing both. As part of the Master Plan preparation each street in the city was classified as to its primary function.

STREET CLASSIFICATION

For purposes of analysis all streets and highways within the city are classified into one of the following categories:

- ☐ Expressways
- ☐ Major Arterial Streets
- ☐ Collector Streets
- ☐ Local Streets

These categories are based upon standards set forth by the National Committee on Urban Transportation.[7]

The system is used to designate the existing function and character of all streets and highways, and their present use.

The general criteria by which existing highways and streets are classified is as follows:[8]

EXPRESSWAYS

Function—To expedite movement of all types of traffic to and from distinct points within the community and its surrounding region.

Access—Intersection access at grade is normally limited and allowed only where movement is not impaired.

MAJOR ARTERIAL STREETS

Function—To serve, in conjunction with expressways, as the primary network for travel between principal sections of the city.

Access—Access to abutting land should be free. However, parking and loading may be prohibited or restricted to improve street's capacity.

COLLECTOR STREETS

Function—To serve internal traffic movement within the

7) "Better Transportation for Your City", National Committee on Urban Transportation, Public Administration Service, Chicago, 1958.

8) For more detailed discussion of Street Classication and Standards see appendix, page 15.

various sections of the city and connect with the major arterial system.

Access—Minor access limitations may be necessary at critical points.

LOCAL STREETS

Function—To serve the land uses within a localized area and provide access.

Access—Normally, there are no restrictions for access to abutting land uses.

The classification of Newark's streets has the following purposes:

- to provide a means of determining the existing level of traffic service;
- to permit the preparation of an inventory of traffic deficiencies;
- to promote economy by encouraging the use of design standards applicable to each street type; and
- to form a logical basis for priority ratings for future improvements.

The location and classification of each street in Newark is shown on the Existing Street System Map.

Expressways

The following highways in Newark are classified as expressways:

The Garden State Parkway—The Garden State Parkway is a north and south expressway located west of the city. It passes through the narrow section of the Vailsburg neighborhood. The Parkway is a six-lane, divided, limited access highway serving non-commercial traffic only.

The New Jersey Turnpike—The New Jersey Turnpike passes through the city's Meadowlands between Newark Airport and Port Newark. It is a six-lane, limited access highway serving all types of vehicles traveling north or south.

The New Jersey Turnpike Extension serves east-west traffic between Newark and the Holland Tunnel.

U.S. Routes 1 and 9—U.S. Routes 1 and 9 are located east of downtown Newark and generally parallel the New Jersey Turnpike. At a point just south of the Newark city line the combined routes are an eight-lane, limited access highway serving all types of vehicles.

U.S. Route 22—U.S. Route 22 enters Newark from the west at the south end of the city and terminates at its interchange with U.S. Routes 1 and 9 near Newark Airport. The highway varies from four to six lanes serving all types of vehicles traveling east and west.

N. J. Route 21—New Jersey Route 21, known locally as the McCarter Highway, traverses the center of the city from the interchange at U.S. Routes 1 and 9, and U.S. Route 22 north through the Central Business District and along the west bank of the Passaic River. The McCarter Highway does not meet expressway standards for a major part of its length, but nevertheless serves a basic expressway function in the city.

Interstate Route 280—Interstate Route 280 has been constructed for a short length from Harrison across the Stickle Bridge to a junction with Orange Street just west of Norfolk Avenue. It is presently operating under capacity because it does not connect at either end to a major east-west facility.

Major Arterial Streets

Major Arterial Streets in Newark are represented by the following:

North-South—Bergen Street, Broad Street, Broadway, Doremus Avenue, Elizabeth Avenue, First Street, Frelinghuysen Avenue, High Street, Jackson Street, Lock Street, Mulberry Street, Norfolk Street, Stanton Street, Washington Street.

Diagonal Routes—Bloomfield Avenue, Springfield Avenue.

East-West—Avon Avenue, Bridge Street, Central Avenue, Chancellor Avenue, Clay Street, Clinton Avenue, Ferry

important. The ability of Newark's arterial streets to carry traffic is limited by the capacity of intersections along these arterial streets. A recent study of 135 intersections revealed that 101 or 81 per cent were deficient to the extent that considerable interference with traffic flows occur during peak hours.[9] These intersections are located along all of the arterial streets radiating west, northwest and southwest from the Central Business District. These deficiencies demonstrate the serious need for improvement of intersections in order to improve traffic flows on major arterial thoroughfares.

For example, the study indicated that in the major arterial system:

Market Street has ten intersections which have capacity deficiencies on their approach from either one or both directions.

Central Avenue has six intersections which have reached capacity on their approach from either one or both directions.

Orange Street has four deficient intersections with six deficient approaches.

Park Avenue has three deficient intersections and three deficient approaches.

South Orange Avenue has four deficient intersections and six deficient approaches.

Clinton Avenue has three deficient intersections and five deficient approaches.

High Street has seven deficient intersections.

Belmont Avenue has eight deficient intersections.

Bergen Street has five deficient intersections.

In addition, many other intersections of major arterial streets and collector streets were found to be deficient. For every five congested north-south intersection approaches, there are about seven east-west congested approaches; and of those intersections now approaching capacity, two out of three are east-west. In total, approximately two-thirds of all of the deficient or potentially deficient intersection approaches are in an east-west direction. Major north-south congestion is concentrated on High Street, Belmont Avenue and Norfolk Street and Bergen Street.

Travel Desires

Since traffic mobility and accessibility are essential for the long-range economic health of Newark, it is important to know the number of trips being made into, within and through the city. A study of travel desires was made for the City of Newark in 1960.[10] This study revealed that about 670,000 trips were made each day on the arterial street system. Of the total trips, 13 per cent traveled through Newark with neither origin nor destination in the city. About 21 per cent of the trips remained within the city and 66 per cent traveled to or from the city during the day.

Internal Trips. A consolidation of the trip information indicates that movement within the city is strongest in the north-south direction in the area west of the Central Business District. Bergen Street, Belmont Avenue and High Street carry a significant proportion of these trips. To a lesser degree, east-west trips are generated between the area south of Springfield Avenue and the Central Business District and the Ironbound area.

Internal to External Trips. The greatest number of trips on Newark's arterial streets originate in or are destined for the city. The movement is strongest east-west and the majority of trips originate or terminate in the Central Business District and west and southwest Newark. Major carriers of these trips are Springfield Avenue, Clinton Avenue, South Orange Avenue and Central Avenue.

Through Trips. Trips having both origin and destination outside the city are heavy in the east-west, northeast, southwest and north-south directions. Major carriers of these movements are Orange Street, Park Avenue, U.S. Route 22, U.S. Routes 1 and 9, and the New Jersey Turnpike.

9) Newark Transportation Study, Edwards & Kelcey, Inc., DeLeuw, Cather & Co., 1961, New Jersey State Highway Department.

10) Ibid.

Street, Haynes Avenue, Lyons Avenue, Market Street, Meeker Avenue, Orange Street, Park Avenue, Poinier Street, Port Street, Raymond Boulevard, South Orange Avenue, South Street, Warren Street, West Market Street, Wilson Avenue.

Collector Streets

The following streets are classified as collectors in the City of Newark:

North-South—Adams Street, Avenue L, Bergen (South of Lyons), Broad Street (North of Clark), Clinton Place, Dayton Street, Fabyan Place, Franklin Avenue, Halsey Street, Jefferson Street, Lake Street, Mt. Prospect Avenue, North Sixth Street, Osborne Terrace, Roseville Avenue, South Tenth Street, South Twelfth Street, South Eighteenth Street, Stuyvesant Avenue, Van Buren Street.

East-West—Astor Street, Ballantine Parkway, Chester Avenue, Eighteenth Avenue, Elwood Avenue, Emmet Street, Fifteenth Avenue, Grafton Avenue, Harvey Street, Hawthorne Avenue, Heller Parkway, Lafayette Street, Magazine Street, McClellan Street, Niagara Street, Peddie Street, Renner Avenue, Second Avenue, Sixteenth Avenue, Springdale Avenue, Thirteenth Avenue, Twelfth Avenue, Verona Avenue, West Kinney Street.

Local Streets

While local streets make up a large percentage of Newark's total street mileage, they carry a small portion of the area's total traffic volume. All of the remaining streets in the city that are not classified as either expressways, major arterials or collectors are classified as local streets.

Existing Traffic Volumes

Many of Newark's arterial streets carry heavy volumes of traffic, particularly at peak hours. Listed below are the expressways and major arterial streets which carry the major portion of Newark's traffic.

Traffic Volume is the number of vehicles passing a given location on a street over a specified period of time.

Practical Capacity is the maximum number of vehicles that can pass a given location over a specified period of time without causing unreasonable delay, hazard, or restriction to the driver's freedom to maneuver under prevailing roadway and traffic conditions.

A comparison of traffic volumes and practical capacity for expressways in Newark area shows that U.S. Route 22 with a practical capacity of about 39,000 cars is carrying over 60,000 cars daily resulting in heavy congestion on this road every morning and evening. Other expressways operating near or above their capacity are N. J. Route 21 (McCarter Highway) and U.S. Routes 1 and 9.

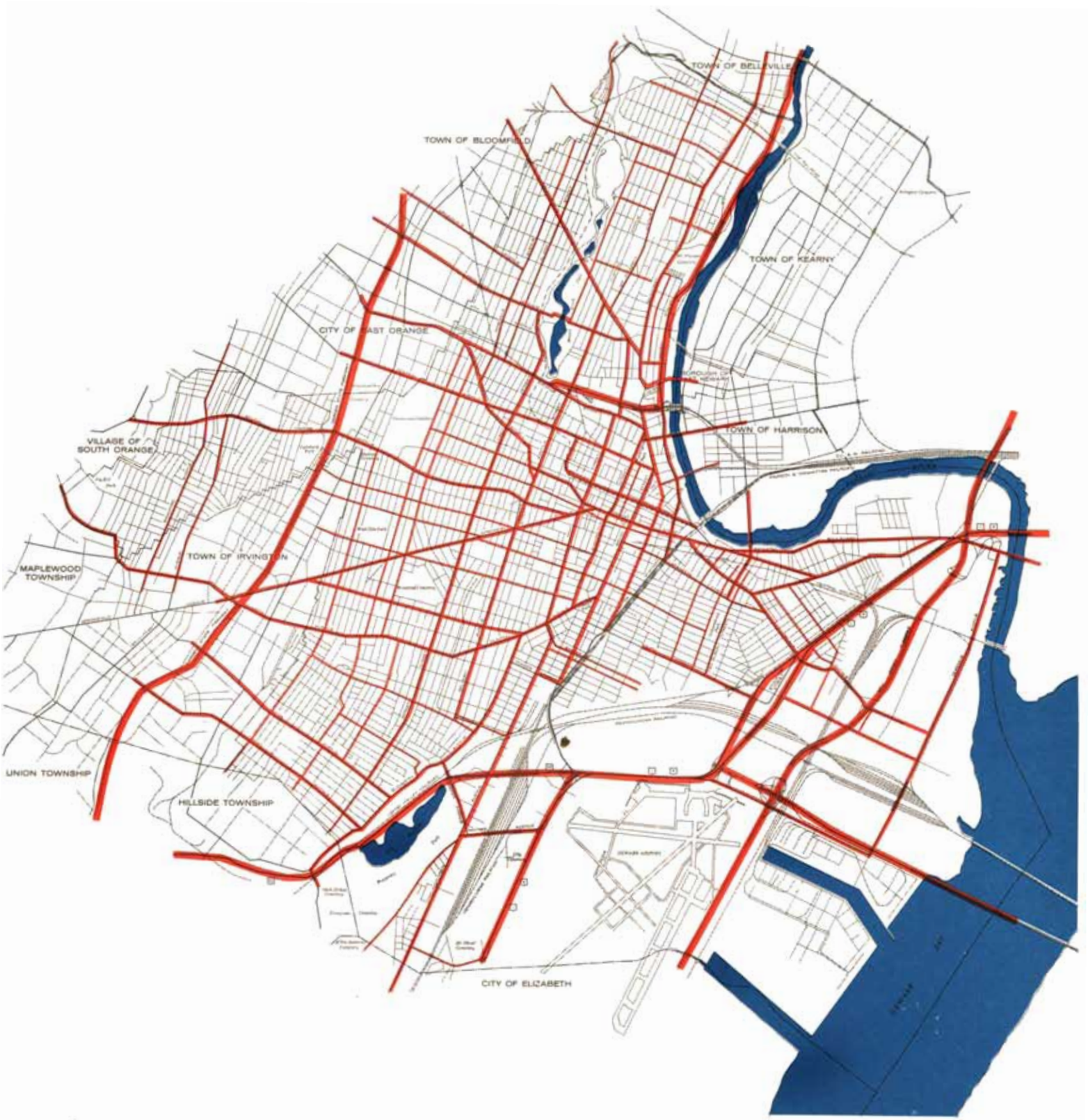
TABLE 5
AVERAGE ANNUAL DAILY TRAFFIC VOLUME 1960
NEWARK, NEW JERSEY

EXPRESSWAYS	
Garden State Parkway	65,000
New Jersey Turnpike	55,000
U.S. Routes 1 and 9	90,000 — 120,000
U.S. Route 22	64,000 — 69,000
U.S. Route 21	30,000 — 40,000
Interstate Route 280	20,000 — 22,000
MAJOR ARTERIALS	
Bloomfield Avenue	28,000 — 30,000
Central Avenue	20,000 — 30,000
West Market Street	18,000 — 24,000
South Orange Avenue	16,000 — 20,000
Springfield Avenue	16,000 — 20,000
Clinton Avenue	20,000 — 40,000
Elizabeth Avenue	16,000 — 20,000
Frelinghuysen Avenue	20,000 — 24,000
Broad Street	25,000 — 30,000
Market Street	25,000 — 28,000
Raymond Boulevard	18,000 — 35,000

Source: Newark Transportation Study, Edwards & Kelcey, Inc.
DeLeuw, Cather & Co., 1961
New Jersey State Highway Department.

Critical Intersections

Since the practical capacity of arterial roads is generally limited by the practical capacity of major intersections, information concerning the adequacy of intersections is



Existing Street System

CITY OF NEWARK, N. J. / MASTER PLAN, 1964

PLANNING CONSULTANT: CANDEUB, FLEISSIG, ADLEY & ASSOCIATES

Example of traffic conditions resulting from inadequate street system.

City Subway Station.

Existing Mass Transit

On a typical weekday afternoon, between 2:00 P.M. and 6:00 P.M., approximately 83,000 persons use mass transit facilities to leave Newark's Central Business District.[11] Of this total, about 8,500 use the railroads, 4,000 use the City Subway, and 70,000 use buses. Bus passengers alone comprise 85 per cent of the total number of persons using mass transit and equal more than twice the number of persons leaving the Central Business District by private automobiles, between 3:00 P.M. and 6:00 P.M.

BUS AND SUBWAY: NEWARK AND ADJACENT COMMUNITIES

The Newark area is blanketed with bus routes. The most distant city resident is rarely more than four blocks away from a bus route.

The greatest volume of bus passengers leaving the Central Business District travel north on Broad Street and McCarter Highway carrying 14,223 persons. The next greatest volume is southwest on Clinton Street with 11,792 passengers. In numbers of passengers carried, the volumes show a north, southwest, west, east, and south order of direction.

The City Subway is a very localized transit facility, with a single route following the Old Morris Canal bed. The subway is capable of serving only one section of Newark and its immediate periphery.

BUS AND RAIL: OUTLYING COMMUNITIES

The bus system performs a dual function in the Newark area. First, it serves the locality with numerous routes throughout Newark and the surrounding communities. Second, it carries express passengers to more distant points.

Rail passengers volume from Newark travels over five different railroads: the Central Railroad of New Jersey, the Pennsylvania Railroad, the Lehigh Valley Railroad, the Port Authority Trans-Hudson Railroad (P.A.T.H.) ,and the Erie-Lackawanna Railroad. Of the 8,500 passengers utilizing these facilities, the Pennsylvania Railroad carries 47 per cent, the Erie-Lackawanna 25 per cent, P.A.T.H. 18 per cent and the Central Railroad of New Jersey 10 per cent.

Passenger bus service between Newark and New York City provides commutation for about the same number of riders as the Pennsylvania and P.A.T.H. Railroads combined.

DESIRE LINES

Destinations of persons using mass transit facilities differ from those of the motorist because mass transit users all travel to or from the Newark Central Business District. Of the many origin and destination areas, the following were mentioned most (in descending frequency) by passengers on all types of mass transit:

1) Orange, East Orange, West Orange, Livingston, Glen Ridge, and Montclair.
2) Irvington, South Orange, Maplewood and Millburn.
3) Southeast portions of Bergen County.
4) Belleville, Bloomfield and Nutley.
5) New York City (except Staten Island)

Existing Parking Facilities

In the summer of 1960, a parking survey was conducted in the Newark Central Business District.[12] The survey provided information on the type, location and usage of parking spaces and the origin and destination of the parkers during a typical weekday.

For the purpose of this survey, the Central Business District was defined as an area bounded on the north by the Erie-Lackawanna Railroad right-of-way, on the east by the western shore of the Passaic River and on the western edge of Pennsylvania Railroad right-of-way, on the south by Pennington Street and Lincoln Park, and on the west by Washington Street.

Inventory and Usage

The parking inventory revealed a total of 16,845 parking spaces available for public and customer uses of which

11) Ibid.
12) Ibid.

2,408 were in garages and 11,937 were in lots and the remainder of 2,500 at the curb. Of the total curb spaces, 1,070 were removed from use from 7:00 A.M. to 9:00 A.M. and 961 prohibited for parking use from 4:00 P.M. to 6:00 P.M.

A survey of the usage for curb spaces indicated an occupancy above normal saturation and the presence of considerable double parking.

Trip Purpose and Distance—The purpose of the parker's trip for all types of spaces is summarized below:

TABLE 6
PURPOSE OF TRIP AND TYPE OF PARKING SPACE, 1960 — NEWARK, NEW JERSEY

	Per Cent Of Total Parkers		
	Curb Spaces	Public Off-Street	All Spaces
Work	14	44	33
Business	43	19	29
Shop	20	24	22
Service	11	1	5
Recreation & Social	7	2	4
Others	5	10	7
Total	100	100	100

Source: Newark Transportation Study, Edwards and Kelsey — De Leuw, Cather & Co., 1961.

There was a difference in average distance from the parking place to the destination of the parkers, using curb and off-street spaces. For the curb parker the distance averaged 420 feet and for the off-street parkers this distance was approximately 680 feet or less than a 2 and 3 minute walking distance, respectively.

Time Parked and Trip Destination—The duration of time that vehicles were parked at various locations was directly contingent on whether the space was metered and whether it was curb or off-street. The turnover in unmetered legal curb spaces was much lower than metered spaces. Curb parkers averaged 1.4 hours and off-street parkers averaged 4.6 hours per parker.

About 34 per cent of the drivers leaving the Central Business District after parking downtown, stayed in Newark and an additional 27 per cent in Essex County. Of the remaining vehicles, 17 per cent went south, 12 per cent went north, 7 per cent went east and 2 per cent went west.

Parking Demand—In 1960, the survey showed an over-all surplus of nearly 3,000 parking spaces. Nevertheless, in the heart of the Central Business District there was a serious deficiency of 3,600 spaces and in various other sections of the Central Business District there were numerous shortages of short term parking places.

Projection of Future Traffic and Transportation Need

Traffic flow on Newark streets and highways continues to increase at a high rate. Because most of Newark's traffic originates in, or is destined for Newark, the diversion of through traffic will not provide a complete solution. The solution to Newark's transportation congestion lies in a coordinated plan and program for all modes of transportation in Newark. Proposals should take into account the previously described deficiencies and projections of future traffic and travel desires.

HIGHWAY AND STREET TRAFFIC 1980

The total number of vehicle trips on Newark's city streets is estimated to increase from 670,000 in 1960 to 942,000 by 1980.[13] Through trips will increase from 86,000 to 120,000, internal trips from 140,000 to 193,000 and trips with origin or destination in Newark from 444,000 to 629,000. Newark's Central Business District traffic is anticipated to increase by about 50 per cent by 1980.

Travel desires projected to 1980 indicate that through traffic will comprise about 13 per cent of the total trips will be heaviest east-west in north Newark, north-south in east Newark, and diagonal from southwest to the northeast through the center of Newark.

The pattern of internal trips, which is expected to make up 20 per cent of the 1980 volume, will remain strongest

13) Ibid.

in the north-south direction, west of the Central Business District and in the east-west direction, south of the Central Business District.

Travel with an origin or destination in Newark to or from areas outside of the city is estimated at 67 per cent of all 1980 trips. The movement of these trips will be strongest in the east-west direction and the majority of trips will originate or terminate at the Central Business District, and in west and southwest Newark.

MASS TRANSIT 1980

The 1960 patronage of approximately 83,000 persons using mass transit facilities to leave Newark's Central Business District is likely to increase by about 14 per cent by 1980 comprising a passenger total of approximately 95,000 users.

The projection of trip destinations forms a starburst pattern in all directions except southeast. The greatest number of trip destinations are from the Central Business District to the west, with large volumes also to the east and lesser volumes north and south in that order.

The share of total passengers by each mode of mass transit is assumed to remain relatively constant. However, one or more major changes by either rail or bus, such as the extension or contraction of rail service to some of the more outlying areas, could affect future commuting patterns considerably.

PARKING 1980

The projection of future parking space requirements assumes that in all potential redevelopment areas adequate parking will be provided as part of the renewal plan. In the remainder of the Central Business District a total of 4,558 additional parking spaces will be needed by 1980. Of this total, 3,039 of the spaces should provide primarily for short-term parking and 1,519 for long-term parking.

As shown by this analysis the traffic situation in Newark will remain serious for many years to come. While the Interstate Highway System will provide considerable relief by syphoning off through traffic, local street deficiencies are likely to continue in the foreseeable future. For this reason, there is a need to completely reevaluate the role which mass transit facilities should play not only in Newark but in the whole metropolitan region.

STREET CLASSIFICATIONS

Expressway	
Primary Arterial	
Secondary Arterial	
Neighborhood Collector	
Local Street	

TRAFFIC IMPROVEMENTS

Interchange	
Realignment	
One Way Pair	

Traffic Plan

CITY OF NEWARK, N. J. / MASTER PLAN, 1964

PLANNING CONSULTANT: CANDEUB, FLEISSIG, ADLEY & ASSOCIATES

TRAFFIC AND TRANSPORTATION PLAN

The establishment of transportation objectives and standards is one of the most important parts of the street and transportation planning program for Newark.

These objectives and standards serve the following purposes:

☐ they provide a basis for the city's transportation development policy, and
☐ they define general standards that should be used to guide the implementation of the objectives of the plan. The traffic and transportation plan for Newark is based on the following objectives:

☐ **to promote an improved metropolitan traffic and transportation system.**
☐ **to channel through traffic on limited access highways.**
☐ **to relieve residential neighborhoods of unnecessary through traffic.**
☐ **to provide adequate off-street parking and direct access to areas of living, working and shopping.**
☐ **to route mass transit facilities as directly as possible in order to provide adequate services without unnecessary duplication.**
☐ **to promote traffic and transportation improvements that are practical in concept and financially feasible.**
☐ **to improve the city's streets to meet contemporary standards.**

Traffic Plan

The Traffic Plan for Newark presents a comprehensive range of proposals for expressways, major arterial and collector streets as well as for one-way traffic pairs, street realignments and interchange improvements.

EXPRESSWAYS

The expressway system proposed for Newark serves as the framework for most of the proposals affecting street improvements in the City. An outer loop is formed by the proposed expressway system surrounding the Core Area. It is made up of Interstate Route 280 on the north, Interstate Route 78 on the south, Interstate Route 75 (Mid-town Expressway) on the west. N. J. Route 21, a primary arterial, completes the eastern leg of the loop.

Interstate Routes 280, 78, and 75 have been proposed as eight lane highways and N. J. Route 21 as a six lane facility.

East-west through traffic will be accommodated on Interstate Routes 280 and 78. North-south through traffic will use Interstate Route 275 connected to N. J. Route 1 near Newark Airport and N. J. Route 21 in North Newark. Traffic destined for the Core Area will be distributed within the City by Interstate Route 75 and N. J. Route 21.

The expressway system together with connecting intersections provides the basis for many of the plan proposals. These proposals will complement and coordinate the development and integration of the existing major streets with the improvements proposed in the Land Use Plan.

Service Streets

A large proportion of the traffic carried on the Mid-town Expressway between the two interstate routes will be destined for the Central Business District and west Newark. Therefore, service streets will be needed here, as well as along the McCarter Highway for the transition from the expressway system to city streets.

Along the Mid-town Expressway the west service road, for southbound traffic, will consist of sections of Norfolk and Jones Streets and Belmont Avenue. North of Central Avenue, Norfolk Street should be relocated to join Clifton Avenue near Route 280. South of Peddie Street, Belmont Avenue should join the westbound service street of Route 78. The eastern service road of the Mid-town Expressway, for northbound traffic, will be made up of sections of Hillside Avenue and Prince, Boston and Newark Streets. North of Central Avenue this service street will join relocated Norfolk Street.

On the east side of the McCarter Highway, a service street is proposed from Raymond Boulevard to Market Street to improve circulation in the Pennsylvania Station area and alleviate some left-turn movements.

Interchanges

Channelizations and grade separations are proposed to improve many critical intersections throughout Newark. Major interchanges are proposed at the junction of the expressways and a number of major arterials.

The following is a list of proposed major interchanges:

Mid-town-McCarter—at Oriental and Ogden Streets.

Interstate 280-Mid-town—connecting at Raymond Boulevard and Central Avenue.

Mid-town Market Street—connecting at Nelson Place and West Market Street, and South Orange Avenue.

Mid-town-Springfield Avenue—connecting at Court Street.

Mid-town-Clinton—connecting in the vicinity of West Alpine Street and Avon Avenue.

Interstate 78-Mid-town-U.S. 22—connecting at U.S. 22.

Access only from proposed frontage streets.

Mid-town-Frelinghuysen Avenue—connecting from Noble Street.

Mid-town-Routes 1 and 9—connecting south of Haynes Avenue.

McCarter-Broad Street—connecting at Poinier Street.

McCarter-Mulberry Street—channelization between Camp and Pennington Streets.

Frelinghuysen-Clinton-High—connecting High Street and Frelinghuysen over Clinton Avenue.

McCarter-Market Street—ramps to Raymond Boulevard and Market Street.

Frelinghuysen-Clinton-Washington—connecting Washington Street and Frelinghuysen over Clinton with connections at South Street and Lincoln Park.

PRIMARY ARTERIAL STREETS

The following streets are recommended to be improved to Primary Arterial Streets:

Central Avenue from Broad Street to Interstate Route 75.

Raymond Boulevard from Interstate Route 75 to U.S. Routes 1 and 9. The old Morris Canal Bed should be utilized in conjunction with the existing roadway to achieve part of this improvement.

Springfield Avenue along its entire length.

Market Street from Springfield Avenue to Raymond Boulevard.

Clinton Avenue from Interstate Route 75 to Broad Street.

Frelinghuysen Avenue for its entire length and connecting with Washington Street.

Washington Street two way between Clinton Avenue and Plane Street. One way north between Plane Street and Broad Street.

Plane Street one way south between Broad Street and Washington Street.

Broad Street between Broadway and the N. J. Route 21 viaduct.

New Jersey Route 21 (McCarter Highway) between U.S. Route 1 and 9 and the Belleville City line.

Bloomfield Avenue for its entire length including an improved intersection with Broad Street and N. J. Route 21 (McCarter Highway).

SECONDARY ARTERIAL STREETS

The following streets are recommended to be improved to secondary arterial streets:

- ☐ Broadway
- ☐ Mount Prospect Avenue
- ☐ Roseville Avenue - North Sixth Street
- ☐ Park Avenue
- ☐ Orange Street

- ☐ Central Avenue
- ☐ West Market Street
- ☐ South Orange Avenue
- ☐ Fourteenth Avenue
- ☐ Eighteenth Avenue - Spruce Street
- ☐ Avon Avenue
- ☐ Clinton Avenue
- ☐ South Tenth and South Eleventh Streets
- ☐ Bergen Street
- ☐ Court Street
- ☐ West Kinney Street
- ☐ Elizabeth Avenue
- ☐ Chancellor Avenue
- ☐ Lyons Avenue
- ☐ Mulberry Street
- ☐ Walnut and Elm Streets
- ☐ South and Thomas Streets

COLLECTOR STREETS

As the plan indicates, the present collector street system has been partially absorbed by the one-way street system. In areas where changes in major arterials have not directly changed the function of collector streets these streets should remain in the same classification.

BRIDGES

The capacity of several critical bridges will be increased through the channelization proposals of the street plan. The four lower level bridges at Jackson Street, Bridge Street, Hudson and Manhattan and Clay Streets should be replaced as they become uneconomical to operate.

Mass Transit Plan

The mass transit plan consists of a number of past transportation study recommendations related to citywide development plans.

Bus Operations

Although Newark has an excellent bus system, the improvement in Newark's streets will foster increased use of the automobile. It is important to the total transportation program that mass transit should absorb as many passengers as possible. Bus services presently carries twice as many passengers as private automobiles and, therefore, it should continue to try to increase its share of the total number of passengers in order to prevent saturation on the new highways.

The new expressway system will provide the bus operation with an opportunity to increase its express service. Many of the surrounding communities could be served by express routes that terminate at an off-street station in the Central Business District.

Consideration should be given to the proposal that a new transportation terminal in front of Penn Station be constructed to provide terminal facilities for express buses. As the Plane and Washington Street improvements are made and the Mid-town Expressway and McCarter Highway routes are completed, Broad Street will be available for increased unobstructed transit use.

Subway Extensions

It has been estimated that a new subway from Irvington to Belleville could, from its revenues, pay for operating expenses. Nevertheless, the high construction cost of such a facility indicates that it could be built only through the use of public funds. The extension of the city's subway system to connect with other rail facilities should be studied carefully, especially in light of current Federal legislation and financial aid available.

Rail Operations

The possibility of extending rail operations of the Port Authority Trans-Hudson Railroad (PATH) via the Lehigh Valley Railroad warrants more study particularly in the framework of a total northeastern New Jersey transportation program.

Extension of the Port Authority rail operations to Great Notch on the Erie-Lackawanna also seems feasible. Pas-

sengers to Newark could take buses from the Broad Street station or transfers to the City Subway at the new station at Orange Street.

Plans are also under study to route the Central Railroad of New Jersey over Lehigh Valley tracks to Penn Station. If this proposal becomes a reality, the present Central Railroad tracks and the Broad Street station could be abandoned thus opening up certain areas in the downtown for new office development.

Investigation should also be extended in regard to the feasibility of incorporating mass transit rail facilities along one or more of the proposed interstate highway facilities in Newark. Furthermore, such a study should also include the feasibility of developing express bus lane service and construction of nearby parking lots for easy transfer from private automobile to bus and/or rail commutation. Such a study developed on a regional basis could lead to an improved transportation system for Newark as well as many of the surrounding suburban communities.

Parking Plan

The long-term attractiveness of downtown Newark as a place to work and shop depends in large part on the adequacy of parking facilities in the area. Improved access must be augmented by improved facilities for the storage of automobiles in locations convenient to trip destinations. If improvements are to be made on access routes leading into the Central Business District, the additional number of vehicles must have convenient parking available to avoid further congestion.

Three important elements should govern the future development of additional parking spaces:

- ☐ the number of short-time and long-time parking facilities must be based upon the demand for each type of facility.
- ☐ the location of these facilities must be within easy reach of arterial streets entering the Central Business District in order to avoid congestion of the internal street system.

This amounts to more than four parking structures of the size of the new Military Park Garage which accommodates 1,100 cars.

Of the total number of needed spaces, about 3,000 are estimated to be short-time parkers and 1,600 long-time parkers. This indicates a greater need for shopper and visitor-oriented facilities.

The need for additional facilities is heavily concentrated in a small area bounded by Broad Street, Raymond Boulevard, Mulberry Street and Market Street. This area is intensively developed along Broad Street with office buildings generating both long-time and short-time parking needs. Of the 4,600 additional spaces needed for the Central Business District, about 3,900 are needed in this area. The remaining 700 needed spaces should be spread throughout the rest of the downtown area.

Recommendation

Since land assembly in downtown Newark is difficult for private developers, it is recommended that consideration be given to the construction of these facilities by the Parking Authority or the acquisition of land should be made through urban renewal and later some reuse land would be sold to private parking operators.

In view of the need for a more compact overall development in the Central Business District, and the need to conserve land for future buildings, it is strongly recommended that all new parking facilities should be provided primarily within multi-level parking structures. This procedure will allow a tight grouping of large parking areas close to trip destinations and prevent the problems associated with the creation of large scale open-lot parking.

Aerial view of Military Park with underground 1100 car parking garage.

Newark City Hall

This section of the Master Plan includes a summary of analyses of the existing community facilities serving Newark, a review of national, state and local standards, and the development of a plan designed to improve present community facilities as well as to provide a basis for improvements needed during the next fifteen to twenty years. The Community Facilities Plan is divided into the following sections:

Public Schools—A plan for improving the physical facilities of the school system to meet the present and future requirements of Newark's school-age children.

Recreation—A plan for the provision of a wide variety of parks, playgrounds and playfields to meet the active and passive recreational requirements of all age groups within Newark.

Public Buildings—A plan for providing a system of conveniently located public buildings necessary to serve the administrative, safety, health, cultural and welfare requirements of the people of Newark.

Public Utilities—An analysis of the sanitary and storm sewer system, the water supply and distribution system and the refuse collection and disposal facilities of the city to indicate present deficiencies and a direction for meeting anticipated long range needs.

Schools

The School Plan is primarily concerned with the size, location and structural condition of public school buildings, the adequacy of existing school site sizes and student enrollment capacities.[14]

SCHOOL ADMINISTRATION

The public schools of Newark are administered by the Board of Education which is composed of nine members appointed by the Mayor, each for a three-year term. The executive officer is the Superintendent of Schools who has charge of the general educational school program.

SCHOOL ORGANIZATION

Newark has recently completed a reorganization study of its school system. The present system of kindergarten, and eight-grade elementary schools and four-grade high schools, has been modified to provide kindergarten to sixth-grade in elementary schools, three-grade junior high schools and three-grade senior high schools.

EXISTING SCHOOL FACILITIES

The present public school system consists of fifty elementary schools, six junior high schools, and eight senior high schools. There are also ten special schools for mentally and physically handicapped children.

Special Schools—Special education facilities in the City of Newark are concerned with meeting the educational and social needs of mentally, physically, socially handicapped, and emotionally disturbed children of school age.

TABLE 7
ENROLLMENTS IN THE NEWARK PUBLIC SCHOOL SYSTEM—1959 to 1964
NEWARK, NEW JERSEY

Year	Elementary Schools	Secondary Schools	Special Classes and Schools	All Schools
1959	42,115	16,445	2,223	60,783
1960	43,435	16,792	2,238	62,465
1961	45,010	18,394	2,354	65,758
1962	47,481	18,743	2,226	68,450
1963	49,315	19,499	2,457	71,271
1964	51,349	19,890	1,730	72,969

Source: Enrollment Data — September 1959 — 1964 Deputy Superintendent of Schools, Newark Public School System.

The enrollments in the special education classes are determined by the facilities available; that is, the number

14) This section of the Community Facilities Report is based on data made available by the Newark Superintendent of Schools and the Division of City Planning. The 1952 report on School Plant Facilities of Newark prepared by Clarence Ackley and Associates which has been updated and the 1963 School Building Construction report prepared by the Newark Superintendent of Schools were extremely helpful in analyzing school facilities.

of classrooms available in the regular elementary and secondary schools, and the space available in the ten special schools and the one unit of braille classes in the Elliott Street School.

Physically handicapped children are received from districts outside of Newark on a tuition basis. Eighty school districts send children to Newark to attend special classes for the blind, deaf, orthopedic and cardiac.

Parochial Schools—The Archdiocese of Newark maintains an extensive school system ranging from parish elementary schools to a regional high school serving the Newark metropolitan area. These schools in June 1961, provided educational facilities for about 20 per cent of Newark's total school population.

ENROLLMENTS

Total public school enrollments have increased from 60,783 pupils in 1959 to 72,969 pupils in 1964. This represents an increase of 12,186 students in the last five-year period, or an increase of 20 per cent.

The increase in school enrollment has been the result of continued high birth rates and the inmigration of families to Newark with large number of children. These increases have had an important bearing on school building needs in Newark. Heavy enrollment shifts have and continue to occur as a result of the redevelopment and public housing efforts underway in Newark. Though the shifts within the City do not themselves affect the total enrollment, they do have an impact on enrollments of individual schools and, therefore, have an important bearing on the school building construction program.

STRUCTURAL CONDITION OF SCHOOL

While the Board of Education has made significant strides in improving the school plant of many of Newark's schools in recent years, there still remains a number of buildings which are old and functionally unsuited to meet the requirements of a modern educational system. Because of their advanced age, some of the buildings have safety problems and others will require increasing expenditures for maintenance. A major objective of the school plan is the replacement of such structures whereever possible and the renovation of those buildings whenever it is economically feasible and fits in with the overall education program.

SEATING CAPACITY

Standards regarding the number of students per classroom have been developed by the Newark Board of Education and the New Jersey State Department of Education. These standards are based upon the maximum size of classes for effective teaching and learning. Thirty pupils per classroom is considered optimum for elementary and secondary schools, while fifty pupils (two half day sessions) is considered optimum for kindergarten classes. State law requires maximum classroom sizes for mentally and physically retarded children ranging from 8 to 15 pupils per classroom.

The September, 1964 seating capacity based upon the above standards were 43,350 for elementary schools and approximately 17,900 for secondary schools. Elementary enrollments in September, 1964 exceeded this capacity by approximately 6,850 pupils or a net deficit of approximately 235 classrooms. Secondary school enrollments exceed capacity by 1,950 pupils or a net deficit of approximately 67 classrooms.

The greatest deficiency in elementary classroom space exists in the West Side section of Newark where approximately 73 classrooms are needed to keep pace with present enrollments. Other areas in need of additional classrooms are Hayes Circle South (37 classrooms), Clinton Hill (34 classrooms), Weequahic (32 classrooms), Newark Core (13 classrooms), Newark North and Belmont (12 classrooms), Roseville (11 classrooms), West Market (7 classrooms), and Ironbound (3 classrooms).

Six of Newark's high schools are presently operating over capacity. Deficiencies range from 7 to 16 classrooms. At present, all of Newark's junior high schools are operating at or near their capacity.

SITE ADEQUACY

As a result of the age of many of Newark's schools, as well

as the high cost of land, most of Newark's school sites are significantly below recommended state standards. Ninety per cent of all elementary school sites are less tha two acres in size and junior and senior high school sites are also relatively small, ranging from one to five acres.

ACCESSIBILITY

The distribution of existing elementary and secondary schools is generally satisfactory. Most elementary schools are located within a half mile of their student's homes and within a mile and a half for secondary school students.

SIZE OF SCHOOL

Many of Newark's public schools exceed the recommended national standards for school size. Enrollments in excess of these standards tend to limit the effectiveness of the school program and result in overcrowded facilities.

Newark's School Plan

The plan for Newark's future school needs is a complex and highly intricate undertaking which must take into account many forces presently at work in the city. Some of the important considerations which must be weighed include the relocation of many families resulting from urban renewal and highway programs. While some of the planned urban renewal programs provide additional space for existing school expansion or new school construction, these programs will require many families to relocate to new areas which could not be determined at this time. Furthermore, the New Jersey State Department of Education has requested the city to re-evaluate the public school program with regard to racial balance in the public schools. Finally, enrollments have continued to increase at an accelerated rate; therefore, requiring additional facilities.

At present, the Board of Education has under study a plan for future improvements to the school system in Newark. Since these recommendations have not been formalized, they have not been incorporated into the Newark Master Plan. As soon as the results of the School Board's study will be made available, these plans should be incorporated into the Newark Master Plan.

Recreation

This section of the Community Facilities Plan is concerned with the facilities for public recreation in the City of Newark and consists of an inventory of existing recreation facilities, an analysis of these facilities in terms of their type, location and size, and a plan for the development of a more complete recreation system to serve the City of Newark in the future.

ADMINISTRATION

The Essex County Park Commission

The Essex County Park Commission provides Newark with recreation facilities ranging from large regional parks to district parks. On the regional level it has jurisdiction over Eagle Rock and South Mountain Reservation. At the city level the Park Commission maintains Weequahic Park, Branch Brook Park and five smaller parks which serve several districts in Newark.

The Newark Board of Education

Almost every public school in Newark contains some recreation facilities. These school-associated recreation facilities are also used for summer and after school programs and are an essential element in Newark's total recreation program. The program is administered by the Board of Education's Recreation Department which is under the supervision of the Superintendent of Schools.

The Department of Public Works

The administration, maintenance and control of recreational facilities in Newark is exercised by the Department of Public Works through two of its operational divisions:

Bureau of Parks and Grounds. The Bureau is responsible for the maintenance of city-owned parks and playgrounds which are not used as part of the school system.

The Bureau of Baths. This bureau is responsible for the operation and maintenance of the city's public swimming pools.

The Newark Housing Authority

The Newark Housing Authority controls and administers recreation facilities built for public housing develop-

ments. In general, these facilities serve principally the residents of the individual housing project.

EXISTING RECREATIONAL FACILITIES

Recreational facilities serving Newark have been grouped according to their primary function. For planning purposes Newark's recreational resources were divided into the following categories:

1. Regional Parks
2. Citywide Parks
3. District Parks
4. Neighborhood Parks
5. School Facilities
6. Private Facilities

Regional Parks

The regional park is a large recreation facility designed to preserve the natural and scenic features of the area. its uses may include facilities for hiking, camping, picnicking and nature study and more active recreation areas such as playfields for various sports. To be effective, the regional parks or reservation should normally be over 1,000 acres in size. Because of the site requirements the regional parks are usually located well outside of intensively developed areas.

Several regional parks or reservations are available to the residents of Newark. Within an hour's drive from the city are Harriman State Park, Stokes State Forest and the beaches of New York and New Jersey. Closer to the city and more directly contributing to Newark's recreation needs are the two smaller regional parks—Eagle Rock and South Mountain Reservation. Both of these parks are located in the Orange Mountains only four miles west of the city.

At the present time both Eagle Rock and South Mountain Reservation provide a wide variety of facilities including picnic areas, hiking trails and bridle paths. These two parks total approximately 2,500 acres.

City-Wide Parks

A prime function of a citywide park is to provide space for outdoor sports, nature trails, open fields and meadows, and sometimes such special features as band shells and small zoos. The secondary function of citywide parks is to provide the city residents with a frequent opportunity to enjoy natural landscape in contrast to the urban development of the city. An important consideration for a citywide park is that it should be readily accessible to the majority of the city's residents either by public or private transportation.

There are two citywide parks located in Newark, both of which are owned and operated by the Essex County Park Commission—Branch Brook Park and Weequahic Park.

District Parks

District Parks are intended to serve large residential areas with a wide range of both active and passive recreation facilities. Their service area may cover several neighborhoods and may provide opportunities for specialized recreations activities such as running tracks and football fields. Depending upon the number of people to be served, the size of this type of park varies from 5 to 20 acres. Such parks serve the residential areas within a radius of 1 to 1½ miles. There are five district parks within the city limits of Newark which are owned and operated by the Essex County Park Commission. These are: Independence Park, River Bank Park, West Side Park, Vailsburg Park, and Ivy Hill Park.

Neighborhood Parks

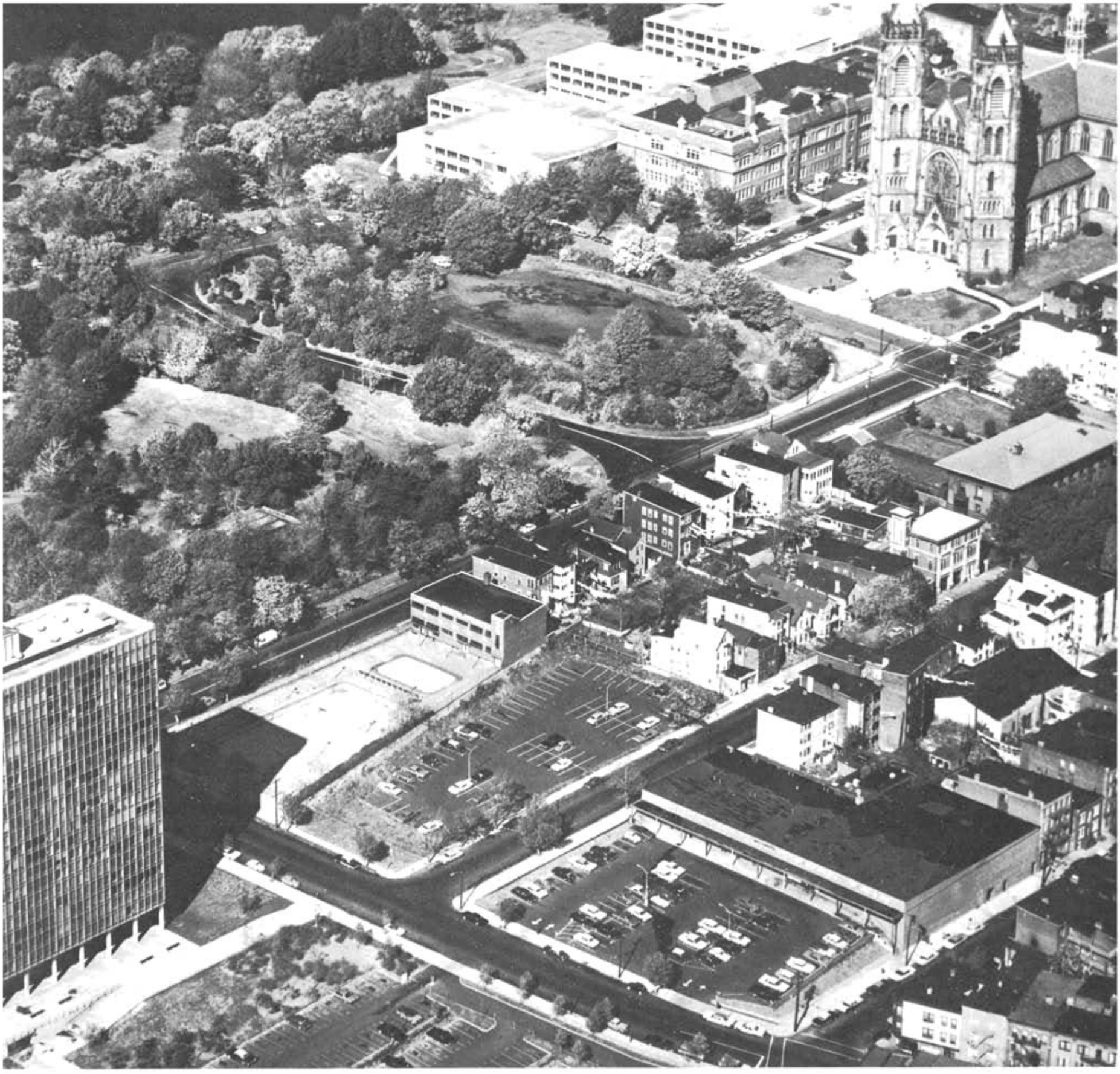
Neighborhood park facilities include playgrounds, playfields and play or tot lots serving a neighborhood area within a radius of ½ mile.

Playfield

A playfield provides facilities for diversified recreation activities for young people of high school age and young adults. A part of the playfield is often set aside for athletics or specialized sports such as football or baseball. Other portions of the playfield usually provide space for passive recreation (sitting areas). The size of a playfield may range from 5 to 10 acres. A preferred location is adjacent to a junior or senior high school.

Playground

The playground is the principal outdoor play center of



Aerial view showing Branch Brook Park, Colonnade Apartments, Sacred Heart Cathedral and new Barringer High School.

Weequahic Park: Example of park fulfilling recreation needs of city

the neighborhood and is designed for school children, 6 to 15 years of age. Area requirements range from 2 to 5 acres and contain areas for playground equipment (swings, slides, etc.), shaded areas for passive recreation and a shelter for arts and crafts. Playgrounds are usually located adjacent to elementary schools but are often combined, also, with larger recreational facilities.

Playlot or Tot Lot

The playlot is a small area, generally 2,000 to 5,000 square feet in size, intended primarily for pre-school age children under parental supervision. Playlots are usually provided in densely built-up neighborhoods where private backyard play space is limited. The playlots may be located in the interior of a city block or they may form a part of a playground. Their service area is considered to be within ⅛ mile radius.

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At present most of the playfields and playgrounds in Newark are provided by the public school system which is administered by the Board of Education. Some playfields are also located within the District Parks. Essex County Park Commission provides four playfields at Branch Brook Park, two playfields at West Side Park, and one each at Weequahic Park, Independence Park, River Bank Park, Vailsburg Park and Ivy Hill Park.

In addition to providing play areas for school age children the Board of Education provides facilities and recreation programs for adults as well.

Ornamental and Historical Parks

These parks provide landscaped areas, sitting areas and open spaces for business districts and high density residential neighborhoods. Table 8 lists the major ornamental parks and squares in Newark. The location of these parks is indicated on the Recreation Plan map.

SCHOOL RECREATIONAL FACILITIES

School Playfields

Only two of Newark's eight high schools have playfield facilities located on the site. West Side High School playfield is located in the west central section of the city and contains approximately three acres of land exclusive of the school building and landscaping. Weequahic High School playfield is located in the southwestern part of the city and occupies a full block of property with an area of approximately three acres.

The Public School Stadium, located in the northwest part of the city, provides playfield facilities for all secondary schools and is used as the field for intramural sports. Since its facilities are adaptable to other activities, many organizations, such as the American Legion, use the field, by permit, for exhibitions and shows when not used for school purposes. This area contains approximately eight acres.

School Playgrounds

The Recreation Department of the Board of Education operates and supervises three types of playground facilities at elementary schools.

TABLE 8
MAJOR ORNAMENTAL PARKS AND SQUARES, 1964
NEWARK, NEW JERSEY

NAME	AREA IN ACRES
Military Park	6.00
Lincoln Park	4.37
Washington Park	3.40
Harrison Park	2.38
Douglas Park	2.22
Hayes Park North	1.24
Schleifer Park	.97
Liberty Park	.85
First Street Park	.72
Thomas Silk Park	.65
Phillips Park	.54
Clinton Park	.49
Vailsburg Park	.48
Edison Park	.35
Mt. Prospect Park	.35
Jackson Park	.34
Berkeley Park	.25
Lombardy Park	.23
Wallace Park	.21
TOTAL	26.04

Source: Newark Division of City Planning

Type A Playgrounds. Type A playgrounds are combined playgrounds and community centers. They serve all age groups and are operated on a year round basis. There are 11 such playgrounds, all located and operated in conjunction with elementary schools.

Type B Playgrounds. Type B playgrounds serve children of elementary and junior high school age. Two evenings a week, older youth and adults may participate in the program. There are 12 such playgrounds of which 10 are located adjacent to elementary schools and two in conjunction with junior high schools.

Type C Playgrounds. Type C playgrounds serve pre-school and kindergarten age children, and as such, are primarily playlots with organized play activities. There are nine such playgrounds, all located in conjunction with elementary schools except Montgomery Street which is located at a special school.

RECREATION PROGRAMS

In addition to providing playground and playfield facilities in Newark, the Board of Education also administers an extensive recreation program. The program is comprehensive in scope and includes activities such as arts and crafts, athletics and gymnastics, dancing, dramatics, music, club organizations and special activities such as socials, holiday programs, scouting and various hobbies.

The program is designed primarily for school children and for teenagers and younger adults during the evening hours. A special adult program is conducted twice weekly. Citywide athletic leagues and tournaments for business firms as well as neighborhood clubs and church organizations, are conducted in major athletic centers and playfields.

EXISTING SEMIPUBLIC AND PRIVATE RECREATION FACILITIES

There are numerous semipublic and private recreation facilities located throughout the city, particularly in the more central areas. These organizations include the Young Men and Women's Christian and Hebrew Associations, Boys Clubs, Neighborhood Houses, the Salvation Army, Scouting groups and church sponsored recreational facilities and programs. Indoor recreational facilities at three of the precinct police stations have been adapted for use as neighborhood recreation centers under the sponsorship of the Police and Firemen's Benevolent Association. Supervision is provided by the Police Department.

Table 9 summarizes the total recreational facilities located in the city of Newark by district.

Park and Recreational Standards

Purpose of Standards

A comprehensive recreational plan should be developed based on a set of recreation standards which will provide a framework for the long-range development of a recreation system in Newark. Since the standards should be developed for the city as a whole, they should apply to all recreation facilities in Newark, covering the facilities administered by the city, the Board of Education and the Essex County Park Commission.

The Division of City Planning after reviewing national recreation standards and other studies of recreational area requirements has determined that these standards could not be applied to Newark. The use of a 6.25 acres per 1,000 population would result in approximately 17 per cent of the city's total land area being devoted to recreation space. Prohibitive acquisition costs in densely populated areas and the displacement of productive land uses prevent the city from acquiring more sites for recreational use. To meet the demand for additional recreation space and to determine a practical and acceptable set of standards recognizing Newark's difficulty in providing parks and playgrounds in built-up areas, the Central Planning Board has adopted a set of modified standards. The Board recommends that a minimum standard of 3 acres per 1,000 population be used as a guide in calculating future city recreational land needs.

These revised standards are generally in accord with recreation programs already established in Newark. Recognizing the acute lack of space for recreational needs, the city many years ago wisely adopted the "use of public school buildings and adjacent play areas as recreational centers as a sound and economic practice. It has been

found that these public buildings are readily adopted to recreational purposes and serve the citizens in the immediate home areas. Taxwise, the dual use of school plants has saved the city many tax dollars."

Table A presented in the Appendix[15] indicates the method by which a proportional breakdown in acres for each recreational facility type was developed.

Table 9 summarizes the deficiency of recreation facilities, in acres, which exist in each planning district of Newark.

At present Newark needs approximately 327 acres of recreation and open space to keep pace with the city's goal of providing three acres of park space for each 1,000 persons. There is also a need to provide a better distribution of parks to serve each neighborhood. Existing recreational facilities are often too distant or otherwise inaccessible in many neighborhood areas.

The most significant deficiency of recreational space exists in the provision of playgrounds and playfields in conjunction with the Newark public schools. Most of the existing schools occupy sites which are much smaller than the minimum standards generally accepted by state school planning authorities. There are only a few elementary school sites which consist of more than two acres of land. The problem of land acquisition for the expansion of school sites can be greatly alleviated through the city's extensive Urban Renewal Program.

15) Recreation Department Community School 1964-1965 Recreation Center Board of Education, Newark, N. J.

New YM-YWCA on Broad Street.

TABLE 9
EXISTING DEFICIENCY OF RECREATION FACILITIES BY PLANNING DISTRICT, 1964 NEWARK, NEW JERSEY

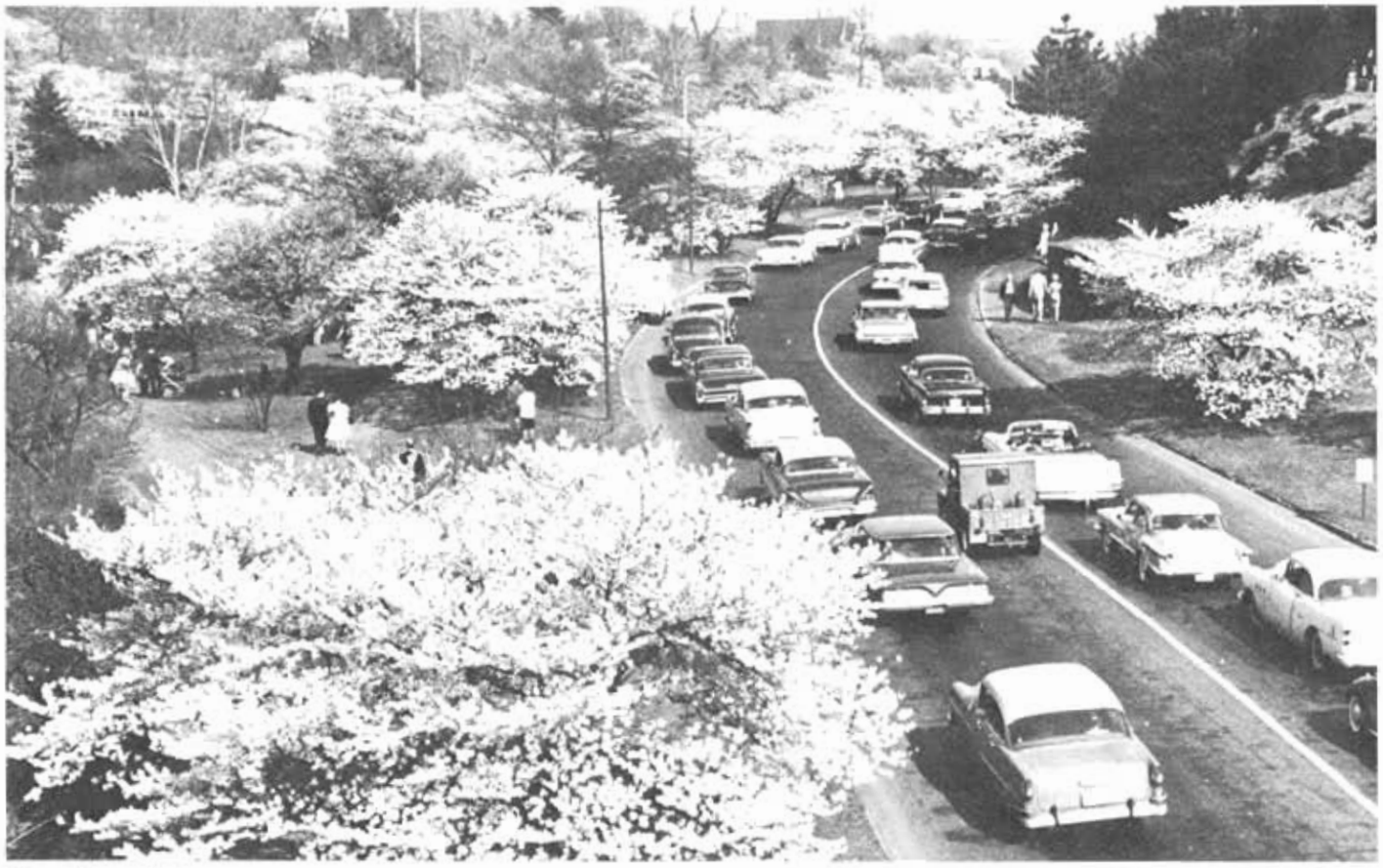
Community Districts	Approximate 1963 Population	Recreation Standard Based on a Ratio of 3 Acres Per 1,000 Persons	Existing Recreation Facilities (in acres)	Deficiency of Recreation Facilities (in acres)
Belmont	17,400	52.20	8.18	44.02
Clinton Hill	25,300	75.90	3.95	71.26
Dayton	5,400	16.20	2.43	13.77[1]
Hayes Circle South	22,900	68.70	4.78	63.92
Ironbound	42,700	128.10	55.27	72.83
Newark Core	46,100	138.30	40.38	97.92
Newark North	56,100	168.30	8.68	159.62[1]
Roseville	29,300	87.90	12.65	75.25[1]
Vailsburg	39,500	118.50	58.50	60.00
Weequahic	38,700	116.10	7.31	108.79[1]
West Market	29,000	87.00	4.64	82.36
West Side	55,800	167.40	40.15	127.25
TOTAL	408,200	1,224.00	246.92	976.39
Citywide Parks			649.12	(—) 649.12
Grand Total				327.27

Source: Newark Division of City Planning

1 Does not include district breakdown for Branch Brook and Weequahic Parks.

Branch Brook Park Tot-Lot

Branch Brook Park Play Area.

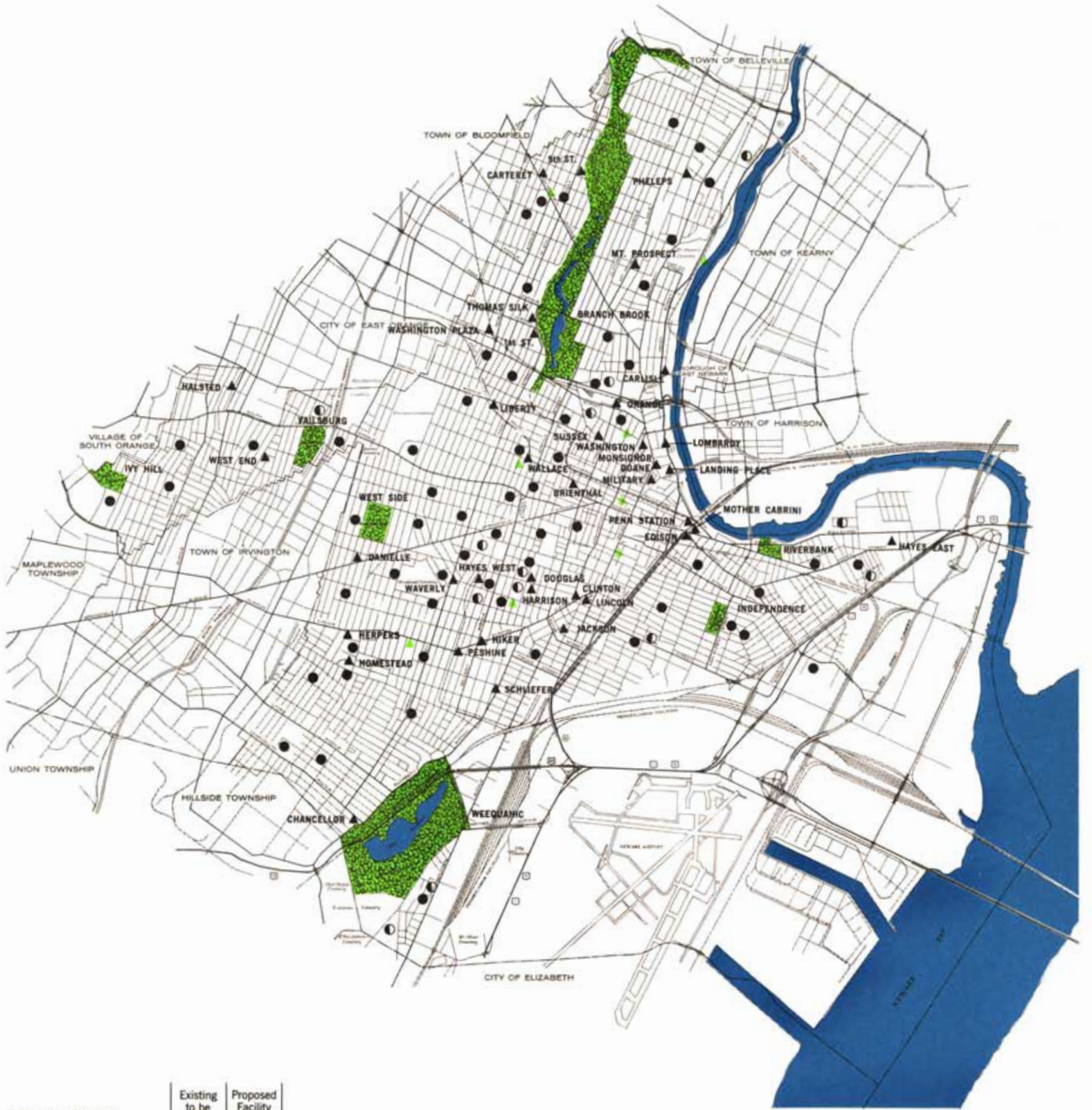


Cherry Blossoms in Branch Brook Park

TABLE 10
RECREATIONAL FACILITIES BY DISTRICT, 1964
NEWARK, NEW JERSEY

	County Parks		City Parks		Board of Education Playgrounds		Board of Education Playfields		Pools		Total
	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	Acres
Newark Core	—		12	17.51	8	22.87	—		—		20	40.38
Newark North	—		3	.91	8	6.51	—		1	1.26	12	8.68
Roseville	—		4	1.63	4	2.76	1	8.26	—		9	12.65
Vailsburg	2	50.69	2	.49	4	5.93	—		—		8	58.50
West Side	1	31.36	1	.15	8	5.37	1	3.27	1	1.39	12	40.15
West Market	—		2	1.06	4	3.58	—		—		6	4.64
Clinton Hill	—		1	.12	1	3.83	—		—		2	3.95
Hayes Circle South	—		4	1.35	2	1.75	1	1.68	—		7	4.78
Ironbound	2	23.73	2	.47	7	5.36	1	21.23	1	4.48	13	55.27
Weequahic	—		1	.18	5	3.78	1	3.35	—		7	7.31
Dayton	—		—	—	1	2.43	—		—		1	2.43
Belmont	—		1	.02	3	4.84	—		1	3.32	5	8.18
TOTALS	5	105.78	33	23.89	57	69.01	5	37.79	4	10.45	104	246.92
Branch Brook Park												337.80
Weequahic												311.32
TOTALS												896.04

Source: Newark Division of City Planning



TYPE OF FACILITY	Existing to be Retained	Proposed Facility (tentative)
County Parks		
City Parks	▲	▲
School Recreation Facility	●	
Public Housing Facility	◐	

Parks & Recreation Plan

CITY OF NEWARK, N. J. / MASTER PLAN, 1964

PLANNING CONSULTANT: CANDEUB, FLEISSIG, ADLEY & ASSOCIATES

Recreation Plan

Working within the framework of the Urban Renewal Program, the city is at present considering all available methods of increasing the amount of recreational space in Newark. Wherever possible, land is being reserved for playgrounds, playlots, and neighborhood parks as part of new development. The city is also participating in the State of New Jersey's Green Acre Program which will provide financial assistance equal to fifty per cent of the acquisition cost of land to be developed for open space purposes. The following section lists the recreation and park proposals for each community district in Newark.

Newark Core

Old Third Ward Project. This renewal project is located in the geographic center of the city and will provide expanded playground space for Morton, Montgomery and Charlton Street Schools. In addition, the acquisition of land for a new 10-15 acre park, financed in part under the New Jersey Green Acres Program, is planned for the southern end of the area.

St. Michael's Project. This project is located in the northern section of the Core Area and can provide land for a Botanical Garden. Coupled with the existing garden behind the Newark Museum it can be directly related to the Newark Colleges' Expansion Program. The Botanical Garden, proposed as part of the Green Acres Program, will add approximately 14 acres of open green space to this section of the Core Area.

Essex Heights Project. This project just north of the Old Third Ward Project would provide approximately two acres of playground space for Warren Street Elementary School.

South Broad Street Project. This project located west of the Lincoln Park Area has a proposed new elementary school located on a five-acre site of which three acres have been set aside for playground space.

Halsey Street Mall. A 50-foot wide mall is recommended which will extend from Market Street to Central Avenue providing safe pedestrial access to all major stores in the shopping district and to both Military and Washington Parks. This facility will provide approximately four acres of pedestrian walks and landscaped plazas in the heart of the congested Central Business District.

Mid-Town Expressway Park System. It is recommended that consideration should be given for acquiring park land and open green space in conjunction with the proposed construction of the Mid-Town Expressway. The New Jersey State Highway Department has proposed the construction of this expressway which would extend from McCarter Highway near Branch Brook Park to Weequahic Park, and then would connect with other state and interstate highways. A relatively small widening of the proposed right-of-way width would provide the city with an opportunity of developing this road as a parkway. Altogether there would be approximately 20 acres of park and green space serving the West Market, Belmont, Hayes Circle and Core Area of Newark and would provide a dramatic definition to the boundaries of the Core Area.

Ironbound

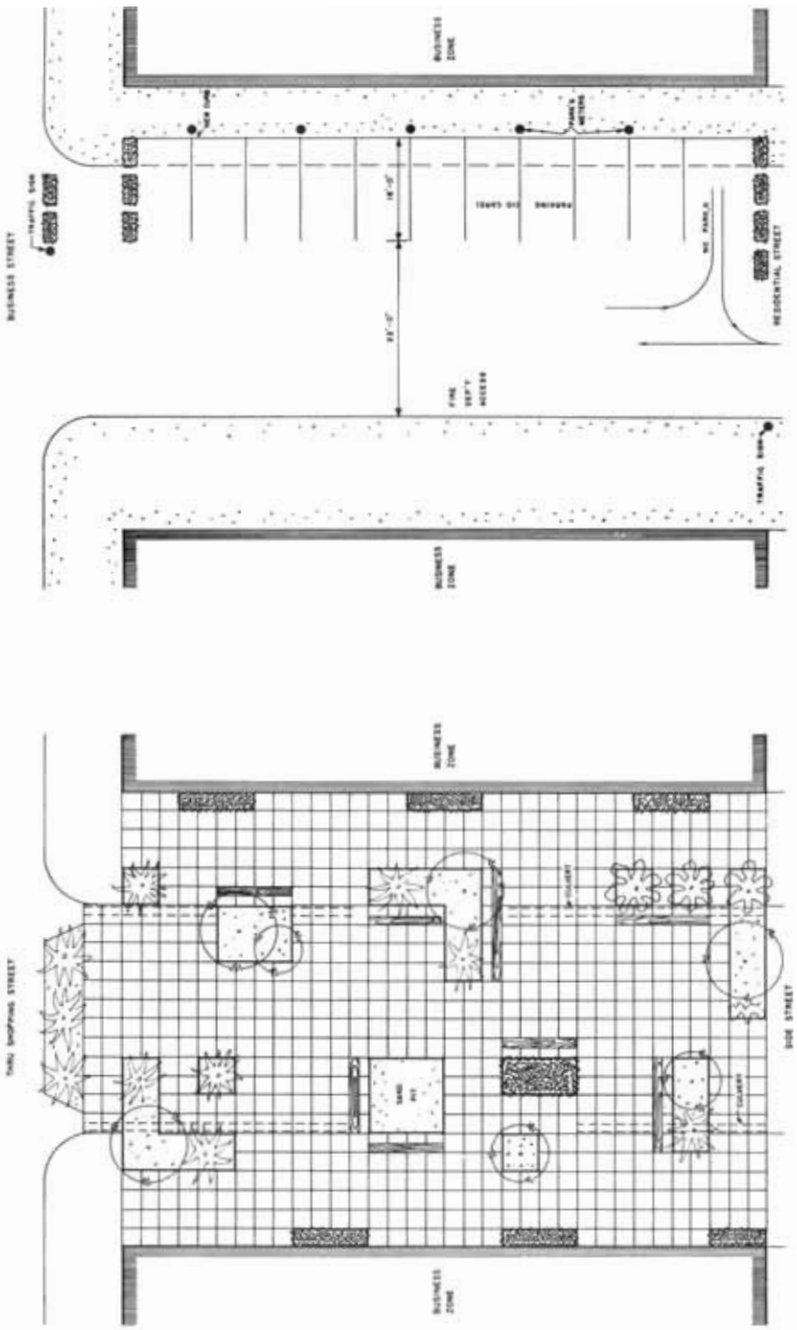
Memorial Stadium. It is recommended that a recreation area of approximately 10 acres be located in the Ironbound Community to replace the facilities now located at the old Memorial Stadium. Such a sports area would include facilities for a field house, running track and a baseball and football field. The playfield would be predominantly used by Newark's senior high schools and civic organizations.

Vailsburg

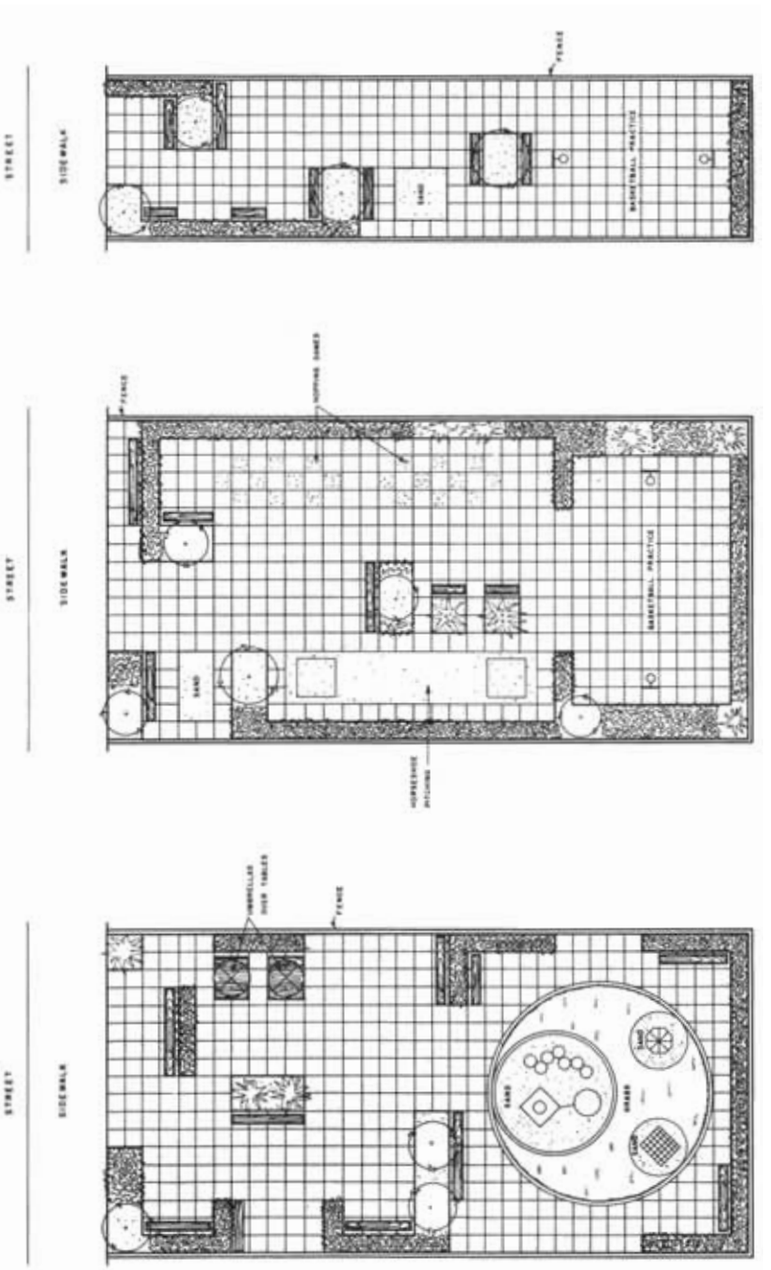
A proposed junior high school and playground in the central section of Vailsburg in addition to the existing Ivy Hill and Vailsburg District Parks would provide this community with needed recreational space.

Hayes Circle South

Two neighborhood parks are recommended for this area, one at the intersection of Sherman and Frelinghuysen Avenues, near Miller Street School covering approximately one acre of land, the other located adjacent to the proposed new elementary school and South Side High School.



Street closing for recreation or parking.



Small recreation area development plans for vacant lots in densely populated areas.

Both parks are to provide landscaped areas for passive recreation and play areas for pre-school age children.

West Side

Due to the existence of a large 30-acre neighborhood park and the size and location of Woodland and Fairmount Cemeteries, no additional park facility is recommended for this section of Newark at the present time.

Belmont

The extension of Hayes Park West to provide additional recreational open space for 18th Avenue School and the Felix Fuld Housing Project is recommended.

West Market

A 10-acre playground and neighborhood park facility is recommended in the vicinity of South Orange Avenue and Norfolk Street. This facility would provide additional recreational space for the proposed new elementary school as well as for Newton Street and Robert Treat Elementary Schools.

Fairmount Renewal Project. This project is in the early planning stages and anticipates providing sites for the expansion of the City Hospital. The City Hospital site will cover approximately eight acres and at least one acre of open space should be provided.

Weequahic

Several small play lots are recommended in the western section of Weequahic. Specific sites are not indicated at this time. Additional recreational space can be provided with the expansion of Bragaw, Hawthorne and Maple Avenue Elementary Schools.

Dayton

Due to the small size and population of the Dayton community and its proximity to Weequahic Park, no additional parks are recommended for this section of Newark.

Clinton Hill

A five-acre neighborhood park is recommended in the vicinity of Seymour Avenue and Hedden Terrace to provide passive recreation and open green space for the Clinton Branch Library, Bergen Street School and the Hebrew Academy of Essex County.

Since the Weequahic-Clinton Hill area is the only major part of the City not served by a municipal pool it is recommended that one be established to serve this area. No specific site for this has been suggested.

Newark North

A riverside park, forming an eastern extension of Branch Brook Park, and a playground are recommended in Newark North. The riverside park would comprise an area of approximately 10 acres and could provide the city with an opportunity of eliminating industrial and general commercial blight along the Passaic River. The Branch Brook Park extension located in the vicinity of Mt. Prospect Avenue would include approximately five acres of open green space and eliminate the existing mixed land uses in this area of Forest Hill. A playground covering two acres of land would occupy the former site of the State Teachers College and provide facilities for young children.

Roseville

A small park which would be used for passive recreation purposes is recommended at the triangular intersection of Bloomfield Avenue, Abington Avenue and North 8th Street. This park facility is part of Newark's Green Acres Proposal and will be financed in part by the State of New Jersey.

SUMMARY

The proposed recommendations under the recreation plan would add approximately 123 acres of park and recreation land to Newark's existing supply. These new facilities are located on the Recreation Plan Map. It is anticipated that an additional 204 acres of needed recreation space will be provided by the Newark Board of Education through its School Site Expansion Program.

Most elementary and special schools are recommended to expand to approximately five acres, providing almost three acres for play facilities and recreation space. New junior high schools are shown located on approximately 10 acres of land, providing almost seven acres for recre-

TYPE OF FACILITY	Existing to be Retained	Existing to be Abandoned	Proposed New Building
Libraries	▲	▲	▲
Colleges and Universities	♦		♦
Police Stations	●	◉	●
Hospitals	◓	◓	
Other Public Buildings	■		

Public Buildings Plan

CITY OF NEWARK, N. J. / MASTER PLAN, 1964

PLANNING CONSULTANT: CANDEUB, FLEISSIG, ADLEY & ASSOCIATES

ational purposes. Proposed neighborhood parks and play fields were located within each community in the vicinity of existing senior high schools to serve as a multi-functional recreational facility. Additional recreation space will also be available through parochial schools and civic organizations.

The acquisition of land for recreational purposes will provide an attractive landscaped setting for many of Newark's public and semipublic buildings and lead to the upgrading of property values in several neighborhoods. The proposed recreation plan, in conjunction with the Landscape and Open Space Controls established in urban renewal projects will provide Newark with a well balanced and adequate park and recreation system.

Public Buildings Plan

Municipal services and functions performed by the City of Newark are located in various buildings throughout the city. These services include health facilities, police and administrative, civic, and cultural facilities. The following section of the Master Plan reviews the overall adequacy of these facilities and recommends a plan for their future development.

PUBLIC LIBRARIES

Newark's Public Library System is an important cultural, educational and recreational facility which serves persons of all ages.

Administration

The library system is administered by a Library Director under the supervision of a Board of Trustees.

Existing Facilities

The Newark Public Library system contains a centrally located Main Library building, a Business Library, which is a department of the Main Library, but located in the business district, eight neighborhood branch libraries, two sub-branch libraries and a bookmobile. The public library system also provides book service to nine hospitals in the city and lends books to public schools through established school libraries and classroom collections.

Condition of buildings used by the main library, business library and eight neighborhood branch libraries are summarized in Table 11.

Other Library Facilities

Three additional facilities consisting of two sub-branches —one in the Mount Vernon Elementary School and the other in the Dayton Elementary School—and a bookmobile are provided by the library system to serve those areas somewhat distant from the present neighborhood branch libraries.

Review of Existing Library System

At present the North Roseville, West Side and Lincoln Park sections of Newark are not adequately served with branch library facilities, and many existing branch libraries are in need of additional book shelving space, book storage areas, and off-street parking facilities.

Main Library. The main library is the second largest reference and research center in the state and serves a population of approximately four and a half million people. Although the library adequately serves Newark residents the library is in need of additional book space and seating areas to meet present regional demands.

The main library building is in good physical condition. The interior and exterior are well cared for and the building is an asset to the community.

STANDARDS

In a modern library system, space is not only needed for the shelving and storage of books and other printed material, but also for reading and reference rooms, for separate children and adult departments and for other special purposes such as meeting rooms, lecture, exhibit and auditorium areas.

The recommended standards for library facilities are as follows:

Main Library

- ☐ Be centrally located
- ☐ Have convenient access by public transportation
- ☐ Be adjacent to the Central Business District
- ☐ Have convenient access by walking or public transit from primary and secondary schools

Branch Libraries

To provide adequate service, the various neighborhood branch libraries should have, as a minimum, a separate children's and adults' departments and should shelve at least 35,000 volumes and:

- ☐ Serve an area no larger than ½ to ¾ of a mile in radius
- ☐ Be located adjacent to local shopping centers where many persons tend to congregate
- ☐ Be within easy walking distance of neighboring schools
- ☐ Should serve a population of no more than 50,000 people

Parking Space

The provision of convenient off-street parking space is considered a necessary feature of any building which is widely used by the public.

Table B presented in the Appendix I summarizes the findings of the University of Illinois Library School as to recommended library building standards.

LIBRARY PLAN

Based on the analysis of library facilities and location

TABLE 11
CONDITION OF BUILDINGS — PUBLIC LIBRARY SYSTEM, 1963
NEWARK, NEW JERSEY

Library Facility	Year Built	Number of Floors	Type of Construction	Number of Books Shelved	Circulation 1962	First Floor Area (sq. ft.)	General Structural Condition
Main	1901	4	Brick and Limestone	866,800	1,222,900	20,000	Good
Branch Brook	—[1]	2	Brick	15,000	63,000	500	Fair
Clinton	1925	2	Brick	22,000	91,800	3,000	Good
North End	1930	2	Brick	19,800	88,400	2,600	Good
Roseville	1924	2	Brick	19,500	94,200	2,600	Good
Springfield	1923	2	Brick	19,000	88,500	3,200	Fair
Vailsburg	1927	2	Brick	21,700	98,700	3,000	Good
Van Buren	1923	2	Brick	23,000	102,100	3,000	Good
Weequahic	1929	2	Brick	32,500	155,600	2,700	Good
Business	1927	3	Brick and Limestone	9,000	11,300	2,300	Good

Source: Mr. J. Bryan, Director of the Newark Public Library System.
Note: All numbers are rounded to nearest hundred.
1 Rented building.

standards it is recommended that three modern, air-conditioned branch libraries be constructed, providing the following facilities: space for 100 readers, 50,000 library books, off-street parking and loading facilities and community meeting rooms.

☐ A new library facility should replace the existing Springfield branch and be centrally located to adequately serve the West Side, Market and Belmont sections of Newark. This facility should be located in the general area of Springfield Avenue between Bergen and Belmont Avenues.
☐ A new library facility should replace the existing Branch Brook branch library and be centrally located to adequately serve the North Roseville section of Newark. This facility should be located in the general area of Bloomfield and Clifton Avenues.
☐ A new branch library should be constructed in the Lincoln Park section of Newark. This facility should be located in the general area of Broad Street and Clinton Avenue.

POLICE FACILITIES

The primary function of the Newark Police Department is the enforcement of all laws and ordinances, the prevention of crime, the preservation of the public peace, the protection of life and property, the detection and arrest of criminals and the recovery of stolen property.

The purpose of this section of the public buildings plan is to evaluate the condition and distribution of the city's police facilities and to recommend a plan for their improvement.

Administration

The Police Department is under the supervision of a Police Director who is responsible for the administration and enforcement of all rules and regulations and the control, disposition and discipline of the Department. The responsibility for the supervision of the Police Department's Patrol and Detective Divisions and all line functions are held by the Chief of Police.

The Police Department is divided into five major Divisions; the Administrative Division, the Detective Division, the Investigation Division, the Patrol Division and the Traffic Division.

Existing Facilities

Police Headquarters—Police Headquarters is located adjacent to City Hall between Franklin and Green Streets. The building was originally constructed as an office building in 1916, and was converted into the present police headquarters. The structure is of brick and stone construction and is four stories high. Police Headquarters Building houses the following police functions:

The offices of the Detective, Investigation, Patrol, Traffic and Administrative Divisions, office of the Police Director, Chief of Police, Business, Public Relations, Planning and Research, Inspection, Polygraph and Surgeon, Identification, Photograph, Central Communications, I.B.M., and Criminal Records Rooms, and a cell block.

First Precinct—The First Police Precinct is located on Washington and Court Streets. The present structure, constructed in 1908 is a three story brick and limestone building. The building houses the following police functions: police offices, administrative offices, a court room, cell blocks, a business and assembly room, traffic record room, school crossing guard's section and locker and storage facilities. The precinct also includes a garage for storage of a patrol wagon, station wagon, signal truck and motorcycles.

Second Precinct—The second police precinct is located on Orange Street and Sixth Street. The building was constructed in 1903. The structure is of brick construction and is three stories high. The building houses the following police functions: police offices, Youth Aid Bureau Offices, Police Athletic League, gymnasium, a cell block, a business and assembly room, and locker and storage facilities. Other facilities include a garage and stable.

Third Precinct—The Third Police Precinct is located on Market and Read Streets and is over 50 years old. The building is of brick construction and is two stories high. The precinct houses the following facilities: assembly and business rooms, police office, a cell block, various

police rooms, and storage and maintenance rooms.

Fourth Precinct—The Fourth Police Precinct is located on Seventeeth Avenue and Livingston Street and was built in 1904. The building is of brick construction and is three stories high. The precinct houses the following facilities: police offices, an assembly room, a gymnasium, various police rooms, and storage and maintenance rooms. Other facilities include a garage and stable.

Fifth Precinct—The Fifth Police Precinct is located on West Bigelow and Hunterdon Streets and was built in 1912. The building is of brick construction and is three stories high. The precinct houses the following facilities: police offices, assembly room, Police Athletic League, activity rooms, various police rooms, and storage and maintenance rooms. Other facilities include a garage.

Emergency Bureau—The Emergency Bureau is located at 77 Academy Street and was built in 1918. The building is of brick and stone construction and two stories high. Facilities include: a lecture hall, emergency equipment room, police offices, a library, and storage and maintenance rooms.

Police Academy—The Police Academy is located as 1008 18th Avenue and was built in 1931. The building was originally used as a firehouse and is of stone construction, three stories high. Facilities include: a gymnasium, handball court, lecture hall, chemical laboratory, ballistics room, physical instruction room, a gun room, ammunition and firearms vaults, various police rooms and storage facilities.

Table 12 summarizes the existing physical facilities of the Police Department.

TABLE 12
POLICE FACILITIES, 1963
NEWARK, NEW JERSEY

Facility	Year Built	No. of Stories	Ground Floor Area (sq. ft.)	Area of Site (sq. ft.)	Capacity of Garages (no. vehicles)	Off-Street Parking Spaces
Headquarters	**1916**	**4**	**7,081**	**28,498**	**0**	**65**
1st Precinct	**1908**	**3**	**4,052**	**13,566**	**6**	**0**
2nd Precinct	**1903**	**3**	**3,360**	**12,650**	**2**	**0**
3rd Precinct	**N.A.**	**2**	**2,356**	**9,975**	**2**	**12**
4th Precinct	**1904**	**3**	**3,586**	**8,300**	**3**	**0**
5th Precinct	**1912**	**3**	**3,360**	**14,850**	**4**	**6**
Emergency Bureau	**1918**	**2**	**4,176**	**4,176**	**6**	**0**
Police Academy	**1931**	**3**	**5,624**	**N.A.**	**0**	**4**

Source: Survey conducted by Division of City Planning, Newark, New Jersey.
N.A. Not Available.

Evaluation of Existing Facilities

The structures housing Newark's police precincts are not providing adequate facilities for the most efficient operation of the Police Department. The judicial function of the courts within many of the precincts has been centralized, and adequate garage and off-street parking facilities are needed. Probably the most significant deficiency in the functioning of the police operation is the decentralization of Police Departments. Authoritative sources on police administration point out the following disadvantages of district or precinct stations:

- ☐ Planning, directing, coordinating, and controlling police operations are made more complicated.
- ☐ The control of special divisions over members assigned to district stations is weakened.
- ☐ Efforts to tighten this weakened control jeopardize the authority the district commander must have if he is to be held responsible for conditions and police operations in his district.
- ☐ The transmission of information, instructions and records, and the custody and transfer of prisoners, property, and evidence is made more complicated.
- ☐ District stations are costly: the site and building with its communications, office, jail, and motor equipment require a large capital investment; the operation of the station necessitates additional personnel, utility, and other operating expenditures.
- ☐ District stations, by their easy availability and convenience of location, tend to increase the total amount of wasted time that seems inevitable in any police office. They provide opportunities for both official and unofficial persons to pass the time of day, thus wasting expensive police time and in many instances exerting even more unwholesome influences on the police.

The centralization of police facilities in Newark will provide the following advantages:

- ☐ Centralized operations have been estimated to save the city nearly $3.5 million in capital investment for new precinct buildings within the next six years, and will return as tax ratables the sites of the existing precincts, in addition to reducing operating and maintenance costs of the department. Studies should be undertaken to determine whether the existing buildings should be rehabilitated or demolished.
- ☐ The savings derived by the gradual abandonment of precinct stations should provide added incentive to the construction of a new and adequate police headquarters equipped with all the modern devices necessary for efficient operation.
- ☐ A program of police facilities centralization will help to streamline the department and provide up-to-date facilities to cope with the pressing demands made on police protection.

POLICE FACILITY PLAN

It is recommended that a new Headquarters Building be constructed in the Core Area which will permit a centralization of all police functions. A result of such a new police facility would make possible the elimination of all local precinct station houses and increase the coordination of a number of interdependent operations such as the Police Academy, the Crime Laboratory, the Emergency Bureau and the Traffic Division.

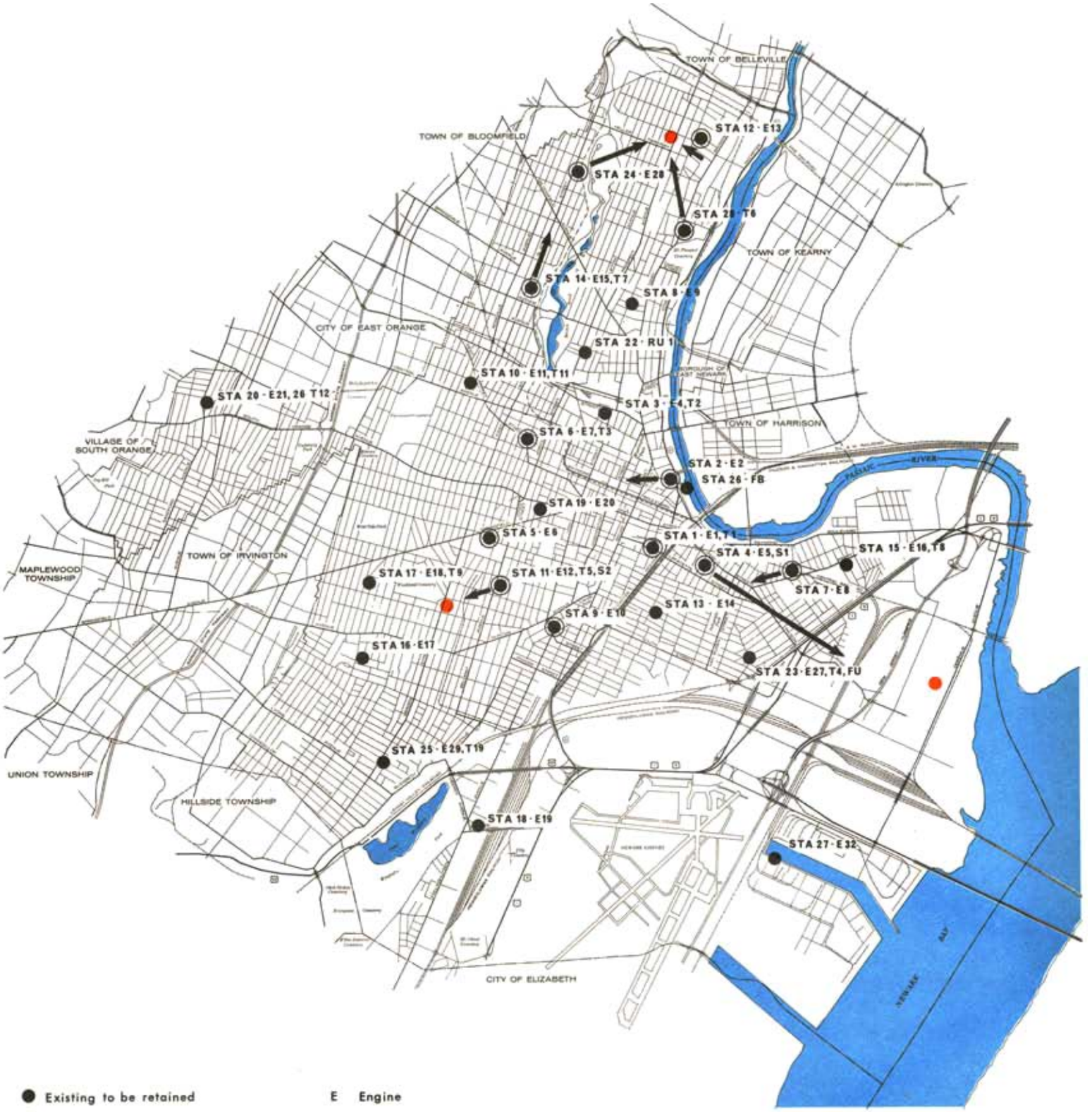
It is further recommended that a parking garage be built adjacent to the new Police Headquarters Building to provide adequate off-street parking facilities for both police employees and visitors.

FIRE FACILITIES

Public fire fighting activities in Newark are carried out by the Fire Department. The fire stations, apparatus and men of this department are organized into five operating battalions consisting of 41 fire fighting companies. These battalions and companies respond to fires in the various sections of the city according to a definite prearranged pattern.

Administration

The Newark Fire Department was organized in 1889 as part of the Department of Public Safety. In 1954, a separate fire department was created under the supervision of a Chief Engineer and Director. Their responsibilities include the coordination and control of the following sections:



- Existing to be retained
- Existing to be replaced
- Proposed new stations
- Relocation of existing companies

E Engine
T Truck
S Salvage
FB Fire Boat
FU Foam Unit
RU Rescue Unit

Fire Station Plan

CITY OF NEWARK, N. J. / MASTER PLAN, 1964

PLANNING CONSULTANT: CANDEUB, FLEISSIG, ADLEY & ASSOCIATES

Fire Fighting Division—This division operates the engine, ladder, rescue, searchlight, salvage, and fire boat companies.

Fire Alarm and Radio Division—This division is charged with the construction, installation, testing and maintenance of the Department's alarm system. It also supervises the Department's radio system and is responsible for the reception and sounding of fire alarms.

Fire Prevention Bureau—The Fire Prevention Bureau was formed in 1962, and is responsible for the coordination and control of the following three bureaus:

Bureau of Combustibles—This Bureau enforces all provisions of the Municipal Fire Prevention Code. Daily inspections of all types of buildings are made by Bureau members to eliminate fire hazards and to act upon code violations.

Fire Records Bureau—This Bureau is responsible for the investigation and compilation of fire losses throughout the city.

Arson Bureau—All fires and fire alarms of unknown cause are investigated by the Arson Bureau. Official findings are forwarded to the Essex County Prosecutor's office for their attention.

Training Academy—The academy operates on a year round basis and provides instruction for new firemen and members of fire brigades from local industry and hospitals in fire fighting procedures. In addition, periodic retraining is available for firemen and officers.

Salvage Company—Two salvage companies have the task of protecting furnishings and equipment during fires. Members of these companies respond to all alarms and enter the building to cover or remove furnishings where possible. This prevents damage due to flame or water.

Existing Facilities

Apparatus and Equipment Companies—There are twenty-five engine, one fireboat, twelve ladder, one rescue, two salvage and one floodlight company in service in twenty-seven stations, including thirty-five pumpers.

Fire Stations—The effectiveness of the various fire fighting companies is in part dependent upon the physical adequacy and location of the existing fire stations. Station locations determine the pattern of response to fire calls throughout the city.

Fire Station Inventory—Of Newark's 27 active fire stations, almost 75 percent of the buildings are more than 50 years old. Only three stations have been constructed since 1925. The average age of the fire stations in Newark is almost sixty years. Buildings are predominately two stories in height, of frame or brick and wood non-fireproof construction. Table U presented in Appendix 2 summarizes conditions of Newark's fire stations.

Fire Alarm System—Fire alarms are received by the Fire Alarm Bureau and then relayed to appropriate emergency forces. The maintenance of a separate "hazard proof" alarm system is considered essential for emergency use.

Fire Alarm Facilities—The fire alarm headquarters is located on the fourth floor of the fireproof City Hall building. The system uses manually operated equipment consisting of a switchboard, relay board, punch registers for receiving telegraph alarms and a private branch switchboard. In addition, a separate radio system with receiving and transmitting facilities is used by the Fire Department.

Alarm Box Facilities—There are 1,114 alarm boxes distributed throughout the city; 924 of these boxes are city-owned, with the remainder being privately-owned. The alarm boxes are mounted, predominantly, on wooden utility poles or metal pedestals, and when the handle of an alarm box is pulled, a series of telegraphic code impulses are transmitted to alarm headquarters.

Maintenance and Repair Facilities—Major repair and maintenance of all Fire Department vehicles is performed at the Centralized Bureau of Motors repair shop. Minor

TABLE 13
FIRE STATION PLAN
NEWARK, NEW JERSEY

STATION	COMPANIES HOUSED	LOCATION	CONSIDERATION
1	Engine 1 Truck 1	Mulberry and Lafayette Sts.	Construct new building on or near present site.
2	Engine 2	Center St. & McCarter Hwy.	Relocate to new building west of Broad St.
3	Engine 4 Truck 2	High St. near Orange St.	Retain
4	Engine 5 Salvage 1	Congress St. near Ferry St.	Relocate Engine to new building in NJR-121, Industrial River U.R. Project. Relocate Salvage 1 to an existing building.
5	Engine 6	Springfield Ave. & Hunterdon St.	Construct new building on or near existing site.
6	Engine 7 Truck 3	At Market St. & Warren St.	Construct new building near present site in NJR-72, Fairmount U.R. Project.
7	Engine 8	Ferry St. & Filmore St.	Relocate farther west on or near Ferry St.
8	Engine 9	Summer Ave. & Kearney St.	Retain
9	Engine 10	Sherman Ave. & Astor St.	Relocate to new site (location to be determined)
10	Engine 11 Truck 11	Central Ave. & 9th St.	Retain
11	Engine 12 Truck 5	Belmont Ave. near Waverly Ave.	Relocate to new building at Avon Ave. & Bergen St.
12	Engine 13	Summer Ave. & Halleck St.	Relocate to new building at Mt. Prospect Ave. near Grafton Ave.
13	Engine 14	Vesey & McWhorter Streets	Retain
14	Engine 15 Truck 7	Park Ave. & Sixth St.	Relocate to new building North of Park Ave.
15	Engine 16 Truck 8	Ferry & Brill St.	Retain
16	Engine 17	Clinton Pl. & Runyon St.	Retain
17	Engine 18 Truck 9	Avon Ave. & So. 14th St.	Retain
18	Engine 19	Meeker Ave. & Frelinghuysen Ave.	Retain
19	Engine 20	Prince St. Between So. Orange Ave. & Springfield Ave.	Retain
20	Engine 21 Truck 12 Engine 26	Sandford Ave. & Palm Street	Retain
21	Out of Service		Retain
22	Rescue 1	Mt. Prospect Ave. near 6th Ave.	Retain
23	Engine 27 Truck 4 Foam Unit	Elm Road & Chestnut Street	Retain
24	Engine 28	North 6th Street Davenport Ave.	Relocate to new building on Mt. Prospect Ave., near Grafton Ave. (new Station 12)
25	Engine 29 Truck 10	Bergen St. & Lehigh Avenue	Retain
26	Fire Boat 1	Passaic River, foot of Centre Street	Retain
27	Engine 32	Terminal & Dock Sts.	Retain
28	Ladder 6	Broadway & Herbert Pl.	Relocate to new building on Mt. Prospect Ave., near Grafton Ave. (new Station 12)

maintenance care is provided at the Department of Public Safety's repair shop.

Standards

Standards set by the National Board of Fire Underwriters for a city such as Newark require the following:

High Value Districts—A pumper company should be within three-fourths of a mile distance from any point in this district. A ladder company should be within one mile of any point within this district.

Closely Built Residential—A pumper company should be within one and one-half miles of any point in this area and a ladder company within two miles.

Areas of Scattered Buildings—A pumper and ladder company should be within three miles of this type of development.

Evaluation of Existing Conditions

Newark presently exceeds the equipment location standards set by the National Board of Fire Underwriters. Few areas are covered by less than two or three engine companies and in some areas as many as six and seven engine companies are within recommended response distances. Twenty-two engine companies are within three miles running distance of Broad and Market Streets, the center of the High Value District.

In evaluating the location of fire stations, consideration must be given to factors other than distance. High density residential development, industrial development, numerous commercial areas and many old closely built frame residential structures dictate the location of fire facilities.

FIRE STATION PLAN

The proposed plan is aimed at correcting those major deficiencies that affect the location of fire stations and their overall physical condition. The program will reduce the number of stations in operation by five. However, a total of fifteen stations in all are recommended to be relocated, replaced or eliminated by the construction of ten new buildings. Table 13 summarizes the plan recommendations.

HEALTH FACILITIES

Newark's health facilities consist of city, hospital, city nursing home and city dispensary as well as many private facilities.

Administration

The Department of Hospitals and Institutions is responsible for the Administration of the City Hospital, Ivy Haven Nursing Home and numerous clinics throughout the city, while the Department of Health and Welfare is responsible for the administration of the City Dispensary and a General Public Health Program for Newark.

Existing Public Facilities

City Hospital. City Hospital formally called Martland Medical Center is located on Bergen Street and 12th Avenue and is a modern 17-story general hospital operated by the city for the medical and surgical care of the indigent sick and emergency cases. The hospital provides 780 beds and has 52 bassinets for infants.

Ivy Haven Nursing Home. Ivy Haven Nursing Home is located on Irvington Avenue in the Ivy Hill Section of Newark. Originally, Ivy Haven Nursing Home was operated as the Newark City Alms House. It was established to place the needy of all ages, suffering from all types of ailments under the proper medical supervision and care. The Nursing Home was constructed in 1916 and consists of a cluster of nine buildings. Through reconstruction and additions the home now provides 252 beds for long-term patients.

Reorganized and merged with facilities of the former convalescent hospital, today's Ivy Haven Nursing Home is fully equipped and is an accredited medical institution capable of caring for the chronically ill, aged, and convalescent patients.

City Dispensary—The City Dispensary provides medical care, treatments and medication without charge to its medically indigent and relief clients. Home medical care is also provided through a staff of physicians who volunteer to be on call to render such service, as well as by the Visiting Nurse Association. Prescriptions are also filled for patients treated at the Newark City Hospital and other hospitals in Newark, after clearance with the City's Social Service Department. In addition medications, biologicals, and medical supplies are distributed by the Dispensary to parochial schools, child hygiene stations and other school centers.

Existing Private Facilities

United Hospitals of Newark

The following four hospitals are part of the United Hospitals of Newark Organization:

Presbyterian Hospital. Presbyterian Hospital is located on 9th Avenue and 9th Street in the West Side section of Newark. The hospital provides medical care in gynecology, obstetrics, pediatrics as well as general medical and surgical facilities. As of 1958, Presbyterian Hospital had a bed capacity of 286 and an average occupancy level of 94.7 per cent of capacity.

Babies Hospital. Babies Hospital is located on Roseville Avenue and Market Street in the West Market section of Newark. Babies Hospital specializes in pediatrics. As of 1958, the hospital had a bed capacity of 72 and an average daily occupancy level of 73.6 per cent of capacity.

Crippled Children's Hospital. Crippled Children's Hospital is located on Park and Clifton Avenues in the north Newark section of the city. The hospital is essentially an orthopedic hospital but provides surgical facilities and pediatric care as well. As of 1958 the hospital had a bed capacity of 88 and average daily occupancy level of 90.9 per cent of capacity.

Eye and Ear Hospital. Eye and Ear Hospital is located on Central Avenue and Plane Street in downtown Newark. The hospital specializes in neurosurgery and general surgical treatment. In 1958, the hospital had a bed capacity of 55 and an average daily occupancy level of 92.7 per cent of capacity.

Other Hospitals. As of 1961 eight other hospitals were located within the City of Newark providing space for approximately 2,400 beds. These include Beth Israel, American Legion, St. Michaels, St. Barnabas, Columbus, St. James, Doctors, and Cahill Hospitals. St. Barnabas Hospital however, is in the process of being relocated and as a result approximately 230 beds will be eliminated from use within Newark.

Evaluation of Existing Health Facilities

The demand for communitywide planning of hospital facilities and services has grown significantly in the last few decades. Such planning has been accelerated by the growing volume and diversity of services, the urgent need for construction of new buildings and overdue rehabilitation and replacement of existing plant and equipment. Newark is faced today with these problems and needs. The continuing shift of population to the suburbs, the

influx of new people into Newark, the rapid change in community composition have all brought additional demands on city health and medical facilities.

The existing facilities of city hospitals are in many respects inadequate to provide the growing services required to meet community needs. The limitations are primarily concerned with bed space and the lack of medical specialists to provide the increasing array of medical services required to keep pace with progress in the field of medical science.

HEALTH FACILITIES PLAN

Presentations made by six hospitals to the Hospital and Health Council of Newark indicated that plans for new construction and rehabilitation of their existing plants would require approximately $47 million in capital financing. Completion of the projected Capital Improvement Program would add approximately 1,700 beds, replace and renovate existing beds, and provide for the modernization and expansion of present facilities. Most of the proposed improvement programs are related to the general hospital service, with limited provision for psychiatry and long-term care. Table 14 summarizes the projected costs for these hospitals.

TABLE 14
PROPOSED HOSPITAL CONSTRUCTION AND REHABILITATION PROGRAM NEWARK, NEW JERSEY, 1961[1]

Hospital	Estimated Costs
American Legion	$ 2,575,000
Beth Israel	5,781,000
Cahill	N.A.
Columbus	3,500,000
Doctors	N.A.
St. James	5,000,000
St. Michaels	11,250,000
United Hospitals	14,000,000
City Hospitals and Institutions[2]	479,000
TOTAL	$47,396,000

Source: Hospital and Health Council of Newark Report, December, 1961.
N.A. Not Available.
1 As submitted by Hospitals.
2 As part of Capital Improvement Program from 1958 - 1969.

It is recommended, with the full agreement and participation of the various hospitals serving Newark, that a coordinated areawide study be undertaken. This study should analyze the existing health and medical facilities and services which are available to area residents and project future hospital needs for Newark.

Public Utilities

An important factor influencing new development in Newark is the availability of utilities to meet the needs of new development. The analysis of utilities includes a review of past engineering studies and recommendations regarding Newark's water supply and distribution system, refuse collection and disposal system, and sanitary and storm sewerage system.

WATER SUPPLY AND DISTRIBUTION

The water distribution system serving Newark is owned and operated by the city. The two major sources of water supply for Newark are the Pequannock Watershed purchased in 1900, and the Wanaque Watershed purchased by Newark and several other communities in 1930.

Administration

The Division of Water Supply which is part of the Department of Public Works is responsible for the operation and maintenance of all reservoirs, aqueducts, distribution mains, hydrants, valves and other structures or facilities used to supply water to the city and nearby communities who purchase water from Newark.

Existing Facilities

The 1952 National Board of Fire Underwriters report on Newark's water system and information received from the Public Works Department were the basic source of data for the following discussion of Newark's existing water supply and distribution system.

Supply System—The high level supply comes from a group of impounding reservoirs storing about 14.4 billion gallons in the Pequannock Watershed area. This watershed is located about 22 miles northwest of the city and is owned and operated solely by Newark. The estimated safe yield of this supply is 58.7 million gallons a day.

The low level supply comes from the Wanaque Reservoir with a storage capacity of 29.5 billion gallons, and supplemented with water diverted from the Ramapo River to make Newark's share of the safe yield 49.0 million gallons a day. The Wanaque Watershed area is located 21 miles northwest of the city and is adjacent to the Pequannock Watershed. It is operated by the North Jersey District Water Supply Commission.

Distribution System—Water from the Wanaque Watershed is supplied by gravity to the distribution reservoir in Belleville. Water from the Pequannock Watershed is delivered by gravity to the distribution reservoir at Cedar Grove which in turn supplies, by gravity, the South Orange Avenue Reservoir and if necessary the Belleville Reservoir. Table 15 lists the impounding and distribution reservoirs serving Newark and indicates the year built, elevation of the reservoir and capacity.

Service Lines—Water from the three distributing reservoirs is channeled through five service lines varying in size from 24 inches at South Orange Avenue reservoir to a 60 inch at Cedar Grove Reservoir.

Pressure—Pressure ranges from 40 to 130 pounds per square inch in the general purpose supply and from 100 to 160 pounds per square inch in the special high pressure supply for fire fighting.

Mains—The Newark Water Supply System has 77 miles of supply lines and 495 miles of distribution mains varying from 4 to 42 inches. There are 32 miles of high pressure mains, 6 to 30 inches in diameter. The mains are predominantly tar coated cast iron or cement lined cast iron, the latter being used since 1930.

Hydrants—The number of hydrants in service in 1962 were 4,628 low pressure and 404 high pressure hydrants.

Hydrants are generally located near street intersections with intermediate hydrants in long blocks. Locations are determined by the Division of Water Supply.

Water Consumption

The average daily delivery of water, measured at the principal supply mains indicated an average usage of 78.6 million gallons a day or approximately 194 gallons per capita for 1962.

Evaluation of Existing Water System

Quantity—Reservoirs are well situated at elevations which can supply the city almost completely by gravity. Water storage capacities and sources of supply are now fully developed and can be expanded to serve future needs. The Round Valley development is expected to supply Newark with an additional 10 million gallons daily when complete.

Quality—The water supplied meets United States Public Health standards for drinking purposes.

Fire Fighting—Fire fighting requires high rates of flow and should therefore govern the size of mains, pumps and other facilities. The National Board of Fire Underwriters has conducted tests which indicate that quantities and pressure of water available for fire fighting in Newark are adequate.

TABLE 15
RESERVOIRS SERVING NEWARK AND VICINITY, 1963

Reservoirs	Year Built	Elevation (Ft. Above Sea Level)	Capacity (In Million Gal.)
STORAGE			
Oak Ridge	1889	846	3,895
Clinton	1889	9,922	3,518
Canistear	1892	1,086	2,407
Charlotteburg	1961	737	2,964
Echo Lake	1889	894	1,678
Macopin	1889	583	32
Wanaque Balancing Reservoir	1930	258	15
DISTRIBUTION			
Belleville	1869	165	14
Cedar Grove	1904	405	679
South Orange	1871	236	9

Source: National Board of Fire Underwriters report, Newark, New Jersey, 1952 and information supplied by the Department of Public Works.

REFUSE COLLECTION AND DISPOSAL

The many activities in Newark daily produce a large quantity of waste material or refuse which is disposed by the city. Since public health is involved, it is the responsibility of the City of Newark to regulate the handling, storage and disposal of these wastes.

Administration

The Division of Sanitation of the Department of Public Works is responsible for the collection and disposal of refuse.

Existing System

Collection—The Division of Sanitation has approximately 50 trucks available to collect refuse from 17 collection districts. Collections are made usually two to three times a week depending on the density of the area served. Commercial and industrial collections are made on a bulk limit of 100 pounds or 3 bushels per establishment; refuse in excess of this amount must be privately collected and disposed of.

Disposal—At present, refuse is disposed of by sanitary landfill methods at a privately-owned dumping ground in the Town of Kearny. The City of Newark leases the right to use this land for disposal purposes at a cost of seven cents per cubic yard of refuse.

Refuse Quantity—The annual amount of mixed refuse which has been collected since 1945 has fluctuated from a high of 1,400,540 cubic yards in 1950 to approximately 926,000 cubic yards as of 1963.

Per Capita Refuse Collection—Table 16 reviews past trends in per capita refuse collection in Newark.

Available Disposal Methods

In adopting a permanent refuse disposal system for the future, the merits of the following methods should be considered: ash dumping, incineration, composting and sanitary landfill.

TABLE 16
PER CAPITA REFUSE COLLECTION 1945-1963
NEWARK, NEW JERSEY

Year	Annual Total	Population	Cubic Yards (Per Capita)
1945	1,037,000	434,300	2.39
1950	1,401,000	438,800	3.19
1955	1,346,000	420,000	3.20
1960	960,000	402,800	2.38
1963[1]	926,000	405,220	2.29

Source: Municipal Incineration Report for Newark, New Jersey, 1963, L.
1 City Clerk's Office.
Booz, Consulting Engineer.

Ash Dumping—The advantages of open dumping of ashes are its economy and the opportunity it offers in providing fill to reclaim low areas for use. It is a satisfactory method when properly handled although fly ash becomes a nuisance when dumps are located too near developed areas. Ash dumps become objectionable when the site is used for disposing of other types of rubbish.

Incineration—Incineration is an excellent disposal method for garbage and combustible rubbish but it requires a large capital investment and high operating and maintenance costs. It is not a complete process and requires a site elsewhere for disposal of ash and non-combustible rubbish which represents one-eighth to one-fourth of the original volume of refuse. Poor incinerator operation may cause objectionable fly ash and odors.

Composting—Composting is a decaying process which is restricted exclusively to the disposal of garbage and which results in a by-product usable for agricultural humus or fertilizer. Composting has not been used widely in this country because it is still experimental in nature and because initial costs are high. Use of this method requires separate disposal of rubbish and ashes.

Sanitary Landfill—The sanitary landfill method can dispose of any or all types of refuse. It is a planned and systematically conducted method in which each day's refuse is compacted in trenches or gullies and sealed by

burial under a 2-foot layer of earth. When properly conducted, it is a satisfactory, economical and sanitary disposal method. It has the additional advantage of furnishing the fill needed to reclaim low areas or unusable land for recreational, or residential or light industrial use.

Successful use of this method requires that it be thoroughly planned in advance, that the soil be tested by borings and that the area be mapped. Supervision is necessary to assure that the original plan is followed and that each day's deposit is sealed to form a closed cell.

The system has been the subject of considerable attention in recent years and is now a common method successfully used by many cities of all sizes, some of which abandoned incineration to convert to this method. The United States Public Health Service recommends it as an effective means of disposal.

Summary

Of the refuse methods available landfill alone handles the entire operation in a sanitary and economical manner. Incineration is good but expensive and requires a sizeable additional dump with attendant nuisance and health problems; ash dumping is a satisfactory but incomplete method; and composting is somewhat experimental to be considered at this time. In view of Newark's proximity to the Meadowland, an important additional consideration is the possibility of using refuse for fill to reclaim land for future use.

RECOMMENDATIONS

The refuse collection and disposal methods now used in Newark appear satisfactory. The present site now being rented covers an area of approximately 1,000 acres and is adequate for Newark's needs. In addition, the rental cost seems reasonable in comparison to other nearby municipalities. Because of the necessity to periodically negotiate the rental contract at the existing dump site, and the probability of land scarcity in the future, alternate disposal methods should be studied with respect to the City's long-term needs.

SANITARY AND STORM SEWERAGE SYSTEM

Newark's sewerage system is a network of drains designed and constructed for the purpose of collecting and disposing the liquid wastes of the city. Generally, sewerage systems are divided into two types—sanitary and storm sewers. Sanitary sewers collect and dispose the liquid wastes from individual properties while storm sewers are specifically used to collect and carry off rain water to some natural water course such as a stream or other body of water.

Administration

The operation, maintenance and construction of the city's sanitary and storm sewers is the responsibility of the Bureau of Sewers which is a division of the Department of Public Works.

Existing Facilities

The existing Newark sewerage system has been developed over a period of many decades. During the early years of Newark's development, sewers were designed and constructed on the basis of a combined system for both sanitary sewage and storm drainage. However, as the city's size expanded and outlying districts were annexed, separate sewerage systems were constructed. The present practice is to provide separate systems wherever possible. The one area of the city which is yet to be serviced with sewer lines is the undeveloped Meadowland section.

Sewage Treatment—At the present time all the sewage from the central section of the city is treated at the Passaic Valley Sewerage Commission's Treatment Plant located on Wilson Avenue at Avenue P. This plant not only serves the City of Newark but also serves all the towns and municipalities bordering on the Passaic River as far north as Paterson. The sewage from the westerly section of the city is treated at the Joint Meeting Sewage Treatment Plant in Elizabeth. Sewage from the Weequahic and westerly Clinton Hill sections of the city is presently being disposed of through Peddie Ditch which empties into Newark Bay. This condition will soon be eliminated with the construction of the South Side Interceptor Sewer.

Sewer Lines—The main sewer line in Newark extends from the northern section of the city along McCarter Highway across the Pennsylvania Railroad tracks along Ferry Street and Wilson Avenue to the Passaic Valley Treatment Plant. The major branches which flow into the main sewer extend along the following avenues: Springfield, South Orange, Central, Avon, Hawthorne, Bloomfield, Clinton and Verona. All sewage which is treated in Newark flows by gravity from existing sewer lines to the Newark Bay pumping station. It is then treated at the Passaic Valley Sewage Treatment Plant.

Due to the existence of a combined sewer system in the older sections of the city, regulators have been installed at twelve locations along the main sewer line.

These control valves relieve the load placed on existing sewer lines during heavy periods of run-off by regulating the flow of sewage into the main sewer line and providing for the discharge of excess water into the Passaic River.

Table 17 indicates the total length of each type of sewer and a breakdown of the different materials used for sewer lines.

Evaluation of Existing Sewerage System

The present sewer system does not provide service in the southern area of the city. Lack of sewer lines in this section of Newark necessitates the dumping of raw sewage and untreated industrial waste into Newark Bay. Because of this serious health and sanitary problem, the city has developed plans for the construction of a South Side Interceptor Sewer. This sewer will collect and convey sanitary sewage and industrial wastes originating in the southern section of the city to the Newark Bay Pumping Station at the Passaic Valley Treatment Plant.

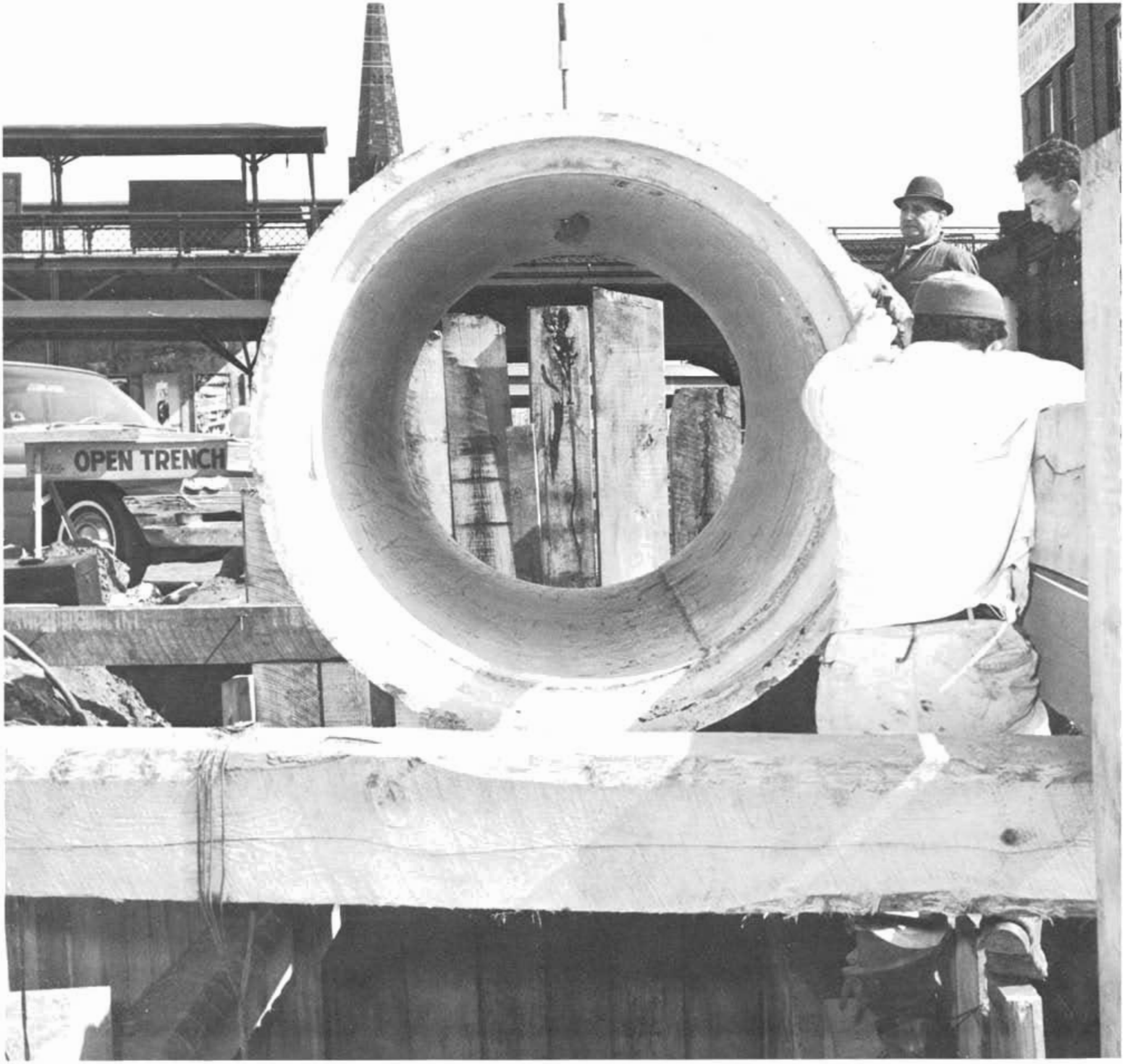
Another serious problem which faces Newark at this time is the need for replacement of many of the combined sewers in the intensively developed sections of the city. Most of these sewers are 80 to 100 years old and due to natural deterioration over the years should be replaced.

The 1964-69 Capital Improvement Program has provided funds for the replacement of many of these lines and is following a continued program of replacing all sewer lines which do not adequately serve existing areas.

TABLE 17
LENGTH OF SEWERS BY TYPE AND MATERIAL, 1962
NEWARK, NEW JERSEY

Material	Sanitary Sewers (Miles)	% of Total	Storm Sewers (Miles)	% of Total	Combined Sewers (Miles)	% of Total	Total Length (Miles)	% of Total
Stone	—	—	0.06	0.0	0.18	0.0	0.24	0.1
Concrete	7.78	2.0	4.67	1.2	3.61	0.9	16.06	4.0
Reinforced Concrete	3.40	0.9	39.47	9.9	13.81	3.5	56.68	14.2
Brick	5.20	1.3	2.24	0.6	59.78	15.0	67.22	16.9
Vitrified Clay Pipe	98.98	24.8	9.57	2.4	148.38	37.2	256.93	64.5
Cast Iron Pipe	1.36	0.3	0.07	0.0	0.02	0.0	1.45	0.4
TOTALS	116.72	29.3	56.08	14.1	225.78	56.6	398.58	100.0

Source: Bureau of Sewers, Department of Public Works, 1962.
Note: Numbers may not add up to total due to rounding.



Sewer repairs on Plane Street, Newark.

Cullimore Hall and construction of new building for Newark College of Engineering.

Construction of new Rutgers University Campus.

PLAN IMPLEMENTATION

A Master Plan is effective only to the degree to which it is used as a guide to action. Only through a comprehensive approach to Newark's problems can significant improvements be made. The Master Plan is a start. Action by the city must follow to assure the potentialities and prospects envisioned in this plan.

The principal tools for effectuating the proposals contained in the plan section include urban renewal, regulatory controls and capital improvement programming. The impact of the renewal program was discussed in detail in other sections of this report. This section discusses implementation of the Master Plan through the zoning ordinance, subdivision regulations, other codes and ordinances and through the use of the capital improvements program.

Newark's Zoning Ordinance

Newark's chief instrument for development control is the Zoning Ordinance. The regulations contained in this ordinance determine the character and intensity of land development within the city. Because major portions of Newark will be redeveloped during the next ten years, it is important to examine and evaluate the type and character of development permitted under the present Ordinance.

The Zoning Ordinance controls three general aspects of development:

1) The use of land and buildings,
2) The intensity of development,
3) The provision for off-street parking and other supporting facilities.

An analysis of these three categories of regulations follows with recommendations for modifications necessary to update the Ordinance to contemporary standards.

REGULATION OF LAND USES

The present Zoning Ordinance, which was adopted in 1948 and subsequently amended provides eleven zone districts including four residential districts, four business districts and three industrial districts.

The distribution of land use within the city is divided among these eleven districts and is shown on the Zoning Map which is a part of the Zoning Ordinance. An overall examination of the Zoning Map shows that residential zones are found in most of the areas in the western part of the city; industrial zones are in the Meadows, along the Passaic River and spotted within residential neighborhoods; and business zones are found in the Core Area, along most arterial and collector streets and in some of the residential areas.

This type of zoning pattern with extensive commercial strips, the intermixture of industrial and residential areas and relegation of residence zones to areas not pre-empted by commercial or industrial uses is usually found in older zoning ordinances which tend to reflect past development patterns rather than guide future changes and improvements.

Residential Zones

The residential zones follow the pattern of densities established throughout Newark before the 1930's. While offering protection to the existing residential uses, this arrangement of districts virtually prohibits an orderly change in those areas where such change is appropriate.

Recommendation

It is, therefore, recommended that a comprehensive evaluation of residential zones be made with a view toward changing the permitted densities (usually toward a more intensive development pattern) in those areas where

maintenance of the existing buildings has become a problem. Residential areas which appear to be in particular need of a more detailed review are the Newark North, Roseville, Weequahic and Vailsburg.

Business Zones

The business zones in Newark are characterized by the "freezing" of the existing pattern of commercial land uses. This has resulted in a zoning pattern in which the entire street frontage of many of the city's arterial and collector streets is zoned for business purposes. In addition, there is no limitation as to the building of any type of residential use within business zones. This arrangement of business districts has created several problems in Newark. First, the amount of land zoned for business purposes far exceeds the total demand for business sites. As of 1964, approximately 1,030 acres (or 10.7 per cent of Newark's developed area) were zoned for commercial purposes. By comparison, several cities of about the same size devoted the following percentages of their land to commercial use in 1955: Dallas, Texas, 2.33; Dayton, Ohio, 5.63; Memphis, Tenn., 2.94; St. Louis, Mo., 5.19.

Secondly, the excessive zoning for commercial development in Newark has tended to induce many marginal businesses, which are characterized by high vacancy rates, poor property maintenance and lack of off-street parking facilities. This in turn has increased traffic congestion of many of Newark's arterial streets.

Thirdly, strip development of commercial land is not suitable for contemporary business demands which require clustering of commercial parcels in depth with adequate off-street parking facilities and controlled access points.

Finally, the range of permissible uses within each business district provides very little distinction between the functions of different business districts. Normally, business uses are grouped according to the basic function of the district as determined by its relation to the supporting population and service area.

Recommendation

It is, therefore, recommended that consideration be given to the complete revision of both the delineation and controls for the business zones in Newark. The revision of business zoning in Newark should be designed to achieve the following objectives:

- ☐ to establish business use groups which are differentiated according to the function which each is to perform for its supporting population and service area.
- ☐ To insure that the land area zoned for business purposes is reasonably related to the demand within Newark's trade area.
- ☐ To provide for business zones which permit grouping of commercial uses in integrated building complexes.

Industrial Zones

As in the case of residence and business zones, present industrial zones are located in a manner which reflects the existing land use pattern. Small industrial districts are often found within residential neighborhoods, creating incompatible land use patterns.

The uses permitted in industrial districts are based upon the type of enterprise rather than the function carried on in the building.

In addition, residences are permitted in industrial districts and have, in the past, pre-empted prime tracts of industrial land.

Recommendation

In view of these factors it is recommended that the industrial zones should be reviewed with the purpose of:

- ☐ establishing permissible uses on the basis of their performance and impact on adjacent uses.
- ☐ the prohibition of residences in industrial districts.
- ☐ delineation of districts in such a manner that they would insure sound industrial growth in the city.

CONTROL OF THE INTENSITY OF DEVELOPMENT

Within each zoning district, the development of land and buildings are subject to certain controls, regulating lot size, lot coverage and yard space. The objective of these controls is to regulate the intensity of land development in each district and thereby control light, air, open space, population distribution and traffic generation.

Lot Size

The present Zoning Ordinance establishes minimum lot area and lot width standards for only one residential district. All of the residential districts, except the one-family district, permit construction of any lot regardless of its size or shape. This has created several major problems including:

☐ The development of excessively small buildings which can be built for a temporary market demand but which, in the long run, usually results in obsolete building types. This has been the experience in older cities with buildings 10 or 15 feet wide which have become obsolete because of modern merchandising needs for sufficiently large space.

☐ The creation of excessively small lots by subdivision of larger parcels. The city's subdivision ordinance relies upon the Zoning Ordinance for standards for lot sizes. Since the Zoning Ordinance (for all districts except one residential district) has no requirements as to minimum lot size, any large parcel can be subdivided into extremely small lots, thus creating a marginal lot pattern in the future.

Recommendation

It is recommended that minimum lot widths and areas be established to insure sound development in the future.

Lot Coverage

The present Zoning Ordinance does not limit the extent to which buildings may cover their sites, except insofar as yards and off-street parking and loading restrict the size of buildings. Where large buildings are constructed, the amount of open site area required for other needs becomes a small fraction of the total site and extremely high ratios of building size (bulk) to site size can be achieved. The result is a high degree of site utilization which tends to limit light and air to neighboring structures.

Recommendation

It is recommended that the Zoning Ordinance should incorporate controls of land coverage to insure more appropriate development of land within each district.

Control of Floor Area or Number of Units

With the exception of the First and Second Residence Districts there are presently no controls on the amount of floor area or number of residential units permitted on a site of a given size.* In some areas this has resulted in an overcrowding of the land by apartment development or by business activities. One of the objectives of the Land Use Plan is to establish a rational relationship between land uses and supporting facilities such as streets, utilities and public facilities.

Recommendation

It is recommended that floor area ratios** for commercial and industrial uses be established to limit total floor space within each district. In order that the balance between population and services and facilities may be achieved it is recommended that limitations be established on the number of families which can be housed on a given site.

Control of Open Space

The present Zoning Ordinance contains no provisions for a minimum amount of a residential site to be retained in private open space. Without such a control, it is possible for entire blocks of homes to lack any green areas except for front yards.

Recommendation

It is recommended that additional controls should be established to require minimum open spaces or green spaces in each district.

PROVISION FOR SUPPORTING FACILITIES

Principal facilities needed to support the development of a site are off-street parking and off-street loading. These facilities are essential if traffic flows are not to be impeded by the parking and loading of vehicles in the streets.

Newark's Zoning Ordinance requires off-street parking within residence districts only. Off-street loading is re-

*Except insofar as height and yard regulations apply.
**Defined as the ratio of the number of square feet of floor area in a building to the number of square feet of lot area.

quired in all nonresidential areas. Since nonresidential uses are major generators of traffic and parking, the need for off-street parking facilities in business and industrial zones is apparent.

Recommendation

It is recommended that parking and loading requirements be established for all zones.

The analysis of existing zoning provisions in Newark has indicated the present ordinance is in need of extensive revisions and amendments.

To insure a sound development pattern for the city as a whole and in particular for areas affected by the large renewal effort, it is recommended that a complete review of the present ordinance be undertaken.

Subdivision Ordinance

The term subdivision is usually defined as "the division of a lot, tract or parcel of land into two or more lots, sites or other divisions of land for the purpose of sale or building development."

The process of land subdivision or resubdivision is one of the most important influences in the development and redevelopment of any community. Once the land has been subdivided, and the homes, businesses and industries have been established, and the streets, utilities and other improvements constructed, these additions become firmly established and are not easily changed.

The subdivision of land in Newark is controlled by the city's Subdivision Ordinance. Such regulations are concerned with three general areas:

(1) the design of lots, blocks, and streets and improvements including maximum grades, minimum street widths and others.

(2) the installation of physical improvements such as sewers, water mains, road pavements, etc.

(3) the assurance that the subdivision conforms to the provisions of the Zoning Ordinance, Master Plan and Official Map.

These regulations are designed to insure a minimum standard for development and to protect the community from inadequate or burdensome types of development.

Usually two types of subdivisions are identified. A minor subdivision is usually defined as the division of land into no more than three parcels which front upon an approved and improved street. Furthermore a minor subdivision does not involve the construction of new or the extension of existing streets or other municipal facilities, must not adversely affect the development of the remainder of the parcel or adjoining property and must not be in conflict with any provisions or portion of the Master Plan, Official Map, Zoning or Subdivision Ordinance. A major subdivision is any subdivision not classified as a minor subdivision.

The following is an examination of the regulations contained in Newark's Subdivision Ordinance and an evaluation of their adequacy.

Design Standards

A review of the design standards enumerated in Newark's Subdivision Ordinance indicates that adequate provision has been made for the following standards: conformity to Master Plan, discouragement of through traffic on minor streets, access limitations for arterial roads, off-set of center lines in street jogs, minimum tangent between reverse curves on arterial and collector streets, maximum permissible angular deflection on streets without curves, maximum permitted deviation from 90 degree intersection, maximum length of dead-end streets and minimum diameter of cul-de-sac radius, maximum street grades, minimum lot dimensions, right angle intersection of side lot-lines with street lines, provision for reservation of school, park, playground sites and drainage and street rights-of-way, minimum street right-of-way.

Recommendation

It is recommended that the standard for minimum arterial street right-of-way be increased to at least 100 feet in order to accommodate the large volumes of traffic on these streets. It is further recommended that provision be made for the following standards:

☐ where utility easements are necessary that they be located along property lines and be at least 12 feet in width;

☐ the location and dimensions of water course easements should be determined by an appropriate city departmental engineer.

☐ block lengths should be no less than 200 feet and no more than 1,200 feet.

☐ double frontage should be prohibited except where required adjacent to arterial roads and expressways.

Improvements

The Subdivision Ordinance requires the following improvements to be installed by the subdivider: pavements, curbs and gutters, sidewalks, monuments, water mains, culverts, storm and sanitary sewers.

Determination of specifications for street improvements are made by the Chief Engineer of the Department of Public Works and specifications for monuments are established in state statutes. However, no provision is made for the determination of specifications for water mains, culverts, storm and sanitary sewers.

Recommendation

It is, therefore, recommended that specifications for water mains, culverts, storm and sanitary sewers should be established by appropriate city departmental engineers. Furthermore, requirements should be inserted in the ordinance for street trees and signs to be provided by the developer. Finally, it is recommended that the definition for minor and major subdivisions should be modified. At present, a major subdivision is defined by the amount of aggregate front footage along a street or streets rather than by the number of parcels to be subdivided, which in some instances may prove to be a hardship to the developer and in other cases may not allow the city sufficient control over the subdivision activity.

THE CAPITAL IMPROVEMENTS PROGRAM

The capital improvements program is one of the primary means of implementing the plan elements in Newark's Master Plan. Looking to the future for the next twenty year period, the Master Plan has recommended a number of major capital improvements. In order to safeguard the city's financial stability, it is important that these improvements be carefully scheduled. This is accomplished in Newark through the use of a six-year capital improvements program.

This program consists of a schedule of improvements to be constructed during the six-year period, arranged by estimated costs and priority of construction so as to come within the financial capacity of the city. Each year the capital improvements program is reviewed and the proposals for the current year are adopted as a part of the capital budget. Annual review of the program is required in order to make adjustments which may be necessitated by changes in the city's needs and financial capacity, as well as to project the program forward for an additional year.

In the development of the capital improvements program, three interrelated steps are involved. These include:

☐ Assessing the fiscal ability of the City to undertake a capital improvements program including an analysis of revenue sources, tax rates, financial assistance programs, as well as expenditures, development trends, and bonding capacity;

☐ Evaluating needed improvements in Newark such as school construction and other improvements, parks and recreation facilities, urban renewal needs, highway and traffic improvements, utility improvements, and so on; and

☐ Developing a comprehensive program based upon a priority listing of needs and financial resources available to implement these programs.

By anticipating future revenues and expenditures, the capital program for Newark avoids an accumulation of capital improvements which can only be met through crisis fiscal measures. As a result of this programming, the City's indebtedness can be maintained at a relatively constant level while providing the required facilities at the proper time. Some of the advantages of capital improvement programming include:

☐ Priorities for projects can be established on the basis of both need and costs;

☐ A more efficient allocation of resources can be established through the coordinative efforts of all public agencies and departments;

☐ Needed tax income and bond issues can be anticipated without causing erratic fluctuations in the tax rate;

☐ Real estate sites needed for various improvements can be acquired when the market is favorable. Similarly, the City can reserve its tax delinquent land or unused municipal property for future use;

☐ Sufficient time is available for the proper preparation of detailed plans for new facilities as well as the coordination of interrelated programs carried out under separate departments or agencies.

In recognition of the lack of fiscal planning today in almost all New Jersey communities, the Division of Local Government presently requires each community to submit a capital improvements program where capital expenditures are anticipated for a five or six year period in the future. Newark is indeed fortunate in being one of New Jersey's first communities to adopt such a capital improvement program in 1963.

This, the 1964 Master Plan, should serve as one of the primary guiding forces for present and future capital improvements program in the City of Newark. Changing conditions in the future require that the Master Plan be kept up-to-date and current if it is to serve as a guide to future development policies and programs for the City of Newark and their implementation.

LAND BANK FOR NEWARK

Few municipalities in the United States have a comprehensive program directed towards the acquisition and disposition of municipal land. Usually, such a program is called a land bank.

The development of a land bank program for Newark has numerous and varied advantages. The acquisition of many of the city's small and isolated parcels when they become available either through sale or tax foreclosure could be made until a sufficiently large and more utilitarian parcel is assembled for either private or public disposition in conformance with the goals and objectives of the comprehensive Master Plan. Furthermore, non-conforming uses available through sale could be purchased and held until a more orderly and compatible development can be achieved. New sites for schools and recreation, which presently are very inadequate, could be assembled at a more reasonable cost.

It is therefore recommended that the City of Newark investigate the legal and administrative requirements to establish such a program.

ACQUISITION OF PARK AND RECREATION LAND

At present, Newark does not have an agency or governmental body which can acquire land for the overall recreational needs of the city. It is, therefore, recommended that such a department be established with the authority to acquire suitable lands for the development of parks and recreational facilities.

APPENDIX 1

STANDARDS UTILIZED IN NEWARK'S MASTER PLAN

Schools

The following standards were used as a guide in determining the adequacy of the existing educational facilities within Newark.

ENVIRONMENT—A school site should have quiet surroundings away from railroads, factories, commercial areas, and major roadways.

ACCESSIBILITY—Children on their way to school should not cross railroad tracks at grade or major street intersections. If such crossings are unavoidable, adequate protection should be provided.

The American Public Health Association recommends the following as being the maximum distance that children should be required to walk to school.

Elementary School — ¼ to ½ mile
Junior High School — ¾ to 1 mile
Senior High School — 1 to 1½ miles

The American Public Health Association also recommends that the travel time to school by conveyance should not be greater than 30 minutes. Walking routes to school must be safe, on sidewalk and with a minimum of traffic hazards, especially for elementary and junior high school students.

TOPOGRAPHY—The school site should be relatively level and suitable for recreation facilities development and should have adequate drainage.

SIZE OF SITE—The State Board of Education of New Jersey recommends the following school site sizes:

Elementary School — 5 acres plus 1 acre for each 100 pupils enrolled.
Junior High School — 10 acres plus 1 acre for each 100 pupils enrolled,
Senior High School — 20 acres plus 1 acre for each 100 pupils enrolled,

While the New Jersey State Board of Education site standards are applicable for many of the State's less intensely developed communities, these standards are not practical for the City of Newark. Modification of the State standards for minimum size of school sites has been recommended by the Board of Education as follows:

Elementary School — 3 acres
Junior and Senior High Schools — 5 acres

SIZE OF SCHOOL—The National Education Association recommends the following school size standards.

TYPE OF SCHOOL	NO. OF PUPILS
Elementary (K-6)	350 - 600
Junior High (7-9)	700 - 1,500
Senior High (10-12)	1,000 - 2,000

SEATING CAPACITY—The Newark Board of Education and the New Jersey Department of Education recommend an optimum capacity of 30 pupils per classroom for elementary and secondary schools.

Recreation

TABLE A
PROPOSED RECREATION FACILITY STANDARDS
NEWARK, NEW JERSEY

A. STANDARDS RECOMMENDED BY THE NATIONAL RECREATION ASSOCIATION:

Facility	Per Cent of Total	Acres per 1,000 Persons
Playground	**16.0**	**1.00**
Playfield	**20.0**	**1.25**
Neighborhood Park	**24.0**	**2.50**
Citywide Park	**40.0**	**2.50**
	100.0%	**6.25**

B. NEWARK CITYWIDE RECREATION FACILITY STANDARD:
3 Acres Per 1,000 Persons

Acreage Distribution of Each Major Recreation Facility Using an Overall Standard of 3 Acres Per 1,000 Persons:

Facility	Acres Per 1,000 Persons	Acreage Needed[1]
Playground	**.48**	**195.84**
Playfield	**.60**	**244.80**
Neighborhood Park	**.72**	**293.76**
Citywide Park	**1.20**	**489.60**
	3.00	**1,224.00**

Source: Newark Division of City Planning
1 Based on estimated 1963 population of 408,000.

Libraries

Guidelines in measuring Newark's library facilities were determined from the following table:

TABLE B
EXPERIENCE FORMULAS FOR LIBRARY SIZE ACCORDING TO COMMUNITY SIZE

Community Population Size	Book Stock Volumes Per Capita	Circulation Volumes Per Capita	Total Sq. Ft. Per Capita	Desirable First Floor and Ground Sq. Ft. Per Capita
Under 10,000	3.0	10	0.95-1.00	0.65-0.85
10,000- 35,000	2.5	9.5	0.68-0.70	0.4-0.50
35,000-100,000	2.0	9	-0.55	0.25-0.30
100,000-200,000	1.75	8	-0.45	0.15-0-20
200,000-500,000	1.5	7	-0.375	0.10-0.125
500,000 or more	1.25	6.5	-0.350	0.06-0.08

Source: Wheeler, Joseph L., **The Effective Location of Public Library Buildings**, University of Illinois Library School, Occasional Papers, Number 52, July, 1958.

Newark's Street System Standards

PRIMARY ARTERIALS — TWO WAY

FUNCTION—To expedite the movement of through traffic between the City and surrounding communities.

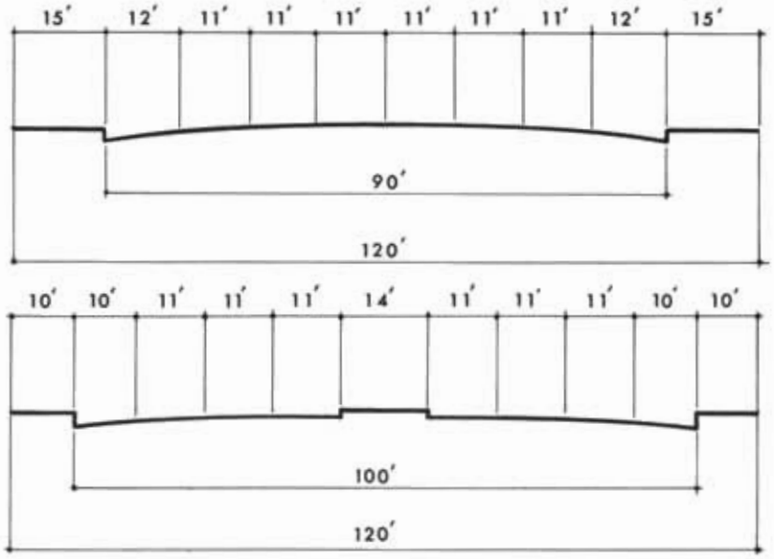
ACCESS CONDITIONS—Intersections at grade. Generally, direct access to abutting property.

SPACING—From one mile to two miles, depending on density.

WIDTHS—Right-of-way—120 feet, Pavement—90 feet, consisting of two curb lanes of 12 feet each, and six moving lanes of 11 feet each.

MAXIMUM GRADE—6 per cent.

MAXIMUM DESIGN SPEED—40 mph.



PRIMARY ARTERIALS — ONE WAY

FUNCTION—To expedite the movement of through traffic between the City and surrounding communities.

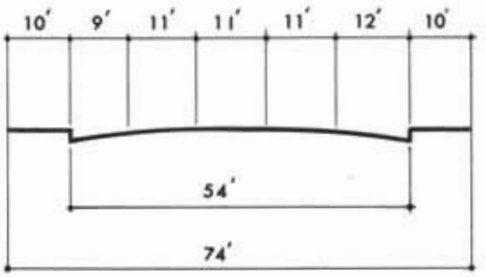
ACCESS CONDITIONS—Intersections at grade. Generally, direct access to abutting properties.

SPACING—From one mile to two miles, depending on density.

WIDTHS—Right-of-way—74 feet. Pavement—54 feet, consisting of a right-hand curb lane of 12 feet, a left-hand curb lane of 9 feet, and three moving lanes of 11 feet each.

MAXIMUM GRADE—6 per cent.

MAXIMUM DESIGN SPEED—40 mph.



SECONDARY ARTERIALS — TWO WAY

FUNCTION—To connect neighborhood collector streets and major traffic generators with the primary arterial and expressway systems.

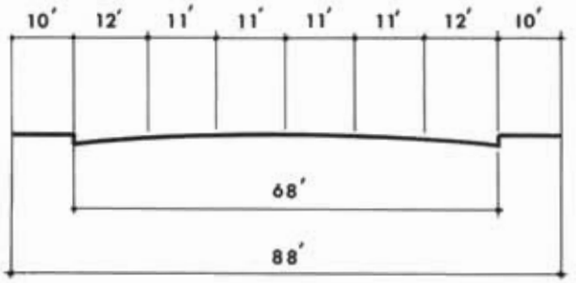
ACCESS CONDITIONS—Intersections at grade. Direct access to abutting properties.

SPACING—One-half to one mile intervals.

WIDTHS—Right-of-way—88 feet, pavement—68 feet, consisting of two curb lanes of 12 feet each, and four moving lanes of 11 feet each.

MAXIMUM GRADE—6 per cent.

MAXIMUM DESIGN SPEED—35 mph.



SECONDARY ARTERIALS — ONE WAY

FUNCTION—To connect neighborhood collector streets and major traffic generators with the primary arterial and expressway systems.

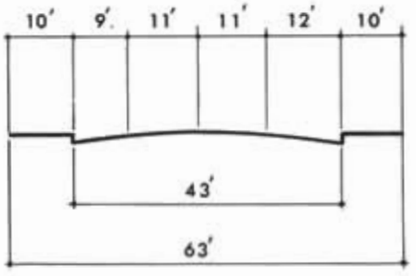
ACCESS CONDITIONS—Intersections at grade. Direct access to abutting properties.

SPACING—One-half to one mile intervals.

WIDTHS—Right-of-way—63 feet, Pavement—43 feet, consisting of a right-hand curb lane of 12 feet, a left-hand curb lane of 9 feet and two moving lanes of 11 feet each.

MAXIMUM GRADE—6 per cent.

MAXIMUM DESIGN SPEED—35 mph.

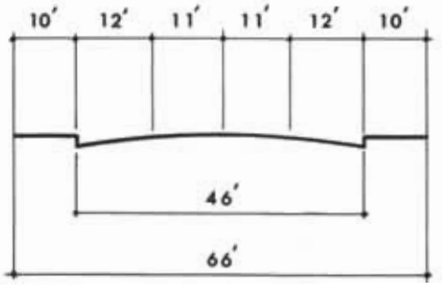


NEIGHBORHOOD COLLECTORS

FUNCTION—To provide for direct access to abutting land, local traffic circulation and local bus service.

WIDTHS—Right-of-way—66 feet. Pavement—46 feet, consisting of two curb lanes of 12 feet each, and two moving lanes of 11 feet each.

MAXIMUM DESIGN SPEED—25 mph.



APPENDIX 2

SUPPLEMENTAL DATA UTILIZED IN NEWARK'S MASTER PLAN

TABLE C
POPULATION CHANGES, BY DECADE, NEWARK SMSA AND THE CITY OF NEWARK, 1900-1960

Year	Population in Thousands City of Newark	SMSA	City of Newark as a Percent of the Newark SMSA
1900	246.1	523.7	47.0
1910	347.5	727.8	47.7
1920	414.5	935.0	44.3
1930	442.3	1,249.1	35.4
1940	429.8	1,291.3	33.3
1950	438.8	1,468.4	29.9
1960	405.2	1,689.4	24.0

Source: U. S. Census of Population.

1970 381,9 -5.8%

TABLE D
SELECTED ASPECTS OF MIGRATION PATTERNS NEWARK SMSA AND CITY OF NEWARK 1950-1960

Area	Net In (+) or Out (—) Migration Total	Whites	Nonwhites
Newark SMSA	+35,971	—7,328	+43,299
City of Newark	—92,328	—122,826	+30,498
Rest of SMSA	+128,299	+115,498	+12,801

Source: U. S. Census of Population; Candeub, Fleissig, Adley & Associates.

TABLE E
POPULATION TRENDS FOR SELECTED AGE GROUPS NEWARK SMSA AND THE CITY OF NEWARK, 1950-1960
(in 000's)

Age	Newark SMSA 1950	Newark SMSA 1960	City of Newark 1950	City of Newark 1960	Rest of SMSA 1950	Rest of SMSA 1960
Under 5 years	135.5	170.8	39.6	44.0	95.9	126.7
5-17 (school age)	249.6	370.9	74.0	83.9	175.6	287.0
18-24 (college age)	137.4	120.7	46.0	36.1	91.4	84.5
25-64 (working age)	828.4	868.6	247.9	204.6	580.4	664.0
65 and over	117.5	158.5	31.3	36.5	86.2	122.0
Total Population*	1,468.5	1,689.4	438.8	405.2	1,029.7	1284.2

Source: U. S. Census of Population.
*Details may not add up to total due to rounding.

TABLE F

TRENDS IN SELECTED LABOR FORCE AND EMPLOYMENT CHARACTERISTICS

NEWARK SMSA AND CITY OF NEWARK, 1950-1960

(in 000's)

	Newark SMSA		City of Newark		Rest of SMSA	
	1950	1960	1950	1960	1950	1960
Population						
Male	711.5	813.8	215.5	196.5	496.1	617.3
Female	746.9	875.6	223.3	208.7	523.6	666.9
Total	1,468.5	1,689.4	438.8	405.2	1,019.7	1,284.2
Civilian Labor Force						
Male	444.5	470.1	134.3	111.9	310.2	358.2
Female	196.2	242.6	66.4	64.9	129.8	177.7
Total	640.7	712.7	200.6	176.8	440.1	535.9
Unemployment						
Male	24.5	17.8	12.3	7.8	12.2	9.9
Female	8.8	14.4	4.5	6.7	4.3	7.6
Total	33.3	32.2	16.8	14.6	16.5	17.6
Employment						
Male	420.0	452.3	122.0	104.1	298.0	348.2
Female	187.4	228.2	61.9	58.2	125.5	170.0
Total	607.4	680.5	183.9	162.3	423.5	518.2
Manufacturing Employment						
Male	165.8	175.0	47.3	40.0	118.5	134.9
Female	64.6	67.6	24.0	18.7	40.6	48.9
Total	230.4	242.6	71.3	58.8	159.1	183.8
All Other Employment						
Male	254.2	277.4	74.7	64.1	179.5	213.3
Female	122.8	160.5	37.9	39.4	84.9	121.1
Total	377.0	437.9	112.6	103.5	264.4	334.4
Employment by Occupation						
White Collar	237.1	271.0	54.4	41.4	182.7	229.6
Sales	45.8	52.7	12.2	9.0	33.6	43.8
Blue Collar	324.5	356.8	117.3	111.9	207.3	244.9

Source: U. S. Census of Population.

TABLE G
PLACE OF WORK BY OCCUPATION & INDUSTRY
NEWARK SMSA AND CITY OF NEWARK, 1960

Industry & Occupation Occupation Group	Work In Newark SMSA	Total	Live And Work In City Of Newark	Work Outside The City Of Newark	Work In City Of Newark
		(in 000's)			
Prof. Tech & Kindred Workers	86.7	11.0	6.4	4.6	23.6
Manager, Officials & Prop. Inc. Farms	54.3	6.9	4.6	2.3	18.8
Sales Workers	49.0	9.0	6.4	2.6	17.8
Clerical & Kindred Workers	113.7	23.5	17.2	6.3	45.0
Craftsmen, Foremen & Kindred	94.8	18.0	10.1	7.9	27.8
Operatives & Kindred Workers	131.8	45.7	26.0	19.7	44.8
Private Household Workers	13.7	4.0	1.7	2.3	1.8
Service Workers	46.6	15.3	11.2	4.1	16.0
Laborers Incl. Farm & Mine	24.8	10.3	5.8	4.5	8.4
Occupation Not Reported	11.8	18.6	3.4	15.2	5.1
TOTAL	627.3	162.3	92.8	69.5	209.1
Industry Group					
Agr., Forestry, Fish & Mining	4.2	0.3	0.1	0.2	0.2
Construction	30.4	6.2	3.3	2.9	7.4
Manufacturing	239.8	58.7	31.6	27.1	73.0
Transportation & Pub. Utilities	42.7	11.2	7.3	3.9	20.2
Trade	110.9	25.9	18.2	7.7	39.2
Fin., Ins. & Real Estate	40.2	7.9	6.4	1.5	21.8
Business Repair Services	24.1	4.4	2.7	1.7	6.4
Personal Services	31.3	9.4	5.4	4.0	7.3
Entertainment & Recr. Services	3.8	0.8	0.5	0.3	1.0
Prof. & Related Services	67.6	13.3	8.9	4.4	18.8
Public Administration	25.1	7.3	5.9	1.4	10.5
Industry Not Reported	7.1	16.9	2.5	14.4	3.2
TOTAL	627.3	162.3	92.8	69.5	209.0

Source: U. S. Census of Population, 1960.

TABLE H
TRENDS IN SELECTED SERVICES
NEWARK SMSA AND CITY OF NEWARK, 1948-1958

Area	1948	1954	% Change 1948/54	1958	% Change 1954/58
			Total Employment (Paid Employees)		
Newark SMSA	**23.3**	**31.8**	**36.6**	**33.5**	**5.5**
City of Newark	**11.4**	**12.3**	**8.1**	**14.3**	**25.0**
Rest of SMSA	**11.9**	**19.5**	**63.8**	**19.3**	**62.4**
			Total Receipts ($000)		
Newark SMSA	**124.2**	**313.5**	**103.3**	**349.1**	**11.4**
City of Newark	**72.3**	**116.3**	**60.8**	**153.3**	**31.8**
Rest of SMSA	**81.9**	**197.2**	**140.8**	**195.8**	**0.7**

Source: U. S. Census of Business

TABLE I
TRENDS IN WHOLESALING
NEWARK SMSA AND CITY OF NEWARK, 1948-1958

Area		1954	% Change 1948/54	1958	% Change 1954/58
			Total Employment		
Newark SMSA	**27.1**	**30.2**	**11.2**	**34.1**	**12.9**
City of Newark	**19.7**	**17.8**	**—9.3**	**17.5**	**—1.8**
Rest of SMSA	**74.6**	**12.3**	**65.3**	**16.6**	**34.2**
			Total Receipts ($000)		
Newark SMSA	**1.598.9**	**2,434.5**	**52.3**	**3,494.9**	**43.6**
City of Newark	**1,178.8**	**1,436.2**	**21.8**	**1,776.2**	**23.7**
Rest of SMSA	**420.1**	**998.3**	**137.7**	**1,718.7**	**72.2**

Source: U. S. Census of Business.

TABLE J
TRENDS IN RETAIL TRADE
NEWARK SMSA AND CITY OF NEWARK, 1948-1958

Area	1948	1954	% Change 1948/54	1958	% Change 1954/58
			Total Employment		
Newark SMSA	**72.4**	**74.2**	**1.5**	**85.5**	**13.6**
City of Newark	**32.9**	**29.1**	**—11.4**	**30.6**	**5.1**
Rest of SMSA	**41.3**	**46.2**	**11.7**	**54.9**	**19.0**
			Total Sales ($000)		
Newark SMSA	**1,467.9**	**1,931.1**	**31.6**	**2,236.5**	**15.8**
City of Newark	**583.6**	**660.9**	**13.3**	**673.9**	**2.0**
Newark CBD	**270.5**	**279.7**	**3.4**	**269.9**	**—3.5**
Rest of SMSA	**884.3**	**1,270.1**	**43.6**	**1,562.5**	**28.5**

Source: U. S. Census of Business — Retail Trade.

TABLE K
TRENDS IN MANUFACTURING EMPLOYMENT
NEWARK SMSA AND CITY OF NEWARK, 1947 TO 1961

	Total Employees
Newark SMSA	
1947	223,365
1954	241,975
1958	226,651
1960*	239,800
1961	246,841
City of Newark	
1947	92,291
1954	90,157
1958	78,604
1960*	73,000
1961	N.A.**
Rest of Newark SMSA	
1947	131,074
1954	151,768
1958	148,047
1960*	166,800
1961	N.A.**

Source: U. S. Census of Manufacture.
*1960 data from U.S. Census of Population.
**Not available from a comparable source.

TABLE L
CHANGES IN HOUSEHOLD FORMATION, BY TYPE OF HOUSEHOLD, NEWARK SMSA, 1960-1980

	1960 (In 000's)	1980
Two or More Person Households	449.8	621.6
Family Households		
Married—husband, wife present	374.5	521.0
Under 45	183.5	262.1
45 - 64	150.8	191.7
65 and over	40.2	67.2
Other Head	75.3	100.6
Under 65	57.0	72.5
Over 65	18.3	28.1
One-Person Households	61.4	99.5
Under 65	39.7	59.8
65 and Over	21.6	39.7
TOTAL HOUSEHOLDS	511.2	721.1

Source: U. S. Census of Housing, and Candeub, Fleissig, Adley & Associates.

TABLE M
CHANGES IN FAMILY INCOME
NEWARK SMSA AND CITY OF NEWARK, 1949-1959

Income	Newark SMSA 1949	Newark SMSA 1959	City of Newark 1949	City of Newark 1959	Rest of SMSA 1949	Rest of SMSA 1959
			(in 000's)			
Under $5,000	236.9	113.2	83.4	45.1	153.5	68.1
$ 5,000 - $9,999	98.0	213.1	20.7	46.1	77.3	166.9
$10,000 and over	23.8	117.4	2.6	12.5	21.2	104.9

Source: U. S. Census of Population.

TABLE N
CENTRAL NEWARK AREA
NONRESIDENTIAL FLOOR SPACE PER ACRE AND WORKERS PER ACRE OF LAND AREA* BY FUNCTION

Functional Area	Floor Space (Sq. Ft.)	Workers
C.B.D.	**118,674**	**487**
Primary Core		
A. Intensive Business Services	**214,935**	**847**
B. Other Intensive		
Offices & Hotels	**230,783**	**938**
C. Intensive Retailing	**182,783**	**911**
D. Remainder	**16,958**	**551**
Secondary Core		
E. All Others	**68,057**	**235**

Source: Adapted from Stonorov, Gruen, et al., "Newark, N. J. — A Study of the Downtown Area", 1959.
*Excluding Government and Parks.

TABLE O
CENTRAL NEWARK AREA – FLOOR SPACE OCCUPIED BY FUNCTIONAL AREA AND LAND USE TYPE (000 sq. feet)

Land Use Type	Intensive Business Services	Other Intensive Offices & Hotels	Intensive Retailing	Remainder	Primary Core Total	Governmental[1]	All Others	Secondary Core Total	C.B.D. Total
Office, Banks	**3,254**	**5,869**	**838**	**—**	**9,960**	**4,420**	**1,667**	**6,087**	**16,043**
Retail Trade[2]	**68**	**52**	**3,341**	**484**	**3,945**	**—**	**377**	**377**	**4,322**
Industry[3]	**49**	**296**	**217**	**236**	**798**	**—**	**977**	**977**	**1,775**
Other Nonresidential	**224**	**352**	**76**	**33**	**685**	**—**	**898**	**898**	**1,583**
Total Nonresidential	**3,595**	**6,569**	**4,472**	**753**	**15,389**	**4,420**	**3,919**	**8,339**	**23,728**
Residential	**—**	**132**	**142**	**46**	**320**	**—**	**17**	**17**	**337**
Vacant	**8**	**—**	**5**	**—**	**13**	**—**	**8**	**'8**	**21**
Total	**3,603**	**6,701**	**4,619**	**799**	**15,722**	**4,420**	**3,944**	**8,364**	**24,085**

Source: Adapted from Stonorov, Gruen, et al. — "Newark, N. J., A Study of the Downtown Area," 1959.
1 Estimated.
2 Including Gasoline Service Stations.
3 Including Commercial Garages.

TABLE P
DWELLING TYPE DISTRIBUTION BY ACREAGE AND PERCENTAGE OF TOTAL RESIDENTIAL AREA NEWARK, NEW JERSEY

Type	Area in Acres	Per cent of Total
One Family, semi-attached & semi-detached	**967.9**	**31.8**
2-6 Family	**1,713.8**	**56.1**
Above 6 Family	**367.1**	**12.1**
Other Residential	**5.5**	**0.0**
TOTAL	**3,054.1**	**100.0**

Source: Adapted from Division of City Planning, I.B.M. Zoning Study, Newark, N. J., 1958.

TABLE Q
TRENDS IN NEW CONSTRUCTION, BY TYPE, NEWARK SMSA AND CITY OF NEWARK 1950-MARCH 1960 AND 1960-1962

All Units	Newark SMSA	CITY OF NEWARK	REST OF SMSA
1950-March 1960	**113,070**	**11,231**	**101,839**
1960-1962	**31,250**	**3,780**	**27,470**
Owner-Occupied Units			
1950-March 1960	**78,274**	**668**	**77,556**
1960-1962	**14,046**	**59**	**13,987**
Renter-Occupied Units			
1950-March 1960	**34,796**	**10,563**	**24,233**
1960-1962	**17,204**	**3,721**	**13,483**

Source: 1950-March 1960 data from U. S. Census of Housing, 1960; 1960-1962 data from Regional Plan Association, New Homes, Bulletins 97 and 101.

TABLE R
NUMBER OF DWELLING UNITS BY CATEGORIES OF TREATMENT FOR NEWARK NEIGHBORHOODS

Neighborhood	Dwelling Units in Clearance Block	Per cent of Dwelling Units in Neighborhood	Dwelling Units in Rehabilitation Blocks	Per cent of Dwelling Units in Neighborhood
Newark Core	11,327	64.7	3,679	20.4
Belmont	2,401	50.0	643	13.4
West Market	5,822	61.4	2,746	29.0
Newark North	1,697	8.7	5,586	28.6
The Ironbound	2,191	20.9	6,144	58.6
Hayes Circle South	706	11.2	4,151	65.6
Roseville	228	2.5	2,053	22.7
West Side	3,013	18.4	7,918	48.3
Vailsburg	25	0.2	240	2.1
Dayton	—	—	—	—
Weequahic	—	—	1,659	13.5
Clinton Hill	269	3.4	2,966	37.0

Source: Re: New Newark, a continuing Ten Year Program Division of City Planning, 1961.

TABLE S
ENROLLMENT DISTRIBUTION OF EXISTING PUBLIC SCHOOLS NEWARK, NEW JERSEY — 1964

Size of School (Number of Pupils)	Elementary	Junior High	Senior High
	Number of Schools		
0 - 500	4	1	—
500 - 1,000	20	2	1
1,000 - 1,500	19	1	1
1,500 - 2,000	7	2	3
2,000 +	—	—	3

Source: 1964 Enrollment Data, Superintendent of Schools, Newark, N. J.

TABLE T

CHARACTERISTICS OF THE PUBLIC SCHOOL SYSTEM OF NEWARK

Elementary Schools	Yr. Built and Additions	Number of Stories	Grades Served (9/64)	Site (Acres)	Enrollment (9/64)	Capacity (9/64)
Abington Avenue	1900 1924, 1942	4	K-8	0.90	727	860
Alexander Street	1885 1921	3	K-8	1.18	847	810
Ann Street	1891 1923	4	K-8	2.34	1,108	1,170
Avon Street	1905 1925, 1962	3	K-6	1.27	1,388	1,200
Belmont Runyon	1962	1	K-5	1.25	1,115	820
Bergen Street	1900 1908, 1963	4	K-6	1.34	1,807	1,430
Bragaw Avenue	1928	3	K-8	1.15	1,089	910
Broadway	1956	2	K-6	4.60	979	930
Burnet Street	1868 1914	3	K-8	1.04	747	880
Camden Street	1883 1927	3	K-3	0.78	768	690
Central Avenue	1871 1913, 1931	3	K-8	0.98	768	730
Chancellor Avenue	1930	3	K-8	2.80	658	680
Charlton Street	1895 1921	3	K-8	0.93	1,346	1,260
Cleveland	1912	4	K-6	1.30	1,265	1,010
Coe's Place	1902	2	K-3	0-17	131	230
Dayton Street	1950 1960	2	K-8	2.69	1,167	1,310
Eighteenth Avenue	1871 1923	4	K-6	0.88	1,248	1,130
Elliott Street	1871 1921	4	K-6	0.88	471	480
Fifteenth Avenue	1895 1926	3	K-8	0.92	1,594	1,220
First Avenue	1928	3	K-8	1.88	592	560
Fourteenth Avenue	1906 1909	3	K-8	1.12	1,142	740
Franklin	1889 1922	4	K-6	1.04	971	960
Garfield	1894 1914, 1960	3-4	K-8	1.38	1,057	880
Hawkins Street	1878 1922	3	K-8	1.10	958	900
Hawthorne Avenue	1897	3	K-8	1.32	1,070	910
Lafayette Street	1903 1914	4	K-8	1.11	1,250	1,110
Lincoln	1908 1925	3	K-8	1.38	675	690
Madison	1904 1926, 1962	3	K-6	1.28	1,200	910
Maple Avenue	1926	3	K-8	1.50	970	940

TABLE T (CONT.)

Elementary Schools	Yr. Built and Additions	Number of Stories	Grades Served (9/64)	Site (Acres)	Enrollment (9/64)	Capacity (9/64)
McKinley	1899 1910, 1959	3	K-6	1.40	1,294	1,200
Miller Street	1880 1913, 1963	4	K-8	1.50	1,900	1,080
Morton Street	1851 1909	4-5	K-6	0.26	1,200	1,020
Mount Vernon	1955	2	K-8	4.75	1,060	1,130
Newton Street	1871 1913	3	K-8	1.47	1,200	1,190
Oliver Street	1869 1922	3-4	K-8	1.58	903	1,000
Peshine Avenue	1911 1921, 1963	3	K-8	1.25	1,798	1,030
Quitman Street	1963	3	K-6	6.6	1,763	1700
Ridge Street	1911 1921	2	K-6	1.15	501	490
Robert Treat	1887 1915, 1956	3	K-6	1.93	1,504	1,340
Roseville Avenue	1884 1903	3	K-7	0.30	534	290
South Street	1883 1900	3	K-5	0.57	468	430
South Eighth Street	1873 1907, 1963	3	K-8	0.90	1,882	970
South 17th Street	1911 1914	3	K-8	1.90	1,214	1,050
South 10th Street	1870 1896	3-4	K-6	0.72	808	640
Speedway Avenue	1917	3	K-3	1.00	194	230
Summer Avenue	1883 1927	3	K-6	0.93	1,042	850
Sussex Avenue	1900 1904, 1955	3	K-8	0.63	852	640
Warren Street	1892 1908	4	K-6	1.25	684	530
Waverly Avenue	1891 1900	3	K-6	0.65	656	520
Wilson Avenue	1881 1925	3	K-8	1.38	784	760
Junior High-Schools						
Broadway	1956	2	7-9	4.63	1,053	1,050
Clinton Place	1958	3	7-9	3.80	1,476	1,600
Madison	1904 1926, 1962	3	7-9	1.28	432	360
Seventh Avenue	N.A.	3-4	7-9	0.4	778	840
Webster	1911 1923	3	7-9	1.19	836	870
West Kinney	1958	3	7-9	3.50	1,632	1,600

TABLE T (CONT.)

High Schools	Yr. Built and Additions	Number of Stories	Grades Served (9/64)	Site (Acres)	Enrollment (9/64)	Capacity (9/64)
Arts	1931	4	9-12	1.3	683	780
Barringer	1897 1930, 1964	3	9-12	6.5	2,337	2,400
Central	1911	4	9-12	1.00	1,635	1,314
East Side	1910 1926, 1958	4	9-12	2.8	2,005	1,650
South Side	1913	3	9-12	1.9	1,711	1,380
Vailsburg	1931 1955, 1958	3	9-12	2.25	1,289	1,000
Weequahic	1932 1958	4	9-12	2.5	2,330	1,860
West Side	1925	3	9-12	4.25	1,693	1,230
Special Schools						
Alyea Street	N.A.	2	Mentally Retarded	N.A.	97	N.A.
Arlington Avenue	1924	1	Mentally Retarded	0.89	100	N.A.
Boylan Street	1929 1960	2	Physically Handicapped	N.A.	135	N.A.
Branch Brook	1924	1	Physically Handicapped	N.A.	120	N.A.
Bruce Street	1898 1899	2-3	Physically Handicapped	0.81	132	N.A.
Girls Trade	1872 1890	3	Mentally Retarded	N.A.	193	N.A.
Montgomery Street (Boys)	1910 Addition presently Under Construction	3	Mentally Retarded	1.00	543	N.A.
South Market Street (Boys)	1856	3	Mentally Retarded	1.25	200	N.A.
Wycliff Street (Girls)	1848	2	Mentally Retarded	N.A.	82	N.A.
Woodland Avenue	1910	2-3	Socially Handicapped	0.75	73	N.A.

Source: School Plant Facilities Report, 1952, For Newark, Prepared by Clarence Ackley and Associates: Newark Public School Enrollments, Grades Served, and Capacity as of September, 1964, Superintendent of Schools.
N.A. — Not Available.

TABLE U
FIRE STATION INVENTORY
NEWARK, NEW JERSEY

No.	Fire Station Companies Housed	Location	Year Built	Age	General Condition of Structure
1.	Engine 1 (HV) Ladder 1 (HV)	Mulberry & Lafayette Sts.	1907	56	Poor
2.	Engine 2 (HV)	Center St. & McCarter Highway	1896	67	Fair
3.	Engine 4 (HV) Ladder 2 (HV)	High St. Between James and Orange Streets	1929	34	Fair
4.	Engine 5 Salvage 1	Congress Street near Ferry St.	1904	59	Fair
5.	Engine 6 (HV)	Springfield Ave. and Hunterdon St.	1889	74	Poor
6.	Engine 7 Ladder 3 (HV)	W. Market and Warren Streets	1923	40	Good
7.	Engine 8 (HV)	Ferry and Fillmore Streets	1893	70	Good
8.	Engine 9 (HV)	Summer Ave., & Kearny Street	1913	50	Fair
9.	Engine 10 (HV)	Sherman Avenue & Astor Street	1875	88	Very Poor
10.	Engine 11 Ladder 11	Central Avenue and Ninth Street	1888	75	Poor
11.	Engine 12 Ladder 5 Salvage 2	Belmont Avenue near Waverly Ave.	1898	65	Poor
12.	Engine 13	Summer Avenue and Halleck Street	1894	69	Good
13.	Engine 14	Vesey and McWhorter Sts.	1898	65	Good
14.	Engine 15 Ladder 7	Park Avenue and Sixth Street	1892	71	Poor
15.	Engine 16 (HV) Ladder 8 (HV)	Ferry and Brill Streets	1908	55	Fair
16.	Engine 17	Clinton Place and Runyon Street	1905	58	Good
17.	Engine 18 Ladder 9	Avon Avenue and Thirteenth Street	1911	52	Fair

TABLE U (CONT.)

No.	Fire Station Companies Housed	Location	Year Built	Age	General Condition of Structure
18.	Engine 19 (HV)	Frelinghuysen & Meeker Avenues	1905	58	Fair
19.	Engine 20 (HV)	Prince St. between South Orange and Springfield Avenues	1906	57	Fair
20.	Engine 21 Ladder 12 Engine 26	Sanford Ave. and Palm Street	1918	45	Good
*21.	Engine 22 (HV) Floodlight 1-2	New and Colden Streets	1908	55	Good
22.	Engine 23 Rescue 1	Mt. Prospect Ave. near Sixth Avenue	1911	52	Good
23.	Engine 27 Ladder 4 Crash Truck	Elm Road & Chestnut St.	1917	46	Good
24.	Engine 28	North Sixth St. between Davenport and Delavan Avenues	1921	42	Good
25.	Engine 29 Ladder 10	Bergen Street & Lehigh Avenue	1922	41	Poor
26.	Fire Boat 1	Passaic River, foot of Centre Street	1949	15	Very Good
27.	Engine 32	Terminal & South Dock Streets	1949	14	Good
*28.	Engine 35	Airport-Traffic Circle	—		Fair
29.	Ladder 6 (HV)	Broadway and Herbert Place	1903	60	Poor
*30.	Salvage 1-3	Washington St. between Market & Bank Streets	1896	67	Very Poor

Source: Newark Fire Location Survey Report, 1956, National Board of Fire Underwriters Report for Newark, 1952.
*Fire Stations 21, 28 and 30 have been abandoned by the Fire Department.
Engine Company Numbers 3, 22, 23 and 31 have been taken out of service by the Fire Department.
1 Bureau of Municipal Research Evaluation.
2 Relocated to a Special Services Company at 56 Prospect St.
3 Relocated to Fire Station 4.
(HV) High Value District.

TABLE V
USE AND BUILDING REGULATIONS
NEWARK ZONING ORDINANCE

District	Permitted Uses	Coverage	Lot Area	Lot Area Per Family	Lot Width	Building Height	Front Yard	Side Yard	Rear Yard	Off-street Parking	Off-street Loading
First Residence	Single Family Detached, Schools, Playgrounds, Churches, Libraries, Museums, Accessory Buildings		x	x	x	x	x	x	x	x	
Second Residence	Any First Residence Use, 2 & 3 Family Detached, Home Occupations, Ground Floor Medical Offices, Certain Signs, Accessory Buildings			x		x	x	x	x	x	2
Third Residence	Any Second Residence Use, Multiple Family, Boarding Houses, Institutions, Accessory Buildings			1		x	x		x	x	2
Fourth Residence	Any Third Residence Use, Medical and Other Offices, Nursing Homes, Colleges	2	2	1		x	x	2	x	x	2
First Business	Any Fourth Residence Use, Specific Business Uses on Ground Floor Only			1		x	x	x	x	4	x
Second Business	Any Use With List of Exceptions			3		x		x	x	4	x
Third Business	Any Second Business Use			3		x			3	4	x
Fourth Business	Any Use with List of Exceptions			3		x			3	4	x
First Industrial	Any Use with List of Exceptions			3		x			3	4	x
Second Industrial	Any First Industrial Use			3		x			3	4	x
Third Industrial	Any Use Not in Conflict With Other Ordinances					x				4	x

1 One unit permitted on each floor for each 1200 square feet of lot area.
2 Applies to nonresidential uses only.
3 Applies to residential uses only.
4 Applies to residences, hotels, auditoriums, theatres, stadiums and sports arenas only.

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NEWARK CITY SEAL.
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