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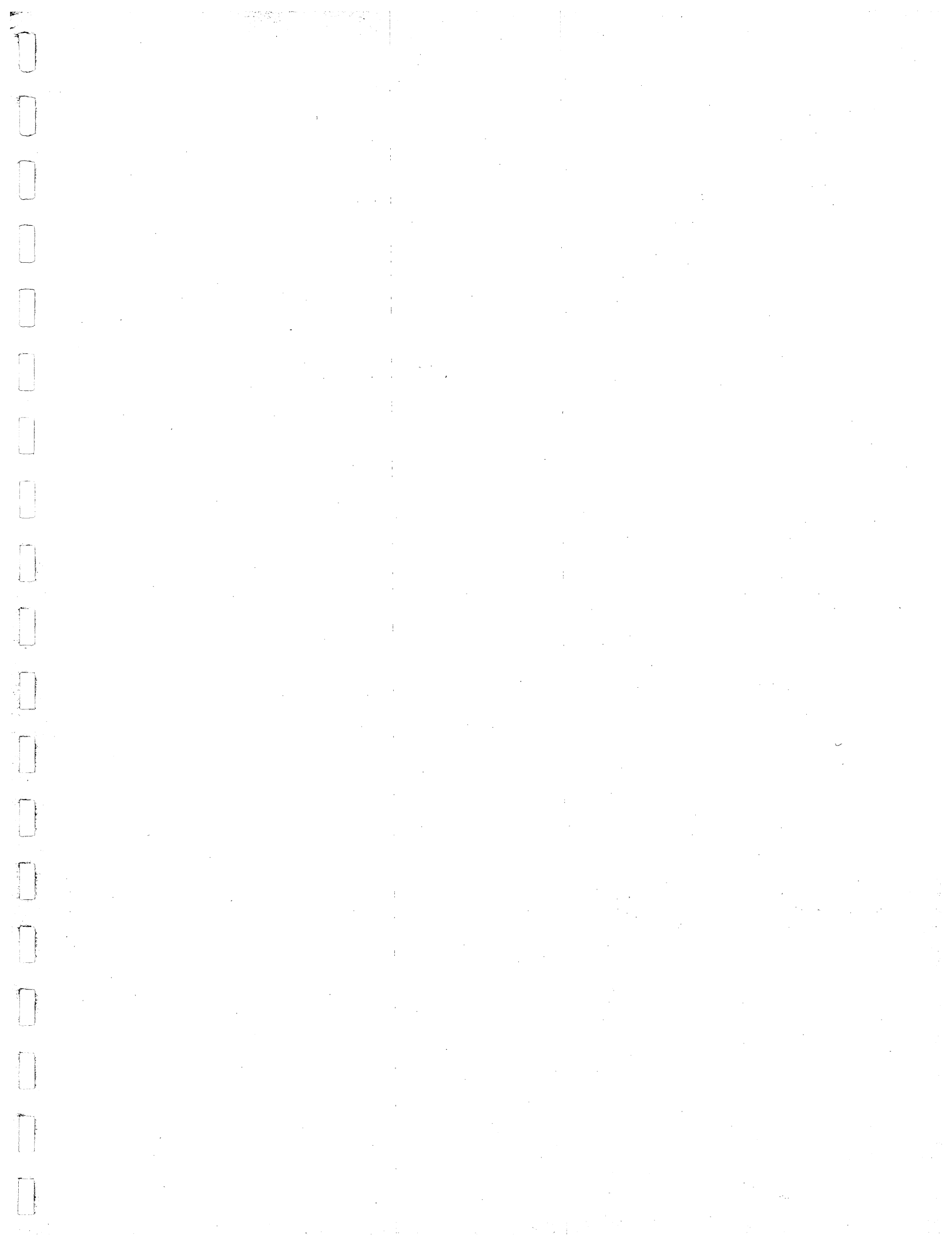
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Newark Area Transportation Study

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STATE OF NEW JERSEY
Robert B. Meyner, Governor

Department of Conservation
and Economic Development
Salvatore A. Bontempo,
Commissioner

State Highway Department
Dwight R. G. Palmer,
Commissioner

Report Prepared by
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NEWARK AREA

TRANSPORTATION STUDY

A study of population, land-use, employment
and circulation trends as they affect emerging
transportation needs in the Newark Area.

March 31, 1959

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NEWARK AREA TRANSPORTATION STUDY

205 West State Street
Trenton 25, New Jersey

The Honorable Robert B. Meyner
Governor of New Jersey

March 31, 1959

Dear Governor Meyner:

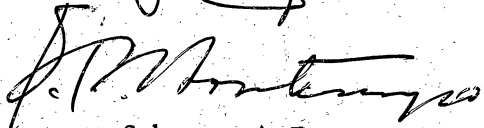
Submitted herewith is the Newark Area Transportation Study prepared by the Planning Bureau of the Department of Conservation and Economic Development and jointly sponsored with the State Highway Department.

This report covers the basic trends and developments in population, land use, employment and circulation as they affect emerging transportation needs in the Newark Area. A summary of findings may be found immediately preceding Chapter I.

In the preparation of this study, invaluable advice and assistance were received from members of the Working Committee whose names appear at the front of the report. We wish also to acknowledge the assistance of Mayor Leo P. Carlin of Newark; Henry W. Connor, Executive Director of the Greater Newark Development Council; Dr. Ibrahim Elsammak of Rutgers, the State University, and the many others who contributed to the study.

Respectfully submitted,


Dwight R. G. Palmer
State Highway Commissioner


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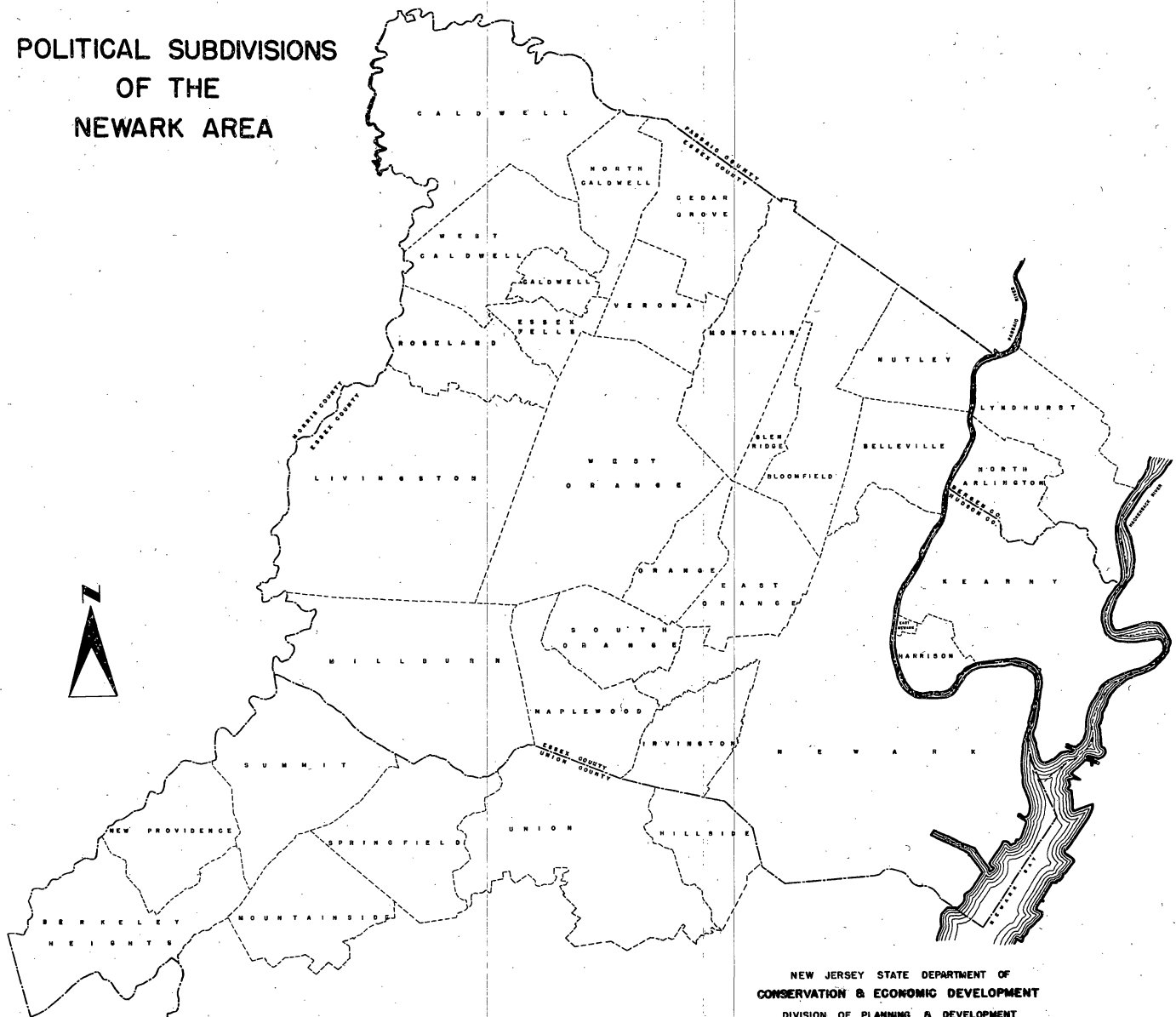
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**POLITICAL SUBDIVISIONS
OF THE
NEWARK AREA**



**NEW JERSEY STATE DEPARTMENT OF
CONSERVATION & ECONOMIC DEVELOPMENT
DIVISION OF PLANNING & DEVELOPMENT
STATE PLANNING BUREAU**

FIGURE 1

SUMMARY OF FINDINGS

- The Federal Aid Interstate Highway System will add seven freeways to the transportation system serving northeastern New Jersey. These will have a major impact on present patterns of circulation, traffic along existing highways and other facilities; and the region's future development.

- Every current major trend in national development—population growth, metropolitan concentration, suburban development, and increased national and personal incomes—point toward an increasing use of automobiles and resulting congestion in metropolitan areas.

- The future of Newark is closely dependent on both the development of municipalities surrounding it and the development of the entire New York region. Many regional developments will significantly affect the Newark Area and consequently its central city. These include: the construction of the Narrows Bridge; the reclamation of the Meadowlands; the expansion of Port Newark-Elizabeth; the completion of the Federal Aid Interstate Highway System; and, general regional population and employment expansion.

- The Newark Area, because of its geographic position in the New York region, history, physical features, developmental characteristics, and land use pattern, has been experiencing a series of trends which are establishing the Area's future transportation needs. Among these are: population growth occurring largely in the outlying suburban areas; extensions to the highly urbanized territory surrounding the central city; a stratification of population and income characteristics between the inlying and outlying municipalities; industrial growth in suburban municipalities; deterioration of housing in the core area; and, declining retail sales in the central business district. These will not be reversed by the construction of new freeways.

- Vehicle registrations and traffic flows on Newark Area streets and highways have been increasing even more rapidly than predicted and at a faster rate than population growth. Recent major highway construction, such as the New Jersey Turnpike and the Garden State

Parkway, has not resulted in reduced traffic on local streets and roads. Since the large majority of all vehicular trips in the Newark Area either originate or are destined locally, freeways serving through traffic will not solve the problem of congestion in the Area's urbanized portions or in Newark's central business district. Solutions to the transportation problem must be sought in terms of a system including and coordinating all modes of moving people within the metropolitan area.

- Through local planning, zoning, subdivision regulation and urban renewal, Newark Area municipalities can contribute to the alleviation of traffic congestion by coordinating control of land development with highway construction. Such controls for maximum effectiveness must be viewed from the standpoint of area - wide as well as local objectives.

INTRODUCTION

The Newark Area Transportation Study was undertaken by the State Planning Bureau at the request of Mayor Leo P. Carlin of Newark and State Highway Commissioner Dwight R. G. Palmer. The study was initially conceived as a hurried review of the major developmental trends and emerging problems facing the Newark Area. Its general purpose was to provide a "frame of reference" within which specific transportation proposals could be considered, especially the several new freeways of the National System of Interstate and Defense Highways routed through the area.

A Working Committee was appointed representing Newark, Essex County, the State Highway Department, and the Department of Conservation and Economic Development. The Committee supervised the study, assigned members of their respective staffs and offered valuable advice and criticism.

To the State Planning Bureau, however, was left the responsibility of more concretely defining study objectives realizable within limitations of time and staff. Moreover, the task of defining the Newark Area fell to the Bureau. After a series of meetings with the Working Committee, the following operational answers to these critical questions were formulated.

The study was to be directed toward three objectives:

- (1) defining those factors in the growth and development of the Newark Area which will affect future traffic and transportation needs and, conversely, defining the impact of transportation upon that development;
- (2) compiling and analyzing information on transportation facilities, traffic and circulation trends in the Newark Area and their relation to the new freeways; and,
- (3) suggesting an approach for a comprehensive transportation study of northeastern New Jersey.

The problem of defining that portion of Northeastern New Jersey which falls under the dominant influence of Newark is an extremely complex one. For many functions Newark,

as the State's largest city, serves as an urban center for all of northeastern New Jersey. However, Newark, like Jersey City, Elizabeth, Paterson and other nearby cities which would qualify elsewhere in the nation as centers of Standard Metropolitan Areas, is an integral part of the New York region. This and the fact that a continuous, highly integrated urbanized area spreads across all of northeastern New Jersey has prompted the State Planning Bureau to assume the following approach to area studies.

Although all cities in northeastern New Jersey are subject to the influence of regional development, important differences occur among the region's component parts. These parts are best defined as a central city and those municipalities surrounding it which are more oriented toward that central city than any other. Useful conclusions about the future development of these areas can be derived by analyzing both their relation to the larger region and their individual problems and growth trends. These areas are logical units for planning because each encompasses the locales of home, work, shopping, and social services for the great majority of its residents. Furthermore, in the vast metropolitan region of New York, citizen comprehension, vital to their participation and the ultimate effectiveness of planning, requires the definition of smaller, more identifiable areas.

Metropolitan areas are generally defined as having three characteristics:

- (1) a densely populated core city which performs specialized functions for a broader area surrounding it;
- (2) an urban and suburban population spreading out at decreasing densities around that core city; and,
- (3) a population united by economic and social ties as evidenced by large volumes of daily traffic moving into and out of the core city from the suburban areas.



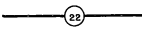

The Newark Area meets all of these although it is more complex because of the presence of an overlying metropolitan region and the proximity of similar areas. Why should analysis and planning extend beyond the boundaries of individual municipalities and consider a wider area?

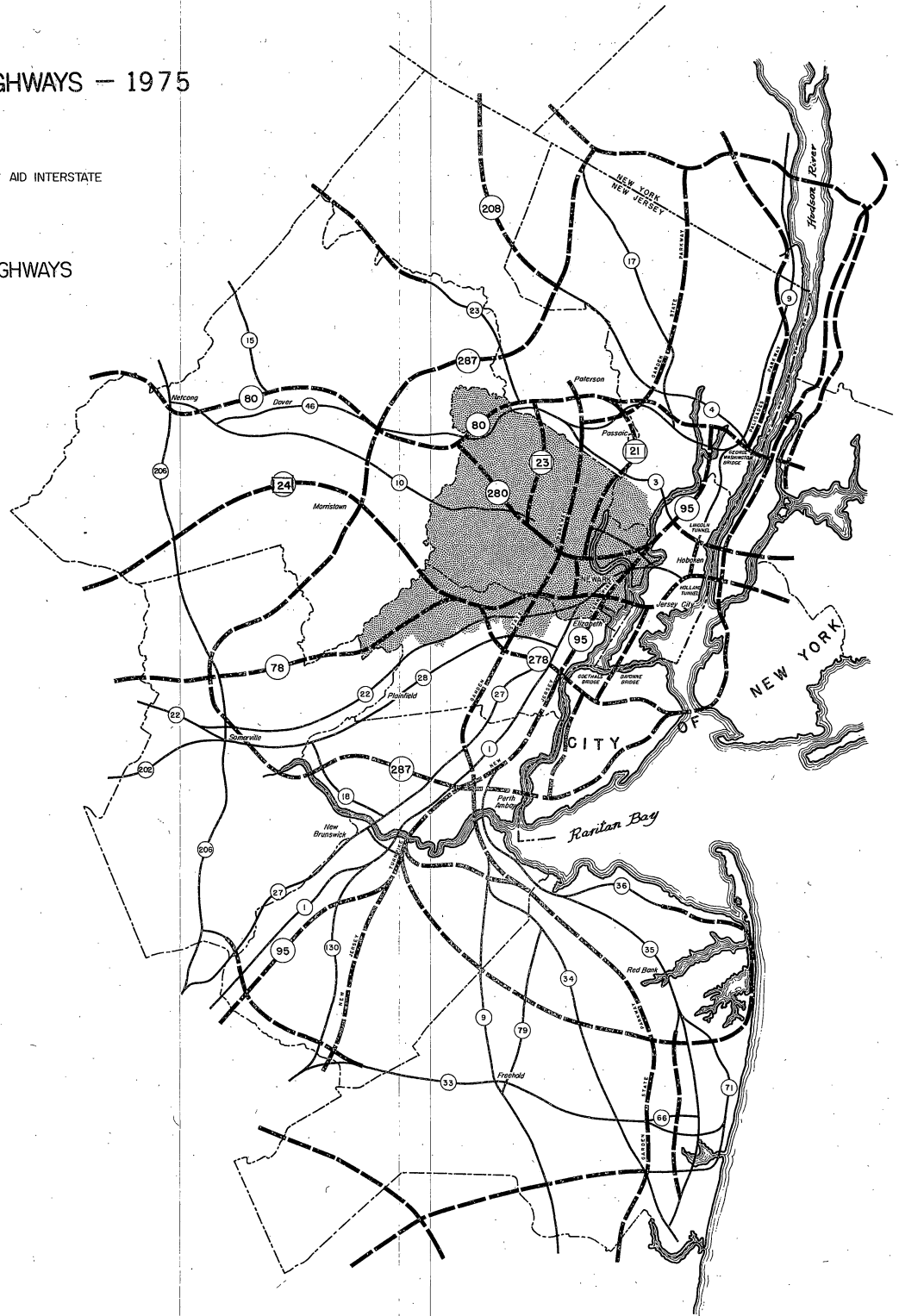
Primarily, the answer lies in the observation that the daily environment of a large proportion of people in metropolitan areas extends beyond the boundaries of the municipality

and often the county of their residence. Their daily activities range across a number of separately governed and often totally different types of municipalities. Developments in one municipality may have a bearing upon developments in adjoining municipalities. And finally, in a metropolitan area municipalities assume specialized functions which make them interdependent. Some are the location of regional shopping facilities, others are essentially housing areas and still others are employment centers and each depends upon the others in order to function.

On these assumptions this study was predicated and the Newark Area was defined as encompassing all of Essex County and portions of Union, Hudson, and Bergen Counties as shown in Figure 1. Similar and adjoining metropolitan areas are definable around Elizabeth, Jersey City, Hackensack, Passaic, Morristown and Plainfield.

FREEWAYS AND MAJOR HIGHWAYS — 1975

-  FREEWAYS FEDERAL AID INTERSTATE
-  FREEWAYS OTHERS
-  OTHER MAJOR HIGHWAYS
-  NEWARK AREA



SOURCE: N. J. STATE HIGHWAY DEPARTMENT

NEW JERSEY STATE DEPARTMENT OF
 CONSERVATION & ECONOMIC DEVELOPMENT
 DIVISION OF PLANNING & DEVELOPMENT
 STATE PLANNING BUREAU

FIGURE 2

CHAPTER 1 THE NATIONAL SYSTEM OF INTERSTATE AND DEFENSE HIGHWAYS

THE FEDERAL - AID HIGHWAY ACT The Federal Aid Highway Act of 1944 provided that there should be designated within the Federal Aid Highway System a National System of Interstate Highways not exceeding 40,000 miles in length.

In compliance with the 1944 legislation, routes included in the Interstate System were selected by the State Highway Departments and approved by the Bureau of Public Roads of the U. S. Department of Commerce. Criteria for selecting routes of the Interstate System provided for connecting principal cities; to serve the most important defense requirements, to serve the principal agricultural areas and give geographic distribution, and to serve all principal interregional traffic movements.

In 1956 the Federal legislation was further augmented to increase the Interstate System to 41,000 miles and provide the funds necessary for its construction. The Federal Government will provide 90 percent of the cost of planning and constructing the Interstate routes and the States the balance. A thirteen year program was established for the simultaneous completion of the entire system in all states.

Standards were adopted by the Federal and State Governments which require control of access and designed capacities to serve traffic demands projected to 1975. The State Highway Department in each state is responsible for planning and constructing the Interstate System with the approval of the Bureau of Public Roads. The National System of Interstate and Defense Highways when completed will serve peacetime and defense interests and provide for further national economic development.

THE INTERSTATE SYSTEM IN NORTHEASTERN NEW JERSEY Northeastern New Jersey, because of its location between some of the largest metropolitan centers in the nation, is traversed by seven routes designated as parts of the Interstate System. These are shown on the map of Freeways and Major Highways in 1975, further described in Table 1. *These freeways when completed and regardless of federal purpose will become an integral part*

TABLE 1: FEDERAL AID INTERSTATE SYSTEM
IN NORTHEASTERN NEW JERSEY

ROUTES	EXISTING ROUTES SERVING INTERSTATE TRAFFIC	LOCATION	LENGTH IN MILES
FAI 78	U.S. 22 N.J. TP. EXT.	PHILLIPSBURG, N.J. TO HOLLAND TUNNEL	68
FAI 80	U.S. 46	COLUMBIA, N. J. TO FAI 95	68
FAI 95	U.S. 1 N.J. TPK.	TRENTON, N. J. TO GEORGE WASHINGTON BRIDGE	67
FAI 278	N.J. 82, 439	FAI 78 TO GOETHALS BRIDGE	10
FAI 280	RT. 10, 58 LOCAL ROADS	FAI 95 TO FAI 80	15
FAI 287	U.S. 202	FAI 95 TO N. Y. STATE LINE	64
FAI 495	N.J. 3	FAI 95 TO LINCOLN TUNNEL	4

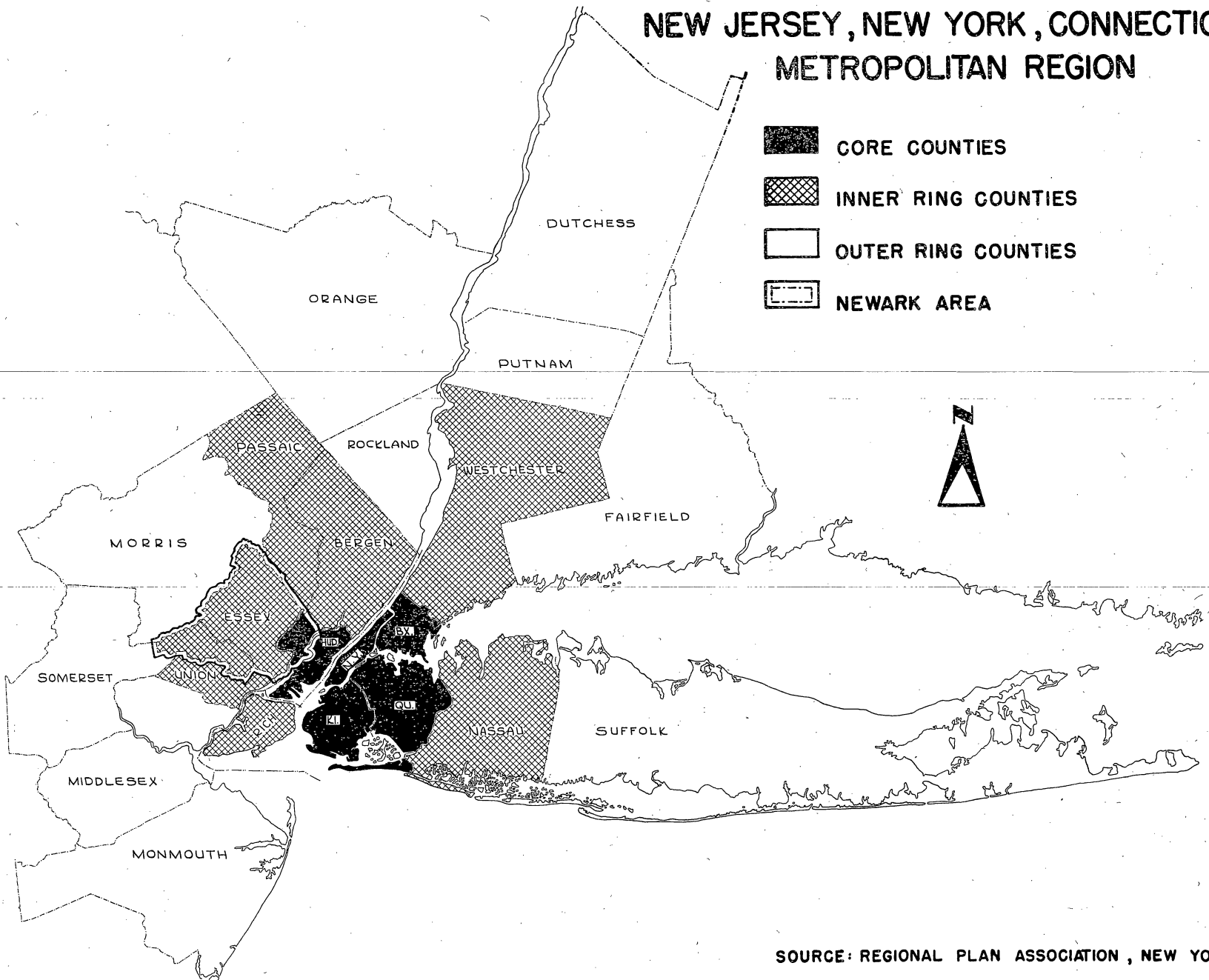
SOURCE: N. J. STATE HIGHWAY DEPARTMENT

of the transportation system serving northeastern New Jersey. They will have an impact upon present patterns of automobile circulation for they will become new high-speed connections between existing centers. These routes will have an impact upon the existing highway system inasmuch as they will add new traffic to some existing roads while removing traffic from others. They will have an impact upon other modes of transportation for they will create new time-distance relationships and will compete with existing commuter railroads and bus lines for passengers. And finally, they will have an impact upon the development of northeastern New Jersey.

The similarity of proposed Route 287 to the now famed Route 128, a limited access circumferential highway of Boston, is striking. The first major link of Route 128 was opened in 1951 and by 1957 ninety-nine new industries had located along it representing a total investment of \$134 million.

How the Interstate System will affect the Newark Area, what potential it offers for new development, which present problems it may augment, and which problems it may solve are matters of primary concern to the Area. Before any evaluation can be made, a clear understanding of the Newark Area and the national, regional and local trends affecting it will be necessary.

NEW JERSEY, NEW YORK, CONNECTICUT METROPOLITAN REGION







-  CORE COUNTIES
-  INNER RING COUNTIES
-  OUTER RING COUNTIES
-  NEWARK AREA

FIGURE 3

SOURCE: REGIONAL PLAN ASSOCIATION, NEW YORK.

CHAPTER II THE NATION AND THE REGION

Washington, Oct. 11. --Next Thursday, the United States will become a nation of 175,000,000. It is a milestone with a very fluid base---adding one more every eleven seconds, inching westward all the while, and packing tighter into big cities and their suburbs.

The New York Times 10/11/58

Every current major trend in national development points toward increasing automobile traffic within and around metropolitan areas.

NATIONAL GROWTH Each year since 1947, national population growth has exceeded two and one-half million. Predictions are that total population by 1965 will top 195 million and reach 248 million in 1980. Along with population expansion, the nation is experiencing increasingly higher levels of employment, a greater Gross National Product and higher personal incomes. The average individual will have \$2,300 available to spend after taxes in 1965 and \$2,900 in 1980.

TABLE 2: SUMMARY OF NATIONAL GROWTH TRENDS

	1955	1965	1980
POPULATION	165,300,000	195,000,000	248,000,000
EMPLOYMENT	66,200,000	76,000,000	97,000,000
GROSS NATIONAL PRODUCT *	\$147,600,000,000	\$570,000,000,000	\$910,000,000,000
PERSONAL INCOME PER CAPITA	\$ 1,938	\$2,300	\$2,900

SOURCE: U. S. DEPARTMENT OF COMMERCE, OFFICE OF BUSINESS ECONOMICS, 1958
* IN CONSTANT 1957 DOLLARS

Although population and personal incomes have increased in the post-war years at rapid rates, travel and the ownership of automobiles have increased even more rapidly. *More people, more employment, and higher personal incomes cannot but continue to result in further increases in all forms of travel and traffic, and greater automobile ownership and use.*

**TABLE 3: SUMMARY OF POPULATION PROJECTIONS
FOR THE NEW YORK REGION
(in thousands)**

AREAS	1955	1975	CHANGE 1955 - 1975	
			NUMBER	PERCENT
NEW JERSEY-NEW YORK-CONN. METROPOLITAN REGION	15,225	19,100	3,835	25
NEW YORK CITY	8,050	8,400	350	4
NORTHEASTERN NEW JERSEY	4,005	5,825	1,820	45
BERGEN COUNTY	655	1,100	445	68
ESSEX COUNTY	950	1,100	150	16
HUDSON COUNTY	645	600	-45	-7
MIDDLESEX COUNTY	335	700	365	109
MONMOUTH COUNTY	280	600	320	114
MORRIS COUNTY	200	400	200	100
PASSAIC COUNTY	375	460	85	23
SOMERSET COUNTY	115	225	110	96
UNION COUNTY	450	640	190	42

SOURCE: REGIONAL PLAN ASSOCIATION, PEOPLE, JOBS, AND LAND 1955 - 1975.
BULLETIN NUMBER 87, NEW YORK, JUNE, 1957

METROPOLITAN CONCENTRATION The 1950 Census of population revealed that well over half of all persons in the United States resided in 169 Standard Metropolitan Areas (SMA) whose combined size is less than 7 percent of the land area of the U. S. Moreover, eighteen contiguous urban agglomerations, containing seventy-seven of the SMA's, account for 40 percent of the Nation's population. The concentration of population, employment and national wealth within a relatively few metropolitan areas has been assuming even greater proportions in recent years. Ninety-seven percent of all population growth since 1950 has occurred in metropolitan areas. *Metropolitan concentration has become the dominant fact of American development and the trend will be augmented by the Federal Interstate System designed primarily to serve these areas.* The continuing concentration of economic activity within metropolitan areas foreshadows parallel increases of traffic and congestion.

SUBURBAN DEVELOPMENT Between 1950 and 1955 the number of people in all metropolitan areas increased by 12,000,000, yet only 2,400,000 of this new growth actually occurred within the central cities; the remainder settling in the outlying surrounding suburban areas. The rapid growth of suburban communities brought with it a series of complex governmental problems not the least of which is the provision of sufficient road and highway capacity, for the suburban resident is dependent upon the automobile to an unprecedented degree. *The growth of population and employment in the non-concentrated pattern of outlying communities surrounding metropolitan centers is establishing new patterns of travel reflecting the increasing importance of individualized trips from scattered housing areas to similarly scattered employment and shopping areas.* These are the trips which the private automobile is so well suited to accommodate.

THE NEW YORK REGION AND ITS GROWTH The Regional Plan Association (RPA) defines the New York region as encompassing 7000 sq. miles in twenty-two counties of three states. Within this New Jersey-New York-Connecticut Metropolitan Region are 1100 sq. miles of intensively developed land and 15 million people. The New York metropolitan region is the largest in the world. It forms a major portion of a giant, sprawling metropolis which extends along the nation's east coast in a continuous urban belt for more than 600 miles from Portland, Maine to Richmond, Virginia. Eight and one-half percent of the nation's population and 10 percent of all value added by manufacturing are accounted for in

TABLE 4: LABOR FORCE AND EMPLOYMENT, 1955-1975

(in thousands)

AREA	1955			1975		
	EMPLOYED LABOR FORCE	EMPLOY- MENT	SURPLUS LABOR	EMPLOYED LABOR FORCE	EMPLOY- MENT	SURPLUS LABOR
NEW JERSEY-NEW YORK CONN. METROPOLITAN REGION	6,285	6,273	12	7,700	7,700	-
NEW YORK CITY	3,385	3,839	-454	3,430	3,930	-500
NORTHEASTERN NEW JERSEY	1,665	1,410	255	2,365	2,100	265
BERGEN COUNTY	270	199	71	445	400	45
ESSEX COUNTY	405	366	39	455	415	40
HUDSON COUNTY	275	247	28	250	270	-20
MIDDLESEX COUNTY	140	115	25	280	235	45
MONMOUTH COUNTY	95	70	25	220	135	85
MORRIS COUNTY	75	53	22	160	120	40
PASSAIC COUNTY	170	149	21	200	165	35
SOMERSET COUNTY	45	33	12	85	60	25
UNION COUNTY	190	178	12	270	300	-30

SOURCE: R. P. A., PEOPLE, JOBS AND LAND

the New York region. As one of the oldest metropolitan regions, its population growth rates are not expected to approach those anticipated in many other regions.

RPA predicts that by 1975 an additional four million persons will reside in the New Jersey-New York-Connecticut Metropolitan Region and that employment will expand by one and one-half million. To accomodate these new people and activities, an additional 700 square miles of presently undeveloped land will be needed.

CORE, INNER, AND OUTER RINGS To point up the striking differences in rates of growth and development occurring among the various counties in the region, RPA has defined three classes of counties--core, inner-ring and outer-ring. The population in the core counties, which include Hudson County in New Jersey, has been increasing only gradually since 1930 and in some cases, has actually declined. Both the inner-ring and outer-ring counties, however, have more than doubled in population since 1920. These outlying counties are the areas of most of the region's anticipated growth. *By 1960, for the first time, more people will be living in the environs of New York City than in the city itself.*

NORTHEASTERN NEW JERSEY Nine of the twenty-two counties are in New Jersey. Combined, they have been steadily increasing their share of the region's population and employment. Population in northeastern New Jersey is predicted to increase 45 percent between 1955 and 1975, and to reach 30 percent of the regional total before 1975. Of projected increases in regional employment during that same period, nearly one-half will occur in northeastern New Jersey. Currently and potentially the fastest growing New Jersey county is Bergen with an anticipated growth of 68 percent in the twenty-year period. During the same period Union County will increase 42 percent, Essex County 16 percent and Hudson, conversely, will experience a slight decline.

The magnitude of variations in growth rates among counties and municipalities in northeastern New Jersey tends to create new concentrations of population, employment and retail outlets outside of the present core cities. *These variations will increasingly alter the traditional pattern of daily local travel heretofore oriented primarily to the older core cities.*

EMPLOYMENT AND LABOR FORCE Industrial and commercial growth in northeastern New Jersey in recent decades has provided an increasing number of local employment op-

portunities for its resident labor force. In 1955 there were 1,410,000 jobs in the nine counties. However, a net labor force surplus of 255,000 still existed, and many sought employment in other parts of the region, especially in New York City. Predicted employment increases in the forthcoming decades raises the question of the continuance of a large daily movement to external employment centers. Projections of labor force and employment indicate that in spite of an anticipated growth of 700,000 jobs, population growth rates will result in an even greater resident labor force. *In 1975, a greater surplus of labor than presently exists can be anticipated in northeastern New Jersey and slightly more, rather than fewer persons will be travelling daily to external employment centers.*

NORTHEASTERN NEW JERSEY AND THE NEWARK AREA Expansion in northeastern New Jersey by 1975 will bring 1,800,000 additional people, 690,000 new jobs, and the consequent development of some 300 additional square miles of land area. The pattern of this new development, by-passing areas close to downtown New York and concentrating in outlying municipalities, will have a marked effect upon traffic within the close-in portions of northeastern New Jersey. *The rapid development of municipalities to the north, west, and south of the Newark Area, a relatively close-in portion of the New York region, may have more of an impact upon traffic within the Area than its own future development.*

For the new populations, however, *Newark will continue to be the largest city in northeastern New Jersey as well as the focus of major existing transportation facilities.* Furthermore, Newark's geographic position astride the major channels of movement and communication between the developing suburbs and New York City will continue to exert an influence which will be expressed in increasing volumes of through traffic.

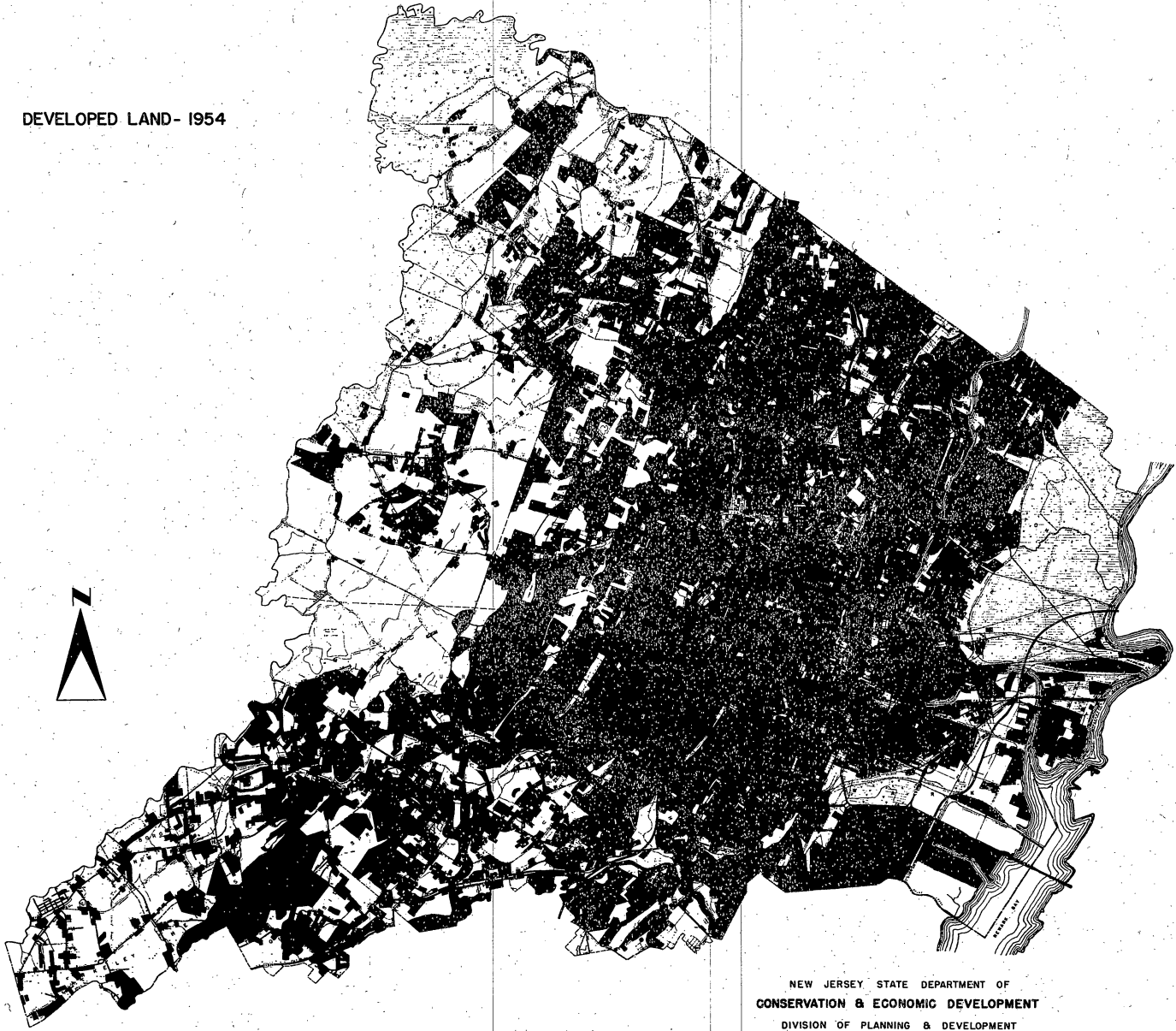
THE NEWARK AREA AND THE NARROWS BRIDGE The impending construction of the Narrows Bridge linking Staten Island directly with Brooklyn and Long Island, has engendered predictions of a huge growth and expansion on Staten Island. RPA predicts that population will increase from 200,000 at present to 500,000 before 1975. The bridge will provide a new traffic artery accomodating traffic movements from the south to New York City, Long Island and New England, by-passing the Essex-Hudson Area. Since the Port of New York Authority reports that 29 percent of all vehicles using their trans-Hudson crossings are destined for or originate in Long Island counties, this traffic could be ex-

pected to transfer to the Narrows Bridge. However, four-fifths of these vehicles were from or to counties in New Jersey north of Somerset and Union. These will continue to find the existing trans-Hudson crossings more convenient, especially with the construction of new trans-Manhattan freeways, and traffic in the Hudson-Essex area will not be appreciably affected.

As to the effect of future development, *large sections of Staten Island will be closer in terms of travel time to downtown Newark than to either downtown Brooklyn or Manhattan even after construction of the Narrows Bridge.* The development of this predominantly vacant land in close proximity to the center of the New York region will generate new traffic to and from the Newark Area and *require more efficient highway linkages than presently exist.*

It is within this setting of national and regional growth, metropolitan concentration, decentralization within metropolitan areas and suburban development resulting in new centers of population and economic activity that the Newark Area must be viewed and brought into focus.

DEVELOPED LAND- 1954



NEW JERSEY STATE DEPARTMENT OF
CONSERVATION & ECONOMIC DEVELOPMENT
DIVISION OF PLANNING & DEVELOPMENT
STATE PLANNING BUREAU

FIGURE 4

CHAPTER III THE NEWARK AREA

One hundred and eighty-two square miles of land area, oriented primarily toward Newark but simultaneously forming an important part of the New York region, comprise the Newark Area. Although Newark, a city of 440,000 people and a major urban center in its own right, is the Area's core, the existence of New York City, a scant 12 miles to the east, has ramifications of major importance. *The future of Newark is closely dependent on the development of the entire Newark Area.*

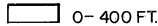
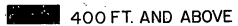

GEOGRAPHIC POSITION The Newark Area lies astride the Piedmont Plain, the natural geographic channel of traffic from the western and southern regions of the United States to New York City and New England. This location historically has exerted a major influence on the Area's development for as each phase of transportation construction was extended into New York City, the Newark Area was traversed and consequently served. Among major transportation facilities may be included: the Pennsylvania and four other major railroads, the Pulaski Skyway, U. S. Route 22, the New Jersey Turnpike, and the Garden State Parkway each representing stages in transportation development. These have formed the transportation network which has been the basis for much of the Area's industrial development. *The Interstate System will provide the basis for similar new growth and development.*

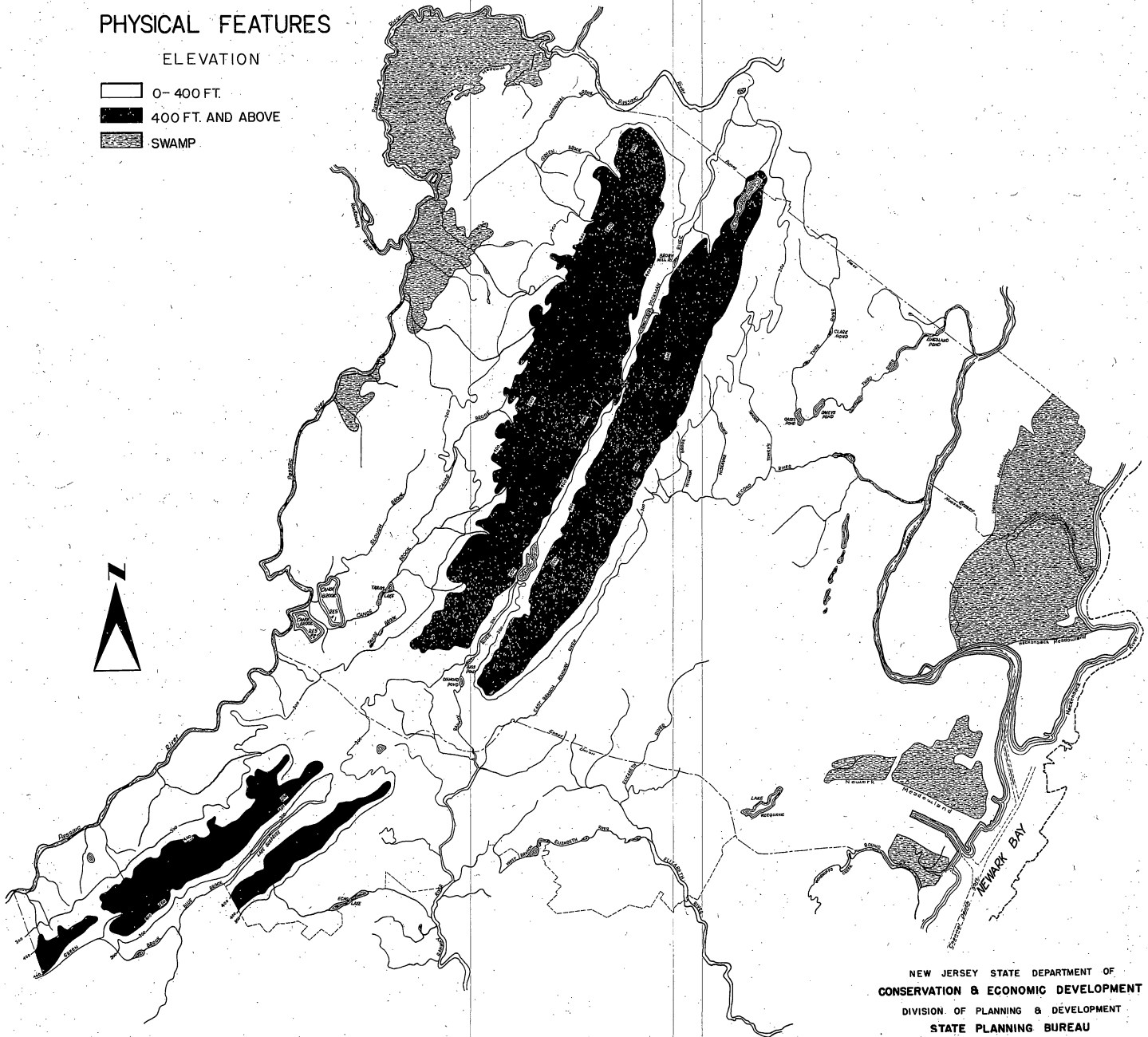
The Newark Area's geographic position makes it vulnerable to all of the current forces of decentralization and deterioration of the New York region. While the western and southern municipalities share in the general growth of outlying suburban areas, in-lying municipalities and much of the high density urban land are realizing the effects of obsolescence and decay characteristic of the cores in metropolitan regions.

HISTORY The history of the Newark Area's evolution from Dutch settlements in the early 1600's to the largest metropolitan area in New Jersey and a center of commerce and industry is the story of its transportation. In the first decade after 1800, Newark was connected by a system of radial "turnpikes" to its hinterland on the north, south and southwest. The Morris and Essex Canal, which was opened in 1832, and the construction of

PHYSICAL FEATURES

ELEVATION

-  0- 400 FT.
-  400 FT. AND ABOVE
-  SWAMP



NEW JERSEY STATE DEPARTMENT OF
CONSERVATION & ECONOMIC DEVELOPMENT
DIVISION OF PLANNING & DEVELOPMENT
STATE PLANNING BUREAU

FIGURE 5

docking facilities for sailing vessels on Newark Bay paved the way for water borne trade. In the 1830's, the railroads first entered the area joining Newark to Jersey City in 1834 and to Summit in 1837. Settled territory spread outward along both the canals and the railroad lines. At railroad stations, new centers and new communities emerged. Later Bloomfield, Orange and Irvington split from Newark and were subsequently divided into new municipalities. Streetcars were introduced in the late 1800's and today the boundaries of high density housing areas can be circumscribed by the outer limits of earlier streetcar systems.









The transportation facilities at Port Newark, Newark Airport and the Interstate system are providing much of the basis for continued development. *Accommodating the requirements of these new transportation facilities is currently one of Newark Area's most severe challenge.*

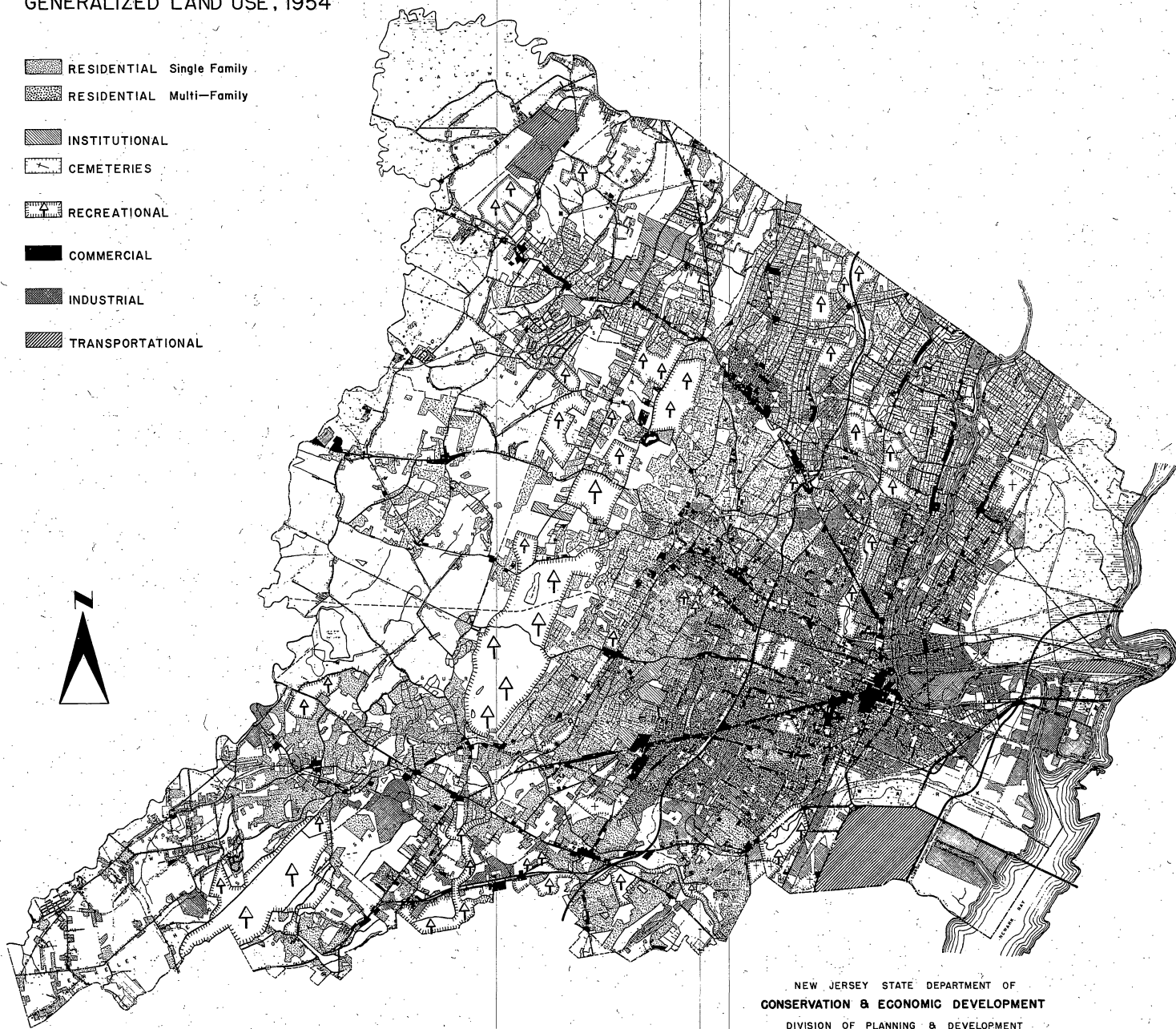
DEVELOPED LAND Sixty percent of the land in the Newark Area has already been developed for urban and suburban uses (including parks) and one-fourth of the remaining vacant land is unsuitable for development in its present condition due to its swampy nature or excessive slope. Acreage in each classification is listed in Table 5.

As apparent from Figure 4, the five major vacant land areas are: the Hackensack Meadows; the Newark Meadows; the territory adjacent to the Passaic River in Caldwell Township; West Caldwell, and Roseland; portions of Cedar Grove and North Caldwell; and portions of Livingston and Millburn. *There is adequate land for future growth especially in the western municipalities and in several areas heretofore undeveloped because of disadvantageous soil condition.*

PHYSICAL FEATURES The major physical features of the Newark Area have influenced to an important degree the character and location of development as well as the routes of transportation. A comparison of the maps "Developed Land, 1954" and "Physical Features" clearly illustrates the two ranges of the Watchung Mountains have formed a partial barrier to intensive development to the west. Similarly, the Newark and Hackensack Meadows have been by-passed for development because of tidal marshes and unfavorable soil conditions. A third instance of deterred development is the Great Piece Swamp extending along the Passaic River bounding the Caldwelles. The surmounting of

GENERALIZED LAND USE, 1954

-  RESIDENTIAL Single Family
-  RESIDENTIAL Multi-Family
-  INSTITUTIONAL
-  CEMETERIES
-  RECREATIONAL
-  COMMERCIAL
-  INDUSTRIAL
-  TRANSPORTATIONAL



SOURCE: REGIONAL PLAN ASSOCIATION, NEW YORK.

NEW JERSEY STATE DEPARTMENT OF
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DIVISION OF PLANNING & DEVELOPMENT
STATE PLANNING BUREAU

FIGURE 6

these major physical limitations to development of the Newark Area offers the chief avenues for further growth. The reclamation of the Hackensack Meadows, developments at Port Newark on the Newark Meadows, and the decreasing effect of the Watchung Mountain barrier provide new possibilities for future expansion. *The East-West Freeway, FAI 280, will effectively overcome the Watchung barrier and link presently underdeveloped areas in Livingston, Roseland, and West Caldwell directly and conveniently with downtown Newark and New York City.*

TABLE 5: DEVELOPED AND DEVELOPABLE LAND - 1954

LAND CLASSIFICATION	NUMBER OF ACRES	PERCENT OF TOTAL	PERCENT OF VACANT LAND
TOTAL LAND AREA	116,633.6	100.0	-
DEVELOPED LAND	69,702.0	59.7	-
VACANT LAND	46,931.6	40.3	100.0
VACANT UNSUITABLE FOR DEVELOPMENT	11,714.4	10.0	25.0
VACANT SWAMP	9,341.6	-	19.9
VACANT SLOPE 10% to 20%	1,851.2	-	3.9
VACANT SLOPE OVER 20%	521.6	-	1.1
VACANT SUITABLE FOR DEVELOPMENT	35,217.2	30.2	75.0

SOURCE: N. J. STATE PLANNING BUREAU

GENERAL LAND USE The pattern of land use as depicted in Figure 6 could be described as three overlying designs each of which when analyzed reveals important implications for transportation.

The first design is a high density core encompassing Newark, East Newark, Harrison and Kearny. Surrounding this core are sub-centers at Montclair, East Orange-Orange and Irvington situated on radials extending from the core toward the northwest, west, and southwest. Further west along two of the radials are smaller outlying sub-centers -- Caldwell Borough and Summit. Between the latter two lies a large, relatively undeveloped territory

not readily accessible to the core and with no important centers. *The location of the interchanges on FAI 280 in this open territory will determine the location of new sub-centers there.*

The second design is a large territory of compact and intensive urban development extending from the western edge of the Hackensack and Newark Meadows to the eastern slope of the First Watchung Mountain. West of the mountains are three areas of considerably less intensive development surrounding Caldwell, Livingston and Summit. The essential difference between the developments east and west of the mountains is in density. Later chapters will demonstrate that the nature of modern development now taking place west of the mountains will not result in the high densities found in the eastern territory. The implications of this to transportation are many. Diffuse development generally cannot support mass transportation services and depends primarily upon automobiles. The easterly, consolidated urban area will continue to be the destination for most traffic because the market, labor force and concentration of activities which exist here will not be duplicated. *In addition, any new highway crossing the Newark Area or joining the newly developing territory with downtown Newark must cross a highly urbanized area at tremendous cost in terms of land acquisition and the relocation of people and business.*

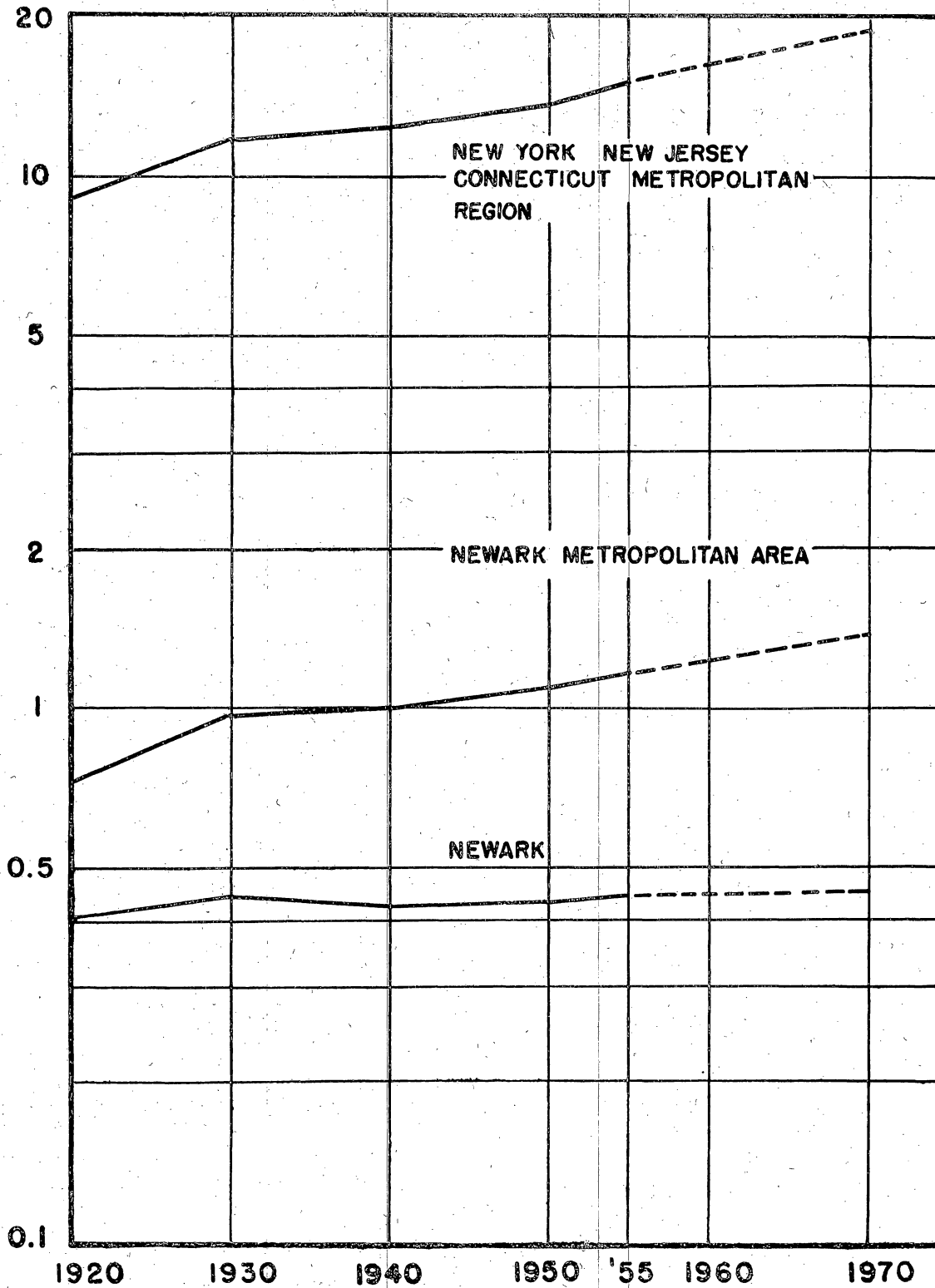
The third and final design is one of radial transportation channels extending outward from downtown Newark in all directions. Along the major streets and highways an almost continuous strip-commercial development appears which extends beyond the outer limits of the high density area. Along the commuter railroad lines at each suburban station, a center of commercial and multi-family residential uses occurs, (See Figure 21). The existence of high value commercial development along major streets and highways leading into downtown Newark has not only resulted in a conflict between through traffic and vehicles seeking access to commercial frontage, but effectively precludes increasing the capacity of these roads through widening or limitation of access. Thus, *alleviation of traffic congestion on approaches to downtown Newark requires construction of radial highways on new alignments, with freeway design standards limiting access to interchanges.*

The pattern of land use has been influenced by the transportation facilities provided. Conversely, the nature and magnitude of the traffic using these facilities has been affected by the type and the intensity of land use. The development of vacant areas, the utilization of land heretofore unsuitable for development, and the continuing effect of the

Newark Area's geographic position in the New York region will dictate the transportation needs of the future. Yet, it is the construction of new transportation facilities, notably at Port Newark and the Interstate System, which will stimulate and channel new development. Development trends and their implications to transportation, the subjects of the following chapter, are thus of primary importance in predicting traffic and transportation needs.

POPULATION GROWTH 1920-1970

MILLIONS OF PERSONS



SOURCE U. S. BUREAU OF THE CENSUS,
REGIONAL PLAN ASSOCIATION,
N. J. STATE PLANNING BUREAU

FIGURE 7

CHAPTER IV DEVELOPMENT TRENDS IN THE NEWARK AREA

POPULATION GROWTH The population of the entire Newark Area in 1955 was 1,157,000. It is expected to increase to 1,340,000 by 1970— a gain of 183,000 persons. Where these people live, work, shop and play will dictate the pattern of traffic in the future and the use to which transportation facilities will be put.

Although growing at a faster rate during this decade than any since 1930, *the Newark Area is not keeping pace with the overall New York region and has been declining as a percent of total regional population since 1930.* Figure 7 "Population Growth, 1920-1970" depicts these trends; and the distribution of the present population is shown in Figure 8.

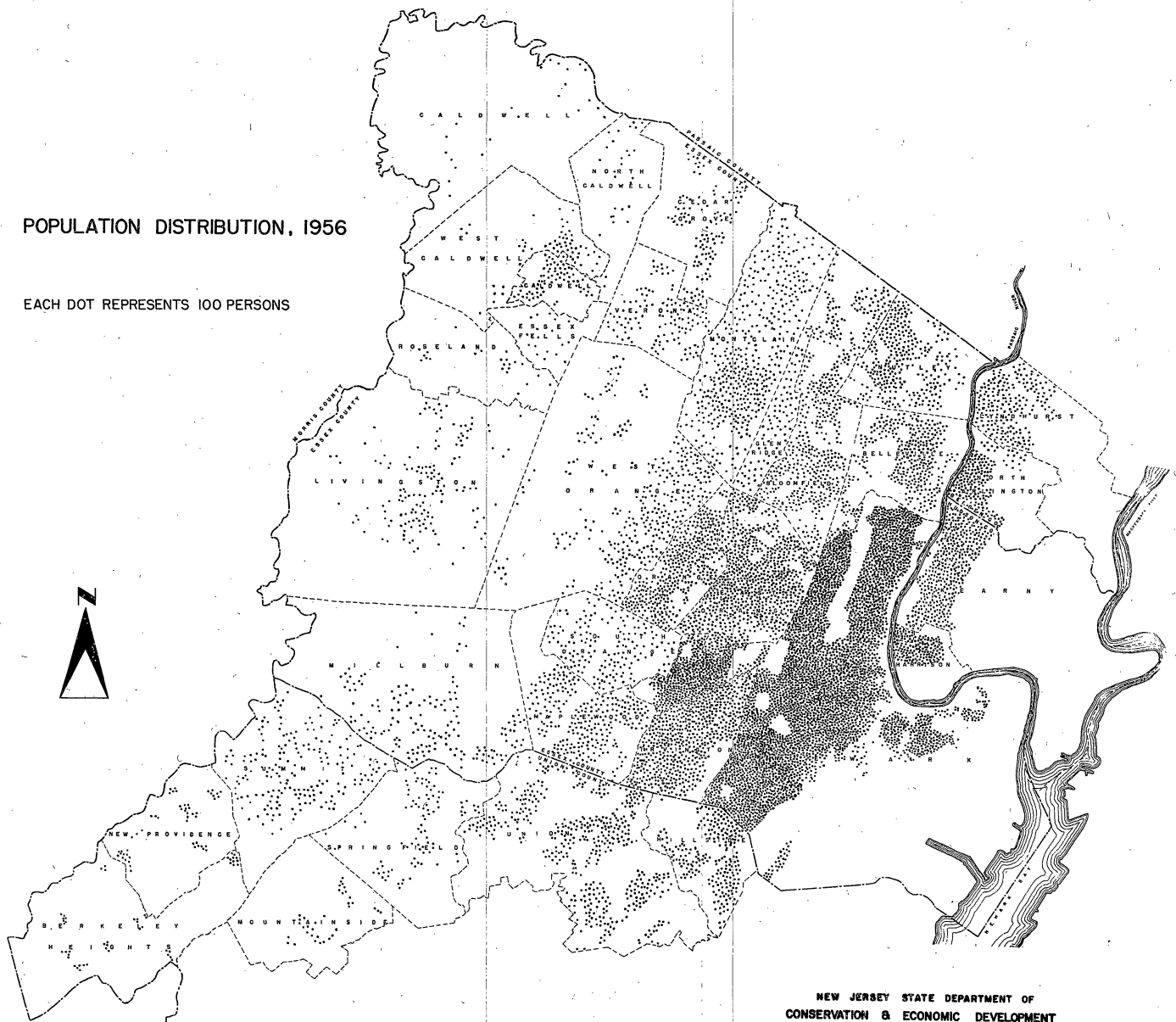
EXTENSION OF HIGHLY URBANIZED AREA The transition of a municipality from rural to suburban to urban density is a process experienced across much of northeastern New Jersey during recent decades. As its population increases, the nature of a municipality changes and new problems especially in transportation are encountered. Higher densities may be an indication of both traffic congestion and opportunities for mass transit services. Density changes over the last five decades are illustrated in Figure 9.

In 1900, less than half of the land in the Newark Area was in municipalities which could be classified as either urban or suburban. The only two truly urban centers existing at that time were Orange, and the Newark-East Newark-Harrison complex. Since then, all eastern municipalities have been filled in. Currently, the entire territory to the western boundaries of Montclair, Orange, Maplewood and Hillside is compactly urbanized. Suburban densities radiate from this center and lesser centers at Summit and Caldwell Borough, and 94 percent of the land is now within municipalities which are at urban or suburban densities.

Newark and surrounding high density urban municipalities, in many respects, form a core and an inner-ring. In order to investigate differences which occur between these and the developing territory to the west, three sub-areas have been defined as shown in Figure 10. These will be referred to as: the Core (Newark); the Inner-Ring (including a number of highly urbanized municipalities surrounding Newark on both sides of the Passaic River); and the Outer-Ring.

POPULATION DISTRIBUTION, 1956

EACH DOT REPRESENTS 100 PERSONS



SOURCE: RESEARCH AND STATISTICS SECTION
DEPT. OF CONS. AND ECON. DEV.

NEW JERSEY STATE DEPARTMENT OF
CONSERVATION & ECONOMIC DEVELOPMENT
DIVISION OF PLANNING & DEVELOPMENT
STATE PLANNING BUREAU

FIGURE 8

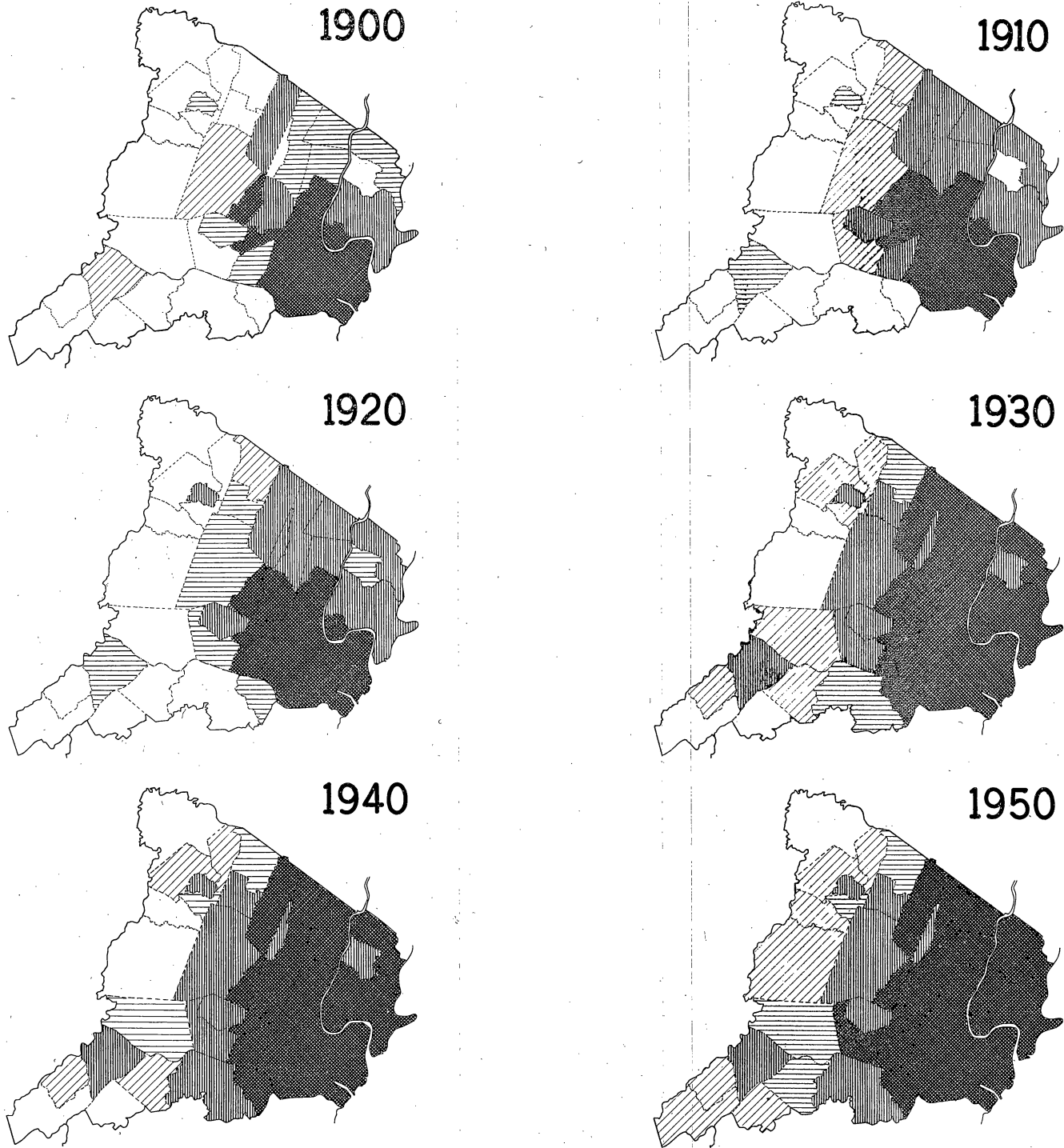
SUB-AREA GROWTH RATES Substantial differences in population growth rates have been occurring among the sub-areas. While the Newark Area's total population has more than doubled since 1910, Newark has increased by less than one-third, the Inner-Ring has almost trebled, and the Outer-Ring has increased more than fivefold. Newark's population, two-thirds of the Area's total in 1910, now constitutes only one-third. More than 42,000 of the 66,000 population gain between 1950 and 1955 was in the Outer-Ring. Table 6 illustrates these population changes and projections for each sub-area to 1970. Appendix Table A contains State Planning Bureau projections for each municipality.

Variations in population growth will continue to result in an increasing proportion of the Area's population residing outside the City of Newark and the surrounding high density urban area. By 1970, however, the entire Outer-Ring will have 100,000 fewer persons in 60 square miles than Newark with only 24.1 square miles of land area. *Newark and the Inner-Ring combined will continue to maintain 80 percent of the total population and the existing concentration within these sub-areas will not be altered to any great degree.* The nature of modern development occurring in the Outer-Ring cannot result in a duplication of the existing high densities in the older sub-areas; and the origin and destination of most internal traffic will continue to be within these areas. The anticipated pattern of population concentration in 1970 is illustrated in Figure 11.

POPULATION CHARACTERISTICS Other than the relative diffusion of settlement outside the highly urbanized sub-areas, important differences exist in the characteristics of the population which have a significant effect on transportation needs. Families of the Outer-Ring are, on the average, older; the median age falling within the 35 to 44 age bracket. In contrast the median age is between 25 and 34 in both Newark and the Inner-Ring. Higher family incomes also occur in the Outer-Ring, an indication of greater automobile ownership and use, and conversely, a greater dependence upon less expensive public forms of transportation in the core and Inner-Ring.

Of further significance is the growth of non-white population in the inner portions of the Newark Area. Historically, the growth of the New York region has been characterized by successive waves of in-migration from Europe, and more recently from the rural regions of the United States. Partially constituting the current migratory wave are large numbers of Negroes and Puerto Ricans who are providing a vital source of labor for the region's

COMMUNITY POPULATION DENSITIES



LEGEND

PERSONS PER SQUARE MILE

6000 & OVER



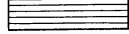
URBAN

2000 to 6000



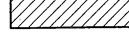
OPEN URBAN

1000 to 2000



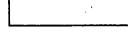
SUBURBAN

500 to 1000



OPEN
SUBURBAN

LESS THAN 500



SEMI-RURAL
& RURAL

FIGURE 9

TABLE 6: POPULATION, 1920 - 1970
(in thousands)




YEAR	NEW YORK REGION	NEWARK AREA	% OF NEW YORK REGION	CORE NEWARK	% OF NEWARK AREA	INNER-RING	% OF NEWARK AREA	OUTER-RING	% OF NEWARK AREA
1920	9139.0	732.6	8.0	414.5	56.6	252.0	34.4	66.1	9.0
1930	11643.0	975.2	8.4	442.3	45.2	397.4	40.8	135.5	13.9
1940	12518.0	989.9	7.9	429.8	43.4	400.7	40.5	159.4	16.1
1950	13951.0	1090.6	7.8	438.8	40.2	449.0	41.2	202.8	18.6
1955	15225.0	1156.7	7.6	444.0	38.4	467.8	40.4	244.9	21.2
1960	16400.0	1219.8	7.4	450.0	36.9	486.4	39.9	283.4	23.2
1965	17400.0	1282.1	7.4	455.0	35.5	505.0	39.4	322.1	25.1
1970	18250.0	1339.6	7.3	460.0	34.3	522.7	39.0	356.9	26.6

SOURCE: U. S. BUREAU OF CENSUS, CENSUS OF POPULATION 1920 TO 1950.

N. J. STATE PLANNING BUREAU ESTIMATES AND PROJECTIONS, 1955, 1960, 1965, 1970.

R. P. A., PEOPLE, JOBS & LAND, 1955-1975

SUB-AREAS

-  CORE (Newark)
-  INNER RING
-  OUTER RING

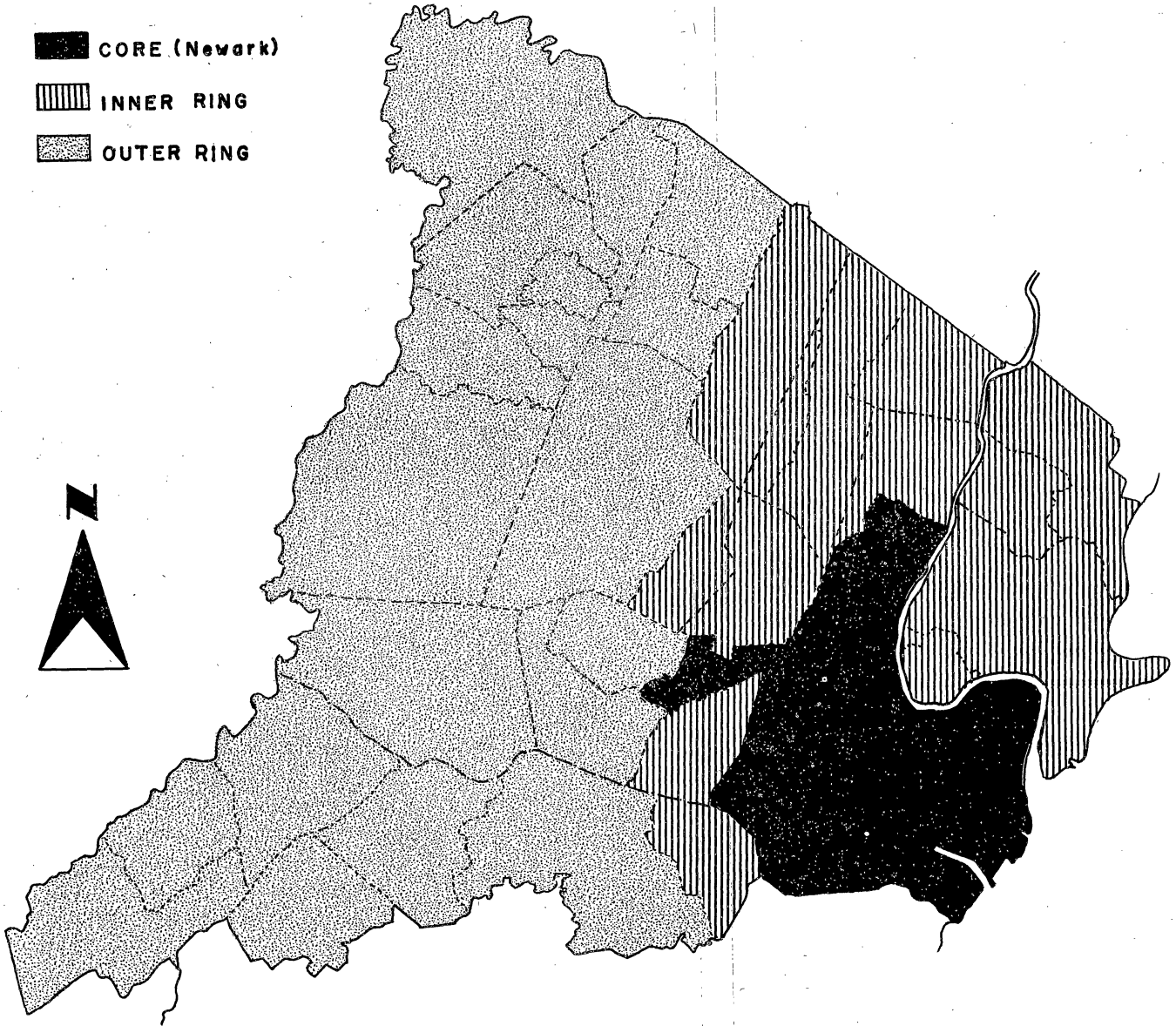


FIGURE 10

developing industries. U. S. Census tabulations of non-white population is an index of the magnitude of this migration.

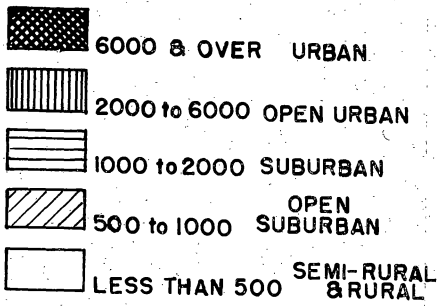
Although the Newark Area experienced a total growth of non-whites between 1930 and 1950 of more than 45,000, their numbers in the Outer-Ring increased by less than 300. *The City of Newark houses more than 70% of the Area's total non-white population.* A comparison of the censuses of 1930 and 1950 indicate that during those years, at least 41,000 whites— more than 10% of the present total — have moved away from Newark. That figure is probably much higher and the rate of turnover since 1950 has probably increased. The concentration of lower average income non-whites in the center of the Newark Area, besides having important social implications, is reflected in problems of relocation both for urban renewal and highway construction within these areas.

LABOR FORCE CHARACTERISTICS In 1954, the Newark Area had a total labor force of 515,000 or approximately 8 percent of the New York regional total. Newark alone has a resident labor force of 203,300. The city has a higher labor force participation rate (48-percent of total population) than the Outer-Ring (42 percent), reflecting the Outer-Ring's earlier retirement ages, longer schooling periods, and fewer employed women. The expansion of the labor force will follow generally the same trend as population; and the existing concentration in Newark and the Inner-Ring will not be appreciably altered by the development of the Outer-Ring.

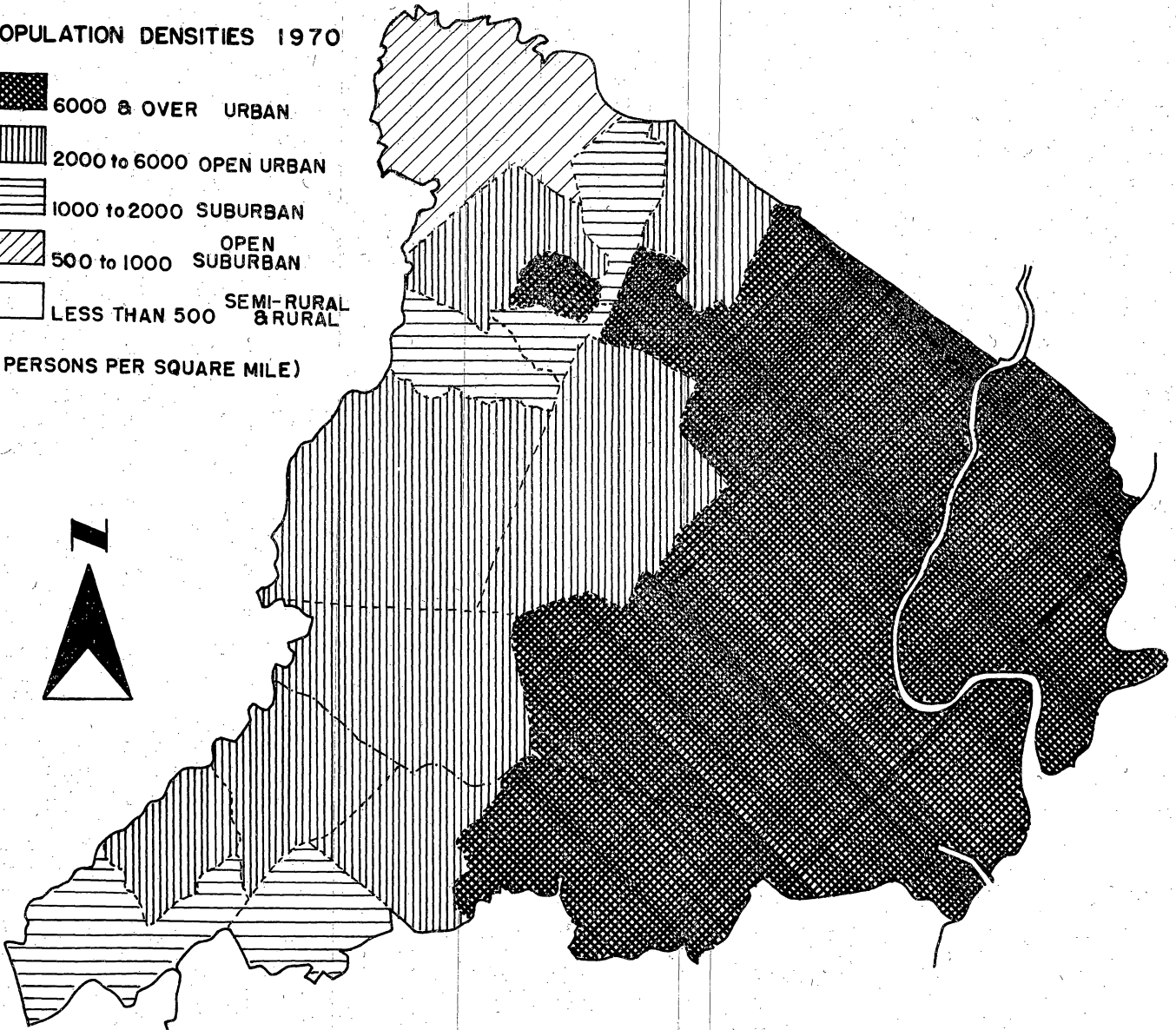
The various occupations of the labor force are some indication of the locations of their employment. In an Outer-Ring community such as South Orange, 22 percent of the labor force is employed in professional - technical occupations and 24 percent in managerial official occupations as compared to 6 and 8 percent respectively in Newark. Employment in these occupations is largely found in downtown areas such as Newark and New York City and the journey - to - work for these people is generally eastward toward these two commercial centers.

EMPLOYMENT The total number of jobs in the Newark Area was 497,300 in 1955. As shown in Figure 12, the locations of employment are more concentrated toward the center of the Area than population. (See Figure 8) The relationship between these two patterns of distribution indicates a traffic movement which daily concentrates employees from dispersed residential areas to more centralized employment.

POPULATION DENSITIES 1970



(PERSONS PER SQUARE MILE)



SOURCE: STATE PLANNING BUREAU ESTIMATES

FIGURE 11

EMPLOYMENT TRENDS With employment growth in the outlying areas, such as Murray Hill, is there a general decentralization of industry which will eventually decrease traffic toward the center during journey-to-work periods? A review of trends in covered employment statistics compiled by the N. J. Department of Labor and Industry indicates this is not the case. While overall employment in the Newark Area increased 16 percent between 1949 and 1956, Newark's total increased 4 percent. Although Newark has sustained losses of from 2 to 6 percent in transportation, construction, finance, insurance and real estate industries, the city has gained 13 percent in wholesale and retail trade, 16 percent in communication and utilities, and 24 percent in small service and amusement industries. These essentially "central place" functions should continue to increase along with the growth of the Newark Area.

MANUFACTURING EMPLOYMENT Manufacturing is the Newark Area's major industry employing over half the total in all industries. The Area is the locale of over 300 industrial manufacturing plants each employing 100 or more persons and 29 employing over 1,000. The municipalities in which major industrial plants are located are shown in Figure 13. The locational pattern of these plants is even more concentrated than that of total employment; 50 percent are in Newark and an additional 40 percent are in the Inner-Ring.

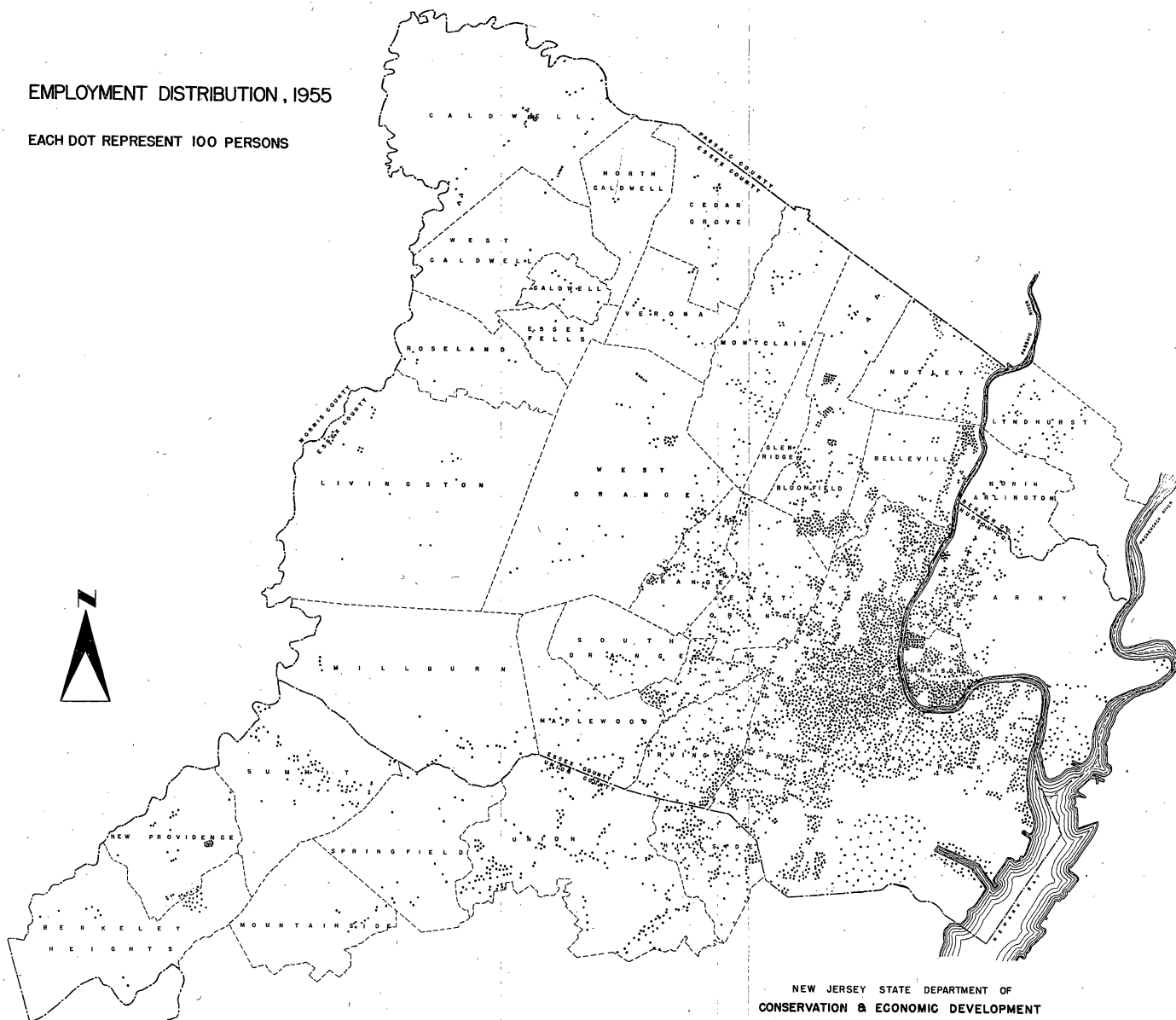
In Newark and the Inner-Ring, there is a need to maintain existing sizeable sites and to provide additional sites for industries requiring close-in locations. Such action is necessary if for no other reason than to insure an adequate tax for the services which central areas must provide.

FUTURE EMPLOYMENT PATTERN Employment in the Newark Area is expected to increase by 57,000 or 58,000 by 1970. The majority of these new jobs will occur largely in the Inner-Ring where sites are still available for industry offering proximity to Newark's business district, accessible labor force, and good transportation facilities. Industrial and commercial growth generating new employment will be reflected in increasing traffic within and around Newark.

Fifty-two percent of all employment in the Newark Area is within Newark while Newark and the Inner-Ring combined account for 80 percent of the total. The industrial growth of the Outer-Ring will gradually reduce that proportion but the total in the inner sub-areas

EMPLOYMENT DISTRIBUTION, 1955

EACH DOT REPRESENT 100 PERSONS



SOURCE: NEW JERSEY DEPT. OF LABOR AND INDUSTRY

NEW JERSEY STATE DEPARTMENT OF
CONSERVATION & ECONOMIC DEVELOPMENT
DIVISION OF PLANNING & DEVELOPMENT
STATE PLANNING BUREAU

FIGURE 12

(over 400,000 jobs) is and will continue to be in the foreseeable future the largest concentration of employment in northeastern New Jersey.

EMPLOYMENT AND LABOR FORCE In spite of the important employment position which the Newark Area holds in the New York region, it is a labor exporting area. That is, its available labor force exceeds the total employment in the Area. Newark itself has a 55,000 labor force deficit relative to jobs, *but the Inner-Ring and Outer-Ring, fail to provide employment opportunities equal to the resident labor force.* Table 7 summarizes these findings.

TABLE 7: COMPARISON OF CURRENT EMPLOYMENT
AND LABOR FORCE

AREA	1955 EMPLOYMENT	1954 LABOR FORCE	SURPLUS LABOR
NEWARK	497,300	515,500	18,200
CORE (NEWARK)	258,700	203,300	- 55,400
INNER-RING	177,100	209,700	32,600
OUTER-RING	61,500	102,500	41,000

SOURCE: WILLIAM WYER & COMPANY, METROPOLITAN RAPID TRANSIT COMMISSION,
RECOMMENDATIONS FOR STUDY OF INTRASTATE RAPID TRANSIT IMPROVEMENTS
IN NEW JERSEY, 1956

PORT NEWARK - ELIZABETH New construction is currently underway in the Port Newark area. Within the next 15 years, facilities at Port Newark-Elizabeth will represent a total investment by the Port of New York Authority of \$275 million. Facilities are designed to handle 11 million tons of general cargo a year, or 40 percent of the present total of the entire Port District, at 63 vessel berths. These will provide employment for 18,000 people with an annual payroll of some \$90 million.

Conservatively, it can be said that the 14,000 additional "basic" jobs to be created by the expansion at Port Newark-Elizabeth will act as a generating force to produce some 28,000 "service" jobs. These will support a total of approximately 105,000 people--nearly equivalent to the population of Elizabeth.

TABLE 8: POPULATION DENSITIES
OF TYPICAL RESIDENTIAL BUILDING TYPES

HOUSING TYPE	POPULATION PER ACRE
GARDEN APARTMENTS	70-210
TWO-FAMILY HOMES	70-160
SINGLE FAMILY HOMES:	
60-FOOT LOTS	25
75-FOOT LOTS	21
100-FOOT LOTS	14
½ ACRE LOTS	7

SOURCE: RPA, PEOPLE, JOBS AND LAND....

TABLE 9: DWELLING UNITS IN EACH TYPE OF STRUCTURE
FOR SELECTED COMMUNITIES
(percent)

TYPE OF STRUCTURE	CORE	INNER RING		OUTER RING	
	NEWARK	ORANGE	MONTCLAIR	SOUTH ORANGE	NEW PROVIDENCE
TOTAL DWELLING UNITS	100.0	100.0	100.0	100.0	100.0
ONE DWELLING UNIT ATTACHED & DETACHED	11.8	24.3	47.2	77.3	73.9
TWO DWELLING UNIT AND ONE AND TWO DWELLING UNIT SEMI-DETACHED	21.5	32.0	22.3	10.5	14.0
THREE TO NINE DWELLING UNITS	50.4	24.7	19.4	4.7	5.5
TEN TO FORTY-NINE DWELLING UNITS	15.7	13.3	8.6	6.0	6.6
FIFTY DWELLING UNITS OR MORE	2.6	6.7	2.5	1.5	LESS THAN 1%

SOURCE: U. S. CENSUS OF HOUSING, 1950.

This estimated population of 105,000 resulting from the development of Port Newark-Elizabeth is 31 percent of the total population increase projected to 1975 for Essex and Union Counties by the Regional Plan Association. Although this increase will be distributed throughout northeastern New Jersey, because of the nature of Port employment and the types of labor utilized it appears that most of it will be concentrated in the older portions of Union and Essex Counties.

JOURNEY-TO-WORK Through analysis of the locations of population and employment, major daily journey-to-work movements affecting the Newark Area can be defined as:

1. Movements collecting labor force in the Outer-Ring and portions of the Inner-Ring and channeling these eastward to Newark and to a lesser extent Hudson County and New York City;
2. Movements from the Newark Area to employment centers to the north and south;
3. Cross movements from the west (Morris County), southwest and south to employment centers east of the Newark Area;
4. Movements from population centers to the east, south and north to Newark and to a lesser extent other cities in the Newark Area;
5. Lesser movements from residential areas in the vicinity of Summit and Caldwell to these minor employment centers.

HOUSING AND RESIDENTIAL LAND More land in the Newark Area is devoted to residential than any other use. As the land use map clearly reveals the highest density residential areas occur toward the center of the Area, a reflection both of the type of housing construction prevalent and the streetcar transportation available during the era when this land was developed.

Only low density housing and a scattering of garden apartments occur anywhere west

of the First Mountain except in Summit. In the Outer-Ring, the tendency for residential construction to string out along highways is illustrated by the land use map. This type of development, when improperly regulated, can permanently restrict or make excessively costly future improvements to these highways.

HOUSING TYPES AND DENSITIES Table 8 illustrates the significant population differences which result when varying types of residential buildings are constructed. The predominant housing type in the Outer-Ring is single dwelling unit detached. Such construction is resulting in the continuance of concentrated population in the older areas even though most population growth is occurring in the Outer-Ring. While only 11.8 percent of Newark's housing is in single dwelling unit structures, 73.9 percent of New Providence's and 77.3 percent of South Orange's are this type. Table 9 gives the distribution of dwelling units by type of structure for five municipalities in the Newark Area.

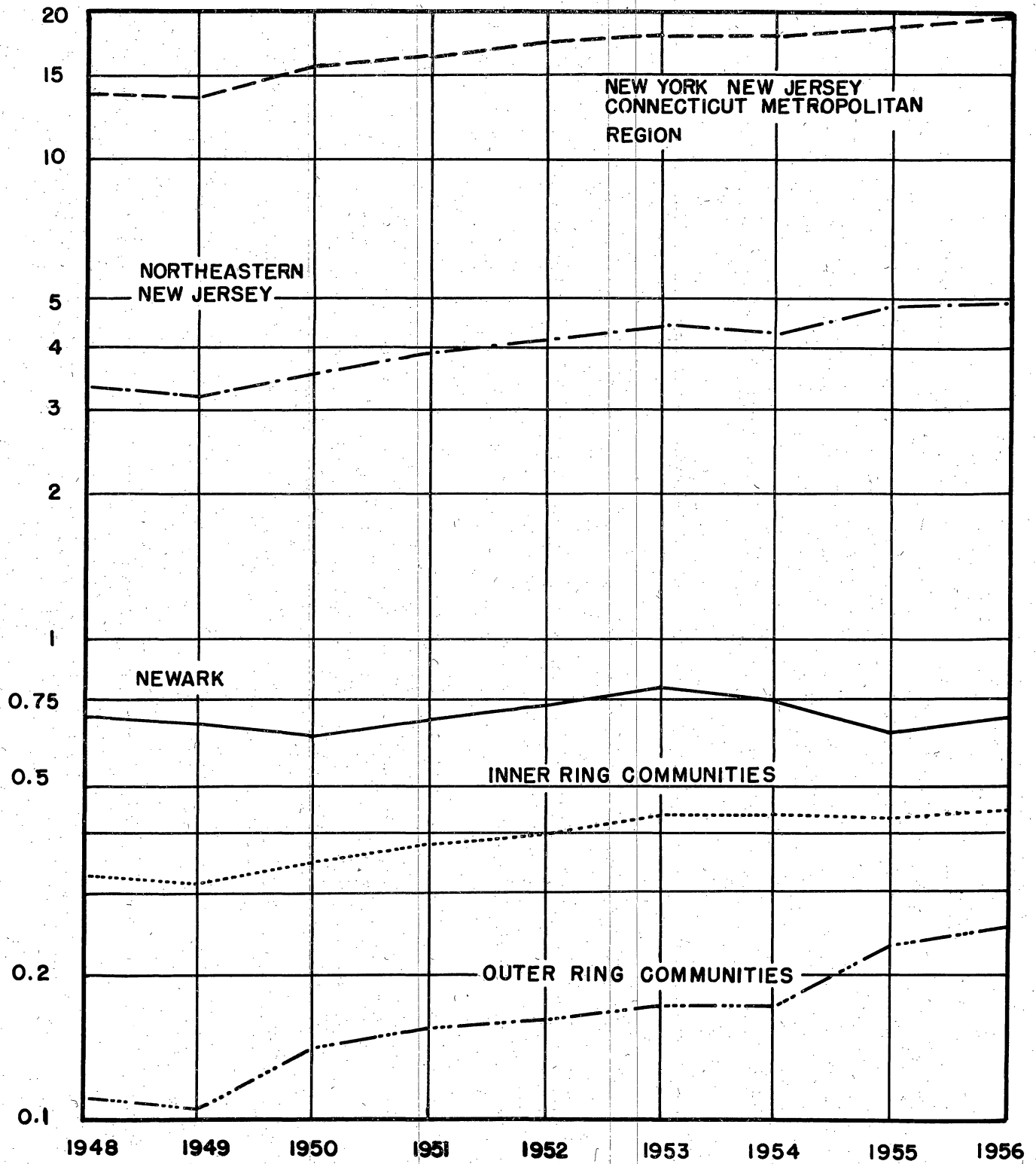
NEW HOUSING CONSTRUCTION Only 7,758 new dwelling units were constructed in Newark between 1950 and 1957. But 4,374 of these were public housing units constructed by the Housing Authority. Units demolished during that period totaled 4,717 resulting in a net increase of only 3,041 units. According to the 1950 Census of Housing, however, there were in Newark some 124,500 dwelling units while in the entire Newark Area there were 317,000 units. This concentrated available housing will contribute to the continuation of the Area's relatively concentrated population pattern. As for the units now being constructed in the Outer-Ring, these are largely single family houses. *In the entire Northeastern New Jersey Area only 13 percent of all new dwelling units built in 1957 were in structures for two or more families.*

AGE AND CONDITION OF HOUSING Sixty-seven percent of the dwelling units in Newark are in structures built before 1920. With very little new construction in Newark compared with the present housing construction in the Outer-Ring, the discrepancy in average age of buildings between the two areas will widen with the passing of each year.

Substandard dwelling units -- those in dilapidated structures without hot and cold running water, or lacking private sanitary facilities -- represent a significant proportion of

RETAIL SALES 1948-1956

BILLIONS OF DOLLARS



SOURCE: SALES MANAGEMENT MAGAZINE,
SURVEY OF BUYING POWER
MAY 1948 - 1957

FIGURE 14

the dwelling units in Newark. One out of every five dwellings falls in these categories.

The lack of replacement of obsolete and substandard housing in Newark, and to a lesser extent in all Inner-Ring municipalities, will continue to stratify income and social groups thus forcing middle and upper income families, many of whose wage earners are employed in Newark, to live elsewhere. Since these are the people who may also seek the cultural and shopping facilities provided in central cities, the separation of residence from the locale of daily activity results in the daily movement of large numbers of persons into the core area, contributing to the increasing congestion of streets and highways. *Only a large scale redevelopment of Newark's housing, both through public and private measures, can reverse these trends. The limited amount of urban redevelopment and urban renewal have thus far made no appreciable impact.*

COMMERCIAL LAND USE The use of land for commercial purposes is inextricably tied to transportation facilities. As the land use map indicates, the location of existing commercial uses, whether along major streets and highways or at focal points of rail lines such as downtown Newark, has been dependent upon transportation. Modern day shopping centers and roadside discount houses are still subject to the same requirement of accessibility; their predominant location along or near major traffic arteries illustrates this fact.

THE RETAILING FUNCTION One and one-half billion dollars were spent on retail purchases in the Newark Area in 1957. Of this, 45 percent or almost \$688 million, was spent in Newark. Other major retailing communities are, in order of relative importance: East Orange, Irvington, Montclair, Union, Bloomfield and Orange. Yet in 1957, total sales in all of these centers combined equalled less than 60 percent of sales in Newark.

Trends in retail sales in the Newark Area are indicated in Figure 14. Distinct differences in growth rates among the sub-areas are evident. In dollar volume, Newark's retail sales in 1956 were less than one percent higher than in 1948. Sales in the Inner-Ring have increased somewhat more rapidly. *In the Outer-Ring, however, sales have been rapidly and constantly increasing and in 1956 reached a total well over twice the 1948 level.*

According to the 1948 and 1954 Census of Business the fastest growing retailing communities were Harrison, Millburn, West Caldwell, North Arlington and Caldwell in that

TABLE 10: SALES IN MAJOR RETAILING CENTERS, 1957

(in thousands of dollars)

MUNICIPALITY	RETAIL SALES	PERCENT OF TOTAL
NEWARK AREA	\$ 1,517,167	100.0
NEWARK	687,747	45.3
EAST ORANGE	101,674	6.7
IRVINGTON,	80,577	5.3
MONTCLAIR	66,745	4.4
UNION	53,959	3.6
BLOOMFIELD	53,176	3.5
ORANGE	51,505	3.4
ALL OTHERS	421,784	27.8

SOURCE: SALES MANAGEMENT MAGAZINE, ANNUAL SURVEY OF BUYING POWER, MAY 1958, AND STATE PLANNING BUREAU ESTIMATES.

TABLE 11: ADJUSTED RETAIL SALES IN SELECTED AREAS, 1948 & 1954

(in thousands of dollars)

(1947 - 1949 = 100)

AREA	1948 ADJUSTED SALES	1954 ADJUSTED SALES	ABSOLUTE CHANGE 1954 / 1948	% CHANGE 1954 / 1948
NEW YORK-NORTH- EASTERN NEW JERSEY SMA	11,973,360	13,431,201	41,463,841	+ 12.2
NEW YORK CBD	2,026,264	1,903,310	- 122,954	- 6.1
NEWARK	546,676	556,688	+ 10,012	+ 1.8
NEWARK CBD	263,107	243,635	- 19,472	- 7.4

SOURCE: CENSUS OF BUSINESS, 1954, CENTRAL BUSINESS DISTRICT STATISTICS, NEWARK, N.J.

RATIO OF ADJUSTMENT: 1948 EQUALS 102.8 AND 1954 EQUALS 114.8 OF 1947-49 AVERAGE

order. In 1954, however, combined retail sales of these five municipalities were equivalent to only 10 percent of total sales in Newark.

In spite of the appearance in post-war years of a number of new outlying shopping facilities, retailing is still a highly centralized activity in the Newark Area. Although retail sales in Newark have been declining as a proportion of Area sales, the City continues to retail almost half of all goods sold in terms of value. Newark and the six other major retailing communities account for more than 70 percent of all such sales.

THE NEWARK CENTRAL BUSINESS DISTRICT The Newark Central Business District (CBD) has been defined by the U. S. Bureau of the Census as the area bounded on the north by Clay Street, on the west by High Street, on the south by Crawford and Chestnut Streets and on the east by the Pennsylvania Railroad and the Passaic River. Retail sales within this small area in 1954 amounted to \$279,694,000, or 44 percent of all sales in the Newark Area. There are over 1000 retail outlets in the district.

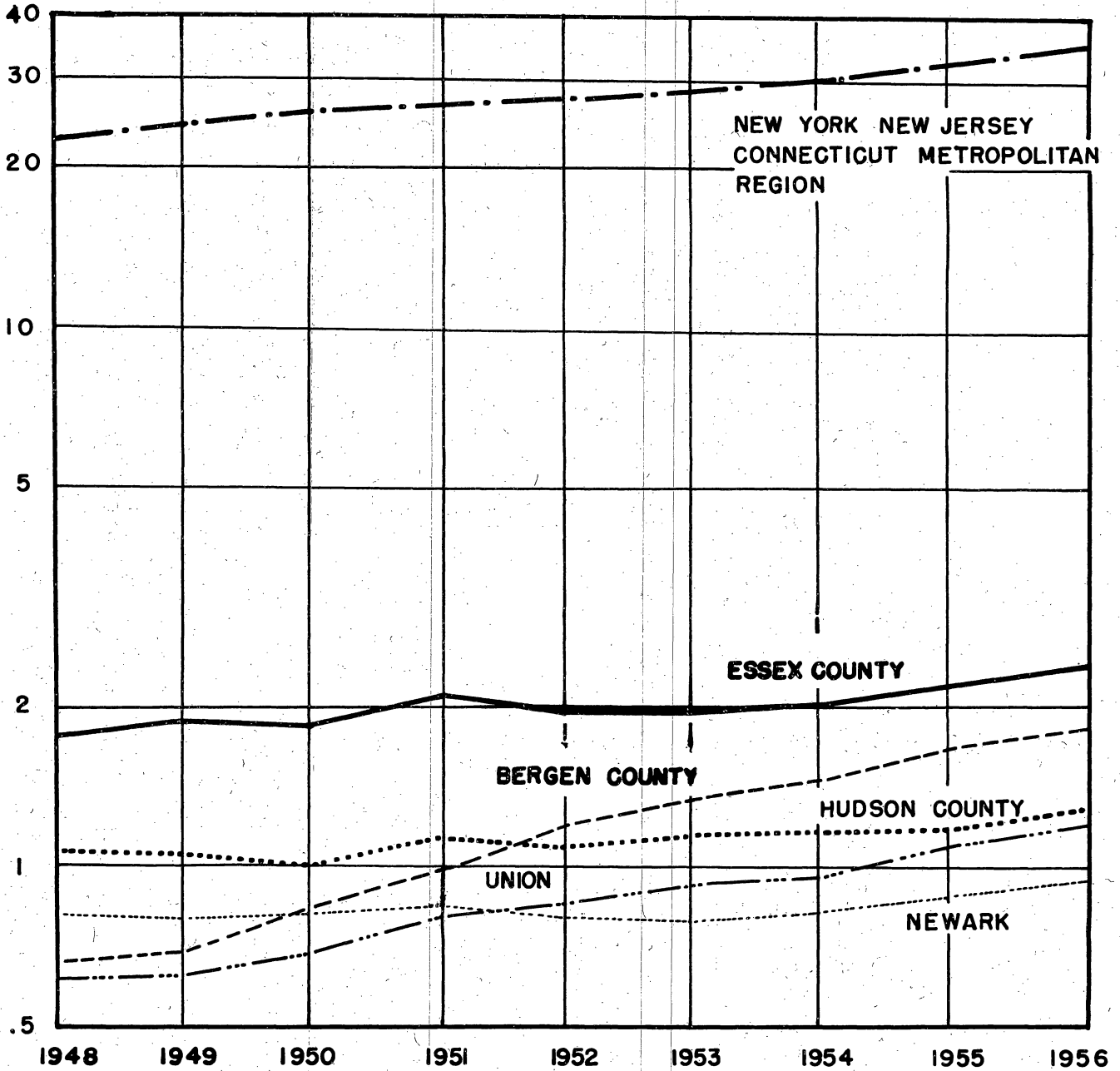
Trends in sales in the Newark CBD, when adjusted for the effect of general price increases, reveal a picture of decline in the retailing function. *Annual retail sales during the 1948-1954 period declined by almost \$19.5 million.* This represents a loss of 7 percent comparable to a similar 8 percent loss in downtown New York City. During the same years, overall sales in the region have increased 12 percent. Table 11 summarizes these trends in adjusted sales.

This decline has been largely the result of three major factors:

1. Changes in the predominant modes of transportation upon which the CBD was originally based. While the streetcar, bus, and railroad, which originally served downtown Newark, have declined in patronage, the automobile, ill-suited for downtown, has gained in popularity as a vehicle of travel.
2. The post-war development of outlying shopping facilities, while largely serving new populations in newly developed areas, has also encroached upon the traditional market area of the Newark CBD.

EFFECTIVE BUYING INCOME 1948-1956

BILLIONS OF DOLLARS



SOURCE: SALES MANAGEMENT MAGAZINE,
SURVEY OF BUYING POWER
MAY 1948 - 1957

FIGURE 15

3. Barely discernable increases in the buying power of Newark residents while increases of 24 and 50 percent have been occurring in the Inner and Outer-Rings, respectively.

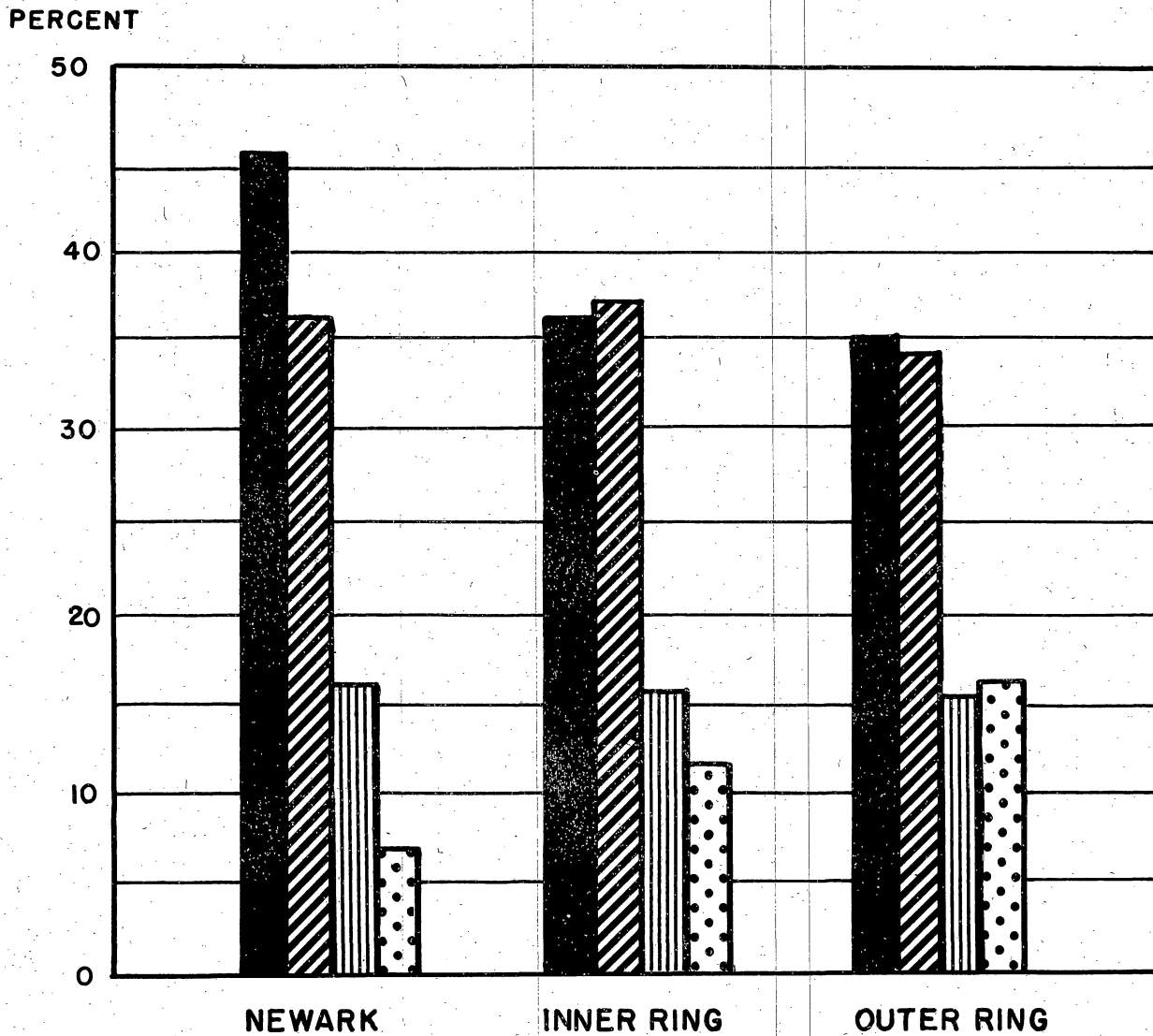
Figures 15 and 16— "Effective Buying Income, 1948 - 1956" and "Income Class of Consumer Spending Units, 1956" — reveal the absence of normal increases in buying power and a stratification of income groups indicating a concentration of lower income groups in Newark. *The failure of Newark to attract or hold as residents a proportionate share of middle and upper income consumers or to share in income gains realized elsewhere is a factor to which much of the decline of retail sales in the Newark C B D can be attributed.*

OTHER COMMERCIAL FUNCTIONS Newark's location and the City's position as the largest in northeastern New Jersey have contributed to its establishment as a center of important economic activities serving the entire northeastern New Jersey area. In wholesale trade, for example, Newark accounted for 27 percent of the number of establishments and total employees in that entire area.

GOVERNMENTAL AND INSTITUTIONAL FUNCTIONS Governmental and institutional facilities essentially provide both cultural and social services and their locational requirement is similar to any other service facility — accessibility to the population they serve. The location of the administration offices of Essex County and important offices of the State Government is in response to their need to be conveniently situated. A number of major cultural and educational facilities are in Newark or in nearby Inner-Ring cities. A partial list would include: the Newark College of Engineering; Montclair State Teachers College; the Newark College of Rutgers, the State University; Seton Hall University; Upsala University; the Newark Museum; and many others.

Some institutions have abandoned the central city for more outlying locations; for example, St. Barnabas, Newark's oldest hospital, which will move to a medical center being built on sixty presently wooded acres in the Livingston-Millburn area. Institutions leaving the central city sacrifice accessibility in exchange for attractive sites of adequate size for modern low-density construction. In so doing, however, they become dependent upon automobiles and add to the increase in vehicular traffic. The cooperation of cultural insti-

INCOME CLASS OF CONSUMER SPENDING UNITS, 1956 (PERCENT IN EACH CLASS)



SOURCE: SALES MANAGEMENT MAGAZINE,
SURVEY OF BUYING POWER
MAY 1948 - 1957

FIGURE 16

tutions with the City of Newark in arranging for sites to assure their continued location in the accessible downtown area, as exemplified in plans for Rutgers University and the Newark College of Engineering, is a vital part of any program to revitalize Newark.

PARKS AND OPEN SPACES In a rapidly developing metropolitan area, the preservation of adequate open spaces for recreational uses becomes imperative. There are 6,967 acres in parks, other than neighborhood parks or playgrounds in the Newark Area. The location of these is summarized in Table 12. Most of the land dedicated to parks is in the Outer-Ring where there are almost 21 acres for every 1000 persons. These are region-wide facilities, however, and are naturally located outside of the built-up area. With the exception of Weequahic and Branch Brook Parks and the Elizabeth River Parkway, all large recreational open spaces are located in the Outer-Ring.

TABLE 12: PARKS AND OPEN SPACES

AREA	1955			1970	
	POPULATION	EXISTING PARK ACREAGE	ACRES PER 1,000 POPULATION	POPULATION	ACRES PER 1,000 POPULATION
NEWARK AREA	1,156.7	6,966.7	6.02	1,339.6	5.20
NEWARK	444.0	726.2	1.64	460.0	1.58
INNER-RING	467.8	1,106.4	2.37	522.7	2.12
OUTER-RING	244.9	5,134.1	20.97	356.9	14.39

SOURCE: N. J. STATE PLANNING BUREAU

A comparison of existing park and recreational land serving the Newark Area with present and projected populations indicates there is adequate land devoted to large parks both for now and the immediate future. The land use map indicates that shortages do exist, however, in smaller more accessible parks closer to the centers of population. At present one-half of the total park acreage is in two large areas inconveniently located for most of the population.

DEVELOPMENT TRENDS AND TRANSPORTATION It has been the purpose of this chapter to review major trends in development and land use in the Newark Area to provide a

basis for transportation planning. It is clear that the changing nature of the area will demand new facilities for moving goods and people. It is also clear that the investment in existing facilities and the continuing need to accomodate traffic movements of great magnitude during peak hours behooves those concerned with transportation to take measures to insure the continuing vitality of all modes of transportation. *No present trend in development gives any hope for a belief that traffic will do anything but increase at ever more rapid rates.*

CHAPTER V THE TRANSPORTATION SYSTEM AND CIRCULATION

THE TRANSPORTATION SYSTEM The system for moving people within a metropolitan area can be described in terms of highways, rapid transit lines, railroads, terminals, parking garages and other transportation facilities. Figures 17 through 21 describe the components of the transportation system in the Newark Area in terms of location or physical capacity. Usage of the word "system" in this description, however, is misleading. The existing facilities were for the most part constructed to serve only a portion of the total transportation need and have little relationship to the functioning of other components.

Some of the reasons explaining this stem from the nature of metropolitan areas and the multiplicity of governing bodies and agencies responsible for providing transportation services. Thus, a list of those active in providing transportation in the Newark Area include, among others: the State government acting through the Highway Department; the four county governments; the municipal governments, of which there are 34; the New Jersey Turnpike Authority; the New Jersey Highway Authority (Garden State Parkway); private transit companies providing bus and rapid transit services under franchises regulated by the State Public Utilities Commission; the Port of New York Authority; and a number of railroads regulated by the State Public Utilities Commission and the Federal Interstate Commerce Commission. Recently, one further agency, a Metropolitan Rapid Transit District, has been proposed.

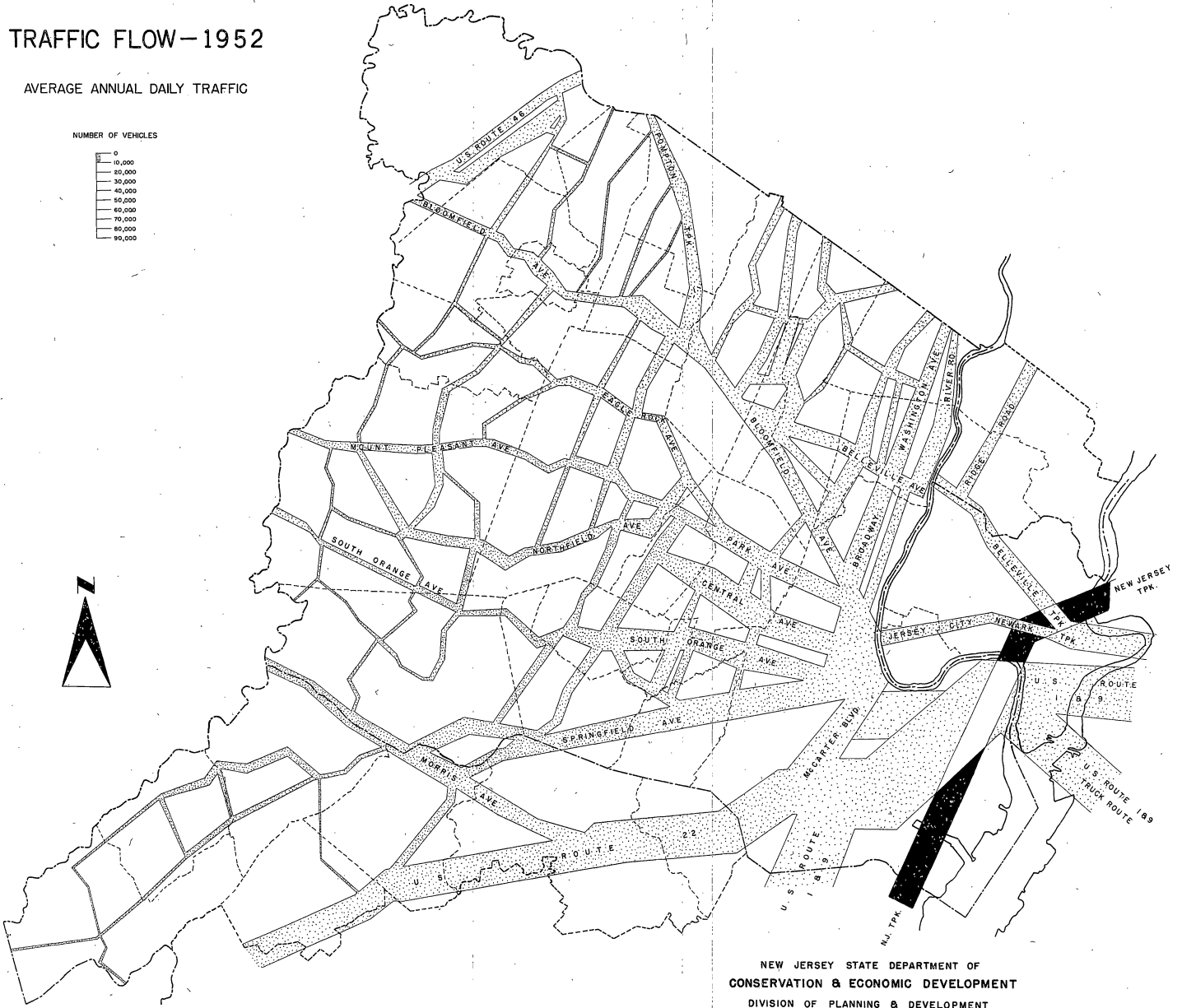
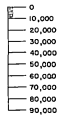
Although it is recognized that transportation facilities in all of the nation's complex metropolitan areas were financed, constructed, or administered in a piecemeal manner, the result for the Newark Area is that *at present there exists no mechanism to insure the recognition of the Area's total transportation need or to formulate policies for meeting that need in an efficient manner.*

The analysis which follows is primarily an attempt to illustrate the relationships among the various modes of transportation in the Newark Area, their inter-dependence and possibilities for their coordination. In addition, the problem of providing highway capacity for an ever increasing vehicular traffic and the alleviation offered by the proposed free-ways of the Interstate System is dealt with in some detail.

TRAFFIC FLOW—1952

AVERAGE ANNUAL DAILY TRAFFIC

NUMBER OF VEHICLES



SOURCE: N.J. STATE HIGHWAY DEPARTMENT
 ESSEX COUNTY ENGINEERING DEPARTMENT
 CITY OF NEWARK ENGINEERING DEPARTMENT

NEW JERSEY STATE DEPARTMENT OF
 CONSERVATION & ECONOMIC DEVELOPMENT
 DIVISION OF PLANNING & DEVELOPMENT
 STATE PLANNING BUREAU

FIGURE 17

VEHICLE REGISTRATIONS There are some 388,000 passenger vehicles registered in the Newark Area, an average of one for every three persons. In 1945, registrations averaged one vehicle for every five persons. Thus, in the Newark Area, an increasing population coupled with more widespread ownership of automobiles has resulted in a vehicle registration increase in ten years of over 100 per cent.

Automobile registrations have consistently exceeded projections of future car ownership made during the immediate post-war years. For example, a 1948 report on freeways projected Essex County vehicle registrations in 1980 to slightly less than 363,000. In 1955, the last year for which accurate records are available, registration had already surpassed the 310,000 mark. In 1958 the total was no less than 325,000 and probably higher. It is evident that totals estimated for 1980 will be reached and passed some fifteen years earlier than expected.

TRAFFIC FLOW In order to visualize recent changes in traffic flow on major streets and highways in the Newark Area, maps of traffic flow in 1952 and 1957 were prepared from the records of five agencies and are presented in Figures 17 and 18. Movement on some major roads, for example the 90,000 vehicles using U. S. Route 1 on an average day, are among the highest recorded anywhere in the nation. Many so-called city streets accommodate daily traffic comparable to that on major roads in other parts of the nation. On some highways in the Newark Area, traffic in the last five years has increased as much as 64 percent and new highways built during that period are already handling vehicles in numbers which approach record levels for single facilities. Table 13 shows five year increases recorded on a number of major traffic arteries.

TRAFFIC FLOW ON MAJOR STREETS Annual Average Daily Traffic (AADT) recorded on major streets crossing the Inner-Ring boundary west of the highly urbanized sub-areas increased an average of 15 percent in five years. This increase has occurred largely on Bloomfield Avenue which was widened in 1953, but no other paralleling street has less traffic than it did in 1952.

FREEWAYS AND TRAFFIC CONGESTION Have freeways alleviated traffic congestion on paralleling roads? During the last seven years three major highways have been con-

TABLE 13: TRAFFIC FLOW ON MAJOR HIGHWAYS

HIGHWAY	LOCATION OF COUNT	AADT TRAFFIC FLOW ⁽¹⁾		PERCENT INCREASE
		1952	1957	
PULASKI SKYWAY	PASSAIC RIVER	76,000	77,000	1.3
U. S. 1 AND 9	BET. NEWARK & ELIZABETH	56,400	54,200	-3.9
U. S. 22	HILLSIDE TOWNSHIP	45,600	57,500	26.1
COMMUNIPAW AVE.	HUDSON COUNTY	37,400	53,000	41.7
N. J. TURNPIKE	BET. EXITS 14 & 15	27,800	41,900	50.7
N. J. TURNPIKE	BET. EXITS 15 & 16	28,400	46,600	64.1
N. J. TURNPIKE	EXTENSION	OPENED 1956	18,000	-
GARDEN STATE PARKWAY	UNION TOWNSHIP	OPENED 1955	43,000	-

SOURCE: COMPOSITE FLOW MAPS PREPARED BY NEW JERSEY STATE PLANNING BUREAU.

(1) AADT = ANNUAL AVERAGE DAILY TRAFFIC

TABLE 14: ORIGINS AND DESTINATIONS OF VEHICULAR TRIPS ENTERING THE HIGH DENSITY SUB-AREAS OF THE NEWARK AREA (percent)

DESTINATIONS	FROM ALL DIRECTIONS	FROM WEST	FROM EAST	FROM SOUTH	FROM NORTH
TOTAL VEHICULAR TRIPS BY DIRECTION	100.0	43.2	24.7	15.8	16.3
TOTAL VEHICULAR TRIPS EACH DIRECTION	100.0	100.0	100.0	100.0	100.0
<u>LOCAL TRAFFIC</u>	<u>82.9</u>	<u>83.4</u>	<u>59.0</u>	<u>56.6</u>	<u>74.1</u>
CENTRAL BUSINESS DISTRICT	12.0	10.8	8.8	12.6	8.5
NEWARK OTHER THAN THE CENTRAL BUSINESS DISTRICT	29.8	26.8	27.6	26.8	17.0
THE INNER-RING EAST OF THE PASSAIC RIVER	7.4	2.1	9.2	2.0	17.1
THE INNER-RING WEST OF THE PASSAIC RIVER	33.7	43.7	13.4	15.2	31.5
<u>THROUGH TRAFFIC</u>	<u>17.1</u>	<u>16.6</u>	<u>41.0</u>	<u>43.4</u>	<u>25.9</u>

SOURCE: N. J. STATE HIGHWAY DEPARTMENT, ORIGIN-DESTINATION SURVEY, NEWARK METROPOLITAN AREA, 1945.

structed through the Newark Area. These are: the New Jersey Turnpike, a toll road completed in early 1952; the Garden State Parkway, another toll road completed in 1955; and the Turnpike Extension, completed in 1956 directly linking the Newark Area with the Holland Tunnel. A fourth, Route 21 along the Passaic River north of Newark is presently under construction.

The effect this new freeway capacity has had upon paralleling streets and roads is demonstrated by the two flow maps – Figures 17 and 18. Where the freeway is offered as an alternative to a city street and there are no tolls, as for example Route 21 paralleling Broadway, traffic has utilized the improved artery and congestion on the street has been alleviated. There has been no appreciable decrease in traffic on parallel highways elsewhere. Apparently, the new freeways have only served to accommodate new traffic. The existing traffic loads on other highways have not been permanently reduced. This may have partially resulted from toll charging on some highways and partially from drivers' unwillingness to use an indirect freeway route for short trips. What then will be the effect of the proposed Interstate System freeways on traffic in the Newark Area?

FREEWAYS IN AN URBAN AREA As a background for considering the effect of the proposed freeways, two questions were investigated. Where does traffic entering the Newark Area go? And, how are existing freeway facilities in the Newark Area utilized?

Studies of origin–destination surveys conducted in cities of various population sizes indicate that for urban areas with populations comparable to that of the Newark Area (500,000 to 1,000,000), 92.5 percent of the vehicles entering were destined for the area. Of these 15 percent were destined for the central business district and 77.5 percent were destined for other parts of the urban area. The results of the most recent origin and destination survey conducted in the Newark Area by the State Highway Department in 1945 are shown in Table 14.

The great majority of all vehicles entering the high density portion of the Newark Area from each direction is destined there. The number varies from 57 percent of those entering from the south, which includes vehicles on some major interstate through routes, to 83 percent of those entering from the west. Moreover, some 40 percent of all traffic entering from each direction except north is destined for Newark. Of the traffic entering Newark, for which

TABLE 15: DESTINATION OF VEHICULAR TRIPS ENTERING NEWARK
(percent)

DESTINATIONS	ORIGINS			
	ALL DIRECTIONS	WEST AND NORTHWEST	EAST AND NORTHEAST	SOUTH
TOTAL VEHICLES BY DIRECTION	100.0	62.2	25.9	11.9
TOTAL VEHICLES EACH DIRECTION	100.0	100.0	100.0	100.0
LOCAL TRAFFIC	82.3	85.3	50.6	47.4
TO CENTRAL BUSINESS DISTRICT	21.4	21.5	13.1	14.9
FROM LOCATIONS OUTSIDE THE CORE AND INNER-RING	11.6	8.9	9.3	14.9
FROM THE INNER-RING WEST OF THE PASSAIC RIVER	8.5	12.6	-	-
FROM THE INNER-RING EAST OF THE PASSAIC RIVER	1.3	-	3.8	-
TO NEWARK OTHER THAN THE CENTRAL BUSINESS DISTRICT	60.9	63.8	37.5	32.5
FROM LOCATIONS OUTSIDE THE CORE AND INNER-RING	28.6	21.4	26.2	32.5
FROM THE INNER-RING WEST OF THE PASSAIC RIVER	28.4	42.4	-	-
FROM THE INNER-RING EAST OF THE PASSAIC RIVER	3.9	-	11.3	-
THROUGH TRAFFIC	17.7	14.7	49.4	52.6
BETWEEN LOCATIONS OUTSIDE THE CORE AND INNER-RING	12.6	7.5	36.3	47.9
BETWEEN LOCATIONS OUTSIDE THE CORE AND INNER-RING AND INNER-RING WEST OF THE PASSAIC	2.9	4.3	7.3	2.3
BETWEEN LOCATIONS OUTSIDE THE CORE AND INNER-RING AND INNER-RING EAST OF THE PASSAIC	1.1	1.3	2.8	2.4
BETWEEN THE INNER-RING WEST OF THE PASSAIC AND THE INNER-RING EAST OF THE PASSAIC	1.1	1.6	3.0	-

SOURCE: N. J. STATE HIGHWAY DEPARTMENT, ORIGIN-DESTINATION SURVEY, NEWARK METROPOLITAN AREA, 1945.

percentages are detailed in Table 15, an even higher proportion is destined for points within the city.

The New Jersey Turnpike is an example of a freeway in the Newark Area. Originating in the Philadelphia and Wilmington metropolitan areas, it crosses northeastern New Jersey and terminates at entrances to the region's core, New York City. In so doing it enters the Newark Area from the south traversing it from Elizabeth to the Hackensack River as shown in Figure 19. Traffic at interchanges along the Turnpike illustrates important principles concerning the utilization of freeways in the Newark Area.

One out of every sixteen vehicles entering northeastern New Jersey on the Turnpike is destined for interchanges serving the Newark Area; and one out of every six of the vehicles entering the Newark Area on the Turnpike is destined there. *Only 15 percent of Turnpike traffic in northeastern New Jersey originates in or is destined for outside areas.* These findings are summarized in Table 16.

TABLE 16: DESTINATION OF VEHICULAR TRIPS
ON THE NEW JERSEY TURNPIKE

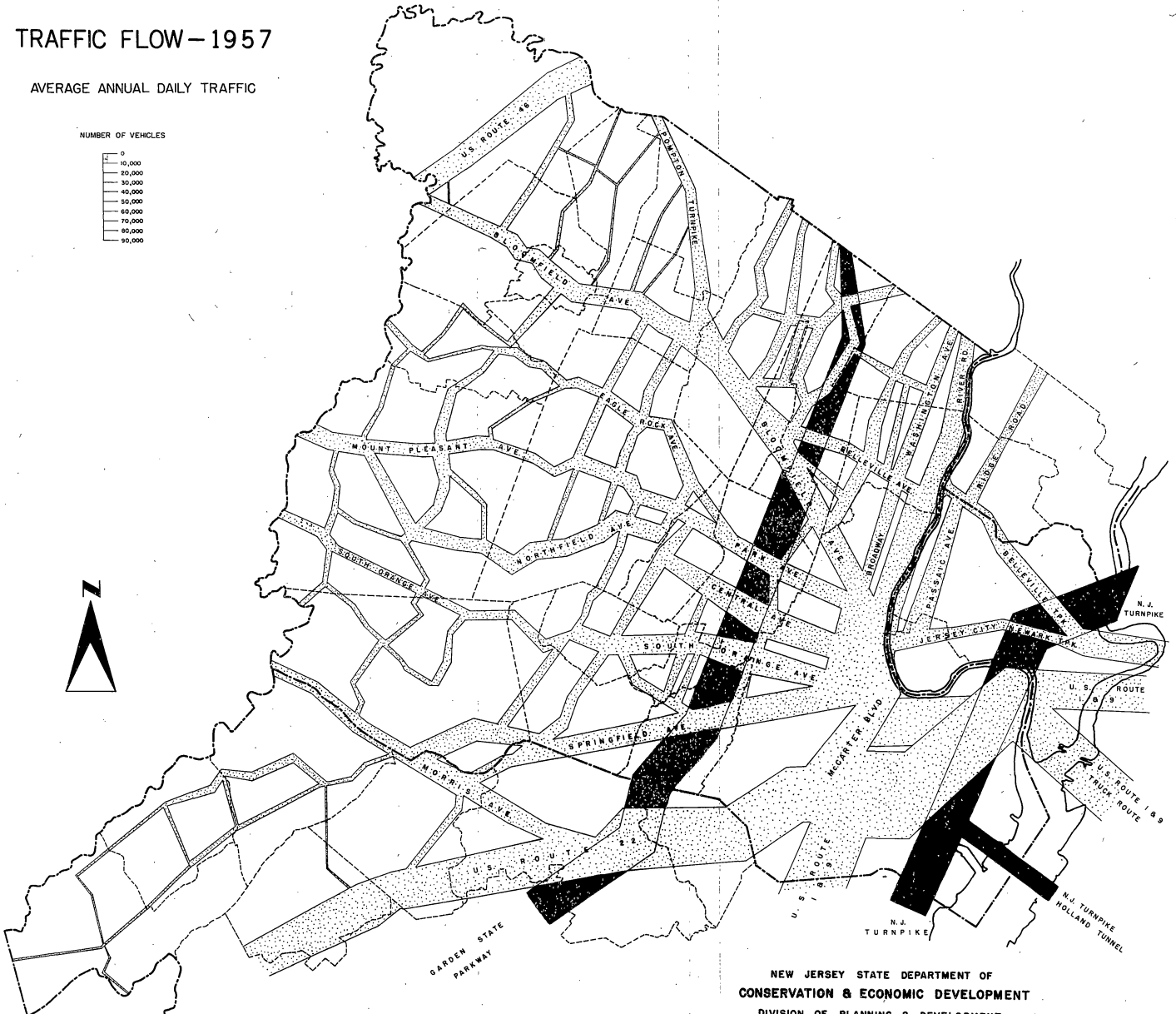
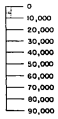
DESTINATION OF VEHICLES	AVERAGE DAILY TOTAL	
	NUMBER	PERCENT
ENTERING THE NEW YORK REGION AND PROCEEDING TO:		
NEW YORK CITY OR CLOSE-IN INTERCHANGES	8,582	63.6
NEWARK AREA INTERCHANGES	873	6.5
OTHER INTERCHANGES	4,032	29.9
TOTAL	13,487	100.0
ENTERING THE NEWARK AREA AND PROCEEDING TO:		
NEW YORK CITY OR CLOSE-IN INTERCHANGES	18,179	82.5
NEWARK AREA INTERCHANGES	3,853	17.5
TOTAL	22,032	100.0

SOURCE: NEW JERSEY TURNPIKE AUTHORITY, TRAFFIC MOVEMENT BETWEEN INTERCHANGES, 1957.

TRAFFIC FLOW—1957

AVERAGE ANNUAL DAILY TRAFFIC

NUMBER OF VEHICLES



SOURCE: N. J. STATE HIGHWAY DEPARTMENT
 ESSEX COUNTY ENGINEERING DEPARTMENT
 CITY OF NEWARK ENGINEERING DEPARTMENT

NEW JERSEY STATE DEPARTMENT OF
 CONSERVATION & ECONOMIC DEVELOPMENT
 DIVISION OF PLANNING & DEVELOPMENT
 STATE PLANNING BUREAU

FIGURE 18

Conclusions to be drawn from the foregoing analysis relevant to the proposed freeways are as follows:

1. Although freeways are designed for through traffic, most of the vehicles using them will have local origins or destinations.
2. A high proportion of vehicles entering northeastern New Jersey on the freeways will be destined for Newark.
3. As only a small percentage of vehicles on the freeways will have both origin and destination outside the Newark Area, the majority of those using the freeways will eventually also use local streets and highways to complete their trips.
4. Local trips, composing the bulk of all traffic, in many cases will not relieve local roads by making use of the freeways, unless the freeways facilitate the origin and destination movements.

TRAFFIC FLOW AND CAPACITY In order to compare present traffic flow with capacity of highways entering the high density sub-areas of the Newark Area from the east and the west and to measure the possible effect of the construction of FAI 78 and FAI 280, Tables 17 and 18 were prepared. No attempt has been made to project traffic to 1970. The proposed freeways were each assumed to have six lanes and to accommodate 1500 vehicles per lane per hour. In each case, relief to presently congested streets and roads is indicated in terms of the provision of adequate total capacity to accommodate all vehicles now entering from each direction. The situation on any single highway may not be affected.

The apparent relief, however, cannot be assumed to be a real or permanent one. Surplus capacity will be shortly reduced as a result of normal increases in traffic, in some cases stimulated by the newly available freeways; by locally destined traffic leaving freeways for local streets and roads; and by the interstate traffic, for which the freeways are

TABLE 17: ESTIMATED CAPACITIES AND TRAFFIC FLOWS ON HIGHWAYS
AND MAJOR STREETS ENTERING THE HIGH DENSITY SUB-AREAS

ENTERING FROM THE WEST			ENTERING FROM THE EAST		
HIGHWAY OR STREET	ONE-WAY HOURLY CAPACITY ⁽¹⁾	30TH PEAK-HOUR ONE-WAY TRAFFIC ⁽²⁾	HIGHWAY OR STREET	ONE-WAY HOURLY CAPACITY ⁽¹⁾	30TH PEAK-HOUR ONE-WAY TRAFFIC ⁽²⁾
BLOOMFIELD AVE.	1,650	1,800	BELLEVILLE TPK.	750	800
WASHINGTON ST.	400	475	NEWARK & JERSEY CITY TPK.	750	600
PARK AVENUE	400	850	PULASKI SKYWAY	1,950	2,100
MAIN STREET	400	1,100	COMMUNIPAW AVE.	2,250	2,650
CENTRAL AVE.	750	900	N. J. TPK. EXTENSION	4,500	1,000
S. ORANGE AVE.	400	1,050			
CLINTON AVE.	1,650	1,650			
SPRINGFIELD AVE.	750	1,650			
ROUTE 22	1,950	3,250			
1957 TOTAL	8,350	12,725	1957 TOTAL	10,200	7,150
PROPOSED FREEWAYS ⁽³⁾	9,000		PROPOSED FREEWAYS ⁽³⁾	4,500	
	17,350			14,700	

SOURCE: N. J. STATE PLANNING BUREAU

- (1) ESTIMATE BASED ON SATISFACTORY ROAD CAPACITIES AS PUBLISHED BY THE N. J. STATE HIGHWAY DEPARTMENT
- (2) BASED ON ESTIMATES OF THE N. J. STATE PLANNING BUREAU WHERE THIRTIETH PEAK-HOUR TRAFFIC DATA WAS NOT AVAILABLE
- (3) ASSUMED THAT EACH FREEWAY IS 6-LANES AT 1500 VEHICLES PER LANE PER HOUR

TABLE 18: ESTIMATED CAPACITIES AND TRAFFIC FLOWS ON HIGHWAYS
AND MAJOR STREETS ENTERING NEWARK

ENTERING FROM THE WEST AND NORTH			ENTERING FROM THE EAST		
HIGHWAY OR STREET	ONE-WAY HOURLY CAPACITY ⁽¹⁾	30TH PEAK-HOUR ONE-WAY TRAFFIC ⁽²⁾	HIGHWAY OR STREET	ONE-WAY HOURLY CAPACITY ⁽¹⁾	30TH PEAK-HOUR ONE-WAY TRAFFIC ⁽²⁾
McCARTER HWY.	1,650	1,500	STICKLE BRIDGE	2,400	1,500
BROADWAY	400	700	PULASKI SKYWAY	1,950	2,100
PROSPECT AVE.	400	400	N. J. TURNPIKE	4,500	2,750
FRANKLIN AVE.	400	400	CLAY ST. BRIDGE	750	750
BLOOMFIELD AVE.	750	1,650	H. AND M. BRIDGE	750	700
PARK AVENUE	750	950	JACKSON ST. BRIDGE	750	750
MAIN STREET	400	1,000	BRIDGE ST. BRIDGE	750	430
CENTRAL AVE.	750	1,500	N. J. TPK. EXTENSION	4,500	1,000
14TH AVE.	400	400	COMMUNIPAW AVE.	2,250	2,650
S. ORANGE AVE.	400	1,200			
SPRINGFIELD AVE.	750	1,350			
CLINTON AVE.	750	1,650			
LYONS AVE.	400	600			
CHANCELLOR AVE.	400	600			
ROUTE 22	1,950	2,850			
1957 TOTAL	10,550	16,750	1957 TOTAL	18,600	12,630
PROPOSED FREEWAYS ⁽³⁾	9,000		PROPOSED FREEWAYS ⁽³⁾	4,500	
	19,550			23,100	

SOURCE: N. J. STATE PLANNING BUREAU

- (1) ESTIMATE BASED ON SATISFACTORY ROAD CAPACITIES AS PUBLISHED BY THE N. J. STATE HIGHWAY DEPARTMENT
- (2) BASED ON ESTIMATES OF THE N. J. STATE PLANNING BUREAU WHERE THIRTIETH PEAK-HOUR TRAFFIC DATA WAS NOT AVAILABLE
- (3) ASSUMED THAT EACH FREEWAY IS 6-LANES AT 1500 VEHICLES PER LANE PER HOUR

TABLE 19: DESTINATIONS OF TRAFFIC IN THE
NEWARK CENTRAL BUSINESS DISTRICT
(percent)

<u>TOTAL DESTINATIONS</u>	<u>100.0</u>
<u>DESTINED FOR THE CBD</u>	<u>66.8</u>
ORIGINATING IN THE CBD	5.3
ORIGINATING ELSEWHERE IN NEWARK	20.4
ORIGINATING IN THE INNER-RING COMMUNITIES	17.7
ORIGINATING OUTSIDE THE HIGH DENSITY SUB-AREAS	23.4
<u>NOT DESTINED FOR THE CBD (1)</u>	<u>33.2</u>
CROSSING IN A GENERAL NORTH-SOUTH DIRECTION	10.6
DESTINED OR ORIGINATING WITHIN NEWARK OTHER THAN CBD	8.7
DESTINED OR ORIGINATING WITHIN THE INNER-RING	.7
ORIGIN AND DESTINATION OUTSIDE THE HIGH DENSITY SUB-AREAS	1.2
CROSSING IN A GENERAL EAST-WEST DIRECTION	22.6
DESTINED OR ORIGINATING WITHIN NEWARK OTHER THAN CBD	14.5
DESTINED OR ORIGINATING WITHIN THE INNER-RING	4.6
ORIGIN AND DESTINATION OUTSIDE THE HIGH DENSITY SUB-AREAS	3.5

SOURCE: N. J. STATE HIGHWAY DEPARTMENT, ORIGIN-DESTINATION SURVEY,
NEWARK METROPOLITAN AREA, 1945.

(1) THROUGH TRAFFIC ESTIMATE BASED ON THE MOST CONVENIENT ROUTES
FOR THROUGH TRAFFIC DESIRE LINES.

designed, which will be using a growing proportion of the available capacity. It must be concluded that *the proposed freeways, even with greater capacities or any similar construction in the future, cannot alone solve the problem of local traffic congestion in the Newark Area.*

TRAFFIC IN THE NEWARK CBD During the twelve daylight hours of a typical day, some 267,000 vehicles cross a cordon line around the Newark Central Business District. Assuming an additional one-third to one-half of that number cross the cordon during the remaining twelve hours, a total of 350,000 to 400,000 vehicles enter or leave downtown Newark daily. This is equivalent to four times the average daily flow on U. S. 1. The inadequacy of downtown city streets to accomodate this traffic and concurrently provide direct access to local commercial establishments is self evident.

Where is all this traffic destined? Table 19 shows the destinations of all vehicles entering the Newark CBD on an average day. Two-thirds of the vehicles are destined for or originate there. A further 23 percent, although passing through, are destined for or originate elsewhere in Newark and are not likely to use freeways to by-pass the district unless they are conveniently located. It is obvious that although freeway by-passes will assist in alleviating traffic *most vehicles will continue to utilize CBD streets unless a more fundamental solution is found.*

The construction of the proposed freeway by-passes, although removing much through traffic from local streets, will not solve the congestion problem in the Newark Central Business District for three Reasons:

1. The preponderance of traffic within the CBD is destined for or originates there.
2. One of the largest through traffic movements is along McCarter Highway for which the proposed new freeways will offer no substitute.
3. The alleviation of present congestion along east-west highways entering Newark will only encourage more persons destined for downtown to abandon rapid transit facilities for the automobile, thereby further increasing vehicular traffic flow.

FREEWAYS AND LOCAL RESPONSIBILITIES The linkage between the freeway and the local street system is a vital one which ultimately determines the local usefulness and efficiency of the freeway. To best serve an urban area, the location of the interchanges should provide access to the outer edges of commercial and industrial centers where parking facilities can be provided to rapidly move vehicles off city streets. Furthermore, adequate and protected routes of access to the freeways are of primary importance. Parking and the protection of access to local roads can only be accomplished locally through zoning and similar controls.

Freeways can be an asset to the Newark Area by removing from local streets the through traffic and that local traffic which is destined for centers of commercial and industrial activity within the area. This can be realized only if the interchanges are located to provide access to the fringes of these centers and at streets and roads adequate to accommodate the loads. In addition, sufficient parking convenient to the freeway interchanges must be provided locally. Thus, *it is both a state and a local responsibility to insure the maximum local benefit from the freeways.*

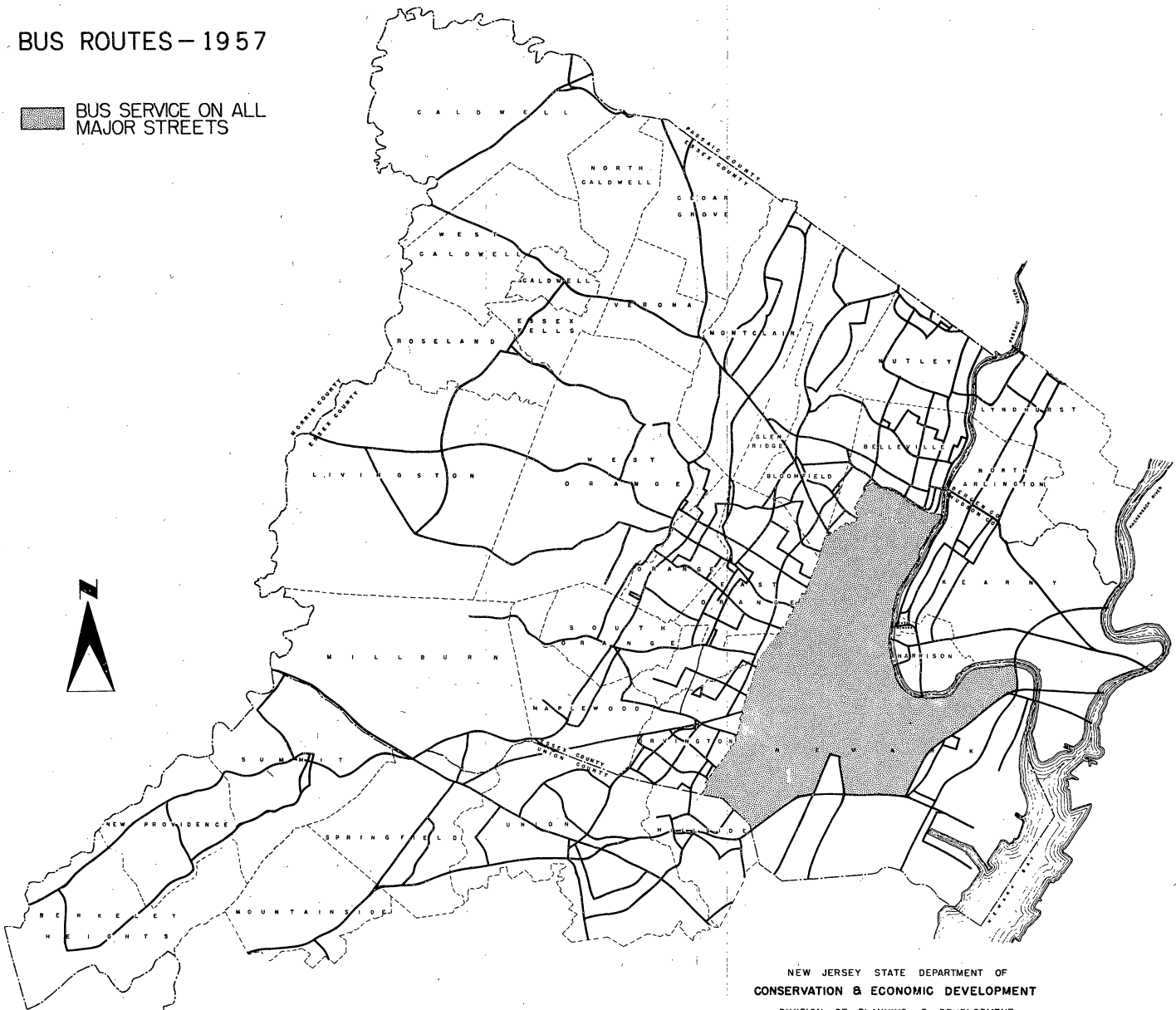
BUSES AND RAPID TRANSIT Buses and rapid transit lines are vital elements in the transportation systems of most metropolitan areas. The ability of these modes of travel to move large volumes of people into and out of a concentrated area during morning and evening rush hours in a highly efficient manner relative to automobiles and, moreover, to limit the storage of vehicles in the downtown area during business hours makes them necessary components of a metropolitan transportation system.

The recent history of bus transportation in the Newark Area has been one of declining passengers and fare increases. In other metropolitan areas, fare increases have been accompanied by a further decline of patronage. During the seven year period, 1950 through 1957, annual passenger total on all bus lines serving the Newark Area had decreased 45 percent from 242,400,000 to 138,000,000. The decline of bus travel alone has resulted in a minimum of 200,000 to 300,000 more automobile trips daily. Bus lines serving the developing Outer-Ring, where rapid population growth has occurred; have lost passengers at a rate of 57 percent in eight years.

The Newark City Subway, the only rapid transit line in northeastern New Jersey, has

BUS ROUTES - 1957

 BUS SERVICE ON ALL MAJOR STREETS



NEW JERSEY STATE DEPARTMENT OF
CONSERVATION & ECONOMIC DEVELOPMENT
DIVISION OF PLANNING & DEVELOPMENT
STATE PLANNING BUREAU

SOURCE: NEWARK CENTRAL PLANNING BOARD

FIGURE 20

experienced a reverse trend. Since 1953, average monthly patronage has increased from 359,000 to 458,000. This line, partially within the dry bed of the Morris and Essex Canal, is located adjacent to a large park from which few fares are generated. There are indications, however, that many of the line's patrons make the first part of their journey by automobile, park near or at a station, and complete the trip into downtown Newark via rapid transit. Regardless of increasing patronage, the line is operated at a deficit.

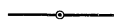


The effectiveness of buses and rapid transit in moving people in metropolitan areas has prompted other cities to provide conveniently located terminals with direct ramps to major highways such as the Port Authority Bus Terminal in New York, express lanes for buses on major streets as in Chicago, and rapid transit lines in the median strips of freeways such as in Chicago's West Side Expressway.

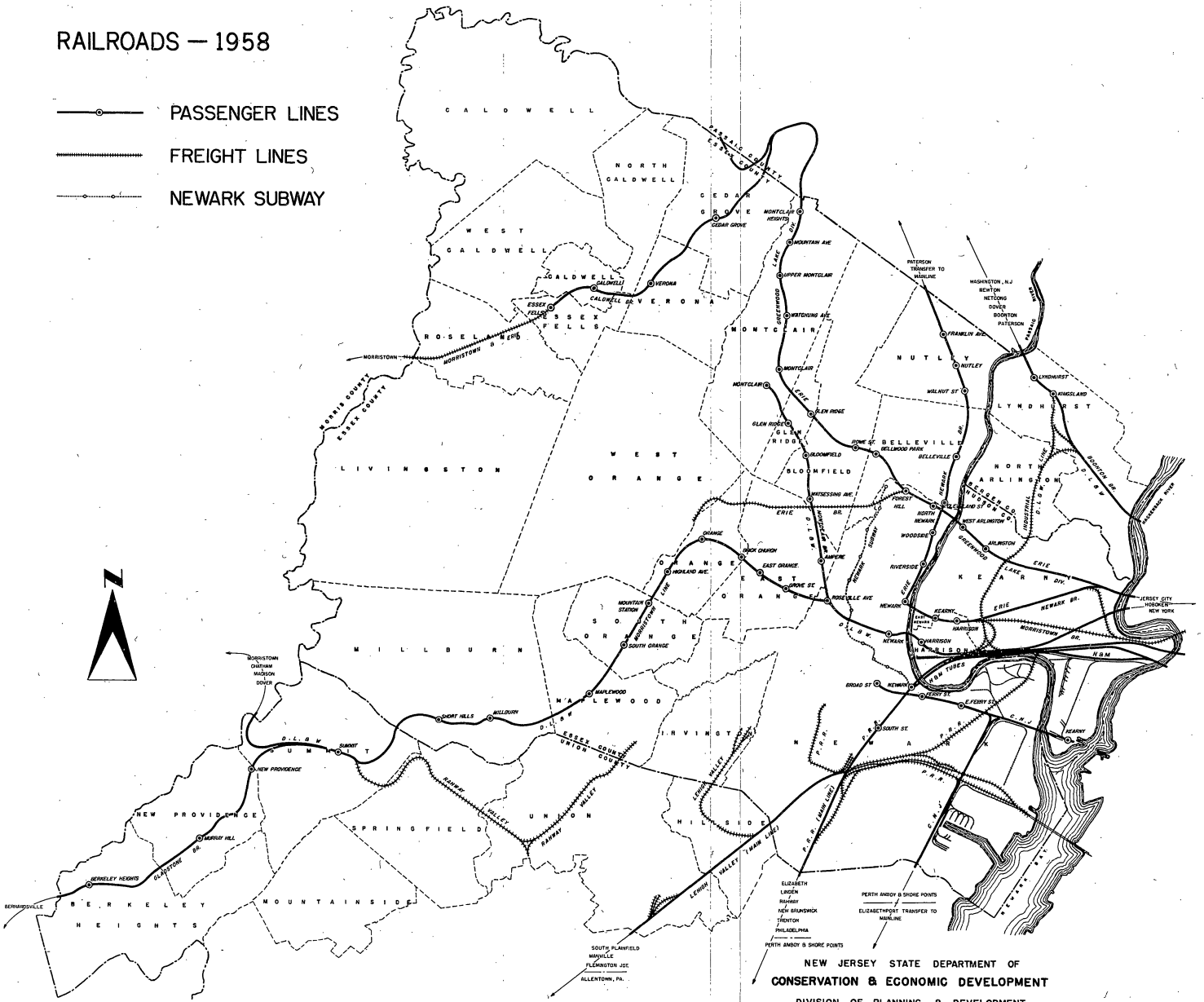
THE JOURNEY TO NEW YORK CITY Every working day an average 370,000 people journey by all modes of transportation to New York City from its environs. This daily movement, and its reverse out of the city in the evening accountd for an important share of the traffic problem in the New York region and requires billions of dollars in highway, rail and bus facilities to accommodate it.

Although the total number of persons making the trip daily has increased greatly from the 265,000 of thirty years ago, and although considerably more commuters reside in New Jersey than in any other sector of the region, the number of persons commuting daily from New Jersey has been gradually decreasing. *Currently only 9 percent of the working force of northeastern New Jersey counties nearest New York City commute into the city seeking employment.* Aside from the relative difficulty of crossing the Hudson River, the reason New York does not attract more of this working force is the large number of local employment opportunities in New Jersey itself.

The expected future development of northeastern New Jersey, partially dependent upon improved access to New York City, will change this situation to a small degree as population and labor force growth tend to outrun local employment opportunities. None the less, the basic insignificance of the movement to New York relative to the movement to local northeastern New Jersey employment centers will continue.

RAILROADS — 1958

-  PASSENGER LINES
-  FREIGHT LINES
-  NEWARK SUBWAY



SOURCE: THE PORT OF NEW YORK AUTHORITY, PORT DISTRICT TRANSPORTATION MAP, 1957

NEW JERSEY STATE DEPARTMENT OF
CONSERVATION & ECONOMIC DEVELOPMENT
 DIVISION OF PLANNING & DEVELOPMENT
 STATE PLANNING BUREAU

FIGURE 21

NEWARK AREA TRANS-HUDSON TRAFFIC Table 20 summarizes the total daily movement crossing the Hudson River between the Newark Area and New York City. The 75,000 persons who make the round trip journey for all purposes on an average day are clearly a small portion of the Area's 515,000 labor force, less than 10 percent, in fact, when only journeys-to-work are considered.

Some communities are more heavily dependent upon out of state employment areas. Montclair, Glen Ridge, Verona, Cedar Grove, West Orange, Livingston, Roseland, and Essex Fells daily send a larger than average portion of their labor force to New York City and other employment areas east of the Hudson River. It is clear, however, that the journey-to-work for the vast majority of people in the Newark Area is to the industrial belts within and surrounding Newark, in Hudson County, and in other northeastern New Jersey employment centers. *Although trans-Hudson facilities are needed, the provision of convenient accessibility to employment opportunities for Newark Area residents is largely a matter of improving transportation facilities to employment centers within the Area and to the north and south.*

Forty-three percent of all travellers to New York from the Newark Area presently go by rail, 22 percent by bus and 35 percent by automobile. Again the travel pattern differs in outlying communities. A heavier utilization of railroads occurs in Orange, East Orange, South Orange, Maplewood, Millburn, Summit, New Providence, and Berkeley Heights along the Delaware Lackawanna and Western Railroad and to a lesser extent along the Erie Railroad. Table 21 outlines rail usage in the Newark Area.

THE RAILROAD SITUATION The commuter railroad situation in northeastern New Jersey has been often described. The bleak picture of declining passengers, increasing costs, curtailment of schedules, higher fares and increasingly inadequate service is reported almost daily in metropolitan newspapers. With the advent of the National Transportation Act of 1958, facilitating the withdrawal from passenger service of railroads operating such service at a loss, the curtailment of commuter railroads has been continuing at an even more rapid rate. During the preparation of this report the Lehigh Valley Railroad announced plans to request from the Interstate Commerce Commission authority to drop its passenger train services. The Delaware, Lackawanna and Western Railroad, the largest rail carrier of commuters in New Jersey, serving a total of 27,000 passengers daily, declared that

TABLE 20: AVERAGE DAILY PASSENGERS FROM THE NEWARK AREA
TO THE NEW YORK CITY OR EAST OF THE HUDSON RIVER - 1955 - 1956

AREA OF ORIGIN	TOTAL NUMBER OF TRIPS TO NEW YORK		BY RAIL		BY BUS		BY AUTOMOBILE	
	NO.	%	NO.	%	NO.	%	NO.	%
NEWARK AREA	74,912	100.0	32,046	43	16,374	22	26,492	35
NEWARK	28,929	38.6	11,843	41	4,140	14	12,946	45
INNER-RING COMMUNITIES	29,126	38.9	10,952	38	9,538	33	8,636	29
IRVINGTON	1,734	2.3	585	34	728	42	421	24
EAST ORANGE	5,674	7.6	3,379	60	839	15	1,456	25
HARRISON, EAST NEWARK, KEARNY	2,939	3.9	826	28	512	17	1,601	55
BELLEVILLE, NUTLEY, BLOOMFIELD	7,168	9.5	2,008	28	3,192	45	1,968	27
ORANGE	1,606	2.1	974	61	132	8	500	31
HILLSIDE	905	1.2	275	30	195	22	435	48
MONTCLAIR, GLEN RIDGE	5,707	7.6	2,063	36	2,416	42	1,228	22
LYNDHURST, NORTH ARLINGTON	3,393	4.5	842	25	1,524	45	1,027	30
OUTER-RING COMMUNITIES	16,857	22.5	9,251	55	2,696	16	4,910	29
SOUTH ORANGE, MAPLEWOOD, MILLBURN	5,512	7.3	3,912	71	297	5	1,303	24
CALDWELL, NORTH CALDWELL,								
WEST CALDWELL, CALDWELL TOWNSHIP	976	1.3	196	21	396	40	384	39
SUMMIT, NEW PROV. BERKELEY HEIGHTS	2,951	3.9	2,207	75	77	3	667	22
WEST ORANGE, LIVINGSTON,								
ROSELAND, ESSEX FELLS	2,370	7.1	1,255	53	310	13	805	34
UNION, SPRINGFIELD, MOUNTAINSIDE	2,508	3.3	763	30	541	22	1,204	48
CEDAR GROVE, VERONA	2,540	3.4	918	36	1,075	42	547	22

SOURCE: De LEUW, CHARLES E. BASIC DATA ON COMMUTER TRAVEL ACROSS THE HUDSON RIVER, A REPORT
TO THE PROJECT DIRECTOR OF THE METROPOLITAN RAPID TRANSIT SURVEY, JANUARY 1957.

it would seek abandonment of passenger services in 1959 unless it is relieved of certain taxes. The New York Central Railroad is maintaining its trans-Hudson ferry services under a court order pending an appeal to the United States Supreme Court by the State of New Jersey and its Public Utilities Commission. The Pennsylvania Railroad announced that it was considering ending its passenger service between Newark and New York City. *Railroad experts are predicting the disappearance of all passenger service in northeastern New Jersey by 1970.*

Many proposals have been made for solving the rail commuter problem. In the Boston Metropolitan Area, the city and the Commonwealth of Massachusetts are paying a cash subsidy to the New Haven Railroad to maintain its Old Colony Division lines. The Long Island Railroad, the nations largest commuter line, is operating at a profit only because 50 percent of its normal tax bill has been "forgiven" by the communities through which its lines pass. For the northeastern New Jersey Area, bi-state Metropolitan Rapid Transit Commission has recommended a trans-Hudson rapid transit loop linking commuter lines on the west shore of the Hudson River with the New York City Subway System and improving the facilities and services of feeder rail lines. The \$12,000,000 anticipated annual deficit was to be financed by a tax levy on New York County (Manhattan), two other counties in New York State and ten northeastern New Jersey Counties. After much discussion and having passed both houses of the New York State Legislature as well as the New Jersey Senate, a bill establishing the Rapid Transit District with authority to adopt a plan has not been acted upon by the New Jersey Assembly. The Port of New York Authority, a logical agency to assume the trans-Hudson rapid transit function because of its present involvement in trans-Hudson bridges and tunnels, claims that contractual obligations to its bond-holders makes it legally impossible for the Authority to assume this responsibility.

TOWARD A SOLUTION No solution to the railroad commuter problem has yet been agreed upon. Some points, however, are clear:

- (1) The adequate provision of rapid transit facilities to accommodate the bulk of peak hour movement in the northeastern New Jersey area cannot by its nature be a self-sustaining operation.

TABLE 21: AVERAGE DAILY RAILROAD PASSENGERS
FROM THE NEWARK AREA TO NEW YORK CITY
OR EAST OF THE HUDSON RIVER, 1955

AREA OF ORIGIN	TOTAL	DAILY PASSENGERS				
		H & M	DL & W	ERIE	PRR	CNJ
NEWARK AREA	31,947	19,549	5,882	1,599	4,647	270
PERCENT	100.0	61.3	18.4	5.0	14.5	.8
NEWARK	11,841	7,689	326	76	3,723	27
PERCENT	100.0	64.9	2.8	.6	31.4	.3
INNER-RING	10,855	6,482	2,548	1,247	517	64
PERCENT	100.0	59.7	23.4	11.5	4.8	.6
OUTER-RING	9,251	5,378	3,011	276	407	179
PERCENT	100.0	58.2	32.6	3.0	4.4	1.8
INNER-RING COMMUNITIES						
IRVINGTON	585	460	23	-	102	-
EAST ORANGE	3,375	2,117	1,168	13	77	-
HARRISON, KEARNY, EAST NEWARK	826	545	21	161	96	3
ORANGE	974	540	412	1	21	-
BELLEVILLE, BLOOMFIELD, NUTLEY	1,947	1,156	269	409	110	3
NORTH ARLINGTON, LYNDHURST	818	456	122	231	7	2
MONTCLAIR, GLEN RIDGE	2,056	1,090	507	432	27	-
HILLSIDE	275	118	23	-	77	56
OUTER-RING COMMUNITIES						
SOUTH ORANGE, MAPLEWOOD, MILLBURN	3,912	2,345	1,430	2	133	2
WEST ORANGE, ESSEX FIELDS, ROSELAND, LIVINGSTON	1,255	773	437	22	20	3
VERONA, CEDAR GROVE	920	485	226	193	16	-
CALDWELL, CALDWELL TOWNSHIP, WEST CALDWELL, NORTH CALDWELL	193	78	56	59	-	-
SUMMIT, NEW PROVIDENCE, BERKELEY HEIGHTS	2,207	1,367	796	-	25	19
UNION, SPRINGFIELD, MOUNTAINSIDE	764	330	66	-	213	155









SOURCE: DeLEUW, CHARLES E. BASIC DATA ON COMMUTER TRAVEL ACROSS THE HUDSON RIVER, A REPORT TO THE PROJECT DIRECTOR OF THE METROPOLITAN RAPID TRANSIT SURVEY, JANUARY, 1957.

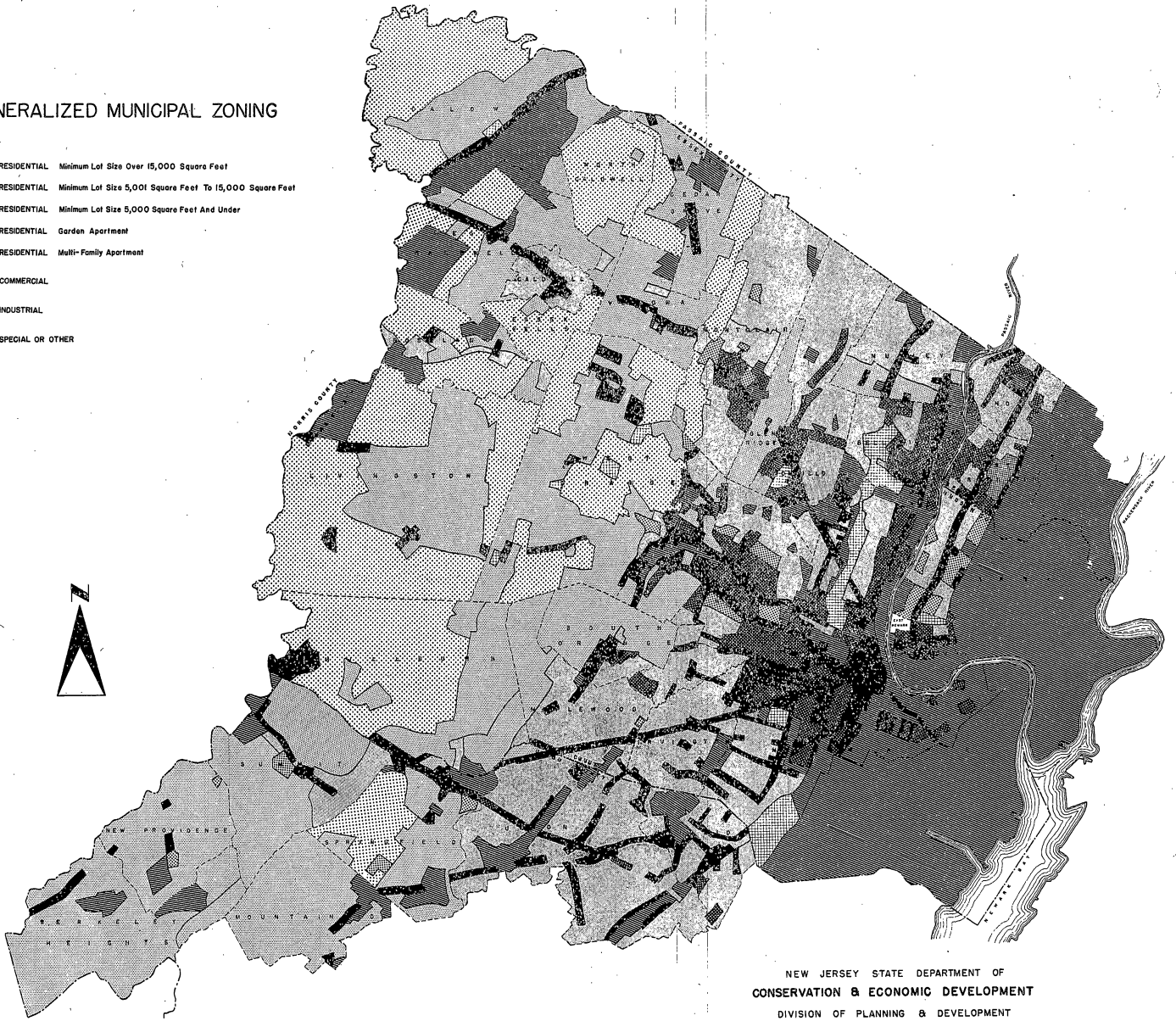
- (2) The assumption of the burden of deficits by municipalities through property tax is politically unfeasible.
- (3) No administrative arrangement is workable whereby rapid transit lines are operated in competition with highways, bridges and other subsidized facilities for moving vehicles in the metropolitan area. The passenger car will always be more attractive to the commuter as long as highway capacity is provided.
- (4) The cost of providing additional highway capacity to replace the railroads, should they cease to provide service, far overshadows that of making up rail deficits.

It is estimated that the loss of the DL & W Railroad service alone presently accommodating some 3,600 passengers from the Newark Area during the morning peak hour would require a four lane freeway to handle the additional automobiles crossing the Area during that hour. The construction cost of such a road would be no less than \$56,000,000 or enough to pay the entire estimated annual deficit of the proposed Metropolitan Rapid Transit District for almost five years.

- (5) The loss to established downtown areas such as Newark because of vehicular traffic congestion and the economic cost of converting prime downtown urban land to the storage of private automobiles during the business day is incalculable.

GENERALIZED MUNICIPAL ZONING

-  RESIDENTIAL Minimum Lot Size Over 15,000 Square Feet
-  RESIDENTIAL Minimum Lot Size 5,001 Square Feet To 15,000 Square Feet
-  RESIDENTIAL Minimum Lot Size 5,000 Square Feet And Under
-  RESIDENTIAL Garden Apartment
-  RESIDENTIAL Multi-Family Apartment
-  COMMERCIAL
-  INDUSTRIAL
-  SPECIAL OR OTHER



NEW JERSEY STATE DEPARTMENT OF
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 STATE PLANNING BUREAU

FIGURE 22

CHAPTER VI PLANNING AND LAND DEVELOPMENT CONTROLS

Through planning and planning controls, land development in New Jersey is subject to regulation by local government. These controls are designed to insure development compatible with existing land uses and provide an attractive and safe environment. Other objectives of planning controls are to insure the reservation of adequate sites for industrial, commercial and residential development necessary for a balanced community; the provision of highways and streets of sufficient widths where needed; and the maintenance of community facilities at convenient locations throughout the municipality. The New Jersey Municipality Planning Enabling Act, the Municipal Zoning Act, the Official Map and Building Permit Act, and the County and Regional Planning Enabling Act are the basic State legislation empowering municipalities and counties to prepare and implement their master plans. Zoning, official maps, subdivision regulations, and other land and building controls are tools to assist in the realization of a comprehensive community plan.

LOCAL PLANNING Twenty-seven of the 34 municipalities in the Newark Area have official planning boards; and two others, Glen Ridge and South Orange, have unofficial boards. These agencies are actively promoting the sound development of their communities through the application of foresight to problems which the development of their communities will engender in the future. Berkeley Heights, Cedar Grove, Livingston and Roseland are participating in the Local Planning Assistance Program, a federally assisted program administered by the State Planning Bureau which makes planning funds available to communities of less than 25,000 in population.

COUNTY AND REGIONAL PLANNING Of the four counties represented in the Newark Area, only Bergen has a county planning board. Essex, Hudson, and Union Counties, three of the four most populous counties in the State (the other being Bergen) have not taken advantage of State enabling legislation. The Joint Council of Municipal Planning Boards performs some of the coordinating functions of a county planning board in Essex County.

The same act permitting county planning also provides for regional planning. Any combination of adjoining municipalities or counties may form an official regional planning board. Thus far, only one such agency has been formed in New Jersey.

TABLE 22: ZONING OF EXISTING VACANT LAND - 1958

	ACRES	PERCENT	PERCENT OF VACANT LAND
TOTAL LAND IN THE NEWARK AREA	116,633.9	100.0	-
TOTAL VACANT LAND	46,931.6	40.2	100.0
ZONED COMMERCIAL	1,677.2	1.4	3.6
ZONED INDUSTRIAL	10,530.2	9.0	22.4
ZONED RESIDENTIAL	34,724.2	29.8	74.0
MINIMUM RESIDENTIAL LOT SIZES:			
OVER 15,000 SQ. FT.	14,969.6	-	31.9
5,001 TO 15,000 SQ. FT.	13,956.8	-	29.7
5,000 SQ. FT. AND UNDER	5,535.6	-	11.8
GARDEN APARTMENTS	92.6	-	0.2
MULTI-FAMILY APARTMENTS	169.6	-	0.4

SOURCE: N. J. STATE PLANNING BUREAU

TABLE 23: URBAN RENEWAL PROJECTS - 1958

MUNICIPALITY	PROJECT	ACREAGE	PROPOSED RE-USE OF LAND
NEWARK	BRANCH BROOK PARK	20.6	RESIDENTIAL & COMMERCIAL SCHOOL & CHURCH
NEWARK	BROAD STREET	22.6	RESIDENTIAL & COMMERCIAL
NEWARK	OLD THIRD WARD	202.0	RESIDENTIAL & PARKING SCHOOL & PLAYGROUND
NEWARK	LOWER CLINTON HILL	175.0	RESIDENTIAL & RECREATION PARKING & TRAFFIC DIVERSION
NEWARK	CENTRAL WARD	101.0	INDUSTRIAL & RESIDENTIAL
ORANGE	WASHINGTON-DODD	47.0	LIGHT INDUSTRIAL
ORANGE	FIRST AND THIRD WARD	} 90.0	LIGHT INDUSTRIAL
ORANGE	SECOND WARD		RESIDENTIAL
EAST ORANGE	DODDTOWN	49.4	RESIDENTIAL, (16 ACRES), COMMERCIAL & INDUSTRIAL
EAST ORANGE	FOURTH WARD	111.4	INDUSTRIAL & COMMERCIAL & RESIDENTIAL

SOURCE: N. J. STATE HOUSING BUREAU

SUBDIVISION REGULATION Subdivision controls are designed to regulate the provision of streets, grades, road widths, utilities, drainage and other aspects of subdividing land for development. When integrated with planning, these controls can accomplish such objectives as reserving land for eventual roadway widening and insuring adequate light and air to adjoining buildings. Only eight municipalities in the Newark Area have not adopted subdivision controls.

ZONING Zoning is the most important method for municipal regulation of land development. With the exception of East Newark, a community which is completely developed, all municipalities in the Newark Area have adopted zoning regulations. Zoning should reflect the community's plan for its development and redevelopment. In order to visualize the pattern of land use in the Newark Area possible under existing zoning regulations, a composite of zoning maps is presented in Figure 22.

Two problems are demonstrated by this map. The first is the preponderance of commercially-zoned strips along the major streets and highways. A comparison of the amount of land zoned for future commercial use in the outlying areas with existing commercial areas in the inner, developed communities indicates excessive zoning for this type of use which will probably never materialize. The strips in themselves are not compatible with modern shopping center development and, if occupied by commercial uses, will only tend to increase traffic problems.

The second problem demonstrated is excessive zoning for industry. Twenty-two percent of all existing vacant land, is zoned for industry. Although new industrial plants require higher acreages than the factories of earlier eras, the amount of land zoned for new industry is unquestionably excessive.

Both of these major traffic generators are zoned in an unnecessarily scattered pattern. The development which could emerge from the unrelated zoning of individual municipalities does not lend itself to the establishment of an efficient or functional Newark Area nor to the alleviation of traffic problems.

URBAN RENEWAL Urban Renewal is a federal program assisting cities in rebuilding their blighted areas. Its objective is to redevelop those portions of cities which can be

more advantageously used if problems of acquiring land and removing obsolete uses can be overcome. The Federal Government provides loans and grants toward the cost of making cleared land available to private developers.

Newark is the most active community in the Area in urban renewal. Two projects, Branch Brook Park and Broad Street, have passed through relocation and clearance stages and contracts for the sale of the land are in process. Other projects are in various stages of implementation and still others, including the Penn Plaza and the North Ward Projects, are being planned. In Orange and East Orange, redevelopment surveys in the Washington-Dodd area are underway and coordinated projects are planned.

Table 23 summarizes urban renewal activity in the Newark Area. Renewal is more than a federally-aided program, however. In principle it encompasses all of the actions necessary to insure the continuous development and redevelopment of municipalities. There is a need to insure the full utilization of all available measures to promote redevelopment in the older sections of the Newark Area. The construction of the Interstate System offers opportunities for accomplishing this redevelopment. For, aside from removing slums, freeways when well designed, offer opportunities for redevelopment on adjacent land.

TRANSPORTATION AND COMMUNITY PLANNING Much has been written about the need to coordinate highway construction with urban renewal and other planning development measures. The following are ways in which such action appears possible within the Newark Area.

(1) Coordination in:

- Locating highways with respect to neighborhood and communities boundaries;
- Relocating residents from urban renewal clearance areas and freeway right-of-ways;
- Locating access points of highways with respect to local major street and highways plans;
- Locating highways and access points in proximity to parking facilities within downtown areas; and
- Acquiring land for highways and community redevelopment or community facility projects.

(2) Coordination to avoid:

Bisecting rather than providing access to areas zoned and suitable for industrial use;

Developing commercial shopping centers fronting on major roads without adequate land reservation for service lanes;

Locating improperly landscaped surface level or elevated highways in high-quality residential neighborhoods; and

Locating highways in major areas available for parks and recreation.

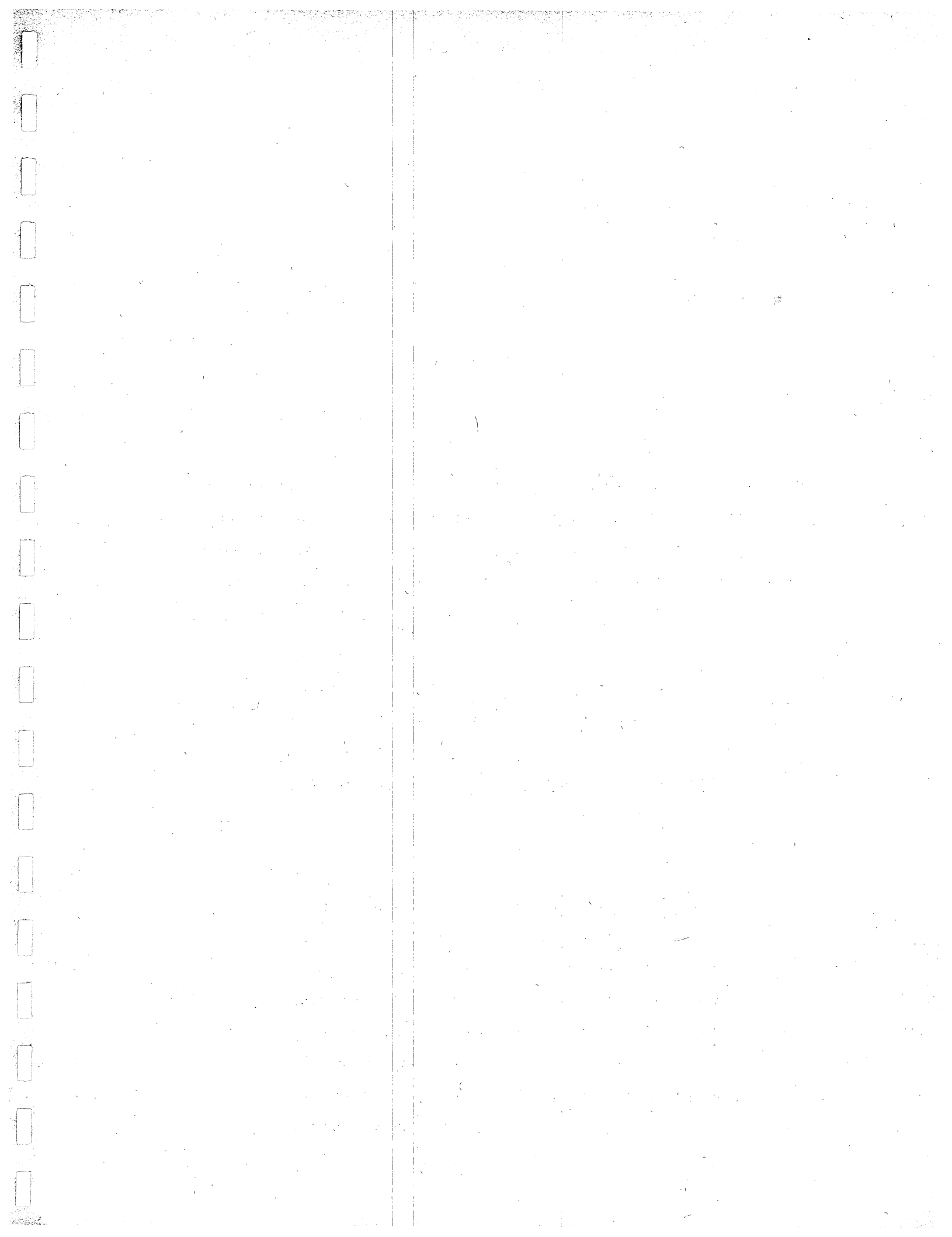
(3) Coordination to regulate:

Setbacks to provide for eventual widening and channelization of existing roads;

Reservation of land for intersection improvements, such as jug-handles and over-passes, through zoning and official maps; and

Access to major roads at or near intersections.

Through local planning, zoning, subdivision regulation, and urban renewal, Newark Area municipalities can contribute to the alleviation of traffic congestion by coordinating control of land development with highway construction. Such controls, for maximum effectiveness, must be viewed from the standpoint of area-wide as well as local objectives.



APPENDIX TABLE A
POPULATION OF MUNICIPALITIES IN THE NEWARK AREA
ESTIMATED 1955 AND 1970

MUNICIPALITY	POPULATION 1955	POPULATION 1970	PERCENT CHANGE 1955 - 1970
NEWARK AREA	1,156,700	1,339,600	15.8
BERGEN COUNTY	39,000	45,000	15.4
LYNDHURST	21,500	23,000	7.0
NORTH ARLINGTON	17,500	22,000	25.7
ESSEX COUNTY	950,600	1,082,100	13.8
BELLEVILLE	33,600	38,000	13.1
BLOOMFIELD	53,100	64,600	21.6
CALDWELL (BOROUGH)	6,900	9,600	39.1
CALDWELL (TWP.)	2,300	4,500	95.6
CEDAR GROVE	11,000	20,000	81.8
EAST ORANGE	84,300	103,000	22.2
ESSEX FELLS	1,800	2,300	27.8
GLEN RIDGE	7,800	8,100	3.8
IRVINGTON	60,600	64,000	5.6
LIVINGSTON	15,000	30,000	100.0
MAPLEWOOD	26,400	30,300	14.8
MILLBURN	17,200	25,000	45.3
MONTCLAIR	45,000	48,000	6.7
NEWARK	444,000	460,000	3.6
NORTH CALDWELL	2,600	4,400	69.2
NUTLEY	29,000	33,000	13.8
ORANGE	39,000	42,000	7.7
ROSELAND	2,300	3,800	65.2
SOUTH ORANGE	16,000	17,500	9.4
VERONA	12,500	18,000	44.9
WEST CALDWELL	6,200	12,000	93.5
WEST ORANGE	34,000	44,000	29.4
HUDSON COUNTY	54,900	54,000	-1.6
EAST NEWARK	2,100	2,000	-4.8
HARRISON	13,300	13,000	-2.3
KEARNY	39,500	39,000	-1.3
UNION COUNTY	112,200	158,500	41.3
BERKELEY HEIGHTS	4,600	9,400	104.3
HILLSIDE	21,500	23,000	7.0
MOUNTAINSIDE	4,100	7,100	73.2
NEW PROVIDENCE	6,500	19,000	192.3
SPRINGFIELD	10,500	18,000	71.4
SUMMIT	20,000	25,000	25.0
UNION	45,000	57,000	26.7

